Rocket

Rocket BlueZone Display and Printer

User's Guide

Version 6.1

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Contents

What's new in this release

This section summarizes the significant improvements or enhancements for BlueZone Display and Printer Version 6.1 and refers you to relevant sections of this book for more information. Minor modifications to the text are not listed.

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- In BlueZone VT Displays, the host can control the escape sequence that the cursor keypad keys and numeric keypad keys send. Refer to Keyboard Options dialog, on page 194 for more information.
- A Mainframe Printer display can be configured to automatically close when the session is disconnected from the host. Refer to Printer Connection tab, on page 42 for more information.

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- In BlueZone VT Displays, the host can control the escape sequence that the cursor keypad keys and numeric keypad keys send. Refer to Keyboard Options dialog, on page 194 for more information.

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- The Unisys T27 and UTS Displays now support the undo and redo functions. Refer to Use Undo and Redo, on page 150 for more information.
- In BlueZone VT Displays, the host can control the escape sequence that the cursor keypad keys and numeric keypad keys send. Refer to Keyboard Options dialog, on page 194 for more information.

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- The method to configure the help options have changed. Refer to Help options, on page 400 for more information.
- The operating system requirements have been updated. Refer to Minimum installation requirements, on page 18 for more information.
- You can associate a Mainframe or iSeries Printer based on a profile name. Refer to Creating BlueZone Mainframe Display or Printer connections, on page 29 and Creating BlueZone iSeries Display and Printer connections, on page 61 for more information.
- The following updates have been made in the **Preferred CipherSuite** menu for TN3270E and TN5250E:
  - **Strong only** has replaced **None**. When selected, BlueZone negotiates only strong (128-bit or higher) CipherSuites.
  - **Allow Null/Weak** is a new option. When selected, BlueZone negotiates weaker CipherSuites, like DES or NULL.

  The **Preferred CipherSuite** menu is located in the Security tab of the TN3270E Properties and TN5250E Properties windows. Refer to TN3270E Security tab, on page 31 and TN5250E Security tab, on page 66 for more information.
- The Settings Viewer is a new feature in the properties, options, and configuration windows. Refer to File properties, on page 131 for more information.
- In the **Options** tab of the File Properties window, you can set the following options:
  - Automatically backup the configuration file (Profile mode only).
  - Select the format of the configuration file as binary or text.

  Refer to Options tab for more information.
- The **Desktop colors** tab has been replaced with the **Color scheme** tab. You can configure the appearance of the menu bar, toolbar, and status bar. Refer to Color schemes, on page 285 for more information.

- **Vertical Cursor** is a new check box in the Cursor tab of the Display Options window. Refer to the appropriate display:
  - Mainframe Cursor tab, on page 156
  - iSeries Cursor tab, on page 173
  - VT Cursor tab, on page 189
  - ICL Cursor tab, on page 203
  - T27 Cursor tab, on page 217
  - UTS Cursor tab, on page 227
- The language layout of the keyboard can now be selected through the Keyboard Options window. Refer to the appropriate display:
  - Mainframe Keyboard Options dialog, on page 163
  - iSeries Keyboard Options dialog, on page 180
  - ICL Keyboard Options dialog, on page 207
  - T27 Keyboard Options dialog, on page 218
  - UTS Keyboard Options dialog, on page 229
- Two new default keyboard files are shipped with BlueZone: `hod3270.mdk` and `reflection101.mdk`. Refer to Importing keyboard maps, on page 313 for more information on importing these keyboard files.
- There are three new check boxes in the Mouse Options window. You can now include special characters when configuring the highlight word for copy/paste on double-click. Refer to the appropriate display:
  - Mainframe Mouse Options dialog, on page 167
  - iSeries Mouse Options dialog, on page 184
  - ICL Mouse Options dialog, on page 211
  - T27 Mouse Options dialog, on page 222
  - UTS Mouse Options dialog, on page 232
- "Configuring BlueZone for JAWS" is a new topic that details the best settings for the screen reading program JAWS. Refer to Configuring BlueZone for JAWS, on page 314 for more information.
- The screen history feature now includes a screen history pad. Refer to Screen history, on page 286 and its subsequent topics for more information.
- The IND$FILE transfer is now controlled through the Host File Transfer window. Batch transfers are also controlled through this window with the Transfer List feature. Refer to IND$FILE transfer - IBM Mainframe (3270), on page 239 and its subsequent topics for more information.
- In the LIPI Host File Transfer window, the Transfer Log pane has been renamed to Transfer List. Refer to Saving the transfer list, on page 263 for more information.
- Erase EOF after Paste is a new check box in the Paste to Clipboard tab on the Edit Properties window. Refer to Edit properties – Except BlueZone VT, on page 145 for more information.
- The **Cursor Keys** and **Keypad Mode** panes are new in the **Additional Options** tab of the Keyboard Options window for BlueZone VT. Refer to Keyboard Options dialog, on page 194 for more information.
- The **Base Output Filename** field length has been increased. This field also supports periods and asterisks and question mark wildcard characters. Refer to Print to File settings, on page 328 for more information.
- PasswordVault is installed as a stand-alone application through an MSI. You cannot install PasswordVault through the BlueZone Desktop installation process. Refer to BlueZone PasswordVault installation, on page 342 and the *BlueZone PasswordVault User's Guide* for more information.

Chapter 1: Introduction

Welcome to the *Rocket BlueZone Display and Printer User's Guide*. This guide is intended to provide help installing, configuring and using the BlueZone family of emulation products. For more in depth information, refer to the *Rocket BlueZone Desktop Administrator's Guide* for BlueZone desktop installations and the *Rocket BlueZone Web-to-Host Administrator's Guide* for Web-to-Host installations.

Overview

Rocket BlueZone is a comprehensive, fully featured Windows-based secure LAN/WAN to host connectivity product. BlueZone is easy to install and can reside on any currently supported Windows-based system, where users require secure (using SSL and TLS encryption) and non-secure access to Telnet and FTP hosts. Designed with administrators in mind for fast, simple, automated distribution to end users, BlueZone can easily be preconfigured for distribution from a web server, file server, terminal server, or even through E-mail.

BlueZone for the Desktop is "Compatible with Windows 7".

BlueZone Emulation Clients include:

- BlueZone IBM 3270 Display Emulator
- BlueZone IBM 3270 Printer Emulator
- BlueZone IBM 5250 Display Emulator
- BlueZone IBM 5250 Printer Emulator
- BlueZone VT - VT100, VT220, VT320 Emulator
- BlueZone FTP Client
- BlueZone ICL 7561 Display Emulator *
- BlueZone Unisys UTS Display Emulator *
- BlueZone Unisys T27 Display Emulator *

* Available as an additional cost option.

From the end user perspective, BlueZone for the Desktop and BlueZone Web-to-Host share identical look, feel, and features, providing the same interface for internal users using BlueZone Desktop, and external web users using BlueZone Web-to-Host. The primary difference between the products is the method of delivery to the End Users desktop. BlueZone Desktop can be installed just like any desktop application or, it can be installed via a web browser. BlueZone Web-to-Host is delivered and updated via a web browser with virtually no user intervention. Functionally, BlueZone Desktop and BlueZone Web-to-Host are identical. Throughout this help system, all references to BlueZone can be assumed to be applicable to both BlueZone Desktop and BlueZone Web-to-Host unless otherwise noted. For details on the installation and configuration of BlueZone Web-to-Host, on your web server, please refer to the BlueZone Web-to-Host Administrator's Guide located on the BlueZone CD.

BlueZone Web-to-Host users may not have access or been granted the authority to make changes to their configurations. All of the features listed in the online help are available to BlueZone Web-to-Host users and may be granted on a user, group, or global basis. Refer to the *BlueZone Desktop Administrator's Guide* for detailed information about managing user configurations.

Display emulation features

The BlueZone display emulators are fully featured and comprehensive emulation software programs that emulate a variety of IBM and other terminal types.

Terminal emulations

- IBM 3270 Mainframe TN3270E
- IBM 5250 iSeries (AS/400) TN5250E
- Virtual Terminal (VT52/VT100/220/320/420/SCO-ANSI/IBM3151)
- ICL 7561
- Unisys T27
- Unisys UTS

Emulation features

- Screen buffer sizes from 1,920 to 9,920 bytes, equivalent to IBM models 2 through 5, and model 3290
- Screen colors and keys are completely user mappable and can be easily changed or deleted
- GUI editing of EBCDIC to ASCII translation tables
- Fully featured customizable terminal status bar
- Selectable code page
- Customizable translation table
- Mainframe vector graphics support (IBM Mainframe only)
  - Vector graphics screen printing

Encryption and security

- SSL 3.0
  - Implicit mode
  - Explicit (Telnet negotiated) mode
- TLS 1.0
  - Implicit mode
  - Explicit (Telnet negotiated) mode
- SSH-2 (in BlueZone VT only)
- FIPS mode support
- Kerberos Authentication Protocol (BlueZone VT only)

File transfer features

- FTP secure file transfer (Available via all BlueZone emulators)
- IND$FILE transfer (IBM Mainframe only)
- iSeries file transfer (IBM iSeries only)
- iSeries LIPI file transfer (IBM iSeries only)
  - SQL statement building feature

Program features

- Compatible with Windows 7
- BlueZone PasswordVault
- Internet Protocol v4 and v6 support
- Language support
  - English

  - French
  - German
  - Dutch
  - Japanese
- Double-byte character support
- Bidirectional language support (BiDi) for Arabic
- Up to 99 sessions per workstation
- Mapping session IDs to LU names support
- Configuration management features include saving and opening of configuration files
- Profile schemes feature
- User-definable and sizable Windows Vista style iconic toolbars:
  - Pixel sizes of 16 x 16, 24 x 24, 32 x 32, and 48 x 48 are supported
- User definable and sizeable status bar:
  - Pixel sizes of 16 x 16, 24 x 24, 32 x 32, and 48 x 48 are supported
- User definable, dockable, and fully configurable power pads with buttons, images, and text
- Optional user-definable and dockable power pads
- Intelligent edit, copy, cut, and paste with columns aligned
- Robust print screen capability
- Macro/script recording for easy scripting of repetitive tasks
- Script editor to modify and extend the functionality of BlueZone scripts
- Visual Basic Scripting through BlueZone Scripting Host
- Customizable desktop colors and fonts
- Customizable background watermark feature
- Configurable host bell support
- Configurable mouse scroll wheel support
- Windows application sounds support

Other products

BlueZone is available with the Microsoft VBA development environment and runtime license as BlueZone Plus VBA. BlueZone Plus VBA is required for everyone who to develops and/or runs BlueZone Plus VBA applications.

Existing BlueZone customers can upgrade their existing BlueZone license to BlueZone Plus VBA. Please contact your BlueZone Account Executive for more information about upgrading to BlueZone Plus VBA.

Printer emulation features

The BlueZone printer emulators are fully featured and comprehensive IBM printer emulation printer software programs that emulate several printers.

Printer emulations

- IBM 3287
  - LU1 SCS
  - LU3 DSC

- IBM 3812-1 single-byte
  - Host print transform
  - Extended SCS
- IBM 5553 double-byte
  - Host print transform
  - Extended SCS

Emulation features

- Pass-through printing feature for direct output to printer
- Host print transform support (iSeries only)
- Full support of line density and print density SCS character formatting
- Override host formatting capabilities
- Fully featured customizable terminal status bar
- Selectable code page
- Customizable translation table

Encryption and security

- SSL 3.0
  - Implicit mode
  - Explicit (Telnet negotiated) mode
- TLS 1.0
  - Implicit mode
  - Explicit (Telnet negotiated) mode
- FIPS mode support

Program features

- Compatible with Windows 7
- Internet Protocol v4 and v6 support
- Language support
  - English
  - French
  - German
  - Dutch
  - Japanese

- Double-byte character support
- Up to 99 sessions per workstation
- User-definable and sizeable Windows Vista style iconic toolbars
- User sizeable toolbars: 16 x 16, 24 x 24 (default size), 32 x 32, and 48 x 48 are supported
- User sizeable status bar: 16 x 16 (default size), 24 x 24, 32 x 32, and 48 x 48 are supported
- Configuration management features include saving and opening of configuration files
- View print queue and print log lists for easy print job management

- Drag and drop print job icon feature
- Robust printer and page layout configuration settings
- Precise use of host page margins by printing to unprintable region of page
- GUI editing of EBCDIC to ANSI translation tables
- Change printer profiles with a single click
- Robust print to file options
- Customizable desktop colors
- Customizable background watermark

TCP/IP print server features

BlueZone TCP/IP Print Server is a Windows application that supports the LPD protocol enabling end users to receive and customize print jobs from an LPR client on any AS/400, Mainframe, UNIX, or Windows-based system, to any Windows defined printer, whether locally attached or remote.

- Easy to configure multi-panel graphical user interface
- Has the same look and feel as the BlueZone Printer emulation clients
- Supports multiple printer queues
- Supports multiple printing methods:
  - Pass-through
  - Pass-through with a printer definition file
  - Windows API
- Runs unattended and listens for print jobs
- Runs in the Windows taskbar tray

Chapter 2: BlueZone installation

BlueZone is distributed through a downloaded CD image.

The following steps are a high-level overview of the standard installation process:

1. Review and ensure that your system meets the installation requirements.
2. Install, upgrade, or modify BlueZone.
3. Register BlueZone (first time installations only).

Minimum installation requirements

The BlueZone emulation clients are designed specifically for computers that are running a Windows operating system using the WIN32 API to allow computers in a LAN/WAN environment to communicate with a wide variety of host systems. To function properly, BlueZone must be installed on a computer that meets the following minimum hardware and software requirements:

Operating system requirements

Microsoft Windows XP SP3, Windows Vista, Windows 7, Windows Server 2003, or Windows Server 2008

Hardware requirements

- A processor capable of supporting one of the above operating systems
- At least the minimum amount of memory required by your operating system
- Typically 30 MB of disk space (or less) for installation
- VGA Display or better

Communications library requirements

- SNA Server Client 3.0 or higher (LUA/RUI only)
- Communications Server for NT 6.0 or higher (LUA/RUI only)
- Netware for SAA 2.2 or IntraNetware for SAA 3.0 (LUA/RUI only)

.NET Framework requirements

- Microsoft .NET Framework 3.5 (for BlueZone UTS and T27 Display emulators only)

Installing BlueZone 6.1

Prerequisite

- Ensure that your environment meets the installation requirements. Refer to Minimum installation requirements, on page 18 for more information.
- Locate the software activation file (SAF) that was sent to your by Rocket Software. You will need to access this file during the installation process.
  If you do not have an SAF, or if you are evaluating BlueZone, you can skip the Choose Activation File window, and install the SAF at another time.

Note

If you are a single user license holder, you do not receive a software activation file; you receive a BlueZone installation key. Single user license holders must run the BlueZone Registration Wizard to complete the installation process. Refer to Registering BlueZone, on page 21 for more information.

Procedure

1. Download the BlueZone CD image.
2. Open the `BlueZone Desktop` folder.
3. Double-click the `setup.exe` file.
4. The wizard guides you through the installation process. It is recommended to use the default settings.
5. When the installation is complete, click **Finish**.

Upgrading to BlueZone 6.1

There are two methods to upgrade BlueZone: upgrade to a new major version or upgrade within the same major version.

Upgrading to a new major version

You can upgrade from any earlier major version of BlueZone to BlueZone 6.1. For example, you can upgrade from version 5.2 to 6.1. BlueZone 6.1 is installed as a new product, and it can run side-by-side with any earlier major version of BlueZone.

The upgrade procedure is identical to installing a new installation. Refer to Installing BlueZone 6.1, on page 18 for the upgrade procedure.

If you do not want the old version installed, you can uninstall the old version. Refer to Uninstalling BlueZone, on page 21 for more information.

Upgrading within the same major version

If a patch is available, you can upgrade within the same major version. For example, you can upgrade from version 6.1.1 to 6.1.2. If a patch is not available, the `\Patches` folder will be empty.

As the BlueZone administrator, you can push the patch file out to your users. This allows your users to upgrade with a single file.

1. Download new BlueZone CD image.
2. Open the `BlueZone Desktop\Patches` folder.
3. Perform one of the following options:
   - To upgrade a single installation, double-click the `BlueZone Patch 6.1.`*`x`*`.`*`xxxx`*`.exe` file. The wizard guides you through the upgrade procedure.
   - To push the patch upgrade out to your users, distribute the patch file to your users, and instruct them to run the file.

Modifying BlueZone

BlueZone consists of multiple components. Most likely, you do not need to install all of the BlueZone components. By default the BlueZone installation wizard installs the following

components (they are listed in the order that they display in the installation wizard Component Selection window):

- BlueZone Session Manager
- Mainframe - BlueZone Mainframe Display
  - Mainframe Printer
- iSeries - BlueZone iSeries Display
  - iSeries Printer

- VT - BlueZone VT
- FTP - BlueZone FTP
- BlueZone Scripting and Automation Components
- HLLAPI Components

The following BlueZone components are not installed by default and must be selected during the installation process in order for these components to be installed:

- Kerberos - Installs Kerberos Single Sign-on Protocol
- ICL - BlueZone ICL Display emulation
- Unisys T27 - BlueZone Unisys T27 Display emulation *
- Unisys UTS - BlueZone Unisys UTS Display emulation *
- BlueZone TCP/IP Print Server

* These components require an additional cost license and may not be present in your installation.

Procedure

1. Open the `BlueZone Desktop` folder.
2. Double-click `setup.exe`.
3. Select your language from the menu and click **OK**.
4. Select the **Modify** radio button and click **Next**.
5. In the Component Select window, select the features that you want to modify:
   a. Review the list of your currently installed components.

      The components that have a diskette icon are currently installed. The components that have a red X icon are available for installation.

      Note

      For a description of a particular component, highlight the component and read the **Feature Description** in the right pane.

   b. Click the BlueZone components that you want to change and select an installation option.
6. Click **Next**.
7. Click **Install**.

   The Wizard installs the required BlueZone files on your computer. When the installation is complete, you receive a message that the BlueZone installation was completed successfully.
8. Click **Finish**.

Registering BlueZone

If you have a BlueZone single user license, you received a BlueZone installation key. Single user license holders must run the BlueZone Registration Wizard to complete the installation process.

The first time you start a BlueZone session you receive a message that you need an activation file to start BlueZone. If you have a software activation file, follow the instructions in the message. If you do not have an activation file, run the Registration Wizard.

1. Start a BlueZone session.

   A message opens asking if you want to run the Registration Wizard.
2. If you do not have an activation file or you have a single user license, click **Yes**.
3. Enter the appropriate information in all of the fields. All of fields are required.
4. Click **Next**.
5. Select the **via Web (requires direct Internet connection)** radio button and click **Next**.

   The Registration Wizard connects to the Registration Wizard server, exchanges information, and downloads the Software Activation File.
6. Click **Next**.

   The Registration Wizard shows the full path where it saved the Software Activation File in your BlueZone installation directory.
7. Click **Finish**.

Note

If you have purchased multiple BlueZone Desktop licenses, install the software and run the Registration Wizard on each machine using the same Installation Key. The Registration Wizard keeps track of the number of installations and does not allow any more than the number of licenses purchased. The Software Activation File that is generated is unique to each machine and does not work if copied to another machine.

Uninstalling BlueZone

The process of uninstalling BlueZone is very similar to installing BlueZone.

Note

In addition to using the BlueZone installation wizard to uninstall BlueZone, you can also uninstall BlueZone through Add or Remove Programs in the Windows Control Panel. If this method is used, the BlueZone working directory is not removed. The BlueZone working directory can be manually deleted.

1. Open the `BlueZone Desktop` folder.
2. Double-click `setup.exe`.
3. Select your language from the menu and click **OK**.
4. Click **Next**.

   The Program Maintenance screen opens and the **Remove** radio button is automatically selected.
5. Click **Next**.
6. Click **Remove**.

   A message opens asking if you want to remove your working directory and its contents.
7. Click the **Yes** or **No** depending on whether or not you need the contents of the working directory.

CAUTION

The working directory contains BlueZone Profiles (configuration files) and scripts. If you click **Yes**, these files are deleted.

8. Click **Finish**.

Chapter 3: Configuration management

Configuration files

BlueZone has the ability to import and export configuration files directly to and from the Windows Registry. These files can then be used on other machines to set the BlueZone configuration settings.

Exporting BlueZone configuration settings to a file

1. Click **File** ® **Save As** from the BlueZone menu bar.
2. Type a configuration file name.
3. Click **Save**.

Note

No file extension needs to be entered; BlueZone automatically saves the file with the correct file extension.

Importing BlueZone configuration settings from a file

1. Click **File** ® **Open** from the BlueZone menu bar.
2. Type or select the name of the configuration file.
3. Click **Open**.

   BlueZone immediately uses the configuration settings of this configuration file.

Dialog configuration profiles

Several BlueZone windows have toolbar buttons facilitating the saving and opening of configuration files for values associated with that specific window. This feature allows subsets of session configurations to be saved and transferred between sessions or users.

The commonly used dialog configuration files are display settings, keyboard map configurations, color settings, and session configurations.

The toolbar buttons are located in the lower left corner of their respective windows. Configuration files for each window have unique file extensions. From left to right, the toolbar functions are Default, File Open, Save, File Save As, and Help.

Figure 1: Dialog configuration profile buttons

Any BlueZone window that contains these toolbar buttons can be saved or opened as a subset of the main BlueZone configuration file with its own file extension.

Refer to Dialog level configuration profiles, on page 394 for a complete listing of the dialog configuration profile file extensions.

Exporting dialog configuration settings to a file

1. Open the desired dialog.
2. Click the **File Save As** toolbar button.
3. Type a configuration file name.

   No file extension needs to be entered; BlueZone automatically supplies the correct file extension.
4. Click **Save**.

   Your configuration is now saved.

Importing dialog configuration settings from a file

1. Click the **File Open** toolbar button and open the desired dialog.
2. Type a configuration file name or select an existing one.
3. Click **Open**.

   BlueZone immediately uses the configuration settings of this configuration file.

Profile schemes

The profile schemes feature is used to automatically import dialog configuration profiles. When this feature is enabled, the values stored in the dialog configuration profile override certain values stored in the main BlueZone configuration file that was used to start the session.

By definition, dialog configuration profiles are subsets of the main BlueZone configuration file. There are up to eight types of dialog configuration profiles that can be used in any combination along with the main BlueZone configuration file.

Note

This feature is used primarily by BlueZone administrators that use a push technology, like Microsoft's SMS, to install and update BlueZone files on their user's machines.

This feature can be also be useful to end users.

If you require many BlueZone configuration files and you make many modifications to those configuration files, you can use the profile schemes feature to share dialog configuration profiles that are common to all BlueZone configurations.

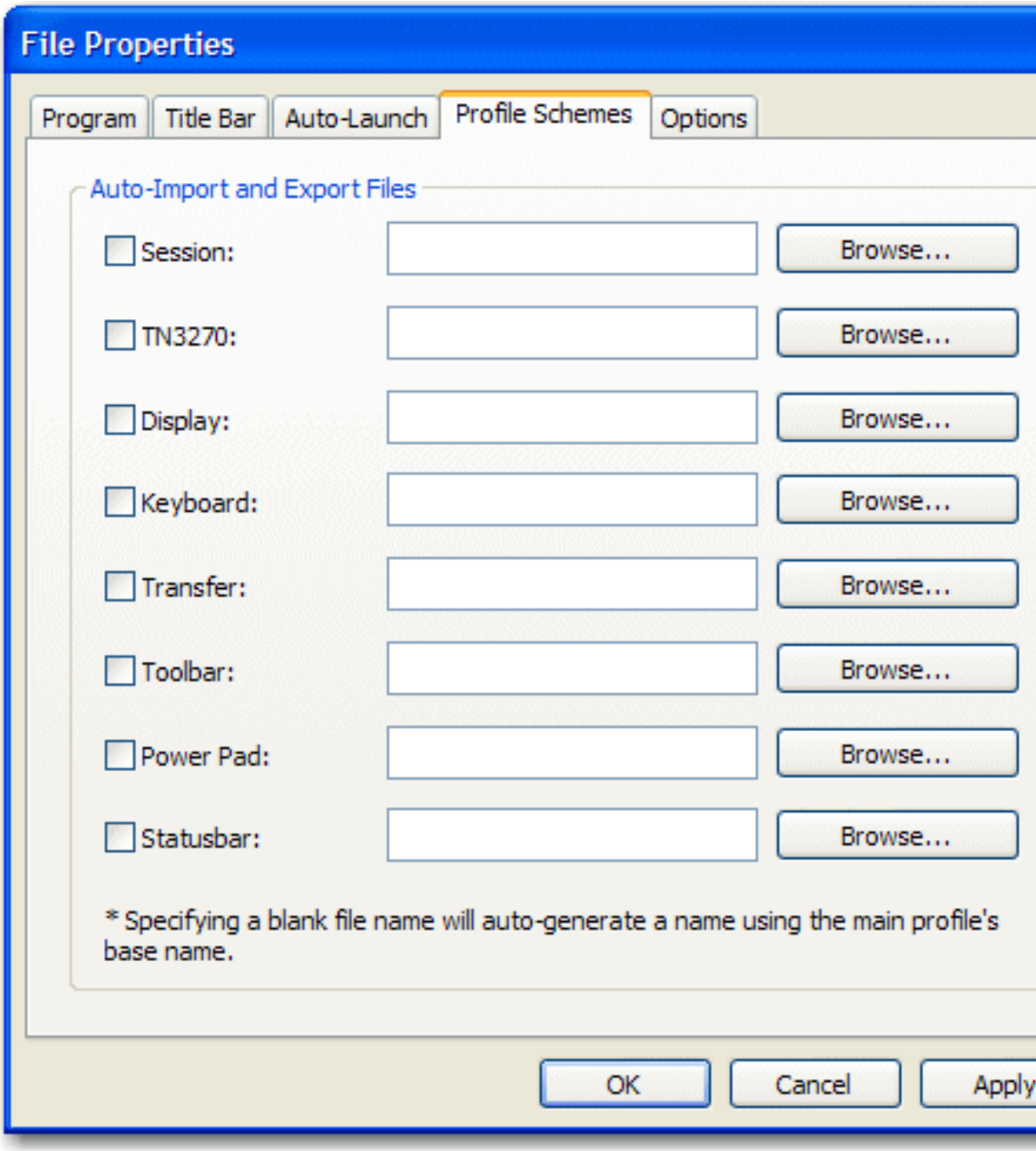
For example, if you regularly use ten different BlueZone configuration files and the BlueZone keyboard map configuration is the same for all ten configuration files, you can make your specific keyboard map changes to all ten configuration files. You can then make the keyboard map changes once and export the keyboard map to a dialog configuration profile. Then you open the **Profile Schemes** tab, select the **Keyboard** check box, and browse to the keyboard map file you just created.

You now have a keyboard map profile that can be shared among all ten BlueZone configuration files. You also have the added benefit of only having to make any future keyboard map changes once. You do not have to update all ten configurations.

Configuring profile schemes

1. Click **File** ® **Properties** from the BlueZone menu bar.
2. Click the **Profile Schemes** tab.

Figure 2: Profile Schemes window



Note

This is an example of the BlueZone Mainframe Display Profile Schemes window. Other BlueZone emulation client Profile Schemes windows look slightly different; however, the functionality and concepts are the same.

3. Determine which aspects of the BlueZone configuration you want to override using the profile schemes feature.
4. Select the check box(es) of the desired features to override.

   There are two ways to use this window:

- You can leave the file names blank, in which case BlueZone creates a profile configuration file (based on your current configuration settings) with the same name as the master BlueZone configuration file, but with the corresponding file extension.
- You can create you own dialog configuration profiles by going to each dialog, making your desired customizations, then exporting the changes to a dialog configuration profile using your own naming convention.

5. Depending on which method you want to use, either leave the file name blank or use **Browse** to locate the appropriate dialog configuration profile.
6. Click **OK**.

When this BlueZone Mainframe Display session launches, BlueZone applies all of the configuration settings stored in the main BlueZone configuration file (`.zmd`) first, then it applies the dialog configuration profiles that are selected in the Profile Schemes window and overrides the configuration settings with the values stored in the selected dialog configuration profiles.

Refer to Dialog level configuration profiles, on page 394 for a complete listing of the dialog configuration profile file extensions.

Automatically configure sessions

BlueZone is capable of automatically loading configuration files that are identified using a specific naming convention. Using this method, you can automatically configure all sessions identically, automatically configure multiple sessions differently, and automatically update configurations that are locked from user tampering. In BlueZone, these automatically loading configuration files are universally called Start configuration files.

There are three types of Start configuration files:

- Start configuration files
- S*x* configuration files
- S*x*LOCK configuration files

Start configuration files

System administrators and users can preconfigure a BlueZone session by saving the desired configuration settings to a file named `start` and then including the file on the BlueZone distribution disk. When a BlueZone session runs for the first time, a configuration does not exist in the registry. If BlueZone does not file a configuration in the registry, BlueZone automatically looks for a `Start.z`*xx* configuration file and auto-opens the file if it exists. Each time a new session is launched, BlueZone loads the settings contained in the `Start.z`*xx* file.

If a valid configuration already exists in the Registry for that session, the `Start.z`*xx* file is ignored.

For example, if you want your end users to automatically load a specific BlueZone Mainframe display session, create a BlueZone Mainframe configuration and name it `start.zmd`.

CAUTION

The `Start.z`*xx* file or files must be located in the same directory as the main BlueZone program files. Not the `Config` directory. The `Start.z`*xx* files are ignored if they are placed in the `Config` directory.

All BlueZone file extensions can be used with a `Start.z`*xx* files.

Refer to Top level configuration profile, on page 394 for a complete list of BlueZone file extensions.

Sx configuration files

If you want to distribute BlueZone preconfigured for more than one BlueZone session, use the following syntax. Instead of creating one file with the name `Start.zxx`. You can create as many files as you need with the name `Sx` where *x* is the session identifier.

For example, to preconfigure two BlueZone Mainframe display sessions, create the first configuration file and name it `S1.zmd`. Then create the second one and name it `S2.zmd`.

The same rules that apply to start files apply to `Sx` files except that each `Sx` file only configures one session with that corresponding session number.

For example, `S1.zmd` automatically loads the configuration for session S1. `S2.zmd` automatically loads the configuration for session 2.

SxLOCK configuration files

An additional option is available to administrators who need to be able to preconfigure sessions that load every time a BlueZone sessions is launched. The main purpose for this option is to provide a way to update BlueZone sessions when the BlueZone global lock feature is used.

For example, to preconfigure two locked BlueZone Mainframe display sessions, create the first configuration file and name it `S1LOCK.zmd`. Then create the second one and name it `S2LOCK.zmd`.

Resetting the default configuration

To reset the BlueZone user defined configuration settings to their default values, create a new session:

1. Click **File** ® **New** from the BlueZone menu bar.

   A new default BlueZone session launches and the Define New Session window opens.

2. Configure and save this new session.

Chapter 4: BlueZone Session Manager

BlueZone Session Manager provides a graphical user interface for viewing and managing multiple BlueZone emulation client sessions. BlueZone Session Manager can be used to launch preconfigured BlueZone sessions, create new BlueZone sessions, delete BlueZone sessions, and create BlueZone desktop shortcuts.

BlueZone Session Manager is an optional component and is installed with BlueZone by default.

If you do not want to install BlueZone Session Manager, you can clear it from the list of optional components on the Components Selection screen.

Refer to Installing BlueZone 6.1, on page 18 for more information.

BlueZone Session Manager has its own help file that can be accessed directly from Session Manager by selecting **Help** ® **Session Manager Help Topics** from the Session Manager menu bar.

Chapter 5: Connecting to host systems

The following sections detail how to connect to and configure each display and printer type.

BlueZone Mainframe Display and Printer

The following sections detail the configuration of BlueZone Mainframe Display and Printer connections.

Creating BlueZone Mainframe Display or Printer connections

By default, BlueZone Mainframe Display and Printer sessions use the TN3270/TN3270E connection type. This procedure describes how to configure a BlueZone Mainframe Display or Printer session for this connection type.

Creating a Mainframe Display session is nearly identical to defining or editing a Mainframe Printer session. The differences are noted below.

1. Click **Start** ® **All Programs** ® **BlueZone 6.1** ® **Mainframe Display** or **Mainframe Printer**.

   The first time that you create a BlueZone Mainframe Display or Printer session, the Define New Connection window opens.

   To open this window on subsequent connections, open a Mainframe Display or Printer session. Click **Session** ® **Configure**, click **Properties**, and then click **New** or **Edit**.

2. Complete the following fields:

Field	Description
Connection Name	Type a unique name to identify the collection of connection settings.
Host Address	Type the computer name (in Internet format, known as DNS Name) or the IP address in either IPv4 or IPv6 format, of the TN3270E server.
LU Name	Type the name of the device to which to connect. This is an optional field. Refer to Generating LU names automatically, on page 52 for more information.
TCP Port	Type the TCP port number to which to connect. The default is 23.
Backup Host	Select a second host connection if the first connection attempt fails.
Connection Timer	Type the maximum amount of time (in seconds) to wait for the TN connection to complete.
Bypass Firewall	Select the check box to allow individual connections to bypass the global firewall settings and connect directly to the host.
Enable TN3270E	This field is available for Mainframe Display sessions only. Select the check box to enable the TN protocol extensions. The default is enabled.

Field	Description
Enable Extensions	This field is available for Mainframe Display sessions only. Select the check box to enable the TN3270E Function Extensions. These include support for SNA Contention Resolution, Send Data Indicator (SDI), Keyboard Restore Indicator (KRI), Bid, and Signal.
Printer Association	This field is available for Mainframe Printer sessions only. Select how to associate a display to the printer: ▪ **None**: The printer is not associated with a display. ▪ **Associate by Session Number**: Associates the printer to a display based on its session number. When selected, the **Session** drop-down menu displays. Select from **S1** to **S99**. ▪ **Associate by Profile**: Associates the printer to a display based on its profile name. When selected, the **Profile** field displays. Type the profile name (a `.zmd` file) or click **Browse** to locate the file.

3. Click **OK**.
4. Configure the TN3270E properties.
5. Configure the session information for the Mainframe Display or Printer session:
   - Mainframe Display session configuration
   - Mainframe Printer session configuration
6. In the BlueZone menu bar, click **File** ® **Save** to save the Mainframe Display or Mainframe Printer session.

TN3270E Properties

The RTN3270E.DLL file provides complete TN3270E connectivity for BlueZone allowing connection to hosts, servers, and gateways that are TN3270E compliant. TN3270E is the enhanced version of TN3270, providing more SNA information to the client for improved operation. Optionally, Secure Sockets Layer security is available to insure privacy, message integrity and provide authentication.

The TN3270E Properties window contains the **Connections**, **Device**, **Security**, **Certificate**, **Keep Alive**, **Trace**, **Firewall**, **Security Server**, and **About** tabs.

Note

The TN3270E settings for the BlueZone Display emulator are identical to the BlueZone Printer emulator with the exception of the **Device** tab. The differences are noted.

Connections tab

This dialog displays your host **Connection List** and contains buttons for creating new connections as well as editing, removing and sorting them.

TN3270 / TN3270E Connections

- **Connection List**: A list of your configured hosts (if any). A total of 32 connections can be defined.
- **New**: Click to create new host sessions. The Define New Connection window opens. Refer to Creating BlueZone Mainframe Display or Printer connections, on page 29 for more information.
- **Edit**: Click to edit an existing entry in the Connection List.
- **Remove**: Click to remove an existing entry in the Connection List.
- **Sort**: Click to sort the entire Connection List into alphabetical order.

Use Connection Name as Session Description

If enabled, the name that you gave to the active connection displays in the BlueZone title bar immediately after the session number. This feature is useful if you have multiple hosts defined, and you are not using the **Connections** drop-down list, and you want to know the name of the current connection.

Active Connection

Displays the currently configured connection information.

Device tab

IBM Device

Device Type

Selects the type of IBM terminal or printer to emulate:

- **3278**: Selects a 3278 (monochrome) display. (Display emulator only)
- **3279**: Selects a 3279 (color) display. (Display emulator only)
- **3287**: Selects a 3287 printer. (Printer emulator only)

Device Model (Display emulator only)

Selects the default screen size of the emulated device to use when one is not specified by the host system:

- **Model 2 (24x80)**: Selects a model 2 device with 24 rows and 80 columns.
- **Model 3 (32x80)**: Selects a model 3 device with 32 rows and 80 columns.
- **Model 4 (43x80)**: Selects a model 4 device with 43 rows and 80 columns.
- **Model 5 (27x132)**: Selects a model 5 device with 27 rows and 132 columns.
- **Dynamic**: Selects dynamic device which can accept any model type.

Extended Attributes

Specifies whether the device supports SNA Extended Attributes (color highlighting). (Display emulator only)

Override 3270 Emulation Model Type

Allows the Device Model specified here to override the Default Screen Model Type specified in the 3270 Emulation parameters. This is normally desirable unless the TN3270 server requires a terminal type model specification which differs from the model type configured in the host LU.

Security tab

All BlueZone emulator clients support the SSL v3 or TLS v1 protocol through the BlueZone Security Server or any SSL enabled Telnet connection including IBM Communications Server for NT (SSL v3 only), OS/390, z/OS, and the iSeries V4R4 or higher. BlueZone clients can be preconfigured for distribution with SSL/TLS enabled, eliminating the need for any end-user intervention in the installation or configuration process. The options for configuration include:

Security Options

If you want to encrypt your session, select one of the following encryption methods from the list. The method is dictated by the secure Telnet host that you are connecting to.

- **None**: Indicates that no encryption is being used.
- **Implicit SSL/TLS**: Negotiates a secure connection to the host first, then negotiates the Telnet connection.
- **Explicit SSL/TLS**: Encryption is negotiated during the Telnet negotiation.

  SSL Provider

  Specifies the SSL provider.

  - **OpenSSL**
  - **MS-CAPI**

  SSL Version

  Specifies the version of the SSL protocol that is used:

  - **SSL v3**: Specifies that SSL version 3 is used. This is the default value.
  - **TLS v1.0**: Specifies that TLS version 1.0 is used.

    Note

    SSL v3 and TLS v1 are nearly identical. TLS v1 is preferred.

  Invalid Certificates

  Specifies how to handle an invalid server certificate. Options include:

  - **Always Reject**: Specifies that an invalid server certificate must always be rejected.
  - **Ask Before Accepting**: (Default) Specifies that the user must be asked whether to accept an invalid server certificate.
  - **Always Accept**: Specifies that an invalid server certificate must always be accepted.

- **Preferred Cipher Suite**: Specifies a specific SSL/TLS cipher suite (encryption algorithm) to use. To allow the client and server to negotiate the cipher suite, select **Strong only**.
- **Alternate Principal Name**: Type a valid address in this field to use to validate the server certificate.

  When a host site's server certificate's Common Name (CN) or AltSubjectName does not match the address used to connect to the host, a certificate error occurs, stating that the host address does not match the common name. If it is not possible to connect to the host address listed in the certificate, the address from the certificate can be typed into the **Alternate Principal Name** field. This address, rather than the host connection address, is used to validate the server certificate.
- **Check for Certificate Revocation**: When this is checked, a revocation check is performed on the server certificate chain at connect time, resulting in a connection failure if a certificate has been revoked, if the revocation server cannot be contacted, or if revocation information is not listed in the certificate. Clearing this bypasses the certificate revocation checking.

Certificate tab

Client Certificate

These parameters specify the type of client certificate to use if any. In the **Security** tab, either the **Implicit SSL/TLS** or **Explicit SSL/TLS** option must be selected for client certificate support to be active.

- **No Client Certificate**: Specifies that a client certificate must not be presented.
- **Client Certificate in Disk File**: Specifies that a client certificate must be presented.
  - **Certificate File**: Specifies the path to the certificate file.
    - **View**: Click to view the certificate.
    - **Browse**: Click to locate the certificate file.
  - **Private Key File**: Specifies the path to the private key file.
    - **Browse**: Click to locate the private key file.
- **Client Certificate in Certificate Store**: Specifies that a client certificate must be presented that is located in the certificate store.
  - **Common Name**: Specifies the Common Name (CN) of the certificate to be presented.
    - **View**: Click to view the certificate.
    - **Browse**: Click to display a list of certificates in the certificate store.
- **Client Certificate in Certificate on Smart Card**: Specifies that a client certificate stored on a Smart Card must be presented.

Root Certificates

These parameters specify the root certificate store to use: the one provided by OpenSSL or the one that is provided by Windows.

- **Use OpenSSL Root Certificates**: (Default) If selected, the root certificates provided by OpenSSL is used.
- **Use Windows Root Certificates**: If selected, BlueZone looks for a file called `rootcerts.pem` in the end user's `bluezone\certs` directory. If it doesn't exist, it automatically exports the root certificates from Windows and stores them there, giving a message such as `109 root certificates were exported.`
  - **Update Root Certificates**: Click to manually export the certificates. If you connect and are presented with an untrusted host root certificate, and check the box to add it to the trusted list, it imports it into the Windows root store (which can produce a Windows message asking for confirmation), and then exports the root store again to disk producing a message such as `109 root certificates were exported.` When this is performed one time, subsequent connections connect without messages.

Keep Alive tab

Timer Options

These parameters specify whether the client must send keep-alive messages to the server to keep the TN3270E session active:

- **Disable**: Disables keep-alive messages. (Default)
- **Use NOP**: Uses the Telnet NOP (No Op) for keep-alive messages.
- **Use Timing Mark**: Uses the Telnet Timing Mark (TM) for keep-alive messages.
- **Timer Value (Minutes)**: Specifies the time interval (in minutes) for sending keep-alive messages.

Trace tab

These parameters specify the interfaces to be traced and the file name to which the trace file is written. The trace files are in ASCII text format and can be viewed with Notepad or WordPad.

Refer to Capturing BlueZone traces, on page 60 for more information.

Trace Options

- **Trace Sockets Interface**: Traces the data as it passes through the Winsock interface from the network connection.
- **Trace RUI Interface**: Traces the data as it passes between the TN3270E driver and the BlueZone terminal session.
- **Trace SSL Connection**: Traces the data as it passes through the Secure Sockets Layer component of the TN3270E driver.
- **Trace Keyboard Interface**: Adds the keyboard data to the trace file.
- **Trace Screen Writes**: Adds the host screen shots to the trace file.
- **Auto-Start Trace**: Automatically starts the trace when BlueZone connects to the host.
- **Trace File**: Specifies the file name to which the trace file is written.
  - **Browse**: Click to display a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature will not work.

- **Trace Viewer**: Specifies the program that is used to read the trace file after it has been captured and written.
  - **Browse**: Displays a dialog used to select the directory and file name.
- **Start Trace**: Click to manually start the trace.
- **Stop Trace**: Click to stop the trace.
- **View Trace**: Click to view the trace. BlueZone automatically uses the Trace Viewer program specified above.

Firewall tab

The Firewall tab allows the configuration of firewall and proxy server sign on systems.

Firewall Options

- **Connect Through Firewall or Proxy Server**: Check to enable this feature.
- **Firewall Type**: Select the firewall type from the drop-down list box:
  - SOCKS4 Proxy
  - SOCKS4A Proxy
  - SOCKS5 Proxy
  - NVT Proxy or Firewall
  - HTTP Tunneling Proxy
- **Firewall Address**: Type the IP address of the firewall.
- **Port**: Type the port number used by the firewall.
- **Timeout**: Type the appropriate time out value.
- **User Name**: Type the appropriate user name.
- **Password**: Type the appropriate password.
- **Domain**: Type the appropriate domain.

If you selected **NVT Proxy or Firewall**, then you must provide the following prompts:

- **Host Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the host name that BlueZone is expecting. For example, `Enter host name`. If this prompt is detected, the Host Address from the **Connections** tab is sent.

- **User Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the user name that the firewall is expecting. For example, `Enter user name`. If this prompt is detected, the User Name Prompt field is sent.
- **Password Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the password that the firewall is expecting. For example, `Enter password`. If this prompt is detected, the Password Prompt field is sent.
- **Connected Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the connection message. For example, `Connected` or `Connected to host`. If this prompt is detected, the firewall connection is considered to be complete and the Telnet negotiation begins.

Security Server tab

The Security Server tab is used to configure BlueZone to use the BlueZone Security Server as a Proxy Server to multiple hosts. This feature enables you to support connecting to multiple back end hosts through a single port in the BlueZone Security Server while using HTTPS tunneling in BlueZone.

Security Server Options

- **Use Security Server to proxy to Multiple Hosts**: Select to enable the feature.
- **Proxy Type**: Select the desired Proxy Type from the list box.
- **Security Server Address**: Type the IP address of the Security Server.
- **Port**: Type the Port being used by the Security Server for these connections.
- **Timeout**: The time (in seconds) after which, if a prompt from the Firewall has not been received, BlueZone assumes that the Firewall has been traversed and proceed with the next stage of the connection process. This is required for firewalls which authenticate a user once but then do not re-authenticate on subsequent connections within a certain time period.

About tab

This tab is used to display information about the encryption technology used by BlueZone.

Display session configuration

Prior to establishing a host system connection, BlueZone users must set session configuration parameters. A session configuration consists of:

- Selecting a connection type and configuring its connection settings.
- Selecting a language and configuring the emulation settings.

BlueZone can connect to the mainframe host system in one of several ways: Microsoft SNA Server, Renex Async Protocol, TN3270/TN3270E, IBM Communications Server for NT, or IntranetWare for SAA. TN3270/TN3270E is the most prevalent type of connection. TN3270E supports both display and printer data streams.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration dialog opens. It contains the **Connection**, **3270 Emulation**, **Spell Checking**, and **License Server** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options. Select the appropriate link for additional configuration information:

Note

BlueZone defaults to the connection type that was chosen during installation.

Connection Type

- **Microsoft SNA Server**: Select to connect to the host system using an NT Server running the Microsoft SNA Server software.

  Note

  The Microsoft SNA Client must be installed on the PC in which BlueZone is running before the connection can be made.

  Refer to Microsoft SNA Server, on page 44 for more information.

- **TN3270E/TN3270E**: Select to connect to the host system through TCP/IP using the TN3270/TN3270E protocol.
  Refer to TN3270E Properties, on page 30 for more information.

- **IBM Communications Server**: Select to connect to the host system using an NT Server running the IBM Communications Server software.

  Note

  The IBM Communications Server Client must be installed on the PC in which BlueZone is running before the connection can be made.

  Refer to IBM Communications Server, on page 45 for more information.

- **IntranetWare for SAA**: Select to connect to the host system using an NT Server running the IntranetWare for SAA software.

  Note

  The IntranetWare for SAA Client must be installed on the PC in which BlueZone is running before the connection can be made.

  Refer to Novell IntranetWare for SAA, on page 46 for more information.

Use Custom LUA-RUI Compliant Dynamic Link Library

Selects a custom Connection Type for BlueZone to use when connecting to the host system. The Dynamic Link Library (DLL) specified must be LUA (Logical Unit Addressing)-RUI (Request Unit Interface) compliant.

- **Browse**: Allows you to enter the path and file name of the Dynamic Link Library DLL
- **LU Name**: Type the LU /Pool Name to use when using the Custom Library Link above.

Properties

Click to configure the highlighted connection.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If selected, BlueZone auto-connects the session after the communications library has initialized.
- **Auto-Reconnect Session (when Deactivated by Host) in**: If selected, BlueZone auto-connects the session if the LU being used is varied off on the host system while a

BlueZone session is active in the number of seconds specified in the list box. 0 through 10 seconds can be selected.

Note

The LU obtained by the reconnect is not the same as with the prior session.

- **Prompt on Disconnect**: If selected, BlueZone displays a message, "Are you sure you want to disconnect and close session?" when an attempt is made to disconnect a host session or when the BlueZone application is closed with an active host session.
- **Auto-Close Session on Disconnect**: If selected, the BlueZone application auto-closes after disconnecting from the host system.
- **Connect Retry**: If selected, BlueZone tries to connect to the host the number of times selected in the **Retry up to** list and use the interval selected in the times, retrying every list.

  Note

  The LU obtained by the reconnect might not be the same as with the prior session.

3270 Emulation tab

Translation

The Translation group is used to select a translate language and if needed to configure the translate tables. Choices include:

- **Language (CCSID)**: Selects the translate language and code page. The code page is the number shown in parentheses to the right of the language. Example: English (U.S.) (37)

  Note

  The language must correspond to the Windows operating system language.

- **Euro**: Check to include support for the Euro currency symbol.

  Refer to Configuring Euro support, on page 57 for more information.

- **Translate Tables**: Configures the translate tables for both EBCDIC to ASCII character translation and also for EBCDIC to ASCII IND$FILE transfer translation.

  Refer to Editing the translate tables, on page 59 for more information.

- **Change DBCS Font**: This button is only active when a DBCS (double-byte character set) language page is selected. Allows you to select the specific DBCS font that you want to use with the selected language page. DBCS languages have the characters DBCS at the end of their name.

  Refer to Configuring DBCS support, on page 53 for more information.

Default Screen Model Type

The Default Screen Model Type group is used to select an IBM Default Terminal Model for 3270 emulation.

Note

If this option is disabled, it is because the **Override 3270 Emulation Model Type** check box, located on the **Device** tab, in TN3270E Properties, is enabled. The override feature must be disabled in order to select a different model type from the drop-down list box. Refer to Device tab: Override 3270 Emulation Model Type for more information.

The available choices are:

- Model 2 (24 X 80)
- Model 3 (32 X 80)
- Model 4 (43 X 80)
- Model 5 (27 X 132)
- Model 3290 (62 X 160)
- Custom Size (the display shows the currently selected custom values)

Note

To set a default or alternate custom model size, select **Custom Size** from the Default Screen Model Type drop-down list. A pop-up dialog opens, allowing you to independently set both the Default and Alternate screen sizes. The maximum custom screen size is 98 X 160.

Features

Enables control over 3270 Display features:

- **Use Extended Attributes**: If enabled, allows support for extended colors, underlining, blinking, and so on.
- **Use Multiple Explicit Partitions**: If enabled, BlueZone supports explicit screen partitioning. Can only be enabled if **Use Extended Attributes** is selected.
- **Enable Field Validation**: If enabled, allows the validation of the following three field validation types:
  - Mandatory Fill
  - Mandatory Entry
  - Trigger
- **Enable Vector Graphics**: If enabled, allows support for host graphics terminal support.
- **Graphics Cell Size**: Determines the graphics cell size. A specific cell size is required if Programmed Symbols graphics are used. A setting of **Automatic** enables only vector graphics, but gives the best resolution. The default setting is **Automatic**.
  - **Automatic**: BlueZone reports the actual character cell size in use at the time, based on the window size and font size settings. Using this setting, with the largest window size, yields the best resolution graphics.
  - **9 x 12**: BlueZone reports its cell size as 9x12.
  - **9 x 16**: BlueZone reports its cell size as 9x16.
  - **9 x 21**: BlueZone reports its cell size as 9x21.
  - **13 x 22**: BlueZone reports its cell size as 13x22.
  - **13 x 29**: BlueZone reports its cell size as 13x29.

3270 Numeric Field Options

Selects the way that BlueZone handles 3270 Numeric fields:

- **Allow All Characters**: If enabled, all characters are allowed in 3270 Numeric fields.
- **Numeric and Shifted Only**: If enabled, only numeric and shifted characters are allowed in 3270 Numeric fields.
- **Numeric Characters Only**: If enabled, only numeric characters are allowed in 3270 Numeric fields.

Keyboard Type Ahead

Controls Keyboard Type Ahead features and functions:

- **Disabled**: If selected, disables the Type-Ahead buffer feature.
- **Normal - Next Screen**: If selected, keystrokes can be typed continuously. All screens received from the host are displayed.
- **Advanced - Last Screen**: If selected, keystrokes can be typed continuously. Only the last host screen is displayed.
- **TN3270/E Flush Buffer Delay**: Used to set the amount of time to wait after a keyboard restore is received from the host system before releasing the typed-ahead data into the next host screen. Because each tick mark below the slider control represents 50 milliseconds, the delay time can rang from 0 to 2 seconds.

Options

- **Smart Screen Updates**: If enabled, BlueZone does a comparison of the current host screen and only updates what has changed. If disabled, BlueZone paints the entire new host screen.
- **Ignore X Prog Errors**: If enabled, BlueZone suspends notifications of host program errors.
- **Word Wrap**: If enabled, BlueZone performs a word wrap from one field to another field directly beneath it and of the same length, or in long, multi-line fields.
- **Line Wrap on Delete**: If enabled, when editing multi-line data, BlueZone moves data from the lines below to fill the editing line. With this feature disabled, BlueZone only moves data on the editing line.

Spell Checking tab

The spell checking feature allows users to check the spelling in the emulator screens.

Settings

- **Enable Spell Checking**: Check to enable the spell checking feature.
- **Minimum Word Length**: Sets the minimum length that a word must be for the spell checker to parse it. The default is 5.
- **Maximum Spelling Suggestions**: Sets the maximum number of spelling suggestions per misspelled word. The default is 7.
- **Foreground Color**: Displays the text color of a misspelled word. Click **Customize** to change this color.
- **Background Color**: Displays the background color of a misspelled word. Click **Customize** to change this color.

Options

- **Auto-Correct Spelling**: Enables the auto-correct feature.
- **Ignore Uppercase Words**: Check to ignore uppercase words.
- **Ignore Words with Numbers**: Check to ignore words that contain numbers.

Dictionaries

- **Base**: Displays the path to the dictionary file (`.dic`).

- **Add**: Allows you to add words to the default dictionary.
  Click **Edit** to create `BzAdd.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to add to the dictionary. Save and close the file.
- **Ignore**: Allows you to define words that the spell check will ignore.
  Click **Edit** to create `BzIgnore.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words that you want the spell check to ignore. Save and close the file.
- **Remove**: Allows you to remove words from the default dictionary.
  Click **Edit** to create `BzRemove.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to remove from the dictionary. Save and close the file.

When spell checking is enabled and a word is misspelled, it is displayed with the foreground and background colors set in the **Settings** group.

Right-click the misspelled word to view a list of spelling suggestions. Click the desired correction to replace the misspelled word. There are also the following options from the right-click pop-up menu:

- **Add Word to Dictionary**: Click to add the misspelled word to the dictionary. When this word is used in the future, it does not appear as misspelled.
- **Cancel**: Click to ignore the spelling suggestions and leave the word as is.

License Server tab

The License Server tab is used to store the IP address of the BlueZone License Manager server. This is necessary when using a concurrent licensing scheme.

Note

The License Manager tab is only available if you are using a licensed copy of BlueZone. If you currently evaluating BlueZone, this tab is not available.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Type the IP address of the server or servers that are running the BlueZone License Manager in this field and click **Add**.

  Note

  If your BlueZone License Manager is using a listening port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown in the example above.

- **Server List**: Displays the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the group feature of the BlueZone License Manager:

- **Group Name**: Type the name of the group in this field.

Refer to the *BlueZone License Manager Administrator's Guide* for more information on the group feature.

Printer session configuration

Prior to establishing a host system connection, BlueZone users must set Session Configuration parameters. A Session configuration consists of:

- Selecting a connection type and configuring its connection settings.
- Selecting a language and configuring the emulation settings.

BlueZone can connect to the mainframe host system in one of several ways: Microsoft SNA Server, Renex Async Protocol, TN3270/TN3270E, IBM Communications Server for NT, or IntranetWare for SAA. TN3270/TN3270E is by far the most prevalent type of connection. TN3270E supports both display and printer data streams.

Click **Session** ® **Configure** from the BlueZone menu bar. The Session Configuration dialog opens. It contains the **Connection** and **3270 Emulation** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options. Select the appropriate link for additional configuration information:

Note

BlueZone defaults to the connection type that was chosen during installation.

Connection Type

- **Microsoft SNA Server**: Select to connect to the host system using an NT Server running the Microsoft SNA Server software.

  Note

  The Microsoft SNA Client must be installed on the PC in which BlueZone is running before the connection can be made.

  Refer to Microsoft SNA Server, on page 44 for more information.
- **TN3270E/TN3270E**: Select to connect to the host system via TCP/IP using the TN3270/TN3270E protocol.
  Refer to TN3270E Properties, on page 30 for more information.
- **IBM Communications Server**: Select to connect to the host system using an NT Server running the IBM Communications Server software.

  Note

  The IBM Communications Server Client must be installed on the PC in which BlueZone is running before the connection can be made.

  Refer to IBM Communications Server, on page 45 for more information.
- **IntranetWare for SAA**: Select to connect to the host system using an NT Server running the IntranetWare for SAA software. NOTE: The IntranetWare for SAA Client must be installed on the PC in which BlueZone is running before the connection can be made.
  Refer to Novell IntranetWare for SAA, on page 46 for more information.

Use Custom LUA-RUI Compliant Dynamic Link Library

Selects a custom connection type for BlueZone to use when connecting to the host system. The Dynamic Link Library (DLL) specified must be LUA (Logical Unit Addressing)-RUI (Request Unit Interface) compliant.

- **Browse**: Allows you to enter the path and file name of the Dynamic Link Library DLL
- **LU Name**: Type the LU /Pool Name to use when using the Custom Library Link above.

Properties

Click to configure the highlighted connection.

Options

After selecting the connection type, select from the following options:

- **Auto-Connect Session**: If enabled, BlueZone auto-connects the session after the communications library has initialized.
- **Auto-Reconnect if LU is Deactivated by Host**: If enabled, BlueZone auto-connects the session if the LU being used is varied off on the host system while a BlueZone session is active.

  Note

  The LU obtained by the reconnect is not the same as with the prior session.

- **Auto-Close Session on Disconnect**: If selected, the BlueZone application auto-closes after disconnecting from the host system.
- **Connect Retry**: If enabled, BlueZone tries to connect to the host the number of times selected in the Retry up to list box and use the interval selected in the times, retrying every list box.

  Note

  The LU obtained by the reconnect might not be the same as with the prior session.

3270 Emulation tab

Translation

The Translation group is used to select a translate language and if needed to configure the Translate Tables. Choices include:

- **Language (CCSID)**: Selects the translate language and Code Page. The Code Page is the number shown in parentheses to the right of the language. Example: English (U.S.) (37)

  Note

  The language must correspond to the Windows operating system language.

- **Euro**: Check to include support for the Euro currency symbol.

  Refer to Configuring Euro support, on page 57 for more information.

- **Translate Tables**: Used to configure the translate tables for both EBCDIC to ASCII character translation and also for EBCDIC to ASCII IND$FILE transfer translation.

  Refer to Editing the translate tables, on page 59 for more information.

- **Change DBCS Font**: This button is only active when a DBCS (Double Byte Character Set) language page is selected. Allows you to select the specific DBCS font that you want to use with the selected language page. DBCS languages have the characters DBCS at the end of their name.

  Refer to Configuring DBCS support, on page 53 for more information.

LU1 Print Options

- **End Bracket Timeout (seconds)**: If enabled, BlueZone assumes the host print job has completed when no data is received from the host for the duration of the time out period set in the following box.
- **Allow Host to Override Language and Set Code Page**: If enabled, the host is allowed to set the language and code page for character translations during the print jobs.

  CAUTION

  If this option is enabled, any customizations made to the translate tables is lost.

- **Ignore Data in Transparent Blocks**: If enabled, BlueZone discards any data in SCS 03 and 35 transparent commands. Any data contained in transparent blocks is discarded and not written to the BlueZone spool file or the printer.
  From an End User Perspective:
  This feature is useful when the transparent blocks contain printer control codes for specific printers and the end user wants to print the job on a different printer. Discarding the transparent blocks results in a print job without any printer control characters. The print formatting features of the BlueZone Windows API mode can be used to format the job for the new target printer.
- **In Passthrough Mode, Process SCS Horizontal Tab Commands**: If enabled (default), BlueZone processes SCS Horizontal Tab commands sent from the host. If disabled, BlueZone sends a Tab character (0x09) directly to the printer. Valid for pass-through mode only.

LU3 Print Options

- **Wrap text after 132 Characters to the Next Line**: If enabled, BlueZone embeds a line feed after the 132nd character of each line to force a new line.
- **In Passthrough Mode, Add CR/LF to Last Line if Unterminated**: If enabled, BlueZone adds a CR/LF to the end of the last line of a print job if terminating characters are not sent by the host. This option is needed in some cases in order to eject the paper from the printer at the end of the print job.

LU1/LU3 Print Options

- **Use Host Unbind as the End of Job Indicator**: If enabled, then only host-sent Unbind commands received are used in End of Job determination.
- **Ignore Form Feeds sent from Host**: If enabled, then form feeds sent from the host are ignored.

SNA Gateway configuration

BlueZone supports three different SNA Communications Server Gateway options:

- Microsoft SNA Server (now called Host Integration Server)
- IBM Communication Server
- Novell IntranetWare for SAA

Microsoft SNA Server

Configuring the Microsoft SNA Server connection consists of selecting a Logical Unit (LU) or LU Pool Name for BlueZone to use when initiating connections with the host system. The LU / Pool Names are listed and maintained on the SNA Server and are displayed by BlueZone in the SNA Server property page.

From the BlueZone menu bar, click **Session** ® **Configure** , select Microsoft SNA Server from the Connection Type list box then click **Properties**.

Note

The Microsoft SNA Server Client software must be installed on the end users workstation in order for BlueZone to operate.

SNA Server Options tab

LU Selection

The LU Selection group displays LU / Pool Name information configured on the SNA server:

- **LU / Pool Name**: Displays a list of LU / Pool Names configured on the SNA Server. The LU / Pool Name is used by BlueZone when establishing a session on the host system.

  Note

  If you want to use an LU name other than what is available in the combo box, it is possible to enter the desired LU name directly into the combo box.

- **Initial Screen Model Type**: Shows the currently configured initial screen model type used by the LU / Pool Name.
- **Screen Model Override Enabled?**: Determines whether or not the user is permitted to change the screen model type during the active session.

User Record

The User Record group displays user information configured on the SNA server:

- **User Name or Group**: Indicates the user name or group assignment.
- **Remark / Description**: Displays the Remark / Description assigned to the user or group.
- **Style Filename**: Shows the configuration file assigned to the user or group.
- **Active Session Limit**: Displays the maximum number of active sessions permitted to the user.
- **Total Sessions Available**: Shows the total number of LU / Pool Names configured on the SNA server that the user or group can access.

IBM Communications Server

Configuring the IBM Communications Server connection consists of selecting a Logical Unit Addressing (LUA) Session Name for BlueZone to use when initiating connections with the host system. The LUA Session Names are listed and maintained by the IBM Communications Server Client and are displayed by BlueZone in the IBM Communications Server property page.

From the BlueZone menu bar, click **Session** ® **Configure**. Select **IBM Communications Server** from the Connection Type list box and click **Properties**.

Note

The IBM Communications Server SNA Client software must be installed on the end users workstation in order for BlueZone to operate.

IBM Communications Server Options tab

LU Selection

The LU Selection group displays LUA Session Names configured in the IBM Communications Server Client:

- **LUA Session Name**: Displays a list of LUA Session Names configured in the IBM Communications Server Client. The LUA Session Name is used by BlueZone when establishing a session on the host system.

Novell IntranetWare for SAA

Configuring the IntranetWare for SAA connection consists of selecting a Logical Unit Addressing (LUA) Session Name for BlueZone to use when initiating connections with the host system. The LUA Session Names are listed and maintained by the IntranetWare for SAA Client and are displayed by BlueZone in the IntranetWare for SAA property page.

From the BlueZone menu bar, click **Session** ® **Configure**. Select **IntranetWare for SAA** from the Connection Type list box and click **Properties**.

Note

The IntranetWare for SAA Client software must be installed on the end users workstation in order for BlueZone to operate.

IntranetWare for SAA Options tab

LU Selection

The LU Selection group displays LUA Session Names configured in the IntranetWare for SAA Client:

- **LUA Session Name**: Displays a list of LUA Session Names configured in the IntranetWare for SAA Client. The LUA Session Name is used by BlueZone when establishing a session on the host system.

Express logon feature

Beginning with BlueZone version 5.1, the BlueZone Mainframe Display emulator has support for the IBM express logon feature, known as Certificate Express Logon. The BlueZone express logon feature allows you to configure BlueZone Mainframe Display sessions that automatically connect to an IBM Mainframe without requiring a user ID and password. When this feature is enabled, the Telnet server on the Mainframe uses certificate information from an SSL connection and the application ID supplied by BlueZone to request a user ID and a PassTicket (a temporary password) from the IBM host access control program RACF.

Implementing express logon

In order to use this feature, an administrator must configure the host, install certificates if necessary on user computers, configure BlueZone connection settings, and create and modify a BlueZone connection script (`.bzs`).

TN3270 changes

In `TelnetParms`, add the lines in red:

```
TelnetParms
;      DEBUG TRACE JOBLOG
       SECUREPORT 993
       KEYRING SAF  RACF keyring name
       ENCRYPTION DEFAULT ENDENCRYPTION
       EXPRESSLOGON
       CLIENTAUTH SAFCERT
       CONNTYPE ANY
       SSLTIMEOUT 120
       NOSEQUENTIALLU
EndTelnetParms
```

Note

For more information, refer to the following IBM publications:

- APPENDIX1.3 Appendix C - Express Logon Feature
- z/OS V1R9.0 Comm Svr: IP Configuration Reference

RACF changes

- Add Root certificate - if not already available:

```
RACDCERT CERTAUTH ADD('your CA dataset name') TRUST -  withlabel('your CA label ')
```

- Add Server certificate, if not already available:

```
RACDCERT ID(TN3270) ADD('your datasetname') TRUST -  WITHLABEL('your
label') PASSWORD('password')
```

- Create RACF keyring:

```
RACDCERT ID(TN3270) ADDRING('your RACF keyring name')
```

- Add certificates to the keyring:

```
RACDCERT ID(TN3270) CONNECT(CERTAUTH) - LABEL('your CA label')  RING('your
RACF keyring name')  -USAGE(CERTAUTH))

RACDCERT ID(TN3270) CONNECT(ID(TN3270)  - LABEL('your label') -RING('your
RACF keyring name') DEFAULT USAGE(PERSONAL))
```

- For testing, a self-signed client certificate was created:

```
RACDCERT ID('RACF userid') -

GENCERT -

SUBJECTSDN(CN('Name of User') -

   O('Name of Organization') -

   C('US'))                    -

WITHLABEL('BlueZone Client for Username') -

SIGNWITH(CERTAUTH LABEL(''your CA label'))

RACDCERT EXPORT(LABEL('BlueZone Client for Name of User')) -

ID('RACF userid') -

DSN('your dataset name') -

PASSWORD('client password') -

FORMAT(PKCS12DER)
```

Using FTP, this data set is sent to the user's machine and imported into their personal certificate store.

Importing certificates

1. On the client computer, start Internet Explorer.
2. Click **Tools** ® **Internet Options**.
3. In the Internet Options dialog box, click the **Content** tab.
4. In the Certificates section, click **Certificates**.
5. In the Certificates dialog box, click **Import**.
   The Certificate Import Wizard opens.
   a. On the Welcome to the Certificate Import Wizard page, click **Next**.
   b. On the File to Import page, click **Browse** and navigate to the location containing the saved certificates.
   c. In the File type list box, select **Personal Information Exchange (*.pfx, *.p12)**. This displays all files with `.pfx` and `.p12` extensions.
   d. Select the certificate (`.pfx` or `.p12`) file that you saved previously, click **Open**, and then click **Next**.
   e. On the Password page, type the password in the **Password** field and click **Next**.
   f. On the Certificate Store page, click **Place all certificates in the following store**. In the Certificate store box, specify **Personal** and click **Next**.
   g. On the Completing the Certificate Import Wizard page, click **Finish**.
   h. In the message box that opens, click **OK**.
6. In the Certificates dialog box, click **Close**.
7. Click **OK** to close the Internet Options dialog box.

Configuring BlueZone for express logon

1. Launch an existing BlueZone Mainframe Display session that connects to the desired host.
2. From the BlueZone menu bar, click **Session** ® **Configure**.
3. Click **Properties**.

4. Click the **Security** tab.
5. Select the desired Security type from the drop-down list.
6. Click the **Certificate** tab.

   The certificate can be either in a disk file or in the system certificate store. If the client certificate was generated on the Mainframe, transfer it to your machine via FTP or IND$FILE.
7. Select the certificate by file name (disk) or common name (certificate store). Fill in the rest of the required information required by your certificate selection.
   Certificates generated by the Mainframe are usually in PKCS12 format, which does not require a private key file, since the certificate and private key reside together in one file. A PKCS12 file can be put into the certificate store using Internet Explorer. Refer to Importing certificates, on page 48 for more information.
8. Click **OK** twice.
9. Save your changes.

Recording and modifying an express logon script

You have the choice of starting the script when the session is either disconnected or connected, so it may or may not start with a Connect event.

1. From the BlueZone menu bar, click **Script** ® **Record**.
2. Type a name for the script and click **Save**.

   Note

   BlueZone express logon is only supported with BlueZone Script files (`.bzs`).

3. Record the steps necessary to connect to your host (if not already) and logon to the desired application.
4. Click **Script** ® **Stop** to end the script recording.
5. Click **Script** ® **Edit** and select the script you just recorded.

   The BlueZone Script Editor launches and your script is displayed.
6. In the script, find the Script Event where you typed your UserID (Type "MYUSERID"), double-click **MYUSERID** to bring up the edit box.
7. Replace your UserID with `")USR.ID("` and click **OK**.
8. In the script, find the Script Event (Type "RpvPassword"), double-click it to bring up the edit box.
9. Replace "RpvPassword" with ")PSS.WD(".
10. Directly before the Type ")USR.ID(" command, insert an Express Logon Script Event, and type the host Application ID for the application you want to use. You must get this application ID from your system administrator who configured the host for Express Logon.

    a. To do this, select the Script Event before (Type ")USR.ID("). In the Script Events box, locate the Express_Logon event and double-click.

       The edit box where you can enter the Application ID opens.

    b. Click **OK**.

       This places the (Express_Logon "Application ID") Script Event immediately before the (Type ")USR.ID(") Script Event.
11. Save the script and exit the Script Editor.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session** ® **Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session** ® **Connect** menu item changes to **Session** ® **Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session** ® **Disconnect**.

Establishing secure host sessions

By default, BlueZone is not configured for secure SSL or TLS encrypted sessions. In order to establish a Secure host connection, you will have to configure the security settings in BlueZone.

Note

Keep in mind that your Telnet host must be capable of negotiating a secure Telnet session, using either TLS v1 or SSL v3. If your host is not secure Telnet-capable, one option is to use a product like BlueZone Security Server in front of your host to perform the Telnet encryption and decryption functions.

To enable SSL encryption in BlueZone, follow this procedure.

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.
3. In the **Connection List**, highlight the session that you want to secure and click **Edit**.

   If you don't have any existing sessions, or you want to create a new one, click **New**.
4. Edit the **Host Address** and the **TCP Port** if necessary.

   Your Telnet host administrator gives you the correct values to use.
5. Click **OK** to close the dialog.
6. Click the **Security** tab.

   The Security dialog displays.
7. From the drop-down list box, select either **Implicit SSL/TLS** or **Explicit SSL/TLS**.
8. Select the **SSL Provider**:
   - **OpenSSL**
   - **MS-CAPI**
9. Select the SSL version:
   - **SSL v3**
   - **TLS v1**
10. Determine how you want to handle **Invalid certificates**.

    It is recommended to select **Ask before Accepting** until you are sure you can use one of the other settings.
11. Select a preferred **CypherSuite** only if directed by you host administrator.

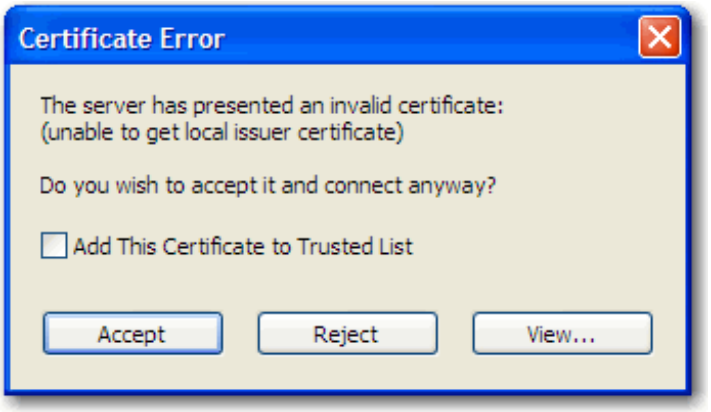
    By leaving it set to **None**, BlueZone automatically negotiates the highest encryption that both BlueZone and the host can support.

12. Click **OK** twice to close out all dialogs.

Now that you have BlueZone configured, you are ready to make a secure SSL connection with your host.

From the BlueZone menu bar, click **Session** ® **Connect** or click the **Connect** icon located on the BlueZone toolbar.

At the start of a secure Telnet connection, a negotiation takes place. Part of the negotiation is to examine the SSL certificate that is being presented by the host. You may get a warning message like this:



This message is normal if you are using a self-signed SSL certificate like the one that comes with BlueZone Security Server. In some situations this can be perfectly acceptable.

Tip

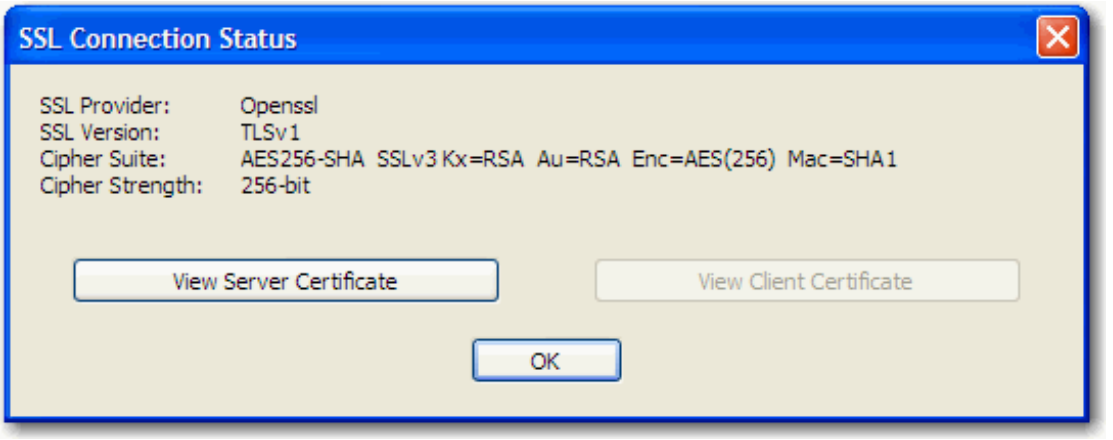
If you are using encryption to allow secure remote Telnet connections from users that are not employees of your organization, like your customers, you may want to consider purchasing a verified SSL certificate from a Certification Authority (CA). Using a verified, rather than a self-signed SSL certificate, gives confidence to your remote users that they are indeed connecting to the correct Telnet host and that their information is encrypted and secure. It also prevents an invalid certificate error.

To make these messages go away, follow these steps:

When the Certificate Error message opens and you are sure that you trust the issuer of the SSL certificate, enable the **Add this Certificate to Trusted List** check box. When the certificate is in your trusted list, this error message no longer opens.

When you are connected, the SSL Connection Status icon displays in the BlueZone status bar, as shown here:

You can click the SSL Connection Status icon to open the SSL Connection Status dialog, as shown here:



This is an easy way to verify the type and strength of your encryption. It also allows you to view the certificate that was presented by the host Telnet server. In addition, if you are using client certificates, you can view that as well.

Generating LU names automatically

BlueZone has the capability to generate LU names internally, based on the workstation name. This allows the BlueZone administrator to send a single configuration for BlueZone to the end users and have them automatically request an LU name that contains the first seven characters of their workstation name plus a D for display sessions or P printer sessions then append the session number. BlueZone is configured to create the names based on %1, %2, and %3 values entered in the LU Name edit box.

Substitution text values

%1 - Uses the first seven characters of the computer name as the base device name.

%2 - Appends a D for display sessions or P for printer sessions.

%3 - Appends the BlueZone session identifier. Session S1 appends 00, Session S2 appends 01 and so on.

Examples

Display session using the computer name as the base name

For a computer with computer name WS1234.

An LU Name of %1%2%3 results in WS1234D00 being sent to the mainframe for Session S1. WS1234D01 is sent for Session S2.

Display session using a standard base name

Using a base name of GROUP1.

An LU Name of GROUP1%2%3 results in GROUP1D00 being sent to the mainframe for Session S1. GROUP1D01 is sent for Session S2.

Printer session using the computer name as the base name

For a computer with computer name WS1234.

An LU Name of %1%2%3 results in WS1234P00 being sent to the mainframe for Session P1. WS1234P01 is sent for printer Session P2.

Printer using a standard base name

Using a base name of GROUP1.

An LU Name of GROUP1%2%3 results in GROUP1P00 being sent to the mainframe for printer Session P1. GROUP1P01 is sent for printer Session P2.

Using TN3270E Printer LU association

Printer association provides an automated means to match display LUs with printer LUs. By enabling Printer association and selecting the number of the display session to associate the printer with, the host automatically assigns the appropriate printer LU Name during the TN3270E negotiation.

Note

If the associated display session disconnects, the associated printer also disconnects to prevent another user's print job from appearing on the wrong system.

Configuring DBCS support

To support double-byte character sets (DBCS), your Windows computer and BlueZone display session must be configured for one or more double-byte languages.

Configuring Windows

1. Open the Windows Control Panel, and click **Region and Language**.
2. In the **Keyboards and Languages** tab, click **Change Keyboards**.
3. In the **General** tab, click **Add**.
4. Select one or more language keyboard check boxes, and click **OK**.
5. Click **OK** twice.
   The Input Method Editor (IME) loads for the language so you can input double-byte characters.

   Note

   You might be required to provide your Windows XP SP3 Installation CD in order to load the double-byte character support. Also, you might be required to reboot your system before these new settings take effect.

With multiple language support, the input language is changed by pressing Alt+Shift. An icon in the Windows status bar changes from EN (English) to the other language symbols.

Configuring BlueZone

Emulation settings

1. Start a BlueZone Mainframe or iSeries Display or Printer session.
2. Ensure that the session is disconnected from the host. The DBCS code page must be configured before connecting to the host.
3. In the BlueZone menu bar, click **Session** ® **Configure**, and click the **3270/5250 Emulation** tab.
4. In the **Language (CCSID)** list, select one of the following DBCS languages:
   - Chinese (Simplified) DBCS (935)
   - Chinese (Traditional) DBCS(937)
   - Japanese English DBCS (931)
   - Japanese Katakana DBCS (5026)
   - Japanese Latin DBCS (5035)
   - Korean DBCS (933)
5. Click **OK**.
6. Click **Session** ® **Connect**, and run your DBCS application.
7. To enter English data, ensure that the input locale is set to English (**EN**) in the Windows status bar.
8. Press Alt+Shift to change the locale to the selected Asian language, and click the status bar icon to open the IME options to select a keypad or other option for entering DBCS characters.

Note

The host application must allow DBCS input in a field for DBCS characters to be accepted.

Display settings

For the BlueZone display session to display single-byte Japanese characters properly, you must select a single-byte Japanese font.

1. On the BlueZone menu bar, click **Options** ® **Display**, and click the **Font** tab.
2. In the **Font Selection** group, click **Change**, and select a Japanese Font.

   Tip

   MS Mincho and MS Gothic are two Japanese capable fonts that are installed in Windows.

3. In the **Script** list, select **Japanese**.
4. Click **OK**.
5. Save the display session.

Print Screen settings

To print screens containing Japanese double-byte and single-byte characters, you must select a Japanese printer font.

1. On the BlueZone menu bar, click **File** ® **Print Setup**, and click the **Font** tab.
2. Click **Change**, and select a Japanese Font.
3. In the **Script** list, select **Japanese**.
4. Click **OK**.
5. Save the display session.

Configuring BiDi support

Starting with version 5.1, BlueZone has added bidirectional language support (BiDi) to the IBM 3270 and IBM iSeries emulators. Currently, the only BiDi language that is supported is Arabic.

Windows configuration requirements

To configure BlueZone to support Arabic, several Windows settings have to be set.

Note

If you have been using this machine with other programs that support BiDi for Arabic, you may not have to make any changes to your Windows settings.

1. Access the Windows Control Panel and launch the Regional and Language Options settings dialog.
2. On the **Languages** tab, check to see if the option to **Install files for complex script and right-to-left languages** is checked.

   If this item is not checked, checking it causes Windows to install some files and perform a restart of your computer. If this is the case, let Windows install the files and restart your computer now. When the restart is complete, access the Windows Control Panel and launch the Regional and Language Options settings again. Click the **Languages** tab and proceed to step 3.
   If the item is already checked, proceed to step 3.
3. Click **Details**. In the Installed Services window, there must be an installed service for Arabic. If not, click **Add** and add one of the input language selections for Arabic. There must also be one for English.
4. Click the **Advanced** tab. Check the **Extend support of advanced text services to all programs** check box if it's not already checked. If you make any changes, you receive a message to restart Windows. Restart Windows so that these changes take effect.

BlueZone configuration requirements

1. Launch a BlueZone IBM Mainframe 3270 Display or iSeries 5250 Display session.
2. From the BlueZone menu bar, click **Session** ® **Configure**.
3. Click the **3270 Emulation** (or **5250 Emulation**) tab.
4. In the **Language (CCSID)** list box, set the language to **Arabic (420)** and click **OK**.
5. From the BlueZone menu bar, click **Options** ® **Display**. The **Font** tab automatically displays.
6. Click **Font**.
7. Set the font to either **BlueZone Arabic Terminal** or **Farabi Multi**.
8. Click **OK** to close the Font Selection window.
9. Click **OK** to close the Display Options window.
10. Ensure that the BlueZone character set is set to **Unicode**, on the Font tab in the Print Setup dialog. Print Setup can be accessed by selecting **File** ® **Print Setup** from the BlueZone menu bar.

Switching between languages

There are several ways to switch between English input and Arabic input. One way is to use the Windows Language Bar. Another is to use the Windows Language Bar shortcut, left ALT+SHIFT. Assuming that you only have English and Arabic configured, ALT+SHIFT will toggle back and forth between these two languages.

However, using Windows to simply switch to Arabic while in a BlueZone session will not change the direction of the Arabic input. We recommend using the following Key commands for controlling the input of Arabic characters.

New BlueZone 3270/5250 key commands for BiDi Arabic

Several of the BlueZone 3270/5250 Key Commands for BiDi Arabic use keys located on the Number Pad area of the keyboard. For example, the Reverse/Push key command is invoked by holding down the Control Key followed by pressing the Forward Slash key located on the Number Pad. In the following documentation, this command is expressed as CTRL+(Num Pad /).

Key commands

Reverse/Push - Ctrl+(Num Pad /)

Reverse/Push changes between left-to-right data entry and right-to-left. It also causes the Windows language bar to switch between English and Arabic (if the language settings described above are setup properly).

When in Reverse Data Entry mode (RDE), invoking this key is the Reverse function. In Reverse Text Entry (RTE) mode, this key is the Push function.

Close - Ctrl+(Num Pad *) or Alt+F1

Close closes a field after entering English data on the left and Arabic data on the right. The nulls in the center of the field are removed and the field is shifted to the left or right, based on the reverse mode.

Screen Direction - Ctrl+Shift+F4

Screen Direction (supported in BlueZone Mainframe 3270 only), reverses or flips the orientation of the entire screen left-to-right and vice-versa. When the screen orientation is reversed, the language is automatically changed to the default language of the new screen orientation. For example, if the screen is reversed to right-to-left, the language is changed to Arabic. If the screen is reversed to left-to-right, the language is changed to English.

This feature is used when the Mainframe application only supports data entry in the left to right mode. By being able to reverse (flip) the screen, Arabic characters will be shown in their normal right to left orientation, making easier to read, even though the actual data is being stored in the required left to right manner.

Toggle RDE/RTE - Alt+(Num Pad *) or Alt+F11

Toggle RDE/RTE switches between Reverse Data Entry and Reverse Text Entry modes.

Auto Reverse - Alt+Backspace or Alt+(Num Pad /)

Auto Reverse toggles the auto reverse or auto push mode, depending on the RDE/RTE setting. These modes cause reverse or push mode to become active automatically upon entering a field, based on whether the field contains English or Arabic data.

BlueZone status bar changes

When using BlueZone with a supported BiDi language, the BlueZone status bar changes slightly.

The following is the new BlueZone status bar for BiDi Arabic support:

The field that was formerly used for the APL/DBCS Mode Indicator, now contains two green arrows as shown above in section A.

Left Arrow

The left arrow indicates the current typing direction (Reverse/Push key), left-to-right or right-to-left. An outlined arrow stem or indicates RDE mode, a solid arrow stem or indicates RTE mode.

Right Arrow

The right arrow indicates the current screen direction (Screen Direction key). The arrow will point to the right when entry is from left to right . The Arrow will point to the left when entry is from right to left .

Caps Lock Indicator

The field that was formerly used for the Caps Lock Indicator, now contains a green square cut into four quadrants as shown above in section B. One of the quadrants is always filled, the others are empty.

The filled quadrant indicates whether the current input setting is left-to-right (left side filled) or right-to-left (right side filled), and the current Caps Lock setting (bottom part or top part filled).

Caps Lock Off Data Entry from Left to Right

Caps Lock On Data Entry from Left to Right

Caps Lock Off Data Entry from Right to Left

Caps Lock On Data Entry from Right to Left

Configuring Euro support

There are three requirements in order for BlueZone to support the Euro symbol:

- Check the **Euro** check box on the **3270 /5250 Emulation** tab.
- Select a **Language** (code page) that supports the Euro symbol. For English, the code page must be 1140 rather than 37.
- Map a key sequence to the Euro symbol.

1. On the BlueZone menu bar, click **Session** ® **Configure**.
2. Click the **3270/5250 Emulation** tab.
3. Check the **Euro** check box.
4. In the **Language (CCSID)** list box, select a language (code page) that supports the Euro.
5. Click **OK**.
6. On the BlueZone menu bar, click **Options** ® **Keyboard**.
7. In the **Functions Groups** list box, select **PC Data Keys**.
8. In the **Functions** list box, select **Euro Currency Symbol** (it's near the bottom of the list).
9. Under **Key Mappings**, if there is already a key mapped to the Euro symbol, it displays.
10. If not, click **New** and map a keystroke sequence like Alt+E, for example.
11. Click **OK** to save the key mapping you just created.
12. Click **OK** again to close the Keyboard Options dialog.

Connect to your host and open the application where you want to place the Euro symbol. Type the keystrokes you assigned to the Euro symbol (Alt+E), or whatever you mapped the Euro symbol to. The Euro symbol displays on your screen.

Note

If you want to enable Euro Support for printing, launch your BlueZone Printer Emulator, and follow steps 1 through 4 above.

Configuring Mainframe graphics support

Display settings

1. Start a BlueZone Mainframe display session.
2. On the BlueZone menu bar, click **Session** ® **Configure**.
3. Click the **3270 Emulation** tab.
4. In the **Features** group, place a check in all three check boxes:
   - **Use Extended Attributes**
   - **Use Multiple Explicit Partitions**
   - **Enable Vector Graphics**
5. In the **Default Screen Model Type** group, select the screen size you are using. Typically, a **Model 3 (32x80)** screen is used, but other screen sizes can also work.
6. Click **OK**.

TN3270E settings

1. On the On the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.
3. Highlight the desired host in your **Connection List**.
4. Click the **Device** tab.
5. Select your **Device Model** and check the **Extended Attributes** check box. Ensure **Override 3270 Emulation Model Type** is checked.

   Note

   If your host requires that you connect with a different Device Model type than the one that you need to support graphics, select the Device Model that is required for connection here, and clear the **Override 3270 Emulation Model Type** check box.

   This results in BlueZone negotiating the TN3270E connection with the host using the Device Model selected on the TN3270E Properties, **Device** tab but uses the Default Screen Model Type selected in the Session Configuration, **3270 Emulation** tab for the actual screen display.
6. Click **OK** twice.

Font settings

1. On the BlueZone menu bar, click **Options** ® **Display**. The **Font** tab is used to set the font size.

   Note

   This step is particularly important when using graphics, since the graphics screen emulates an IBM 3179 terminal with a 9x12 character cell.

2. For best results, click **Change** and select **New Renex Terminal** as the font, with **9x12** as the font size.
3. Click **OK**.
4. Clear the **Auto-Size Font** check box and click **OK**.
   This forces the terminal session to use a 9x12 font size, which makes the graphics appear the best.

   Note

   If a larger size is used, grid lines can appear when scaling raster graphics. If a smaller size is used, graphics detail is lost when scaling down.

Keyboard settings

1. On the BlueZone menu bar, click **Options** ® **Keyboard**.
2. Click the **Mouse Options** tab.
3. Select **Send 3270 Function Enter on Mouse Left Double-Click**.
   This enables the mouse to be used to select areas on the graphics screen with a double-click and send the graphics cursor location back to the application.
4. Connect to your host and run the graphics application.

Configuring Smart Card support

BlueZone supports SSL/TLS authentication using certificates stored on Smart Cards that are Microsoft Crypto API compliant. The certificates from the Smart Card are automatically added to the user's personal store by Windows, and are available to BlueZone by selecting the **Client Certificate in Certificate Store** radio button in the **Certificate** tab of the TN3270 Properties window.

1. Click **Session** ® **Configure** from the BlueZone menu bar.
2. Click **Properties**.
3. Click the **Security** tab.
4. Enable the desired **SSL/TLS** security type and select the **MS-CAPI** radio button.
5. Click the **Certificate** tab.
6. Select the **Client Certificate on Smart Card** radio button.
7. Click **OK**.

Note

The Smart Card must be inserted into its reader in order to access the certificate. Windows will prompt the user to insert the Smart Card if an attempt is made to use the certificate without the Smart Card being inserted.

Editing the translate tables

Translate tables are used to translate data between the EBCDIC character set and the ASCII character set. EBCDIC is used on mainframe systems for character formatting whereas ASCII is used in the PC environment for character formation. When a character arrives from the host it is translated from EBCDIC to ASCII. When a character is sent to the host it is translated from ASCII to EBCDIC.

Note

Translate Table modifications must only be made when problems occur running a host application.

To access the translate tables:

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click the **3270 /5250 Emulation** tab.

   The 3270/5250 Emulation property sheet displays the Translation, Default Screen Model Type, Keyboard Type Ahead and Write to Display options.
3. In the **Translation** section, click **Translate Tables**.
4. From the **Translate Tables** menu, select the desired translation table:
   - **Ebcdic to Ascii**
   - **Ascii to Ebcdic**
   - **IND$FILE Ebcdic to Ascii**
   - **IND$FILE Ascii to Ebcdic**

How the tables work

To demonstrate how the tables work, the character 'A' is used in this example. Please note that all ASCII and EBCDIC values shown below are hexadecimal values.

Note

The IND$FILE Translate Tables work exactly the same way as the character translate tables. The following example can be applied to either set of tables.

In the ASCII code table the character 'A' is represented by the value '41' (in hex). In the EBCDIC code table the character 'A' is represented by the value 'C1'.

1. Starting on the ASCII to EBCDIC page, look at Column 4x Row x1 and you see the character 'A'. Click **Edit** to switch to the values mode and see the EBCDIC value 'C1'. This is the value that is sent to the host when the 'A' key is pressed on the keyboard.
2. Now to verify that this is the correct value, let's follow the same sequence in reverse. Look at the EBCDIC to BUFFER page and examine the Column Cx Row x1, you should see the character 'A'. Click **Edit** to switch to the values mode and you see the ASCII value '41'. This is the value that is sent from the host when an 'A' is requested.

This explanation shows the standard sequence of events when translating characters. This sequence looks the same in both directions, only reversed. For example:

ASCII to EBCDIC
41 -> C1

EBCDIC to ASCII
C1 -> 41

Capturing BlueZone traces

1. Launch the appropriate BlueZone Display or Printer emulator. Disconnect your session if necessary. You should always start your trace with your session disconnected.
2. On the BlueZone menu bar, click **Session** ® **Configure**.
3. Click **Properties**.
4. Click the **Trace** tab.
5. In **Trace Options**, verify that only the **Trace Sockets Interface** and **Trace RUI Interface** boxes are checked.

   Note

   Only check the **Trace SSL Connection** box if you are troubleshooting an SSL related issue.

6. In the **Trace File** edit box, ensure that there is a valid path and trace file name for the trace data to be written to. You can use any file name you want. The file extension must be `.trc`.

   CAUTION

   This must be a valid path or the trace feature does not work.

7. In the **Trace Viewer** edit box, ensure that you have a valid path to a program that reads your trace file. Notepad or WordPad will work fine.
8. Click **Start Trace**.
9. Click **OK** twice.
10. Connect your host session and perform any steps necessary to reproduce the problem or perform the particular function that you are tracing. Once this is accomplished, proceed to the next step.
11. On the BlueZone menu bar, click **Session** ® **Configure**.
12. Click **Properties**.
13. Click the **Trace** tab.
14. Click **Stop Trace**.
15. Click **View Trace** to view the trace file that you just created.

    Trace files can be viewed in Notepad or WordPad. This step helps ensure that you have indeed created a valid trace file. If the trace file is extremely short or does not appear to contain any valid data, try running another trace and compare the results.

Note

When E-mailing trace files for evaluation, please send them in their native format. Do not embed them in Word documents or change the file into any other format. Changing them makes it impossible for us to evaluate them properly.

Tip

If the trace files are very large, it's okay to zip them up using a standard zipping utility like WinZip.

BlueZone iSeries Display and Printer

The following sections detail the configuration of BlueZone iSeries Display and Printer connections.

Creating BlueZone iSeries Display and Printer connections

By default, BlueZone iSeries Display and Printer sessions use the TN5250/TN5250E connection type. This procedure describes how to configure a BlueZone iSeries Display or Printer session for this connection type.

Creating a BlueZone iSeries Display session is nearly identical to defining or editing a BlueZone iSeries Printer session. The differences are noted below.

1. Click **Start** ® **All Programs** ® **BlueZone 6.1** ® **iSeries Display** or **iSeries Printer**.

   The first time that you create a BlueZone iSeries Display or Printer session, the Define New Connection window opens.

   To open this window on subsequent connections, open an iSeries Display or Printer session. Click **Session** ® **Configure**, click **Properties**, and then click **New** or **Edit**.

2. Complete the following fields:

Field	Description
Connection Name	Type a unique name to identify the collection of connection settings.
Host Address	Type the computer name (in Internet format, known as DNS Name) or the IP address in either IPv4 or IPv6 format, of the TN5250E server.
Device Name	Type the name of the device to which to connect. This is an optional field. Refer to Generating device names automatically, on page 78 for more information.
TCP Port	Type the TCP port number to which to connect. The default is 23.
Backup Host	Select a second host connection if the first connection attempt fails.
Connection Timer	Type the maximum amount of time (in seconds) to wait for the TN connection to complete.
Bypass Firewall	Select the check box to allow individual connections to bypass the global firewall settings and connect directly to the host.
Enable TN5250E	This field is available for iSeries Display sessions only. Select the check box to enable the TN protocol extensions. The default is enabled.
Printer Association	This field is available for iSeries Printer sessions only. Select how to associate a display to the printer: ▪ **None**: The printer is not associated with a display. ▪ **Associate by Session Number**: Associates the printer to a display based on its session number. When selected, the **Session** drop-down menu displays. Select from **S1** to **S99**. ▪ **Associate by Profile**: Associates the printer to a display based on its profile name. When selected, the **Profile** field displays. Type the profile name (a `.zmd` file) or click **Browse** to locate the file.

3. Click **OK**.
4. Configure the TN5250E properties.
5. Configure the session information for the iSeries Display or Printer session:
   - iSeries Display session
   - iSeries Printer session
6. In the BlueZone menu bar, click **File** ® **Save** to save the iSeries Display or iSeries Printer session.

TN5250E Properties

The `RTN5250E.DLL` file provides complete TN5250E connectivity for BlueZone allowing connection to hosts, servers, and gateways that are TN5250E compliant. TN5250E is the enhanced version of TN5250, providing more SNA information to the client for improved operation. Optionally, Secure Sockets Layer security is available to insure privacy, message integrity and provide authentication.

The TN5250E Properties window contains the **Connections**, **Display** (Display emulator only), **Printer** (Printer emulator only), **Sign on**, **Security**, **Keep Alive**, **Trace**, **Firewall**, **Security Server**, and **About** tabs.

Note

The TN5250E settings for the BlueZone Display emulator are identical to the BlueZone Printer emulator with the exception that the BlueZone Display has a **Display** tab and the BlueZone Printer emulator has a **Printer** tab.

Connections tab

This tab displays your Host Connection list and contains buttons for creating new connections as well as editing, removing, and sorting them.

TN5250/TN5250E Connections

- **Connection List**: A list of your configured hosts (if any). A total of 32 connections can be specified.
- **New**: Click to create new host sessions. The Define New Connection window opens. Refer to Creating BlueZone iSeries Display and Printer connections, on page 61 for more information.
- **Edit**: Click to edit the existing host connections that appear in the Connection List.
- **Remove**: Click to remove existing host connections from the Connection List.
- **Sort**: Click to sort the Connection List into alphabetical order.

Use Connection Name as Session Description

If selected, the name that you gave to the active connection displays in the BlueZone title bar immediately after the session number. This feature is useful if you have multiple hosts defined, and you are not using the **Connections** drop-down list, and you want to know the name of the current connection.

Active Connection

Displays the currently configured connection information.

Display tab - Display session only

TN5250E Display Properties

This feature allows you to override the following host properties in effect making a custom terminal definition from the client side of the connection:

- **Keyboard Type**: Type the desired keyboard type.
- **Code Page**: Type the desired code page.
- **Character Set**: Type the desired character set.
- **Request Startup Response Record**: This is an optional feature that causes the iSeries host to send a block of data which contains information on the TN5250 connection attempt. For example, the Device name that has been assigned to your session is sent down from the host. When the Startup Response Record feature is enabled, the Device name is displayed on the BlueZone status bar. If this option is not enabled, TN5250E is displayed in the status bar in lieu of the Device name.

Printer tab - Printer session only

TN5250E Printer Properties

These fields are used when Auto-Creating printer devices on the iSeries. The required fields to Auto-Create a device are noted in the following text:

- ***MSGQ Name**: Specifies the host *MSGQ name. (QSYSOPR is the default)
- ***MSGQ Library**: Specifies the host *MSGQ library. (*LIBL is the default)
- **Font**: Specifies the host font value. (011 is the default)
- **Host Print Transform**: If checked, Host Print Transform is enabled.

  Important

  This field can override the setting on the host system.

  Note

  The following options are only active when the Host Print Transform box is checked.

- **Mfg. Type Model**: Specifies the printer manufacturer, type and model for host print transform.
- **Custom Name**: Specifies the Custom Name. (QWPDEFAULT is the default)
- **Custom Library**: Specifies the Custom Library. (*LIBL is the default)

Formfeed

Select the desired formfeed setting:

- **Default**: If selected, specifies the default formfeed setting must be used.
- **Continuous**: If selected, specifies the continuous forms setting must be used.
- **Cut**: If selected, specifies the cut forms setting must be used.
- **Autocut**: If selected, specifies the autocut forms setting must be used.

  Note

  The Formfeed field is not a required value for Auto-Creation. It is used to specify the host formfeed value.

Paper

Select the desired Paper Sources from the three drop-down lists:

- **Source 1**: Select the desired paper tray from the drop-down box.
- **Source 2**: Select the desired paper tray from the drop-down box.
- **Source 3**: Select the desired paper tray from the drop-down box.

Signon tab

This feature can be used in several ways. Here are some suggestions:

- When you want to automatically send your user name and password, and possibly a specific program to run, or an initial menu or a specific library to use, upon connection to your iSeries host.

  CAUTION

  If you use this feature to automatically send your User Name and Password, you should be aware that anyone who uses your machine to launch this iSeries Display session, will be automatically logged in to your account.

- When your iSeries operates as a public host, and you want to by-pass the main iSeries Sign On screen. You can configure a generic User Name and Password, as well as a specific program to call, Initial Menu and the Current Library to use, so that when a connection is made to the host, the information provided will be automatically passed to, and acted upon by the iSeries host.
- When you want to force all passwords to be encrypted so that they are not sent in the clear. This feature is called Encrypted Substitute Password. This feature is enabled on the iSeries (by the iSeries Administrator) by setting QRMTSGN to *Verify.
- When you want to enable Kerberos Single Signon to log on to an iSeries host using the end user's Windows credentials.

TN5250E Signon Information

Force Encrypted Signon

If selected, the end user is presented a special user name and password dialog which encrypts the password before sending it to the host.

CAUTION

If the sign on bypass fails or the end user signs off, the normal iSeries log on screen will be presented. This will defeat the purpose of Force Encrypted Signon feature because at this point, the end user will be able to sign on as they normally would, sending their password in the clear. To prevent this, an "exit" program should be used so that when an end user signs off, BlueZone will automatically disconnect from the host.

- **User Name**: Type the desired user name.
- **Password**: Type the desired password.

Note

When the **Force Encrypted Signon** check box is selected, the **User Name** and **Password** fields are disabled.

- **Program to Call**: Type the desired program to call. (Optional)
- **Initial Menu**: Type the desired Initial Menu to display. (Optional)
- **Current Library**: Type the desired Library to use. (Optional)

Signon Type

Select the sign on type:

- **DES Signon Bypass**
- **SHA-1 Signon Bypass**

Note

This feature requires OS/400 version V5R1 or higher. Also, your iSeries Administrator must set the end user's password level (QPWDLVL) to level 2 or 3.

- **Kerberos Single Signon**: Enables Kerberos single sign on to the iSeries using the end user's Windows credentials.

Note

This feature requires OS/400 V5R2M0 or higher and must be properly configured for Kerberos SSO to work.

Fully-Qualified System Name

The fully-qualified name of the iSeries, such as `myiseries.mycompany.com`. This is required only when **Kerberos Single Signon** is selected.

Security tab

All BlueZone emulator clients support the SSL v3 or TLS v1 protocol through the BlueZone Security Server or any SSL enabled Telnet connection including IBM Communications Server for NT (SSL v3 only), OS/390, z/OS, and the iSeries V4R4 or higher. BlueZone clients can be preconfigured for distribution with SSL/TLS enabled, eliminating the need for any end-user intervention in the installation or configuration process. The options for configuration include:

Security Options

If you want to encrypt your session, select one of the following encryption methods from the drop-down list box. The method is dictated by the secure Telnet host that you are connecting to.

- **None**: Indicates that no encryption is being used.
- **Implicit SSL/TLS**: Negotiates a secure connection to the host first, then negotiates the Telnet connection.

  Note

  For users of BlueZone prior to version 5.1, when SSL/TLS encryption was enabled, you were using Implicit SSL/TLS, even though the dialog did not expressly state Implicit SSL/TLS encryption.

- **Explicit SSL/TLS**: Encryption is negotiated during the Telnet negotiation.

  SSL Version

  Specifies which version of the SSL protocol must be used:

  - **SSL v3: (Default)**: Specifies that SSL version 3 must be used.
  - **TLS v1**: Specifies that TLS version 1 must be used.

    Note

    SSL v3 and TLS v1 are nearly identical. TLS v1 is preferred.

  Invalid Certificates

  Specifies how to handle an invalid server certificate. Options include:

  - **Always Reject**: Specifies that an invalid server certificate must always be rejected.
  - **Ask Before Accepting**: (Default) Specifies that the user must be asked whether to accept an invalid server certificate.
  - **Always Accept**: Specifies that an invalid server certificate must always be accepted.

- **Preferred Cipher Suite**: Specifies a specific SSL/TLS cipher suite (encryption algorithm) to use. To allow the client and server to negotiate the cipher suite, select **Strong only**.
- **Alternate Principal Name**: Type a valid address in this field to use to validate the server certificate.

  When a host site's server certificate's Common Name (CN) or AltSubjectName does not match the address used to connect to the host, a certificate error occurs, stating that the host address does not match the common name. If it is not possible to connect to the host address listed in the certificate, the address from the certificate can be typed into the **Alternate Principal Name** field. This address, rather than the host connection address, is used to validate the server certificate.

- **Check for Certificate Revocation**: When this is checked, a revocation check is performed on the server certificate chain at connect time, resulting in a connection failure if a certificate has been revoked, if the revocation server cannot be contacted, or if revocation information is not listed in the certificate. Clearing this bypasses the certificate revocation checking.

Certificate tab

Client Certificate

These parameters specify the type of client certificate to use if any. In the **Security** tab, either the **Implicit SSL/TLS** or **Explicit SSL/TLS** option must be selected for client certificate support to be active.

- **No Client Certificate**: Specifies that a client certificate must not be presented.
- **Client Certificate in Disk File**: Specifies that a client certificate must be presented.
  - **Certificate File**: Specifies the path to the certificate file.
    - **View**: Click to view the certificate.
    - **Browse**: Click to locate the certificate file.
  - **Private Key File**: Specifies the path to the private key file.
    - **Browse**: Click to locate the private key file.
- **Client Certificate in Certificate Store**: Specifies that a client certificate must be presented that is located in the certificate store.
  - **Common Name**: Specifies the Common Name (CN) of the certificate to be presented.
    - **View**: Click to view the certificate.
    - **Browse**: Click to display a list of certificates in the certificate store.
- **Client Certificate in Certificate on Smart Card**: Specifies that a client certificate stored on a Smart Card must be presented.

Root Certificates

These parameters specify the root certificate store to use: the one provided by OpenSSL or the one that is provided by Windows.

- **Use OpenSSL Root Certificates**: (Default) If selected, the root certificates provided by OpenSSL is used.
- **Use Windows Root Certificates**: If selected, BlueZone looks for a file called `rootcerts.pem` in the end user's `bluezone\certs` directory. If it doesn't exist, it automatically exports the root certificates from Windows and stores them there, giving a message such as `109 root certificates were exported.`
  - **Update Root Certificates**: Click to manually export the certificates. If you connect and are presented with an untrusted host root certificate, and check the box to add it to the trusted list, it imports it into the Windows root store (which can produce a Windows message asking for confirmation), and then export the root store again to disk producing a message such as `109 root certificates were exported.` When this is performed one time, subsequent connections connect without messages.

Keep Alive tab

Timer Options

These parameters specify whether the client send keep-alive messages to the server to keep the TN5250E session active:

- **Disable**: Disables keep-alive messages. (Default)
- **Use NOP**: Uses the Telnet NOP (No Op) for keep-alive messages.
- **Use Timing Mark**: Uses the Telnet Timing Mark (TM) for keep-alive messages.
- **Timer Value (Minutes)**: Specifies the time interval (in minutes) for sending keep-alive messages.

Trace tab

These parameters specify the interfaces to be traced and the file name to which the trace file is written. The trace files are in ASCII text format and can be viewed with Notepad or WordPad.

Refer to Capturing BlueZone traces, on page 60 for more information.

Trace Options

- **Trace Sockets Interface**: Traces the data as it passes through the Winsock interface from the network connection.
- **Trace RUI Interface**: Traces the data as it passes between the TN3270E driver and the BlueZone terminal session.
- **Trace SSL Connection**: Traces the data as it passes through the Secure Sockets Layer component of the TN3270E driver.
- **Trace Keyboard Interface**: Adds the keyboard data to the trace file.
- **Trace Screen Writes**: Adds the host screen shots to the trace file.
- **Auto-Start Trace**: Automatically starts the trace when BlueZone connects to the host.
- **Trace File**: Specifies the file name to which the trace file is written.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature will not work.

- **Trace Viewer**: Specifies the program that is used to read the trace file after it has been captured and written.
  - **Browse**: Displays a dialog used to select the directory and file name.
- **Start Trace**: Click to manually start the trace.
- **Stop Trace**: Click to stop the trace.
- **View Trace**: Click to view the trace. BlueZone automatically uses the Trace Viewer program specified above.

Firewall tab

The Firewall tab allows the configuration of firewall and proxy server sign on systems.

Firewall Options

- **Connect Through Firewall or Proxy Server**: Check to enable this feature.
- **Firewall Type**: Select the firewall type from the drop-down list box:
  - SOCKS4 Proxy
  - SOCKS4A Proxy
  - SOCKS5 Proxy
  - NVT Proxy or Firewall
  - HTTP Tunneling Proxy
- **Firewall Address**: Type the IP address of the firewall.
- **Port**: Type the port number used by the firewall.
- **Timeout**: Type the appropriate time out value.
- **User Name**: Type the appropriate user name.
- **Password**: Type the appropriate password.
- **Domain**: Type the appropriate domain.

If you selected **NVT Proxy or Firewall**, then you must provide the following prompts:

- **Host Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the host name that BlueZone is expecting. For example, `Enter host name`. If this prompt is detected, the Host Address from the **Connections** tab is sent.

- **User Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the user name that the firewall is expecting. For example, `Enter user name`. If this prompt is detected, the User Name Prompt field is sent.
- **Password Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the password that the firewall is expecting. For example, `Enter password`. If this prompt is detected, the Password Prompt field is sent.
- **Connected Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the connection message. For example, `Connected` or `Connected to host`. If this prompt is detected, the firewall connection is considered to be complete and the Telnet negotiation begins.

Security Server tab

The Security Server tab is used to configure BlueZone to use the BlueZone Security Server as a Proxy Server to multiple hosts. This feature enables you to support connecting to multiple back end hosts through a single port in the BlueZone Security Server while using HTTPS tunneling in BlueZone.

Security Server Options

- **Use Security Server to proxy to Multiple Hosts**: Enable
- **Proxy Type**: Select the desired proxy type from the list box.
- **Security Server Address**: Type the IP address of the Security Server.
- **Port**: Type the port being used by the Security Server for these connections.
- **Timeout**: The time (in seconds) after which, if a prompt from the firewall has not been received, BlueZone assumes that the firewall has been traversed and proceed with the next stage of the connection process. This is required for firewalls which authenticate a user once but then do not re-authenticate on subsequent connections within a certain time period.

About tab

This tab is used to display information about the encryption technology used by BlueZone.

Display session configuration

Prior to establishing an iSeries host system connection, BlueZone users must set Session Configuration parameters. A Session configuration consists of selecting:

- Selecting a connection type and configuring its connection settings.
- Selecting a language and configuring the emulation settings.

BlueZone can connect to an iSeries host system in one of two ways: Renex Async Protocol or TN5250/TN5250E . TN5250/TN5250E is by far the most prevalent type of connection. TN5250E supports both display and printer data streams.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens. It contains the **Connection**, **5250 Emulation**, **Spell Checking**, and **License Manager** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options. Select the appropriate link for additional configuration information:

Note

BlueZone defaults to the Connection Type that was chosen during installation.

Connection Type

- **TN5250/TN5250E**: Select to connect to the host system through TCP/IP using the TN5250/TN5250E protocol.
  Refer to TN5250E Properties, on page 62 for more information.

Properties

To configure a connection, highlight a connection type in the Connection Type list and click **Properties**. The TN5250E Properties window opens.

Note

The other connection types that appear in this Connection Type list are non-operative.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If selected, BlueZone auto-connects the active session whenever it is launched.
- **Auto-Reconnect session (when Deactivated by Host) in**: If selected, BlueZone auto-connects the session if the Device being used is varied off on the host system while a BlueZone session is active in the number of seconds specified in the list box. 0 through 10 seconds can be selected.

  Note

  The Device obtained by the reconnect might not be the same as with the prior session.

- **Prompt on Disconnect**: If selected, BlueZone displays a message, "Are you sure you want to disconnect and close session?" when an attempt is made to disconnect a host session or when the BlueZone application is closed with an active host session.
- **Auto-Close Session on Disconnect**: If selected, the BlueZone application auto-closes after disconnecting from the host system.
- **Connect Retry**: If selected, BlueZone tries to connect to the host the number of times selected in the Retry up to list box and use the interval selected in the times, retrying every list box.

  Note

  The Device obtained by the reconnect might not be the same as with the prior session.

5250 Emulation tab

Translation

The Translation group is used to select a translate language and if needed to configure the Translate Tables. Choices include:

- **Language (CCSID)**: Used to select the translate language.

  Note

  The language must correspond to the Windows operating system language.

- **Euro**: Check this box to include support for the Euro currency symbol.

  Refer to Configuring Euro support, on page 57 for more information.

- **Translate Tables**: Configures the translate tables.
  Refer to Editing the translate tables, on page 333 for more information.

- **Change DBCS Font**: Active only when a DBCS (double-byte character set) language page is selected. This button allows you to select the specific DBCS font that you want to use with the selected language page.

  Refer to Configuring DBCS support, on page 53 for more information.

Default Screen Model Type

This group is used to configure the IBM Terminal model that you want to emulate. Use the drop-down menu to display the list of IBM terminals.

- **IBM Terminal**:
  - IBM-3179-2 (24 x 80 Color)
  - IBM-3180-2 (27 x 132 Monochrome)
  - IBM-3196-A1 (24 x 80 Monochrome)
  - IBM-3477-FC (27 x 132 Color)
  - IBM-3477-FG (27 x 132 Monochrome)
  - IBM-5251-11 (24 x 80 Monochrome)
  - IBM-5291-1 (24 x 80 Monochrome)
  - IBM-5292-2 (24 x 80 Color)
  - IBM-5555-B01 (24 x 80 DBCS Monochrome)
  - IBM-5555-C01 (27 x 132 DBCS Color)
  - IBM-5555-C01 (27 x 80 DBCS Color)
- **Use Custom Device**: This is used when you require a terminal that does not appear in the above list.
  - **Type**: Used only when Use Custom Device is active.
  - **Model**: Used only when Use Custom Device is active.

Keyboard Type Ahead

Select the Type Ahead mode that you require clicking the corresponding radio button:

- **Disabled**: If selected, the Type Ahead buffer feature is disabled.
- **Normal - Next Screen**: If selected, keystrokes can be typed continuously. All screens received from the host are displayed.
- **Advanced - Last Screen**: If selected, keystrokes can be typed continuously. Only the last host screen is displayed.

Options

Used to configure 5250 Emulation options:

- **Smart Screen Updates**: If enabled, BlueZone does a comparison of the current host screen and only updates what has changed. If disabled, BlueZone paints the entire new host screen.
- **Auto-Retrieve Help Text**: If enabled, and a four digit error code is encountered, BlueZone automatically displays the error message sent from the iSeries host without having to press the "Help" key.

Spell Checking tab

The spell checking feature allows users to check the spelling in the emulator screens.

Settings

- **Enable Spell Checking**: Check to enable the spell checking feature.
- **Minimum Word Length**: Sets the minimum length that a word must be for the spell checker to parse it. The default is 5.
- **Maximum Spelling Suggestions**: Sets the maximum number of spelling suggestions per misspelled word. The default is 7.
- **Foreground Color**: Displays the text color of a misspelled word. Click **Customize** to change this color.
- **Background Color**: Displays the background color of a misspelled word. Click **Customize** to change this color.

Options

- **Auto-Correct Spelling**: Enables the auto-correct feature.
- **Ignore Uppercase Words**: Check to ignore uppercase words.
- **Ignore Words with Numbers**: Check to ignore words that contain numbers.

Dictionaries

- **Base**: Displays the path to the dictionary file (`.dic`).
- **Add**: Allows you to add words to the default dictionary.
  Click **Edit** to create `BzAdd.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to add to the dictionary. Save and close the file.
- **Ignore**: Allows you to define words that the spell check will ignore.
  Click **Edit** to create `BzIgnore.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words that you want the spell check to ignore. Save and close the file.
- **Remove**: Allows you to remove words from the default dictionary.
  Click **Edit** to create `BzRemove.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to remove from the dictionary. Save and close the file.

When spell checking is enabled and a word is misspelled, it is displayed with the foreground and background colors set in the **Settings** group.

Right-click the misspelled word to view a list of spelling suggestions. Click the desired correction to replace the misspelled word. There are also the following options from the right-click pop-up menu:

- **Add Word to Dictionary**: Click to add the misspelled word to the dictionary. When this word is used in the future, it does not appear as misspelled.
- **Cancel**: Click to ignore the spelling suggestions and leave the word as is.

License Manager tab

The License Manager tab is used to store the IP address of the BlueZone License Manager server. This is necessary when using a concurrent licensing scheme.

Note

The License Manager tab is only available if you are using a licensed copy of BlueZone. If you currently evaluating BlueZone this tab is not available.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Type the IP address of the server or servers that are running the BlueZone License Manager in this field and click **Add**.

  Note

  If your BlueZone License Manager is using a Listening Port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown above.

- **Server List**: Displays the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the Group feature of the BlueZone License Manager:

- **Group Name**: Type the name of the group in this field.

Refer to the *BlueZone License Manager Administrator's Guide* for more information on the Group feature.

Printer session configuration

Prior to establishing an iSeries host system connection, BlueZone users must set Session Configuration parameters. A Session configuration consists of selecting:

- Selecting a connection type and configuring its connection settings.
- Selecting a language and configuring the emulation settings.

BlueZone can connect to an iSeries host system in one of two ways: Renex Async Protocol or TN5250/TN5250E TN5250/TN5250E is the most prevalent type of connection. TN5250E supports both display and printer data streams.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens. It contains the **Connection** and **5250 Emulation** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options. Select the appropriate link for additional configuration information:

Note

BlueZone defaults to the Connection Type that was select during installation.

Connection Type

- **TN5250/TN5250E**: Select to connect to the host system through TCP/IP using the TN5250/TN5250E protocol.
  Refer to TN5250E Properties, on page 62 for more information.

Properties

To configure a connection, highlight a connection type in the Connection Type list and click **Properties**.

Note

The other connection types that appear in this Connection Type list are non-operative.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If checked, BlueZone auto-connects the active session whenever it is launched.
- **Auto-Reconnect if LU is Deactivated by Host**: If checked, BlueZone auto-connects the session if the device being used is varied off on the host system while a BlueZone session is active.
- **Connect Retry**: If checked, BlueZone tries to connect to the host the number of times selected in the Retry up to drop-down box and use the interval selected in the times, retrying every drop-down box.

Note

The device obtained by the reconnect may not be the same as with the prior session.

5250 Emulation tab

Translation

The Translation group is used to select a translate language and if needed to configure the Translate Tables. Choices include:

- **Language (CCSID)**: Selects the translate language.

  Note

  The language must correspond to the Windows operating system language.

- **Euro**: Check this box to include support for the Euro currency symbol.

  Refer to Configuring Euro support, on page 57 for more information.

- **Translate Tables**: Configures the translate tables.

  Refer to Editing the translate tables, on page 333 for more information.

- **Change DBCS Font**: Active only when a DBCS (Double Byte Character Set) language page is selected. This button allows you to select the specific DBCS font that you want to use with the selected language page.

  Refer to Configuring DBCS support, on page 53 for more information.

Default Printer Model Type

This group is used to configure the IBM Terminal model that you want to emulate. Use the drop-down menu to display the list of IBM terminals.

- **IBM Device**:
  - IBM-3812-1 (single-byte printer)
  - IBM-5553-B01 (double-byte printer)
- **Use Custom Device**: Check to specify a custom IBM Printer Device. If checked, the Type and Model settings must be specified. The following two options are active only when the option is selected.
  - **Type**: Type the printer Type to use.
  - **Model**: Type the printer Model to use.

Options

- **Allow Host to Override Language and Set Code Page**: If checked, the host is allowed to set the language and code page for character translations during the print jobs overriding the above settings.

  CAUTION

  If this option is enabled, any customizations made to the translate tables are lost.

- **Use Host Unbind as the End of Job Indicator**: If checked, then only host-sent Unbind commands received are used in End of Job determination.
- **Ignore Data in Transparent Blocks**: If enabled, BlueZone discards any data in SCS 03 and 35 transparent commands. Any data contained in transparent blocks is discarded and not written to the BlueZone spool file or the printer.
  From an end user perspective:

  This feature is useful when the transparent blocks contain printer control codes for specific printers and the end user wants to print the job on a different printer. Discarding the transparent blocks results in a print job without any printer control characters. The print formatting features of the BlueZone Windows API mode can be used to format the job for the new target printer.

- **In Passthrough Mode, Process SCS Horizontal Tab Commands**: If enabled (default), BlueZone processes SCS Horizontal Tab commands sent from the host. If disabled, BlueZone sends a Tab character (0x09) directly to the printer. Valid for pass-through mode only.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session** ® **Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session** ® **Connect** menu item changes to **Session** ® **Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session** ® **Disconnect**.

Establishing secure host sessions

By default, BlueZone is not configured for secure SSL or TLS encrypted sessions. In order to establish a Secure host connection, you will have to configure the security settings in BlueZone.

Note

Keep in mind that your Telnet host must be capable of negotiating a secure Telnet session, using either TLS v1 or SSL v3. If your host is not secure Telnet-capable, one option is to use a product like BlueZone Security Server in front of your host to perform the Telnet encryption and decryption functions.

To enable SSL encryption in BlueZone, follow this procedure.

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.
3. In the **Connection List**, highlight the session that you want to secure and click **Edit**.

   If you don't have any existing sessions, or you want to create a new one, click **New**.
4. Edit the **Host Address** and the **TCP Port** if necessary.

   Your Telnet host administrator gives you the correct values to use.
5. Click **OK** to close the dialog.
6. Click the **Security** tab.

   The Security dialog displays.
7. From the drop-down list box, select either **Implicit SSL/TLS** or **Explicit SSL/TLS**.
8. Select the **SSL Provider**:
   - **OpenSSL**
   - **MS-CAPI**
9. Select the SSL version:
   - **SSL v3**
   - **TLS v1**
10. Determine how you want to handle **Invalid certificates**.

It is recommended to select **Ask before Accepting** until you are sure you can use one of the other settings.

11. Select a preferred **CypherSuite** only if directed by you host administrator.

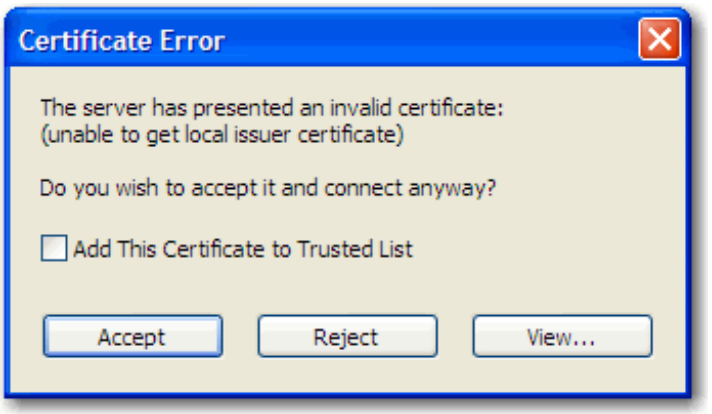
    By leaving it set to **None**, BlueZone automatically negotiates the highest encryption that both BlueZone and the host can support.

12. Click **OK** twice to close out all dialogs.

Now that you have BlueZone configured, you are ready to make a secure SSL connection with your host.

From the BlueZone menu bar, click **Session** ® **Connect** or click the **Connect** icon located on the BlueZone toolbar.

At the start of a secure Telnet connection, a negotiation takes place. Part of the negotiation is to examine the SSL certificate that is being presented by the host. You may get a warning message like this:



This message is normal if you are using a self-signed SSL certificate like the one that comes with BlueZone Security Server. In some situations this can be perfectly acceptable.

Tip

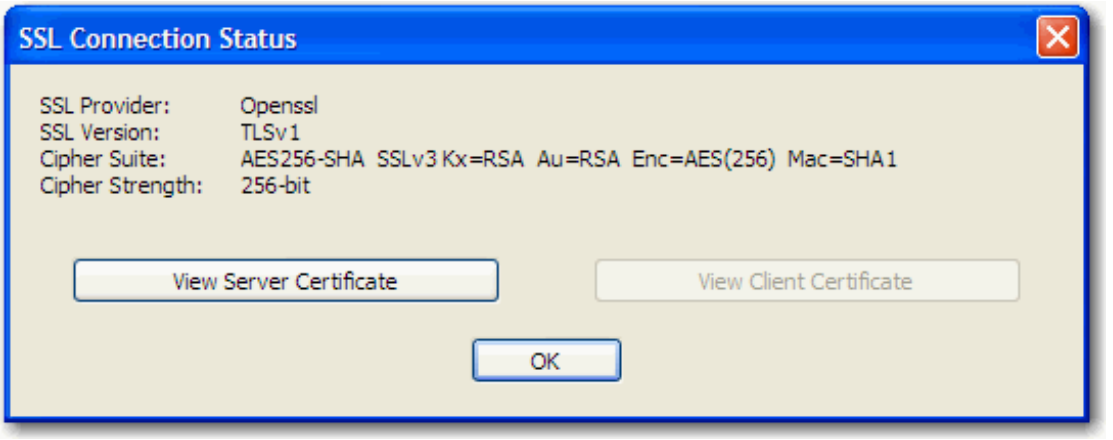
If you are using encryption to allow secure remote Telnet connections from users that are not employees of your organization, like your customers, you may want to consider purchasing a verified SSL certificate from a Certification Authority (CA). Using a verified, rather than a self-signed SSL certificate, gives confidence to your remote users that they are indeed connecting to the correct Telnet host and that their information is encrypted and secure. It also prevents an invalid certificate error.

To make these messages go away, follow these steps:

When the Certificate Error message opens and you are sure that you trust the issuer of the SSL certificate, enable the **Add this Certificate to Trusted List** check box. When the certificate is in your trusted list, this error message no longer opens.

When you are connected, the SSL Connection Status icon displays in the BlueZone status bar, as shown here:

You can click the SSL Connection Status icon to open the SSL Connection Status dialog, as shown here:



This is an easy way to verify the type and strength of your encryption. It also allows you to view the certificate that was presented by the host Telnet server. In addition, if you are using client certificates, you can view that as well.

Generating device names automatically

BlueZone has the capability to auto create iSeries device names dynamically and retry the devices until the iSeries determines that the requested device is not in use. BlueZone is configured to create the names based on %1, %2, and %3 values entered in the device name edit box.

Substitution text values

%1 - Uses the first seven characters of the computer name as the base device name.
%2 - Appends a D for display sessions or P for printer sessions.
%3 - Appends an automatically incrementing number beginning with 00 and ending with 99.

Examples

Display session using the computer name as the base name

For a computer with computer name WS1234.

A device name of %1%2%3 results in WS1234D00 being sent to the iSeries. If the requested device name is in use, WS1234D01 is requested.

Display session using a standard base name

Using a base name of GROUP1.

A device name of GROUP1%2%3 results in GROUP1D00 being sent to the iSeries. If the requested device name is in use, GROUP1D01 is requested.

Printer session using the computer name as the base name

For a computer with computer name WS1234.

A device name of %1%2%3 results in WS1234P00 being sent to the iSeries. If the requested device name is in use, WS1234P01 is requested.

Printer session using a standard base name

Using a base name of GROUP1.

A device name of GROUP1%2%3 results in GROUP1P00 being sent to the iSeries. If the requested device name is in use, GROUP1P01 is requested.

Using printer device association

Printer association provides a mechanism to automatically request a printer device name based on the existing display device name. By predefining pairs of printer and display devices in the iSeries, users may dynamically request a display device using a base name plus %2%3 and automatically get a matching printer device.

For example

Using a base name of GROUP1.

Using the Associate Printer with Display feature.

A device name of GROUP1%2%3 configured in the display results in GROUP1D00 being sent to the iSeries. If the requested device name is in use, GROUP1D01 is requested.

Once the display successfully obtains a device name, the printer is assigned the matching device name by the display emulator. If the display gets GROUP1D01, it gives the printer GROUP1P01.

Note

This feature only works with predefined display and printer device name pairs where the printer device is assigned to the display device rather than the user.

Configuring DBCS support

To support double-byte character sets (DBCS), your Windows computer and BlueZone display session must be configured for one or more double-byte languages.

Configuring Windows

1. Open the Windows Control Panel, and click **Region and Language**.
2. In the **Keyboards and Languages** tab, click **Change Keyboards**.
3. In the **General** tab, click **Add**.
4. Select one or more language keyboard check boxes, and click **OK**.
5. Click **OK** twice.
   The Input Method Editor (IME) loads for the language so you can input double-byte characters.

   Note

   You might be required to provide your Windows XP SP3 Installation CD in order to load the double-byte character support. Also, you might be required to reboot your system before these new settings take effect.

With multiple language support, the input language is changed by pressing Alt+Shift. An icon in the Windows status bar changes from EN (English) to the other language symbols.

Configuring BlueZone

Emulation settings

1. Start a BlueZone Mainframe or iSeries Display or Printer session.
2. Ensure that the session is disconnected from the host. The DBCS code page must be configured before connecting to the host.
3. In the BlueZone menu bar, click **Session** ® **Configure**, and click the **3270/5250 Emulation** tab.
4. In the **Language (CCSID)** list, select one of the following DBCS languages:
   - Chinese (Simplified) DBCS (935)
   - Chinese (Traditional) DBCS(937)
   - Japanese English DBCS (931)
   - Japanese Katakana DBCS (5026)
   - Japanese Latin DBCS (5035)
   - Korean DBCS (933)
5. Click **OK**.
6. Click **Session** ® **Connect**, and run your DBCS application.
7. To enter English data, ensure that the input locale is set to English (**EN**) in the Windows status bar.
8. Press Alt+Shift to change the locale to the selected Asian language, and click the status bar icon to open the IME options to select a keypad or other option for entering DBCS characters.

Note

The host application must allow DBCS input in a field for DBCS characters to be accepted.

Display settings

For the BlueZone display session to display single-byte Japanese characters properly, you must select a single-byte Japanese font.

1. On the BlueZone menu bar, click **Options** ® **Display**, and click the **Font** tab.
2. In the **Font Selection** group, click **Change**, and select a Japanese Font.

   Tip

   MS Mincho and MS Gothic are two Japanese capable fonts that are installed in Windows.

3. In the **Script** list, select **Japanese**.
4. Click **OK**.
5. Save the display session.

Print Screen settings

To print screens containing Japanese double-byte and single-byte characters, you must select a Japanese printer font.

1. On the BlueZone menu bar, click **File** ® **Print Setup**, and click the **Font** tab.
2. Click **Change**, and select a Japanese Font.
3. In the **Script** list, select **Japanese**.
4. Click **OK**.
5. Save the display session.

Configuring BiDi support

Starting with version 5.1, BlueZone has added bidirectional language support (BiDi) to the IBM 3270 and IBM iSeries emulators. Currently, the only BiDi language that is supported is Arabic.

Windows configuration requirements

To configure BlueZone to support Arabic, several Windows settings have to be set.

Note

If you have been using this machine with other programs that support BiDi for Arabic, you may not have to make any changes to your Windows settings.

1. Access the Windows Control Panel and launch the Regional and Language Options settings dialog.
2. On the **Languages** tab, check to see if the option to **Install files for complex script and right-to-left languages** is checked.

   If this item is not checked, checking it causes Windows to install some files and perform a restart of your computer. If this is the case, let Windows install the files and restart your computer now. When the restart is complete, access the Windows Control Panel and launch the Regional and Language Options settings again. Click the **Languages** tab and proceed to step 3.
   If the item is already checked, proceed to step 3.
3. Click **Details**. In the Installed Services window, there must be an installed service for Arabic. If not, click **Add** and add one of the input language selections for Arabic. There must also be one for English.
4. Click the **Advanced** tab. Check the **Extend support of advanced text services to all programs** check box if it's not already checked. If you make any changes, you receive a message to restart Windows. Restart Windows so that these changes take effect.

BlueZone configuration requirements

1. Launch a BlueZone IBM Mainframe 3270 Display or iSeries 5250 Display session.
2. From the BlueZone menu bar, click **Session** ® **Configure**.
3. Click the **3270 Emulation** (or **5250 Emulation**) tab.
4. In the **Language (CCSID)** list box, set the language to **Arabic (420)** and click **OK**.
5. From the BlueZone menu bar, click **Options** ® **Display**. The **Font** tab automatically displays.
6. Click **Font**.
7. Set the font to either **BlueZone Arabic Terminal** or **Farabi Multi**.
8. Click **OK** to close the Font Selection window.
9. Click **OK** to close the Display Options window.
10. Ensure that the BlueZone character set is set to **Unicode**, on the Font tab in the Print Setup dialog. Print Setup can be accessed by selecting **File** ® **Print Setup** from the BlueZone menu bar.

Switching between languages

There are several ways to switch between English input and Arabic input. One way is to use the Windows Language Bar. Another is to use the Windows Language Bar shortcut, left ALT+SHIFT. Assuming that you only have English and Arabic configured, ALT+SHIFT will toggle back and forth between these two languages.

However, using Windows to simply switch to Arabic while in a BlueZone session will not change the direction of the Arabic input. We recommend using the following Key commands for controlling the input of Arabic characters.

New BlueZone 3270/5250 key commands for BiDi Arabic

Several of the BlueZone 3270/5250 Key Commands for BiDi Arabic use keys located on the Number Pad area of the keyboard. For example, the Reverse/Push key command is invoked by holding down the Control Key followed by pressing the Forward Slash key located on the Number Pad. In the following documentation, this command is expressed as CTRL+(Num Pad /).

Key commands

Reverse/Push - Ctrl+(Num Pad /)

Reverse/Push changes between left-to-right data entry and right-to-left. It also causes the Windows language bar to switch between English and Arabic (if the language settings described above are setup properly).

When in Reverse Data Entry mode (RDE), invoking this key is the Reverse function. In Reverse Text Entry (RTE) mode, this key is the Push function.

Close - Ctrl+(Num Pad *) or Alt+F1

Close closes a field after entering English data on the left and Arabic data on the right. The nulls in the center of the field are removed and the field is shifted to the left or right, based on the reverse mode.

Screen Direction - Ctrl+Shift+F4

Screen Direction (supported in BlueZone Mainframe 3270 only), reverses or flips the orientation of the entire screen left-to-right and vice-versa. When the screen orientation is reversed, the language is automatically changed to the default language of the new screen orientation. For example, if the screen is reversed to right-to-left, the language is changed to Arabic. If the screen is reversed to left-to-right, the language is changed to English.

This feature is used when the Mainframe application only supports data entry in the left to right mode. By being able to reverse (flip) the screen, Arabic characters will be shown in their normal right to left orientation, making easier to read, even though the actual data is being stored in the required left to right manner.

Toggle RDE/RTE - Alt+(Num Pad *) or Alt+F11

Toggle RDE/RTE switches between Reverse Data Entry and Reverse Text Entry modes.

Auto Reverse - Alt+Backspace or Alt+(Num Pad /)

Auto Reverse toggles the auto reverse or auto push mode, depending on the RDE/RTE setting. These modes cause reverse or push mode to become active automatically upon entering a field, based on whether the field contains English or Arabic data.

BlueZone status bar changes

When using BlueZone with a supported BiDi language, the BlueZone status bar changes slightly.

The following is the new BlueZone status bar for BiDi Arabic support:

The field that was formerly used for the APL/DBCS Mode Indicator, now contains two green arrows as shown above in section A.

Left Arrow

The left arrow indicates the current typing direction (Reverse/Push key), left-to-right or right-to-left. An outlined arrow stem or indicates RDE mode, a solid arrow stem or indicates RTE mode.

Right Arrow

The right arrow indicates the current screen direction (Screen Direction key). The arrow will point to the right when entry is from left to right . The Arrow will point to the left when entry is from right to left .

Caps Lock Indicator

The field that was formerly used for the Caps Lock Indicator, now contains a green square cut into four quadrants as shown above in section B. One of the quadrants is always filled, the others are empty.

The filled quadrant indicates whether the current input setting is left-to-right (left side filled) or right-to-left (right side filled), and the current Caps Lock setting (bottom part or top part filled).

Caps Lock Off Data Entry from Left to Right

Caps Lock On Data Entry from Left to Right

Caps Lock Off Data Entry from Right to Left

Caps Lock On Data Entry from Right to Left

Configuring Euro support

There are three requirements in order for BlueZone to support the Euro symbol:

- Check the **Euro** check box on the **3270 /5250 Emulation** tab.
- Select a **Language** (code page) that supports the Euro symbol. For English, the code page must be 1140 rather than 37.
- Map a key sequence to the Euro symbol.

1. On the BlueZone menu bar, click **Session** ® **Configure**.
2. Click the **3270/5250 Emulation** tab.
3. Check the **Euro** check box.
4. In the **Language (CCSID)** list box, select a language (code page) that supports the Euro.
5. Click **OK**.
6. On the BlueZone menu bar, click **Options** ® **Keyboard**.
7. In the **Functions Groups** list box, select **PC Data Keys**.
8. In the **Functions** list box, select **Euro Currency Symbol** (it's near the bottom of the list).
9. Under **Key Mappings**, if there is already a key mapped to the Euro symbol, it displays.
10. If not, click **New** and map a keystroke sequence like Alt+E, for example.
11. Click **OK** to save the key mapping you just created.
12. Click **OK** again to close the Keyboard Options dialog.

Connect to your host and open the application where you want to place the Euro symbol. Type the keystrokes you assigned to the Euro symbol (Alt+E), or whatever you mapped the Euro symbol to. The Euro symbol displays on your screen.

Note

If you want to enable Euro Support for printing, launch your BlueZone Printer Emulator, and follow steps 1 through 4 above.

Editing the translate tables

Translate tables are used to translate data between the EBCDIC character set and the ASCII character set. EBCDIC is used on mainframe systems for character formatting whereas ASCII is used in the PC environment for character formation. When a character arrives from the host it is translated from EBCDIC to ASCII. When a character is sent to the host it is translated from ASCII to EBCDIC.

Note

Translate Table modifications must only be made when problems occur running a host application.

To access the translate tables:

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click the **3270 /5250 Emulation** tab.

   The 3270/5250 Emulation property sheet displays the Translation, Default Screen Model Type, Keyboard Type Ahead and Write to Display options.
3. In the **Translation** section, click **Translate Tables**.
4. From the **Translate Tables** menu, select the desired translation table:
   - **Ebcdic to Ascii**
   - **Ascii to Ebcdic**
   - **IND$FILE Ebcdic to Ascii**
   - **IND$FILE Ascii to Ebcdic**

How the tables work

To demonstrate how the tables work, the character 'A' is used in this example. Please note that all ASCII and EBCDIC values shown below are hexadecimal values.

Note

The IND$FILE Translate Tables work exactly the same way as the character translate tables. The following example can be applied to either set of tables.

In the ASCII code table the character 'A' is represented by the value '41' (in hex). In the EBCDIC code table the character 'A' is represented by the value 'C1'.

1. Starting on the ASCII to EBCDIC page, look at Column 4x Row x1 and you see the character 'A'. Click **Edit** to switch to the values mode and see the EBCDIC value 'C1'. This is the value that is sent to the host when the 'A' key is pressed on the keyboard.
2. Now to verify that this is the correct value, let's follow the same sequence in reverse. Look at the EBCDIC to BUFFER page and examine the Column Cx Row x1, you should see the character 'A'. Click **Edit** to switch to the values mode and you see the ASCII value '41'. This is the value that is sent from the host when an 'A' is requested.

This explanation shows the standard sequence of events when translating characters. This sequence looks the same in both directions, only reversed. For example:

ASCII to EBCDIC
41 -> C1

EBCDIC to ASCII
C1 -> 41

Capturing BlueZone traces

1. Launch the appropriate BlueZone Display or Printer emulator. Disconnect your session if necessary. You should always start your trace with your session disconnected.
2. On the BlueZone menu bar, click **Session** ® **Configure**.
3. Click **Properties**.
4. Click the **Trace** tab.
5. In **Trace Options**, verify that only the **Trace Sockets Interface** and **Trace RUI Interface** boxes are checked.

   Note

   Only check the **Trace SSL Connection** box if you are troubleshooting an SSL related issue.

6. In the **Trace File** edit box, ensure that there is a valid path and trace file name for the trace data to be written to. You can use any file name you want. The file extension must be `.trc`.

   CAUTION

   This must be a valid path or the trace feature does not work.

7. In the **Trace Viewer** edit box, ensure that you have a valid path to a program that reads your trace file. Notepad or WordPad will work fine.
8. Click **Start Trace**.
9. Click **OK** twice.
10. Connect your host session and perform any steps necessary to reproduce the problem or perform the particular function that you are tracing. Once this is accomplished, proceed to the next step.
11. On the BlueZone menu bar, click **Session** ® **Configure**.
12. Click **Properties**.
13. Click the **Trace** tab.
14. Click **Stop Trace**.
15. Click **View Trace** to view the trace file that you just created.

    Trace files can be viewed in Notepad or WordPad. This step helps ensure that you have indeed created a valid trace file. If the trace file is extremely short or does not appear to contain any valid data, try running another trace and compare the results.

Note

When E-mailing trace files for evaluation, please send them in their native format. Do not embed them in Word documents or change the file into any other format. Changing them makes it impossible for us to evaluate them properly.

Tip

If the trace files are very large, it's okay to zip them up using a standard zipping utility like WinZip.

BlueZone VT

The following sections detail the BlueZone VT host configuration.

Creating BlueZone VT Display connections

Prior to establishing a host system connection, you must define a host connection.

1. Click **Start** ® **All Programs** ® **BlueZone 6.1** ® **BlueZone VT**.
   The first time that you create a BlueZone VT Display session, the Define New Connection window opens.

   To open this window on subsequent connections, click **Session** ® **Configure**, and then click **New** or **Edit**.
2. In the **Connection** tab, complete the following fields:

   Telnet Connection

   - **Connection Name**: A unique name used to identify this collection of Connection settings.
   - **Host Address**: Specifies the computer name (in Internet format, known as DNS Name) or the IP address in either IPv4 or IPv6 format, of the host system.
   - **TCP Port**: Specifies the TCP port number. The default is 23.
   - **Backup Host**: Specifies the backup host to which BlueZone connects if the primary host is not available. Backup hosts are selected from the Connection List.
   - **Terminal**: Select the Terminal Type that you want to emulate from the list.
   - **Terminal ID**: The Terminal ID automatically changes with the chosen Terminal setting above; however, you can override this value with the setting of your choice.

   Default Screen Size

   - **Rows**: Sets the number of viewable rows used by the host.
   - **Columns**: Sets the number of viewable columns used by the host.

3. In the **Emulation** tab, complete the following fields:

   Emulation Options

   - **Auto-Login UserName**: Type the desired user name in this field if you want BlueZone to automatically send this information to the host upon connect. Otherwise, leave it blank.

     Note

     Not all Telnet hosts support this feature.

   - **Answerback**: Type the desired answerback in this field, if any.
   - **Local Echo**: If enabled, BlueZone VT displays the characters (locally) pressed by the user for hosts that do not echo back the characters that are sent to it. If you see double characters, then clear this check box.
   - **Force Auto Wrap**: If enabled, BlueZone VT forces word wrapping of any characters that normally extend off the right hand side of the screen. This overrides the setting that is sent down from the host.
   - **Disable Dimming Colors**: If enabled, the BlueZone VT character dimming feature is turned off. This can be useful when it is difficult to distinguish dim characters on the screen. Refer to Colors tab, on page 190 for more information on selecting color options for Bold and Dim intensities.

- **Disable 8-bit Control Characters**: If enabled, BlueZone VT disables the use of 8-bit control characters.
- **Use ANSI Colors**: If enabled, BlueZone VT uses ANSI Colors for VTXXX connections.

  Note

  This option does not apply to any other host type.

4. In the **Firewall** tab, you can configure the firewall and proxy server sign on systems. Complete the following fields:

   Firewall Options

   - **Connect Through Firewall or Proxy Server**: Check to enable this feature.
   - **Firewall Type**: Select the firewall type from the drop-down list:
     - SOCKS4 Proxy
     - SOCKS4A Proxy
     - SOCKS5 Proxy
     - NVT Proxy or Firewall
   - **Firewall Address**: Type the IP address of the firewall.
   - **Port**: Type the port number used by the firewall.
   - **Timeout**: Type the appropriate time out value.
   - **User Name**: Type the appropriate user name.
   - **Password**: Type the appropriate password.

     Note

     If you selected **NVT Proxy or Firewall**, then you must provide the following prompts:

     - **Host Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the host name that BlueZone is expecting. For example, `Enter host name`. If this prompt is detected, the Host Address from the **Connections** tab is sent.
     - **User Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the user name that the firewall is expecting. For example, `Enter user name`. If this prompt is detected, the User Name Prompt field is sent.
     - **Password Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the password that the firewall is expecting. For example, `Enter password`. If this prompt is detected, the Password Prompt field is sent.
     - **Connected Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the connection message. For example, `Connected` or `Connected to host`. If this prompt is detected, the firewall connection is considered to be complete and the Telnet negotiation begins.

5. In the **Security** tab, configure the SSL v3, TLS v1, or SSH v2 options. BlueZone VT can be preconfigured for distribution with encryption configured and enabled eliminating the need for any end user intervention in the installation or configuration process.
   Complete the following fields:

   Security Options

   - **Enable Secure Sockets Layer**: Specifies whether the TCP connection to the host must be encrypted using SSL.

Encryption Type

Specifies which type of encryption must be used:

- **SSL v3**: (Default) Specifies that SSL version 3 must be used.
- **TLS v1**: Specifies that TLS version 1 must be used.

  Note

  SSL v3 and TLS v1 are nearly identical. TLS v1 is preferred.

- **SSH v2**: Specifies that SSH version 2 must be used.

Invalid Certificates

Specifies how to handle an invalid server certificate. Options include:

- **Always Reject**: Specifies that an invalid server certificate must always be rejected.
- **Ask Before Accepting**: (Default) Specifies that the user must be asked whether to accept an invalid server certificate.
- **Always Accept**: Specifies that an invalid server certificate must always be accepted.

- **Preferred Cipher Suite**: Specifies a specific SSL/TLS or SSH cipher suite (encryption algorithm) to use. To allow the client and server to negotiate the cipher suite, select **Strong only**.

6. In the **Certificate** tab, complete the following fields:

Client Certificate

These parameters specify the type of client certificate to use if any. **Enable Secure Sockets Layer** on the **Security** tab must be enabled in order for client certificate support to be active.

- **No Client Certificate**: Specifies that a client certificate must not be presented.
- **Client Certificate in Disk File**: Specifies that a client certificate must be presented.
  - **Certificate File**: Specifies the path to the certificate file.
    - **View**: Click to view the certificate.
    - **Browse**: Click to locate the certificate file.
  - **Private Key File**: Specifies the path to the private key file.
    - **Browse**: Click to locate the private key file.
- **Client Certificate in Certificate Store**: Specifies that a client certificate must be presented that is located in the certificate store.
  - **Common Name**: Specifies the path to the common name file.
    - **View**: Click to view the certificate.
    - **Browse**: Click to display a list of certificates in the certificate store.
- **Client Certificate in Certificate on Smart Card**: Specifies that a client certificate stored on a Smart Card must be presented.

Root Certificates

These parameters specify the root certificate store to use: the one provided by OpenSSL, or the one that is provided by Windows.

- **Use OpenSSL Root Certificates**: (Default) If selected, the root certificates provided by OpenSSL is used.
- **Use Windows Root Certificates**: If selected, BlueZone looks for a file called `rootcerts.pem` in the end user's `bluezone\certs` directory. If it doesn't exist, it

automatically exports the root certificates from Windows and stores them there, giving a message such as `109 root certificates were exported.`

- **Update Root Certificates**: Click to manually export the certificates. If you connect and are presented with an untrusted host root certificate, and check the box to add it to the trusted list, it imports it into the Windows root store (which can produce a Windows message asking for confirmation), and then exports the root store again to disk producing a message such as `109 root certificates were exported.` When this is performed one time, subsequent connections connect without messages.

7. In the **Kerberos** tab, you can configure the optional Kerberos Authentication Protocol component. If the **Kerberos** tab is not available, the Kerberos component was not installed. Refer to the *BlueZone Desktop Administrator's Guide* in Chapter 2: Installing BlueZone - Optional installation features - Enabling Kerberos for information about installing the Kerberos Authentication feature.
   Complete the following fields:

   Kerberos options

   - **Enable Kerberos Authentication**: To enable Kerberos Authentication for this session, place a check in this check box.
   - **Use Windows Credentials**: If enabled, your Windows credentials (User Name and Domain) are used in lieu of Principal and Realm. Your User Name is used as the Principal name and your Domain name is used as the Realm name.
   - **Forward Credentials**: If enabled, your credentials are forwarded to the remote session. The credentials are passed as a Kerberos message which includes, among other things, the forwarded Kerberos ticket and a session key associated with the ticket.
   - **Principal**: If you are not using your Windows credentials, type your Principal name here.
   - **Realm**: If you are not using your Windows credentials, type the Realm name here. The Realm name must be typed entirely in uppercase.
   - **Target**: Type the name of the Kerberos database.
   - **Manage Tickets**: Click to manage Kerberos tickets. The Network Identity Manager opens.

8. Click **OK**.
9. Configure the VT session information.
10. Connect to the host.

VT session configuration

Prior to establishing a host system connection, you must set Session Configuration parameters.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens.

BlueZone VT Display Session Configuration consist of the **Connections**, **Trace**, **Keep Alive**, **Advanced**, and **License Manager** tabs.

Connections tab

Telnet Connections

- **Connection List**: Contains the names of the defined host connections. A total of 64 connections can be specified.
  - **New**: Click to create new host sessions. The Define New Connection dialog opens.
  - **Edit**: Click to edit an existing host connection. The Edit Connection dialog for the highlighted connection opens.

    Note

    The Edit Connection dialog is essentially the same as the Define New Connection dialog. Use the Define New Connection dialog as a reference for the Edit Connection dialog. Refer to Creating BlueZone VT Display connections, on page 86 for more information.

  - **Copy**: Click to copy an existing host connection. The Edit Connection Dialog opens with all the information of the connection that was highlighted except for Connection Name.
  - **Remove**: Click to remove an existing host connection. The highlighted connection is removed from the list.
- **Use Connection Name as Session Description**: If selected, the name that you gave to the active connection displays in the BlueZone title bar immediately after the session number. This feature is useful if you have multiple hosts defined and you are not using the **Connections** drop-down list and you want to know the name of the current connection.

Options list

- **Do Not Auto-Connect Session**: If selected, BlueZone will not automatically start the host connection that is selected in the **Connection List**. You must click **Session** ® **Connect**.
- **Auto-Connect Session**: If selected, BlueZone automatically starts the host connection that is selected in the **Connection List**.
- **Show Quick Connect Dialog**: If selected, the Quick Connect window opens. You can perform the following options in this window:
  - From the list, select one of the predefined hosts that are in the **Connection List**, and click **Connect**.
  - Click **Configure Session**, and create a host session.
  - Type a new host address in the field, and click **Connect**. Refer to Quick Connect formatting options, on page 90 for the available formatting options.

Prompt on Disconnect

If selected, BlueZone displays a message, "Are you sure you want to disconnect and close session?" when an attempt is made to disconnect a host session or when the BlueZone application is closed with an active host session.

Auto-Close Session on Disconnect

If selected, BlueZone automatically closes the session (that is highlighted in the Connection List) upon session disconnect. Selecting this option disables the Auto-Reconnect option above.

Disable Exit While Connected to Host

If selected, BlueZone does not allow the user to close down the BlueZone program while it is still connected to an active host session.

Quick Connect formatting options

In the Quick Connect window, you can type a new host address using the following formatting options.

Format	Example
address	`127.0.0.1`
connection name (address:port)	`Solaris Server (myserver:23)`

Protocol options

- **Telnet**: Default connection.
- **SSH v2**: Connects to the SSH daemon on the configured server.
  The default port is 22 unless a value is set for `address:port`. User ID and password settings are only enabled if you connect with SSH v2. If you have not specified these settings, you will be prompted to enter your user ID and password when you connect.

Trace tab

Trace Options

These parameters specify the interfaces to be traced and the file name to which the trace file is written. The trace files are written in ASCII text format and can be viewed with Notepad or WordPad. Refer to Capturing BlueZone traces, on page 85 for more information.

- **Trace File**: Specifies the file name to which the trace file is written.
  - **Browse**: Click to display a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature will not work.

- **Trace Viewer**: Specifies the program that is used to read the trace file after it has been captured and written.
  - **Browse**: Click to display a dialog used to select the directory and file name.
- **Start Trace**: Manually starts the trace.
- **Stop Trace**: Stops the trace.
- **View Trace**: Used to view the trace. BlueZone automatically uses the Trace Viewer program specified above.

Keep Alive tab

Timer Options

These parameters specify whether the client must send keep-alive messages to the server to keep the TN3270E session active:

- **Disable**: Disables keep-alive messages. (Default)
- **Use TCP**: Uses the built-in keep-alive mechanism.
- **Use NOP**: Uses the Telnet NOP (No Op) for keep-alive messages.
- **Use Timing Mark**: Uses the Telnet Timing Mark (TM) for keep-alive messages.
- **Timer Value (Minutes)**: Specifies the time interval (in minutes) for sending keep-alive messages.

Advanced tab

The Advanced tab is used for enabling or disabling Nagle's Algorithm and setting the a National Replacement Character Set if so desired.

Nagle Algorithm

Nagle's Algorithm provides a means of dealing with the small packet problem that is created when an application generates data one byte at a time, causing the network to be overloaded with packets. A single character - one byte of data - originating from a keyboard could result in the transmission of a 41 byte packet consisting of one byte of useful information and 40 bytes of header data. Most networks have support for Nagle's Algorithm tuned on by default. This feature can be turned off through use of the TCP_NODELAY sockets option. When TCP_NODELAY is selected, Nagle's Algorithm is disabled.

- **Disable (TCP_NODELAY On)**: Selecting this option results in Nagle's Algorithm being turned off.
- **Enable (TCP_NODELAY Off)**: Selecting this options results in Nagle's Algorithm being turned on.

National Replacement Character Set

Manually sets the National Replacement Character Set. Most host applications automatically set the correct National Replacement Character Set to match the required language. In some cases the host application assumes that the character set is already selected.

If the wrong National Replacement Character Set is selected, you notice that certain characters, like accented characters, are displayed incorrectly. If this happens, select the desired country's National Replacement Character Set from the drop-down list box.

License Manager tab

The License Manager tab is used to store the IP address of the BlueZone License Manager server. This is necessary when using a concurrent licensing scheme.

Note

The License Manager tab is only available if you are using a licensed copy of BlueZone. If you are currently evaluating BlueZone this tab is not available.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Type the IP address of the server or servers that are running the BlueZone License Manager in this field and click **Add**.

  Note

  If your BlueZone License Manager is using a Listening Port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown above.

- **Server List**: Displays the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the group feature of the BlueZone License Manager.

- **Group**: Type the name of the group in this field (if any).

Refer to the *BlueZone License Manager Administrator's Guide* for more information on the group feature.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session** ® **Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session** ® **Connect** menu item changes to **Session** ® **Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session** ® **Disconnect**.

ICL 7561

The following sections detail the ICL 7561 emulation configuration.

ICL session configuration

Note

BlueZone ICL 7561 emulation is an optional feature.

Prior to establishing a host system connection, BlueZone ICL users must set Session Configuration parameters. A session configuration consists of selecting:

- Selecting a connection type and configuring its connection settings.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens which contains the **Connection**, **ICL Emulation**, **Spell Checking**, and **License Manager** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options. Select the appropriate link for additional configuration information.

- **Connection Type**:

  RFC1006: Select to connect to the host system using the RFC1006 protocol.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If checked, BlueZone auto-connects the active session whenever it is launched.
- **Auto-Reconnect session (when Deactivated by Host) in**: If enabled then BlueZone auto-connects the session if the device being used is varied off on the host system while a BlueZone session is active in the number of seconds specified in the list box. 0 through 10 seconds can be selected.
- **Auto-Close Session on Disconnect**: If checked, the BlueZone application auto-closes after disconnecting from the host system.

- **Connect Retry**: If checked, BlueZone tries to connect to the host the number of times selected in the Retry up to list box and use the interval selected in the times, retrying every list box.

ICL Emulation tab

Character Set

The Translation group is used to select a translate language and if needed to configure the translate tables. Choices include:

- **Pound Sterling OEM**: If selected, uses the OEM character set to produce the symbol.
- **Pound Sterling ANSI**: If selected, uses the ANSI character set to produce the symbol.

Keyboard Type Ahead

Select the type ahead mode that you require by choosing the desired value from the list box:

- **Disabled**: If selected, the Type Ahead buffer feature is disabled.
- **Normal - Next Screen**: If selected, keystrokes can be typed continuously. All screens received from the host are displayed.
- **Advanced - Last Screen**: If selected, keystrokes can be typed continuously. Only the last host screen is displayed.

Spell Checking tab

The spell checking feature allows users to check the spelling in the emulator screens.

Settings

- **Enable Spell Checking**: Check to enable the spell checking feature.
- **Minimum Word Length**: Sets the minimum length that a word must be for the spell checker to parse it. The default is 5.
- **Maximum Spelling Suggestions**: Sets the maximum number of spelling suggestions per misspelled word. The default is 7.
- **Foreground Color**: Displays the text color of a misspelled word. Click **Customize** to change this color.
- **Background Color**: Displays the background color of a misspelled word. Click **Customize** to change this color.

Options

- **Auto-Correct Spelling**: Enables the auto-correct feature.
- **Ignore Uppercase Words**: Check to ignore uppercase words.
- **Ignore Words with Numbers**: Check to ignore words that contain numbers.

Dictionaries

- **Base**: Displays the path to the dictionary file (`.dic`).
- **Add**: Allows you to add words to the default dictionary.
  Click **Edit** to create `BzAdd.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to add to the dictionary. Save and close the file.
- **Ignore**: Allows you to define words that the spell check will ignore.
  Click **Edit** to create `BzIgnore.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words that you want the spell check to ignore. Save and close the file.
- **Remove**: Allows you to remove words from the default dictionary.
  Click **Edit** to create `BzRemove.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to remove from the dictionary. Save and close the file.

When spell checking is enabled and a word is misspelled, it is displayed with the foreground and background colors set in the **Settings** group.

Right-click the misspelled word to view a list of spelling suggestions. Click the desired correction to replace the misspelled word. There are also the following options from the right-click pop-up menu:

- **Add Word to Dictionary**: Click to add the misspelled word to the dictionary. When this word is used in the future, it does not appear as misspelled.
- **Cancel**: Click to ignore the spelling suggestions and leave the word as is.

License Manager tab

The License Manager tab is used to store the IP address of the BlueZone License Manager server. This is necessary when using a concurrent licensing scheme.

Note

The License Manager tab is only available if you are using a licensed copy of BlueZone. If you currently evaluating BlueZone, this tab is not available.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Place the IP address of the server or servers that are running the BlueZone License Manager in this filed and click the Add button.

  Note

  If your BlueZone License Manager is using a Listening Port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown above.

- **Server List**: This will display the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the Group feature of the BlueZone License Manager:

- **Group Name**: Place the name of the Group in this field.

Refer to the *BlueZone License Manager Administrator's Guide* for more information on the Group feature.

RFC1006 configuration

The BlueZone ICL emulator provides complete RFC1006 connectivity for BlueZone, allowing connection to hosts that are RFC1006 compliant. Optionally, Secure Sockets Layer security is available to insure privacy, message integrity and provide authentication.

RFC1006 configuration consists of the following tabs: **Connections**, **Security**, **Certificate**, **Keep Alive**, **Trace**, **Firewall**, and **Security Server**.

Connections tab

This dialog displays your Host Connection list and contains buttons for creating new connections as well as editing, removing and sorting them.

RFC 1006 Connections

- **Connection List**: This is a list of your configured hosts (if any). A total of 32 connections can be specified.
- **New**: Click to create new host sessions. When clicked, the Define New Connection dialog box opens with the following options:
  - **Connection Name**: A unique name used to identify the collection of Connection settings.
  - **Host Address**: Specifies the computer name (in Internet format, known as DNS Name) or the IP address in either IPv4 or IPv6 format, of the host system.
  - **TCP Port**: Specifies the TCP port number to which to connect. The default is 102.
  - **Remote TSAP Port**: Specifies the Remote TSAP port number to which to connect. The default is 0.
  - **Local TSAP**: Specifies the Local TSAP which to connect.
  - **Remote TSAP**: Specifies the Remote TSAP which to connect.
  - **Backup Host**: Specifies a second host connection if the first connection attempt fails.
  - **Connection Timer**: Specifies the maximum amount of time (in seconds) to wait for the TN connection to complete.
  - **Bypass Firewall**: If enabled, individual connections can bypass the global Firewall settings and connect directly to the host
- **Edit**: Click to edit existing host connections that appear in the Connection List.
- **Remove**: Click to remove existing host connections from the Connection List.
- **Sort**: Click to sort the Connection List into alphabetical order.
- **Use Connection Name as Session Description**: If checked, the name that you gave to the active connection displays in the BlueZone title bar, immediately after the session number. This feature is useful if you have multiple hosts defined, and you are not using the "Connections" drop-down list and you want to know the name of the current connection.

Security tab

All BlueZone emulator clients support the SSL protocol through the BlueZone Security Server or any SSL enabled Telnet connection including IBM Communications Server for NT (SSL v3 only), OS/390, and the iSeries V4R4. BlueZone clients may be preconfigured for distribution with SSL enabled eliminating the need for any end user intervention in the installation or configuration of BlueZone.

Security Options

- **Enable Secure Sockets Layer**: Specifies whether the TCP connection to the host must be encrypted using SSL.
- **Preferred Cipher Suite**: If you have a preference, select a Cipher Suite from the list box. Otherwise, leave it set to **None**.

Invalid Certificates

Specifies how to handle an invalid server certificate. Options include:

- **Always Reject**: Specifies that an invalid server certificate must always be rejected.
- **Ask Before Accepting**: Specifies that the user must be asked whether to accept an invalid server certificate.
- **Always Accept**: Specifies that an invalid server certificate must always be accepted.

SSL Version

Specifies which version of the SSL protocol must be used. Options include:

- **SSL v3**: (Default) Specifies that SSL version 3 must be used.
- **TLS v1**: Specifies that TLS version 1 must be used.

Note

SSL v3 and TLS v1 are nearly identical. TLS v1 is preferred.

Certificate tab

Client Certificate

These parameters specify the type of Client Certificate to use if any. Enable Secure Sockets Layer on the Security tab must be enabled in order for Client Certificate support to be active.

- **No Client Certificate**: Specifies that a client certificate must not be presented.
- **Client Certificate in Disk File**: Specifies that a client certificate must be presented.
  - **Certificate File**: Specifies the path to the Certificate File.
    - **View**: Click to view the certificate.
    - **Browse**: Click to locate the Certificate File.
  - **Private Key File**: Specifies the path to the Private Key File.
    - **Browse**: Click to locate the Private Key File.
- **Client Certificate in Certificate Store**: Specifies that a client certificate must be presented that is located in the Certificate Store.
  - **Common Name**: Specifies the path to the Common Name File.
    - **View**: Click to view the certificate.
    - **Browse**: Click to display a list of certificates in the Certificate Store.
- **Client Certificate in Certificate on Smart Card**: Specifies that a client certificate stored on a Smart Card must be presented.

Root Certificates

These parameters specify the Root Certificate store to use. The one provided by OpenSSL, or the one that is provided by Windows.

- **Use OpenSSL Root Certificates**: (Default) If selected, the Root Certificates provided by OpenSSL is used.
- **Use Windows Root Certificates**: If selected, BlueZone looks for a file called `rootcerts.pem` in the end user's `bluezone\certs` directory. If it doesn't exist, it automatically exports the root certificates from Windows and store them there, giving a message such as `109 root certificates were exported.`
  - **Update Root Certificates**: Click to manually export the certificates. If you connect and are presented with an untrusted host root certificate, and check the box to add it to the trusted list, it imports it into the Windows root store (which can produce a Windows message asking for confirmation), and then exports the root store again to disk producing a message such as `109 root certificates were exported.` When this is performed one time, subsequent connections connect without messages.

Keep Alive tab

Timer Options

These parameters specify whether the client must send keep-alive messages to the server to keep the TN3270E session active:

- **Disable**: Disables keep-alive messages. (Default)
- **Use NOP**: Uses the Telnet NOP (No Op) for keep-alive messages.

- **Use Timing Mark**: Uses the Telnet Timing Mark (TM) for keep-alive messages.
- **Timer Value (Minutes)**: Specifies the time interval (in minutes) for sending keep-alive messages.

Trace tab

These parameters specify the interfaces to be traced and the file name to which the trace file is written. The trace files are in ASCII text format and can be viewed with Notepad or WordPad. Refer to Capturing BlueZone traces, on page 85 for more information.

Trace Options

- **Trace Sockets Interface**: Traces the data as it passes through the Winsock interface from the network connection.
- **Trace RUI Interface**: Traces the data as it passes between the TN3270E driver and the BlueZone terminal session.
- **Trace SSL Connection**: Traces the data as it passes through the Secure Sockets Layer component of the TN3270E driver.
- **Trace File**: Specifies the file name to which the trace file is written.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Trace Viewer**: Specifies the program that is used to read the trace file after it has been captured and written.
  - **Browse**: Displays a dialog used to select the directory and file name.
- **Start Trace**: Used to manually start the trace.
- **Stop Trace**: Used to stop the trace.
- **View Trace**: Used to view the trace. BlueZone automatically uses the Trace Viewer program specified above.

Firewall tab

The Firewall tab allows the configuration of Firewall and Proxy Server sign on systems.

Firewall Options

- **Connect Through Firewall or Proxy Server**: Check to enable this feature.
- **Firewall Type**: Select the Firewall Type from the drop-down list box:
  - SOCKS4 Proxy
  - SOCKS4A Proxy
  - SOCKS5 Proxy
  - NVT Proxy or Firewall
  - HTTP Tunneling Proxy
- **Firewall Address**: Type the IP address of the Firewall.
- **Port**: Type the Port number used by the Firewall.
- **Timeout** : Type the appropriate Time out value.
- **User Name**: Type the appropriate User Name.
- **Password**: Type the appropriate Password.
- **Domain**: Type the appropriate Domain.

Note

If you selected **NVT Proxy or Firewall**, then you must provide the following prompts:

- **Host Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the host name that BlueZone is expecting. For example, `Enter host name`. If this prompt is detected, the Host Address from the **Connections** tab is sent.
- **User Name Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the user name that the firewall is expecting. For example, `Enter user name`. If this prompt is detected, the User Name Prompt field is sent.
- **Password Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the password that the firewall is expecting. For example, `Enter password`. If this prompt is detected, the Password Prompt field is sent.
- **Connected Prompt**: Type the firewall prompt, or a unique portion of the prompt, of the connection message. For example, `Connected` or `Connected to host`. If this prompt is detected, the firewall connection is considered to be complete and the Telnet negotiation begins.

Security Server tab

The Security Server tab is used to configure BlueZone to use the BlueZone Security Server as a Proxy Server to multiple hosts. This feature enables you to support connecting to multiple "back end" hosts through a single port in the BlueZone Security Server while using HTTPS tunneling in BlueZone.

Security Server Options

- **Use Security Server to proxy to Multiple Hosts**: Enable
- **Proxy Type**: Select the desired Proxy Type from the list box.
- **Security Server Address**: Type the IP address of the Security Server.
- **Port**: Type the Port being used by the Security Server for these connections.
- **Timeout**: The time (in seconds) after which, if a prompt from the Firewall has not been received, BlueZone assumes that the Firewall has been traversed and proceed with the next stage of the connection process. This is required for Firewalls which authenticate a user once but then do not re-authenticate on subsequent connections within a certain time period.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session ® Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session ® Connect** menu item changes to **Session ® Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session ® Disconnect**.

Unisys T27

The following sections detail the Unisys T27 configuration.

Session configuration

Prior to establishing a host system connection, BlueZone users must set the session configuration parameters. A session configuration consists of selecting a connection type and configuring its settings.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens which contains the **Connection**, **Spell Checking**, and **License Manager** tabs.

Connection tab

Communications Library

BlueZone displays the available host connection options.

- **Connection Type**
  Unisys DCA: Select to connect to the host system using the Unisys DCA protocol.

  Note

  Unisys DCA is currently the only available connection type.

- **Properties**: Click to configure the Unisys DCA connection type. Refer to Configuring the T27 terminal settings, on page 102 for more information.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If enabled, BlueZone auto-connects the active session whenever it is launched.
- **Auto-Reconnect session (when Deactivated by Host) in**: If enabled, BlueZone auto-connects the session if the device being used is varied off on the host system while a BlueZone session is active in the number of seconds specified in the list box. 0 through 10 seconds can be selected.
- **Auto-Close Session on Disconnect**: If checked, the BlueZone application auto-closes after disconnecting from the host system.
- **Connect Retry**: If enabled, BlueZone tries to connect to the host the number of times selected in the **Retry up to** list box and use the interval selected in the times, retrying every list box.

Spell Checking tab

The spell checking feature allows users to check the spelling in the emulator screens.

Settings

- **Enable Spell Checking**: Check to enable the spell checking feature.
- **Minimum Word Length**: Sets the minimum length that a word must be for the spell checker to parse it. The default is 5.
- **Maximum Spelling Suggestions**: Sets the maximum number of spelling suggestions per misspelled word. The default is 7.
- **Foreground Color**: Displays the text color of a misspelled word. Click **Customize** to change this color.
- **Background Color**: Displays the background color of a misspelled word. Click **Customize** to change this color.

Options

- **Auto-Correct Spelling**: Enables the auto-correct feature.
- **Ignore Uppercase Words**: Check to ignore uppercase words.
- **Ignore Words with Numbers**: Check to ignore words that contain numbers.

Dictionaries

- **Base**: Displays the path to the dictionary file (`.dic`).
- **Add**: Allows you to add words to the default dictionary.
  Click **Edit** to create `BzAdd.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to add to the dictionary. Save and close the file.
- **Ignore**: Allows you to define words that the spell check will ignore.
  Click **Edit** to create `BzIgnore.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words that you want the spell check to ignore. Save and close the file.
- **Remove**: Allows you to remove words from the default dictionary.
  Click **Edit** to create `BzRemove.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to remove from the dictionary. Save and close the file.

When spell checking is enabled and a word is misspelled, it is displayed with the foreground and background colors set in the **Settings** group.

Right-click the misspelled word to view a list of spelling suggestions. Click the desired correction to replace the misspelled word. There are also the following options from the right-click pop-up menu:

- **Add Word to Dictionary**: Click to add the misspelled word to the dictionary. When this word is used in the future, it does not appear as misspelled.
- **Cancel**: Click to ignore the spelling suggestions and leave the word as is.

License Manager tab

The License Manager tab is used to store the IP address of the BlueZone License Manager server. This is required when using a concurrent licensing scheme.

Note

The License Manager tab will only appear if you are using a licensed copy of BlueZone. If you currently evaluating BlueZone this tab will not appear.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Place the IP address of the server or servers that are running the BlueZone License Manager in this filed and click **Add**.

  Note

  If your BlueZone License Manager is using a Listening Port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown above.

- **Server List**: This will display the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the Group feature of the BlueZone License Manager:

- **Group Name**: Type the name of the Group in this field.

Unisys DCA configuration

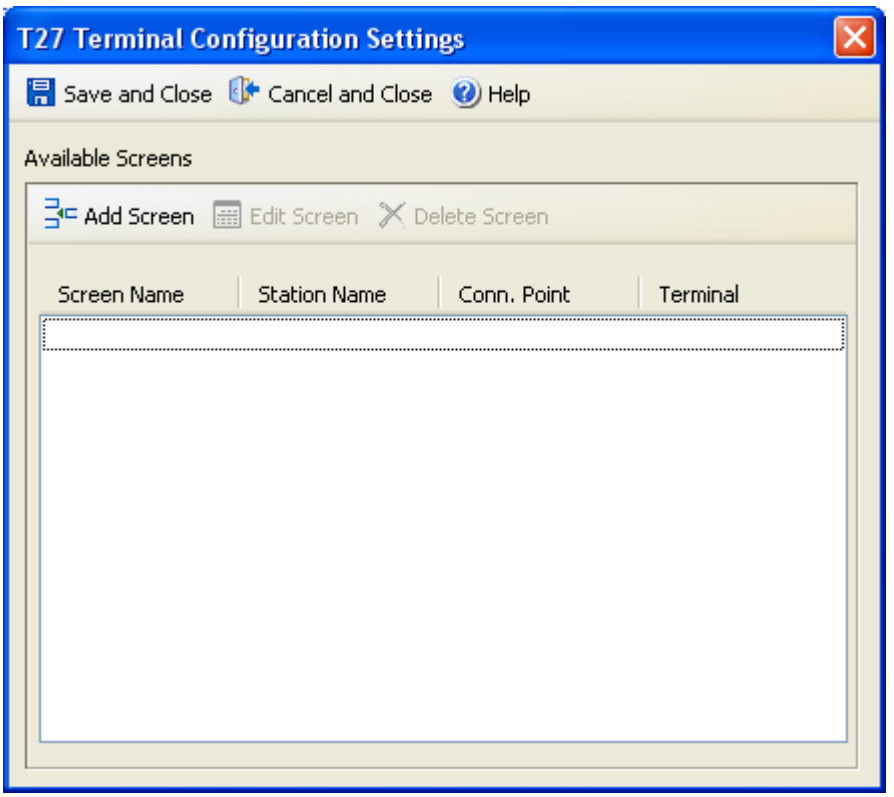
The T27 Terminal Configuration Settings dialog allows you to create and manage the T27 connection screens. Each screen contains configuration options to assign the communication point to be used when the screen is opened, configure connection settings, datacomm options, and keyboard options for the screen.

Configuring the T27 terminal settings

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.

   The following screen shot is an example of the default T27 Terminal Configuration Settings dialog before any screens are added:

   Figure 3: T27 Terminal Configuration Settings dialog



You can perform the following actions in this dialog:

- Click **Add Screen** to open the Edit Screen Settings dialog. Refer to Adding T27 screens, on page 103 for more information.
- Click **Edit Screen** to edit the highlighted screen. The Edit Screen Settings dialog opens.
- Click **Delete Screen** to delete the highlighted screen.
- Click **Save and Close** to save any new screens and close the dialog.
- Click **Cancel and Close** to close the dialog without saving any changes.
- Click **Help**. The following options are available:
  - **Contents**: Opens the *BlueZone Display and Printer Help*.

- **This window**: Opens the *BlueZone Display and Printer Help* to this topic.
- **About**: Opens a dialog with the product information.

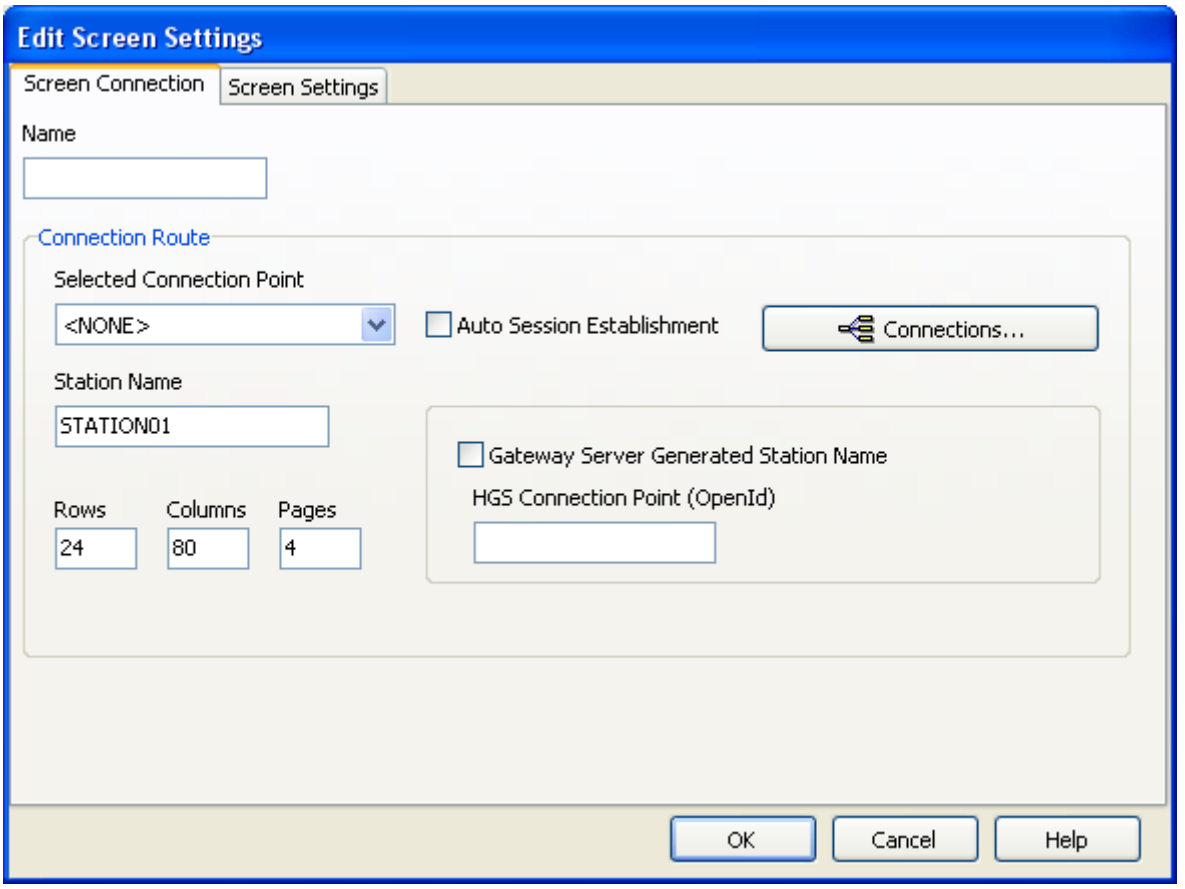
Adding T27 screens

The Edit Screen Settings dialog is used to add and edit the T27 configuration screens. It contains the **Screen Connection** and **Screen Settings** tabs.

Screen Connection tab

The Screen Connection tab defines the screen name and connection route information.

Figure 4: Edit Screen Settings dialog



Name

Type a name for the new screen. Up to 24 screens can be configured.

Connection Route

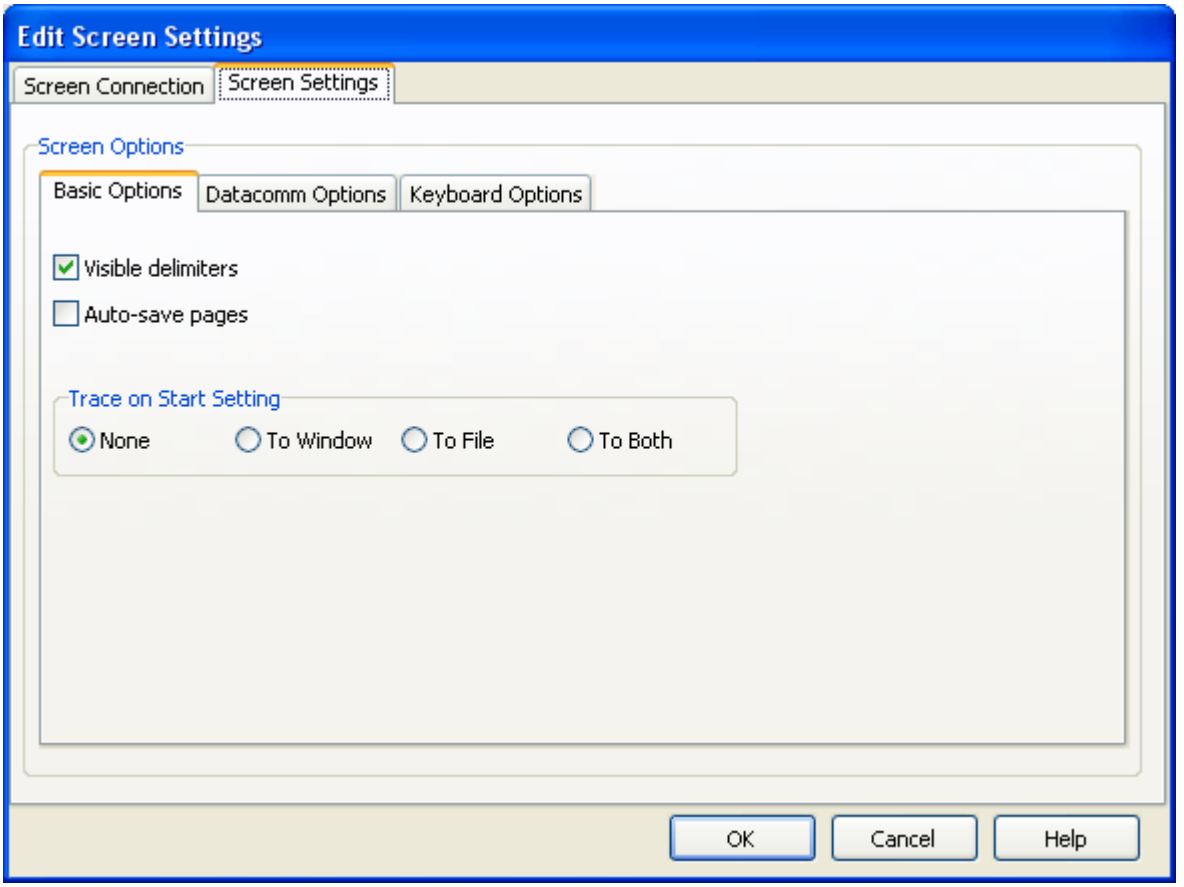
Set the following options:

- **Selected Connection Point**: Select a connection point to be used when the screen is opened.
  The first time this screen is accessed, the only available option is **<NONE>**. You must configure your host connections by clicking **Connections**. Refer to Configure host connections, on page 107 for more information.
- **Auto Session Establishment**: Enables auto session establishment.
- **Station Name**: Type a name for station.
- **Rows**: Type the number of rows allowed in the screen.

- **Columns**: Type the number of columns allowed in the screen.
- **Pages**: Type the number of pages.
- **Gateway Server Generated Station Name**: Enables the Gateway server generated station name.
- **HGS Connection Point (OpenId)**: Type the open ID of the Gateway server.

Screen Settings tab

The Screen Settings tab contains the **Basic Options**, **Datacomm Options**, and **Keyboard Options** tabs.



Basic Options tab

Visible delimiters

If enabled, field delimiters are displayed when in forms mode. Refer to Toggle Forms located in the **Datacomm Options** tab below.

Auto-save pages

If enabled, the contents of all pages in an environment are saved to disk when the environment is closed. The pages are then restored when the environment is reopened.

Note

As a result of this action, page one is overwritten on start up.

Trace on Start Settings

The controls in this group determine what trace activity is to take place, if any, when the screen is first opened. Select one of the following options:

- **None**: No tracing activity takes place.
- **To Window**: A separate trace window opens to display the trace.
- **To File**: The Emulator Trace File dialog opens when the screen is opened. In the Emulator Trace File dialog, type the text file name for the trace file. The trace file is normally stored in `C:\Documents and Settings\`*`username`*`\Local Settings\Temp` directory and has a `.txt` extension.
- **To Both**: Traces to both a window and file.

Datacomm Options tab

The Datacomm Options tab governs communications between the host and PC. Multiple options can be selected.

Transmit Full Page in Forms Mode

The full page is transmitted to the host when in forms mode (see Toggle Forms below). If this box is not checked, only the unprotected data from the home position to the cursor will be transmitted.

Convert CR to CRLF

A line feed character is appended to any carriage return character sent by the host application.

Convert LF to LFCR

A carriage return character is appended to any line feed character sent by the host application.

SOH Clears Screen

The screen is cleared upon receipt of an SOH character.

SOH Clears Forms Mode

Forms mode is terminated upon receipt of an SOH character.

Position to Left of UPF

The effect of the Home function places the text cursor to the first character position of a right justified, unprotected field; otherwise, the cursor will be moved to the data entry position, or right-most position of the field.

Transmit Line at a Time

Forces the normal Transmit to act like the Transmit Line key.

Hold in RCV Mode

The screens remain in receive mode after getting a message from the host application (see Stay in RCV below).

Beep Alarm Sound

Turns an audible beep on. If this box is not checked, no audible sound is heard.

SO/SI Translation

Enables SO/SI (7-bit to 8-bit/8-bit to 7-bit) character translation on data transmitted to the host.

SO/SI Extended Characters

Enables SO/SI (7-bit-to-8-bit/8-bit-to-7-bit) character translation on data received from the host. This option is not required if the host transmission is prefixed by ESC SO sequences.

DC2 Function

The option in this group instruct BlueZone T27 how to interpret the DC2 character when received from the host:

- **Toggle Forms**: Toggles the to/from forms mode upon receipt of the DC2 character.
- **Advance Page**: Stay in the current mode (forms or no-forms) and advance the DataComm pointer one position to the right upon receipt of the DC2 character.

DC1 Function

The options in this group instruct BlueZone T27 how to interpret the DC1 character when received from the host. These options are mutually exclusive:

- **Stay in RCV**: Choose this option to keep the screens in receive mode upon receipt of a DC1 character. This option nullifies the Hold in RCV option (see above).
- **Line Clear**: Choose this option to clear the line upon receipt of the DC1 character.

Alternate Delimiters

In this group, type the alternate delimiters sent by the host application. Alternate delimiters are only required when in forms mode:

- **Left Character (hex)**: Type the hex character sent and interpreted as the beginning delimiter of left-justified unprotected fields. The default is the US character (1F).
- **Right Character (hex)**: Type the hex character sent and interpreted as the ending field delimiter. The default is the RS character (1E).

Keyboard Options tab

The Keyboard Options tab governs keyboard actions. Multiple options can be selected.

Note

There are additional keyboard options located on the Miscellaneous tab in the Keyboard Options dialog.

Refer to Keyboard Options dialog, on page 218 for information on the additional keyboard options.

Start in UPPERCASE Mode

The keyboard automatically starts in UPPERCASE mode. Enabling this feature has the effect of turning on the Caps Lock key when the BlueZone T27 session is launched. The end user can turn off Caps Lock by pressing the Caps Lock key. This feature is useful when your host requires that the entire log on process be in uppercase characters but, you still want the option to revert to standard case at any time.

Force UPPERCASE Only

Converts lowercase characters that are typed to their uppercase equivalents. The Shift Key will reverse the effect of **Force UPPERCASE Only** while it is being held down. In other words, if the **Force UPPERCASE Only** check box is enabled, and the Shift key is held down while pressing a letter key, the input will be lower case.

Add LF to Return

A line feed character is appended when the Carriage Return key (Enter) is pressed. If this box is not checked, only the carriage return is issued.

Automatic Field Advance

Advances the cursor automatically to the next field when the current field becomes full.

Right Justified is Numeric-Only

Only the characters 0-9, space, period (.), and comma (,) will be allowed in a right-justified field. If the box is not checked, any character will be accepted.

Insert Space in Insert Mode

A space is inserted whenever the Insert key is pressed.

Specify Sends Page Number
The page number (in addition to the normal column and row designating the cursor position) is sent the host application when the Specify key is pressed.

Specify Sends Hex
The cursor position (column and row) is sent in hexadecimal when the Specify key is pressed. If this box is not checked, the cursor position is reported in ASCII.

Destructive Backspace Key
Erases characters as the Backspace key is pressed.

Ignore Programmed Macros
The emulator ignores any host or manually programmed T27 macro keys. Checking this box does not prevent Enable scripts related to action keys from running. The box is checked by default.

CR acts like TAB
Makes the Carriage Return key (Enter) behave like the Tab key.

Tab Stops
Type the column positions (separated by commas) of the tab stops. The default is 1,9,17,25,33,41,49,57.

Character Translation Table
Select a country that most closely matches your keyboard requirements.

- **Edit Translation Tables**: Opens the Character Translation dialog. This dialog provides the ability to select and edit character translation sets for specific countries.

Refer to Configuring character translation, on page 111 for more detailed information.

Clear Function
This group specifies what action occurs when the Clear key is pressed. These options are mutually exclusive.

- **Clear Entire Screen**: Clears the entire screen.
- **Clear Fields Only**: Clears all unprotected fields.

Configure host connections

The T27 Host Connections dialog is used to control the overall operation of the configuration process and to configure virtual destinations.

Configuring a host connection requires the following steps:

- Launching the T27 Host Connections dialog
- Editing the default virtual destination
- Selecting a connection point

Launching the T27 Terminal Configuration Settings window

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.
3. Highlight an existing screen and click **Edit Screen**. You can also create a new screen by clicking **Add Screen**.
4. Click **Connections**.

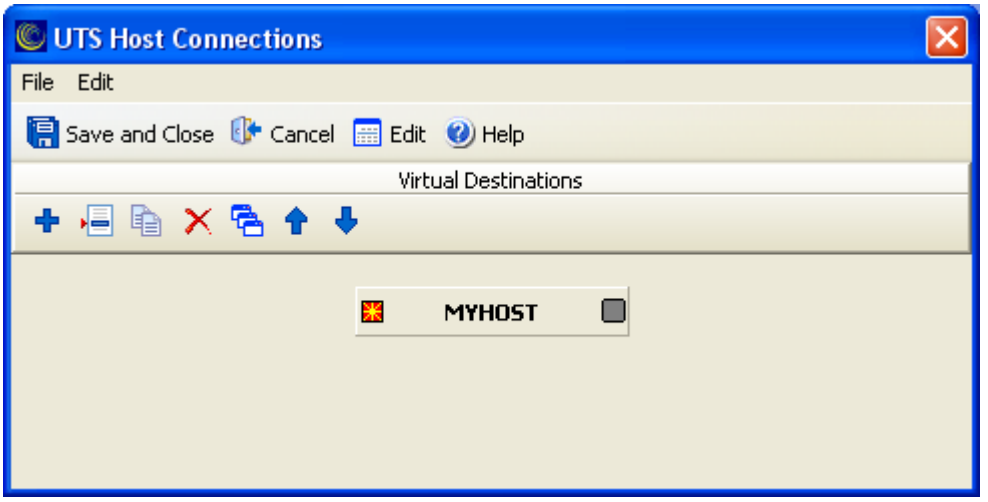
   The first time you access this dialog, you receive the following message: `No connecting information exists. Would you like an initial host destination generated now?`
5. Click **Yes** to generate a destination.

The T27 Host Connections dialog displays.

The work area has one group to configure virtual destinations.

The following is an example of the T27 Host Connections dialog with the default virtual destination named **MYHOST**.

Figure 5: T27 Host Connections dialog



Editing the default virtual destination

You must edit the default virtual destination to include your host information.

1. From the T27 Terminal Configuration Settings window, highlight **MYHOST** and click the Edit selected Destination icon. You can also double-click **MYHOST**.

   The Edit Virtual Destination dialog displays.

2. Edit the following information:

   Virtual Destination Id
   This is the name of the virtual destination being configured.

   IP Address
   Type an IP address (in dotted notation or symbolic destination machine name) of a host.

   Note

   When using a QPlex server as a gateway, use the IP address of the QPlex server.

   IP Port Id
   Contains the port address to the host. This number is normally 23.

   Connection Type

   Select the desired connection type:

   - UNISYS (A-Series)
   - UNIGATE (V-Series)
   - Local (PCA)
   - KMSYS Host Gateway Server

   SSL Options

   - **Use Authentication**: Check this box to enable authentication.
     - **Use SSL Encryption**: Check this box to enable SSL Encryption.

- **Alternate Principal Name**: Type a valid address in this field to use to validate the server certificate.
  When a host site's server certificate's Common Name (CN) or AltSubjectName does not match the address used to connect to the host, a certificate error occurs, stating that the host address does not match the common name. If it is not possible to connect to the host address listed in the certificate, the address from the certificate can be typed into the **Alternate Principal Name** field. This address, rather than the host connection address, is used to validate the server certificate.

3. Click **OK** to exit this dialog.
4. Click **Save and Close** to exit the T27 Host Connections dialog and return to the Edit Screen Settings dialog.

Selecting a connection point

After the virtual destination has been configured, you must select a connection point.

1. Ensure that you are in the Edit Screen Settings window and that the **Screen Connection** tab has been selected.
2. From the **Selected Connection Point** drop-down menu, select a connection that you edited or created.
3. Click **OK** to exit the dialog.
4. Click **Save and Close** to exit the T27 Terminal Configuration Settings dialog.
5. Click **OK** to exit the Session Configuration window.

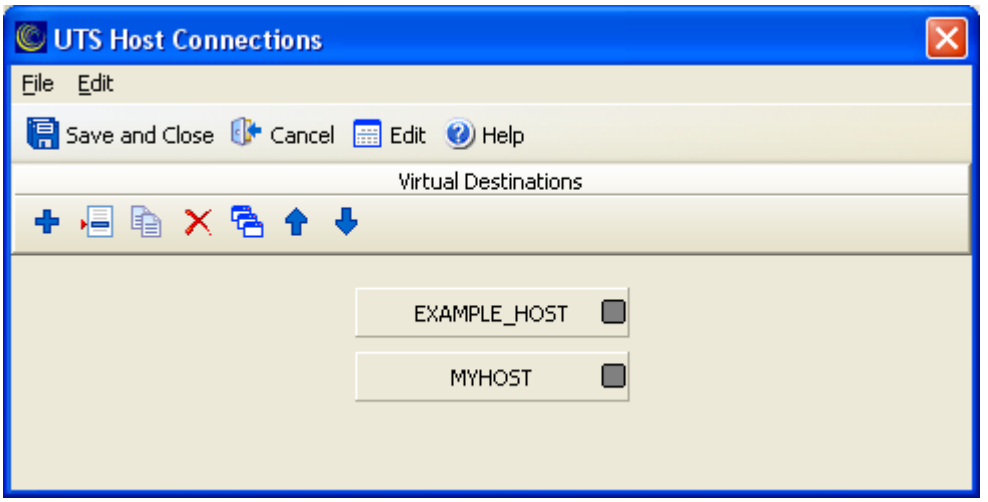
   You should now be able to connect to your host system.

Managing connections

The T27 Host Connections dialog can be used to manage multiple host connections.

This dialog is used to control multiple host configurations.

The work area contains one group used to configure the virtual destinations:



Menus

The T27 Host Connections dialog contains the following menu options:

File

- **Save and Close**
- **Print**
- **Cancel and Close**

Edit

Sort: Sorts the virtual destinations in alphabetical order.

Buttons

Icon	Name	Description
	Add new Destination	Click to add a new virtual destination.
	Edit selected Destination	Click to edit the selected virtual destination.
	Duplicate selected Destination	Click to duplicate the selected virtual destination.
	Delete selected Destination	Click to delete the selected virtual destination.
	Sort Destinations	Click to sort all configured virtual destinations in alphabetical order.
	Move selected Destination Up	Click to move the selected virtual destination up one position.
	Move selected Destination Down	Click to move the selected virtual destination down one position.

Mouse actions

Select an existing route or virtual destination

Click a virtual destination. The selected virtual destination name becomes bold and an orange box displays on the left side of the virtual destination button.

Note

The functions of left and right mouse button may be swapped by selecting the Mouse icon from the Windows Control Panel.

Edit an existing route or virtual destination

Double-click a virtual destination to open the configuration dialog and edit the required parameters.

Change the order of virtual destinations

If you create multiple virtual destinations, you can customize the order of the virtual destinations. The order set in this dialog determines the order the virtual destinations appear in the **Selected Connection Point** drop-down menu.

To change the order, click the dark gray square on the right of the virtual destination button, while continuing to hold down the mouse button, drag the cursor to the place you want. When the cursor changes to a hand icon, release the mouse button.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session** ® **Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session** ® **Connect** menu item changes to **Session** ® **Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session** ® **Disconnect**.

Configuring character translation

The Character Translation dialog provides the ability to select and edit character translation sets for specific countries.

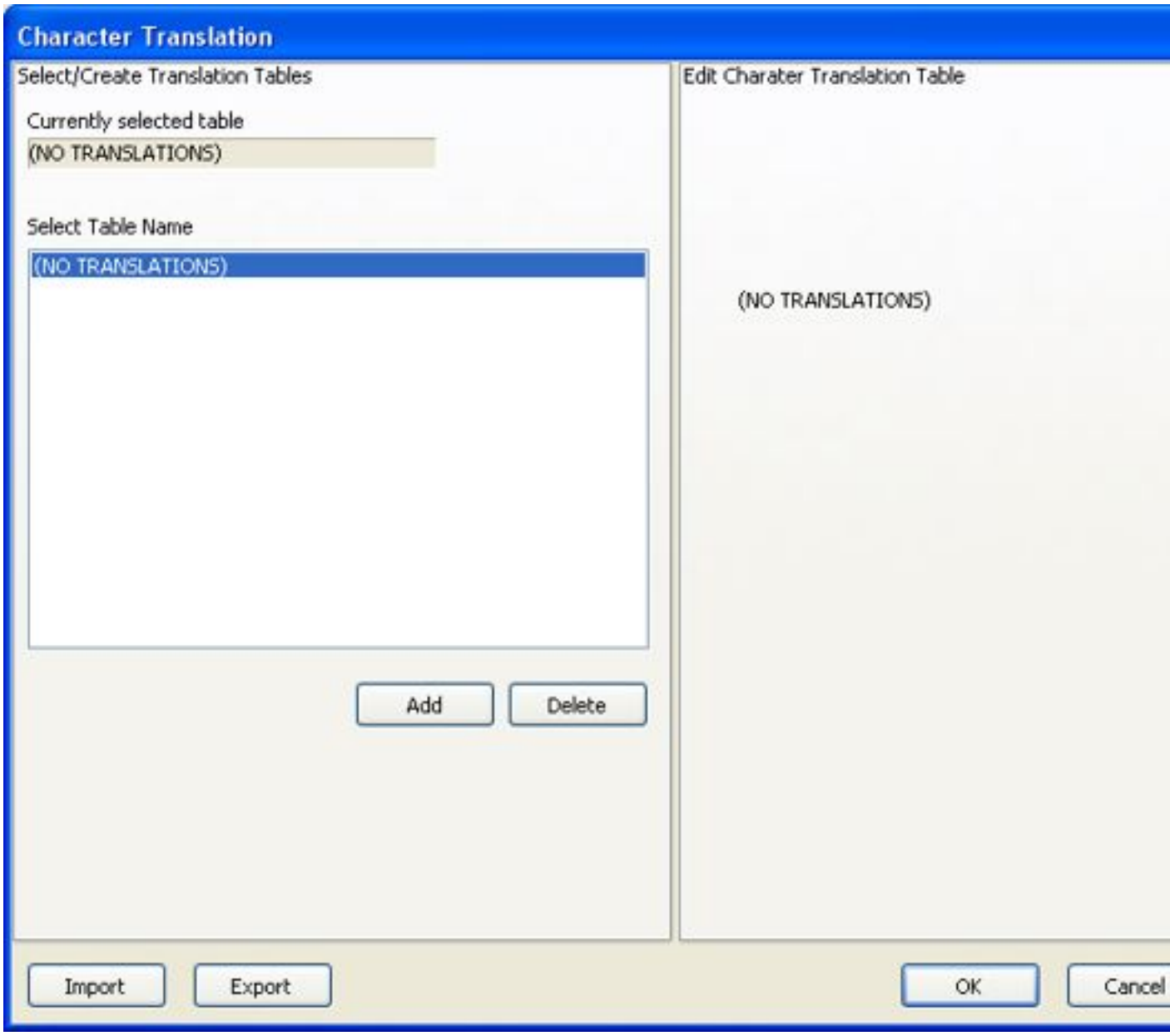
The Character Translation dialog is accessed through the **Keyboard Options** tab located on the Edit Screen Settings dialog.

To launch the Character Translation dialog:

1. Click **Edit Translation Tables**.

   The Character Translation dialog opens:

Figure 6: Character Translation dialog



2. Select the translation set (the default is NO TRANSLATIONS) for your locality.
3. To add a translation set, click **Add**.
4. Type a name for the new table and click **OK**.

   The Edit Character Translation Table panel is populated with the following options:

   Character translation table

   - **Add Char**: Adds a character.
   - **Delete Char**: Deletes the selected character.
   - **Move Up**: Moves the selected character up one position.
   - **Move Down**: Moves the selected character down one position.

Edit Selected Character
Allows you to specify host character and local character pairs for translation on all data received from, or sent to, the host during a BlueZone T27 session. All characters are specified in ASCII numeric notation.

- **Host( )**: Type any changes in the field.
- **Local( )**: Type any changes in the field.

Character Edit Mode
Select the desired mode:

- **Decimal**
- **Hexadecimal**

5. To change one or more characters in a translation set, highlight a country name and click **Edit**.
6. To delete a translation set, highlight a country name and click **Delete**.

The other buttons on the Character Translation dialog are:

Import
Click to import an existing character translation file (`.INI`).

Export
Click to save the current character translation configuration to a file.

OK
Click to save all changes made in this window and close the window.

Cancel
Click to close this window and discard all changes made since it was last opened.

Unisys UTS

The following sections detail the Unisys UTS configuration.

Session configuration

Prior to establishing a host system connection, BlueZone users must set the session configuration parameters. A session configuration consists of selecting a connection type and configuring its settings.

From the BlueZone menu bar, click **Session** ® **Configure**. The Session Configuration window opens which contains the **Connection**, **Spell Checking**, and **License Manager** tabs.

Connection tab

Communications Library
BlueZone displays the available host connection options.

- **Connection Type**:
  Unisys DCA: Select to connect to the host system using the Unisys DCA protocol.

  Note

  Unisys DCA is currently the only available connection type.

- **Properties**: Click to configure the Unisys DCA connection type. Refer to Configuring the UTS terminal settings, on page 115 for more information.

Options

After selecting the Connection Type, select from the following options:

- **Auto-Connect Session**: If checked, BlueZone will auto-connect the active session whenever it is launched.
- **Auto-Reconnect session (when Deactivated by Host) in**: If enabled then BlueZone will auto-connect the session if the Device being used is varied off on the host system while a BlueZone session is active in the number of seconds specified in the list box. 0 through 10 seconds can be selected.
- **Auto-Close Session on Disconnect**: If checked, the BlueZone application will auto-close after disconnecting from the host system.
- **Connect Retry**: If checked, BlueZone will try to connect to the host the number of times selected in the Retry up to list box and use the interval selected in the times, retrying every list box.

Spell Checking tab

The spell checking feature allows users to check the spelling in the emulator screens.

Settings

- **Enable Spell Checking**: Check to enable the spell checking feature.
- **Minimum Word Length**: Sets the minimum length that a word must be for the spell checker to parse it. The default is 5.
- **Maximum Spelling Suggestions**: Sets the maximum number of spelling suggestions per misspelled word. The default is 7.
- **Foreground Color**: Displays the text color of a misspelled word. Click **Customize** to change this color.
- **Background Color**: Displays the background color of a misspelled word. Click **Customize** to change this color.

Options

- **Auto-Correct Spelling**: Enables the auto-correct feature.
- **Ignore Uppercase Words**: Check to ignore uppercase words.
- **Ignore Words with Numbers**: Check to ignore words that contain numbers.

Dictionaries

- **Base**: Displays the path to the dictionary file (`.dic`).
- **Add**: Allows you to add words to the default dictionary.
  Click **Edit** to create `BzAdd.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to add to the dictionary. Save and close the file.
- **Ignore**: Allows you to define words that the spell check will ignore.
  Click **Edit** to create `BzIgnore.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words that you want the spell check to ignore. Save and close the file.
- **Remove**: Allows you to remove words from the default dictionary.
  Click **Edit** to create `BzRemove.dic`. The first time you click **Edit**, a message opens to notify you that the file does not exist. Click **Yes** to create the file. Type the words you want to remove from the dictionary. Save and close the file.

When spell checking is enabled and a word is misspelled, it is displayed with the foreground and background colors set in the **Settings** group.

Right-click the misspelled word to view a list of spelling suggestions. Click the desired correction to replace the misspelled word. There are also the following options from the right-click pop-up menu:

- **Add Word to Dictionary**: Click to add the misspelled word to the dictionary. When this word is used in the future, it does not appear as misspelled.
- **Cancel**: Click to ignore the spelling suggestions and leave the word as is.

License Manager tab

The License Manager tab is used to store the IP address of the BlueZone License Manager server. This is required when using a concurrent licensing scheme.

Note

The License Manager tab will only appear if you are using a licensed copy of BlueZone. If you currently evaluating BlueZone this tab will not appear.

License Servers

Use this group to configure your BlueZone License Manager IP address:

- **Add Server**: Place the IP address of the server or servers that are running the BlueZone License Manager in this filed and click **Add**.

  Note

  If your BlueZone License Manager is using a Listening Port other than the default of 8421, you must add the configured port number to the end of the IP address, using a comma as a separator. Example: 63.75.199.234,80

  CAUTION

  Do not use a colon (:) between the IP Address and the Port number. You must use a comma as shown above.

- **Server List**: This will display the IP addresses of your BlueZone License Manager server (if any).
- Use the **Remove** and **Clear** buttons as needed.

Group Information

This field is only used if you are using the Group feature of the BlueZone License Manager:

- **Group Name**: Type the name of the Group in this field.

Unisys DCA configuration

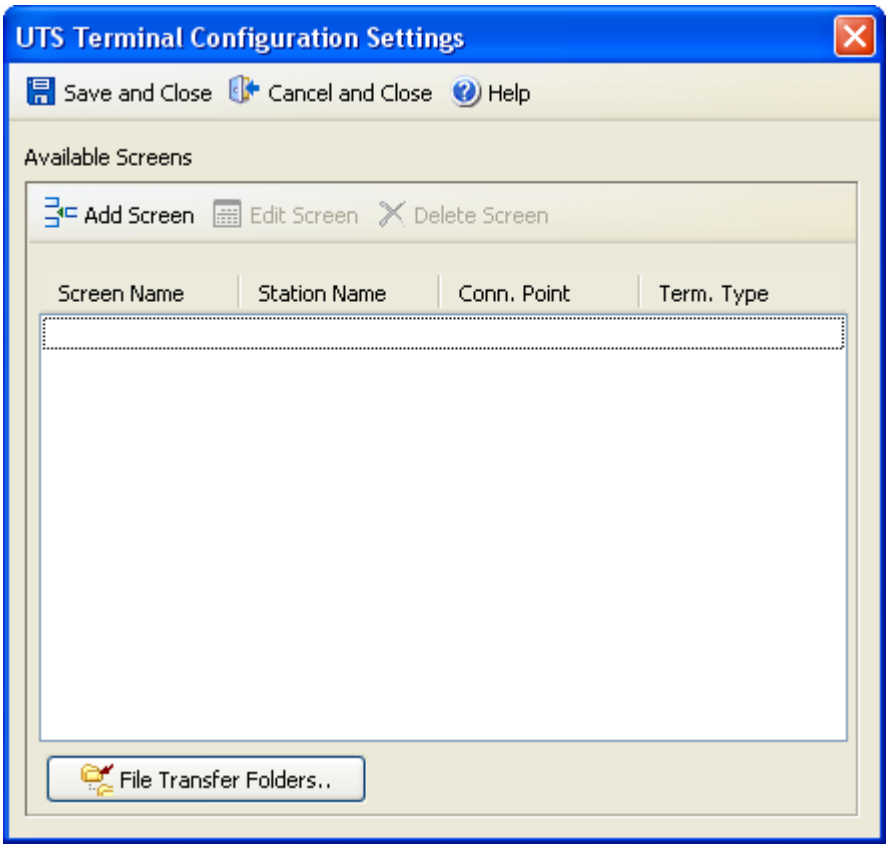
The UTS Terminal Configuration Settings dialog allows you to create and manage the UTS connection screens. Each screen contains configuration options to assign the communication route to be used when the screen is opened, assign printers to, and set general appearance options for the screen

Configuring the UTS terminal settings

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.

   The UTS Terminal Configuration Settings dialog opens.

   The following screen shot is an example of the default UTS Terminal Configuration Settings dialog before any screens are added:



From this screen, you have the following options:

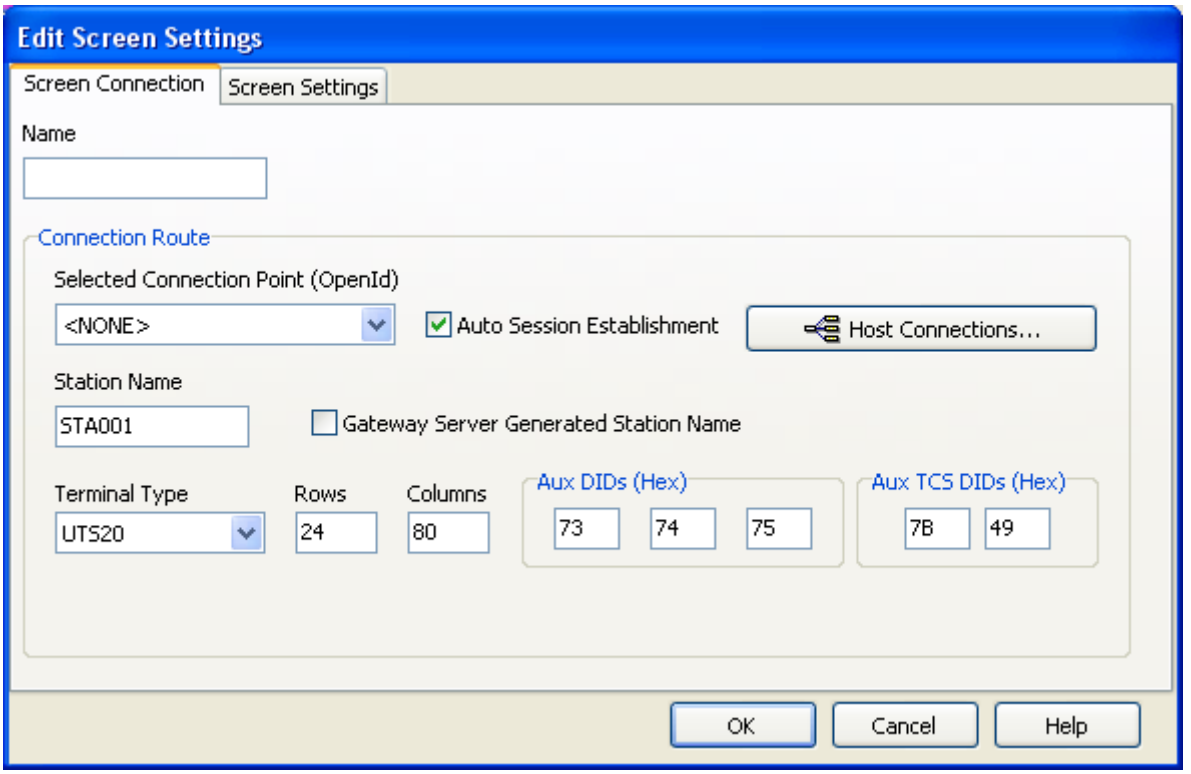
- Click **Add Screen** to open the Edit Screen Settings dialog. Refer to Adding UTS screens, on page 116 for more information.
- Click **Edit Screen** to edit the highlighted screen. The Edit Screen Settings dialog opens.
- Click **Delete Screen** to delete the highlighted screen.
- Click **Save and Close** to save any new screens and close the dialog.
- Click **Cancel and Close** to close the dialog without saving any changes.
- Click **Help**. The following options are available:
  - **Contents**: Opens the *BlueZone Display and Printer Help*.
  - **This window**: Opens the *BlueZone Display and Printer Help* to this topic.
  - **About**: Opens a dialog with the product information.
- Click **File Transfer Folders** to set the default folders used for send and receive file transfers.

Adding UTS screens

The Edit Screen Settings dialog is used to add and edit the UTS configuration screens. It contains the **Screen Connection** and **Screen Settings** tabs.

Screen Connection tab

The Screen Connection tab defines the screen name and connection route information.



Name

Type a name for the screen you want to configure. Up to 24 screens can be configured.

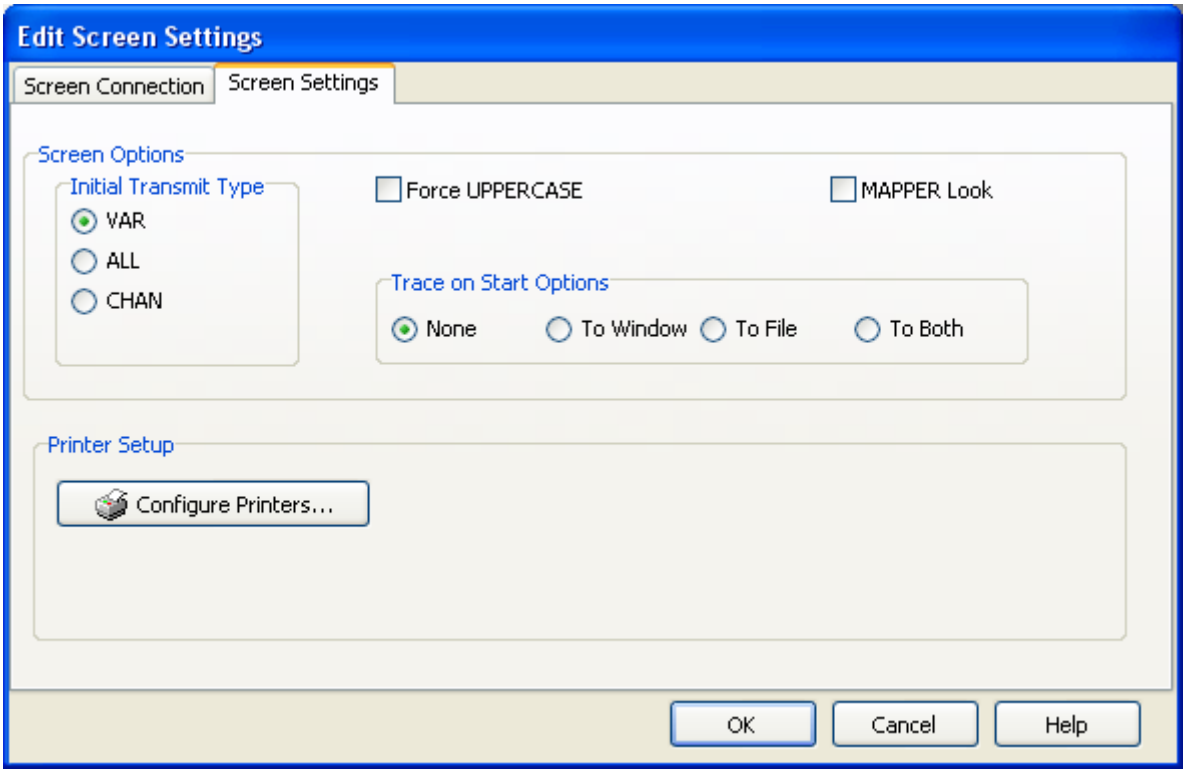
Connection Route

- **Selected Connection Point**: Select a configured route to be used when the screen is opened.
  The first time this screen is accessed, the only available option is **<NONE>**. You must configure your host connections by clicking **Host Connections**. Refer to Configure connections, on page 119 for more information.
- **Auto Session Establishment**: Enables auto session establishment.
- **Station Name**: Type the name of the station.
- **Gateway Server Generated Station Name**: Enables the Gateway server generated station name.
- **Terminal Type**: Select the terminal type.
  Options include:
  - UTS20
  - UTS30 (and UTS40)
  - UTS60

  The default is UTS20.
- **Rows**: Type the number of rows allowed in a screen.
  The default is 24 rows.
- **Columns**: Type the number of columns allowed in a screen.
  The default is 80 columns.
- **Aux DIDs (Hex)**
  The default is 73, 74, 75.
- **Aux TCS DIDs (Hex)**
  The default is 7B, 49.

Screen Settings tab

The Screen Settings tab controls the screen, trace, and printer options.



Screen Options

- **Initial Transmit Type**: BlueZone UTS emulation provides three modes of transferring data from the terminal screen to the host processor. The current transmission mode is set in the XMIT() field in the terminal control page. Most host programs expect the terminal to be operated in the VAR transmit mode. If your application requires an initial mode other than VAR, set it here and BlueZone UTS will initialize the XMIT() field with that value.
  The three available modes are:
  - VAR (Variable)
  - ALL
  - CHAN (Changed)
- **Force UPPERCASE**: BlueZone UTS translates lower case characters that are typed to their uppercase equivalents.
- **Mapper Look**: BlueZone UTS is set to Mapper Look and Feel processing. With Mapper Look checked, four of the display characteristics of BlueZone UTS change as follows:
  1. If a line contains an ASCII Tab Code in the first column, that line is considered a "Tab Line". Tab codes are displayed using the graphic vertical bar (|) that produces a visual column separator for your report.
  2. The only control characters displayed are the Start-of-Entry (SOE), the standard Tab Code, and the Mapper Tab Code. Characters such as Form-Feed and Line-Feed are displayed as spaces.
  3. A protected field (function key name on the last row of the Mapper screen) can be transmitted by clicking. This is compatible with the function key lines produced by Mapper 2200 level 35.
  4. BlueZone UTS also supports special Mapper box drawing sequences sent from the host.

     Note

     When Mapper Look is enabled, the Mapper station must be configured as a terminal type of "PCE" with an option of "S" (Mapper Look and Feel), or as a terminal type of "6S".
- **Trace on Start Options**: The options in this group determine what trace activity is to take place, if any, when the screen is first opened:
  - **None**: No tracing activity takes place.
  - **To Window**: A separate trace window opens to display the trace.
  - **To File**: The Emulator Trace File dialog opens when the screen is opened. In this dialog, type the text file name for the trace file. The trace file is normally stored in `C:\Documents and Settings\`*`username`*`\Local Settings\Temp` directory and has a `.txt` extension.
  - **To Both**: Traces to both a window and file.

Printer Setup

Configure Printers: Opens the Select Configured Printers dialog. In this dialog, you can select a configured printer in the printer pool to be assigned to one of three printer DIDs for the screen.

Refer to Configure the screen printer, on page 126 for more information.

Configure connections

The UTS Host Connections dialog is used to control the overall operation of the configuration process and to configure points to a host visually. The dialog contains a work area where connection points and virtual destinations (hosts) can be easily linked together.

Configuring a host connection requires the following steps:

- Launching the UTS Host Connections dialog
- Editing the default open ID
- Editing the default virtual destination
- Selecting a connection point

Launching the UTS Host Connections dialog

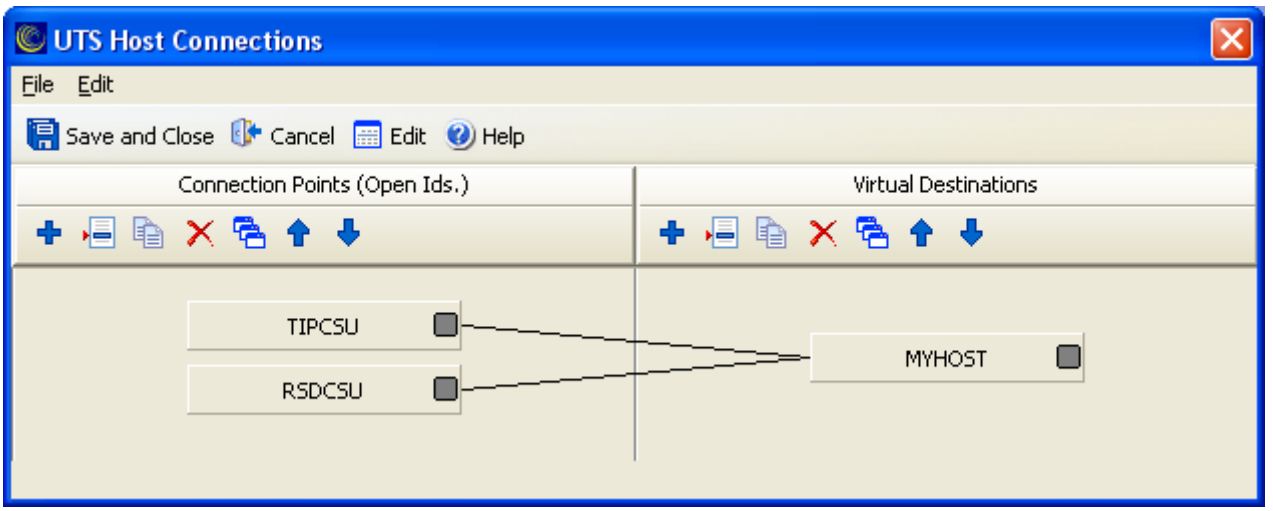
1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click **Properties**.
3. Click **Add Screen**.
4. Click **Host Connections**.

   The first time you access this dialog, you receive the following message: `No connecting information exists. Would you like an initial connection route host to generate now?`
5. Click **Yes** to generate a route.

   The UTS Host Connections dialog opens.

   The work area is divided into two groups: one to open IDs and one to configure virtual destinations.

   The following is an example of the default UTS Host Connections dialog:



Editing the default open ID

You must edit the default open ID.

1. Select the desired open ID.
2. Click the **Edit selected Open Id** icon. You can also double-click the desired open ID.

   The Edit Connection Point (Open Id.) dialog opens.
3. Edit the following information:

Open Id.

This required name is used to define a connection, IP Address (see Virtual Destination) and Session Type (TIP, DEMAND, NMS, and so on), to a host. This name is user-defined and can be anything meaningful to the user.

The open ID name specified here has no required relationship to the "$$OPEN open-id" required for non communications; however, using the same name as required on the "$$OPEN open-id" for non communications may be the best option when converting users to TCP/IP. Using the same name will allow users to continue using familiar $$OPEN statements.

The open ID name will be used by selected routes for default session establishment.

Note

Just because a Route is visually connected to an Open Id on the UTS Connection Configuration dialog, it does not prevent the user from performing a $$OPEN to another Open Id.

Selected CMS Process or Telcon XEU

Indicates the remote TSAP of a connection.

BlueZone UTS uses the CMS Process or Telcon XEU Name, along with the IP Address, to link to a DEMAND or TIP session (or any other valid termination system).

If the Open Id connects to a virtual destination that has a Connect Type of **TP0 to HLC, or through DCP as IP Router**, the Selected CMS Process or Telcon XEU is the PROCESS name in the CMS1100 configuration.

Typical values are:

- CMS Process
- TIPCSU for TIP
- RSDCSU for DEMAND
- CSACSU for CMS1100 network administration

If the Open Id connects to a virtual destination that has a Connect Type of **TP0 to a DCP as a DCA TS**, this is the name of an XEU statement in the Telcon configuration. The XEU statements can indicate a connection to destinations on various hosts and DCPs. The DCP destinations can include DCP/OS, TOMF, and System 80, as well as more common ones like TIP and DEMAND.

Manage Prcs/XEU

Click to open the Manage CMS Process/Telcon XEU dialog. Edit the following information:

Add New

Click to add a new CMS process or Telcon XEU.

Rename Selected

Click to rename the selected CMS process or Telcon XEU.

Delete Selected

Click to delete the CMS process or Telcon XEU.

Available CMS Processes or Telcon XEUs

Lists the available CMS processes or Telcon XEUs.

App. Name

This is the name of the application to be accessed when the session is to TIPCSU or CSACSU. This name is the name of an APPLICATION statement in the CMS1100 configuration (this field is only valid for PROCESS TIPCSU and CSACSU — it is ignored for other PROCESSes and XEUs).

Use SPSO Config.
Select a configured SPSO from the drop-down menu.

Manage SPSO
Click to open the Manage Single Point SignOn (SPSO) Configurations dialog. Edit the following information:

Configuration name
Type a name for the SPSO configuration.

Authentication Mode

- **Binary Ticket**:
- **Legacy (Userid/Password)**:

Ticket Type

- **Module 2 – Negotiation (Kerberos and NTLM)**:
- **Module 2 – Kerberos Only**:
- **Target 2200 account**:
- **Module 3 NTLM Only**:

Selected Virtual Destination
Select a virtual destination from the drop-down list box to link this connection point to a configured virtual destination. Selecting **<None>** disconnects the connection point from the virtual destination.

Available CMS Processes or Telcon XEUs
Use the mouse to select from this list and change the Selected CMS Process or Telcon XEU parameter.

Session Type
The controls in this group are only required if your site is using the Unisys Single Point Sign-on feature.

- **TIP**: Select this option if the Open Id will be used to access TIP sessions with the Single Point Sign-on feature.
  - **Application Group Use TIP Session Control**: Check this box if your site has TIP Session Control and you are utilizing the Single Sign-On feature.
- **Demand**: Select this option if the Open Id will be used to access DEMAND sessions utilizing the Single Point Sign-on feature.
- **Other**: Select this option if the Open Id will be used to access other session types utilizing the Single Point Sign-on feature. Currently, the only other type supported is for a console.

Allow TEXTL
Leave this check box selected unless access is set to a SYSTEM 80.

Special SITA Gabriel Handling
Select this check box only if you are connecting to a SITA Gabriel host.

4. Click **OK** to exit the dialog.

Editing the default virtual destination

After you configure the default open ID, the next step is to edit the default virtual destination to contain your host information.

1. Select the **MYHOST** virtual destination.
2. Click the **Edit selected Destination** icon. Or you can double-click **MYHOST**.

The Edit Virtual Destination dialog opens.

3. Edit the following information:

Virtual destination id
The name of the virtual destination being configured. It is used to link to a connection point.

Destination IP address
You must click **Edit IP Address** to define the IP address. The Network Edit Address dialog opens. In the **FQDN/IP Addr** field, type the IP address, in dotted notation or symbolic destination machine name, of a host.

Note

When using a QPlex server as a gateway, use the IP Address of the QPlex server.

You can also select one of the following options:

- Use IPv4 Only
- Prefer IPv4
- Use IPv6 Only
- Prefer IPv6
- Accept first address found

IP Port Id
This text box contains the port address to the host. This number is normally 23.

Connection Type
Select the connection type:

- **TP0 to HLC, or through DCP as IP router**
- **TP0 to a DCP as a DCA TS**
  - **Use as Default destination**
- **Host Gateway Server**

SSL Options

- **Enable Host Authentication**: Enables host authentication.
  - **Enable Encryption**: Enables encryption.
  - **Alternate Principal Name**: Type a valid address in this field to use to validate the server certificate.
    When a host site's server certificate's Common Name (CN) or AltSubjectName does not match the address used to connect to the host, a certificate error occurs, stating that the host address does not match the common name. If it is not possible to connect to the host address listed in the certificate, the address from the certificate can be typed into the **Alternate Principal Name** field. This address, rather than the host connection address, is used to validate the server certificate.

4. Click **OK** to exit the dialog.
5. Click **Save and Close** to exit the UTS Host Connections dialog and return to the Edit Screen Settings dialog.

Selecting a connection point

After the open ID and virtual destinations have been configured, you must select a connection point.

1. Ensure that you are in the Edit Screen Settings dialog.

2. From the **Selected Connection Point (OpenId)** drop-down menu, select an connection point that you edited or created.
3. Click **OK** to exit this dialog.
4. Click **Save and Close** to exit the UTS Terminal Configuration Settings dialog.
5. Click **OK** to exit the Session Configuration dialog.

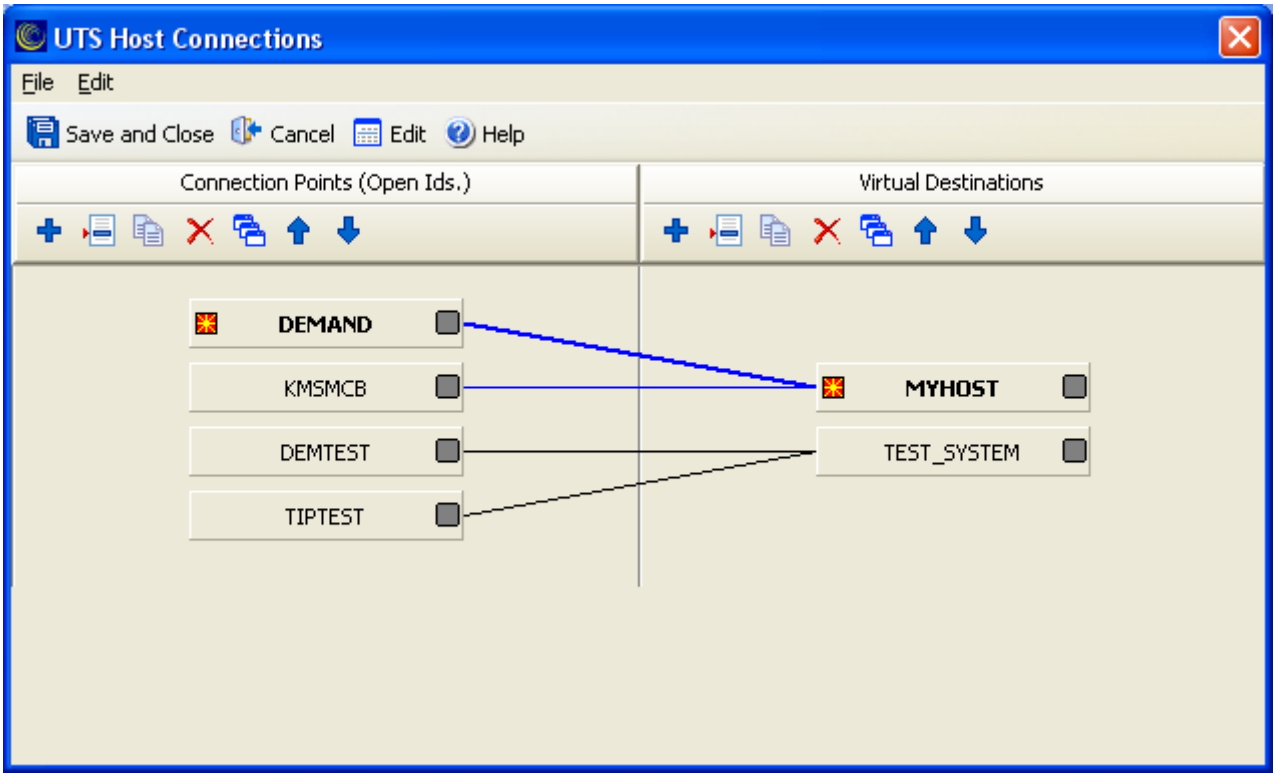
   You should now be able to connect to your host system.

Managing connections

The UTS Host Connections dialog can be used to visually manage multiple host connections.

This dialog is used to control the overall operation of the configuration process and to configure routes to a host visually. The dialog contains a work area where open IDs and virtual destinations (hosts) can be easily linked together with the use of a mouse.

The work area is divided into two groups: one to configure open IDs and one to configure virtual destinations.



Menus

The UTS Host Connections dialog contains the following menu options:

File

- **Save and Close**
- **Print**
- **Cancel and Close**

Edit

- **Edit Message Strings**: Allows you to configure the messages sent if an specific action is taken. Opens the Edit eXpress Connect Message Strings dialog. In this dialog, you can configure the strings for the following information:
  - Open String
  - Close String
  - Session opened string
  - Session closed string
  - Enter session string
  - Invalid destination string
  - Output interrupt string
  - Open in progress string
- **Sort ALL Lists**: Sorts the configured connection points and virtual destinations in alphabetical order.

Buttons

The Connection Points and Virtual Destinations work areas each have a set of the following buttons:

Icon	Name	Description
	Add new Destination	Click to add a new virtual destination.
	Edit selected Destination	Click to edit the selected virtual destination.
	Duplicate selected Destination	Click to duplicate the selected virtual destination.
	Delete selected Destination	Click to delete the selected virtual destination.
	Sort Destinations	Click to sort all configured virtual destinations in alphabetical order.
	Move selected Destination Up	Click to move the selected virtual destination up one position.
	Move selected Destination Down	Click to move the selected virtual destination down one position.

Mouse actions

Select an existing open ID or virtual destination

Click an open ID or virtual destination. The selected open ID or virtual destination name becomes bold and an orange box displays on the left side of the open ID or virtual destination button. If you select an open ID, the linked virtual destination is also highlighted.

Note

The functions of left and right mouse button may be swapped by selecting the Mouse icon from the Windows Control Panel.

Edit an existing open ID or virtual destination
Double-click an open ID or virtual destination to open the appropriate configuration dialog and edit the required parameters.

Link an open ID to a virtual destination
Click the dark gray square on the right of the open ID button, while continuing to hold down the mouse button, drag the cursor to the orange square on the desired virtual destination and then release. A blue line displays between the open ID and virtual destination.

Configure the screen printer

You can configure the following:

- Printer device selection and setup
- Pass-through printing
- Screen printer device assignments

Adding printers

The Printer Device Selection and Setup dialog contains controls to equate an installed printer on the PC to a local printer name, use of a local print object, set special UTS print characteristics such as pass-through printing or assign Windows print settings.

1. In the UTS Terminal Configuration Settings dialog, highlight the desired **Screen Name** and click **Edit Screen**. Or you can double-click the screen name.

   The Edit Screen Settings dialog opens.
2. Click the **Screen Settings** tab.
3. Click **Configure Printers**.

   The Select Configured Printers dialog opens.
4. Click **Manager Printers**.

   The UTS Printer Manager dialog opens.
5. Click **Add Printer**.
6. Type a Local Name for the printer and click **OK**.

   The Printer Device Selection and Setup dialog opens.
7. Enter the following information:

   Note

   This screen changes depending on the selected options.

   Use Local Print Object (LPO)
   If enabled, the Standard Printing Devices group is replaced with the Local Print Object (LPO) group.

   - **Local Print Object Class Name**: Type the name of the local print object class or click **Browse** to select the name from a list.
   - **User Option**

Standard Printing Devices

- **Selected Printer**: Select a printer from this drop-down menu. This menu contains a list of all printers installed through Windows on your PC and a **<Text file>** option for directing printing to a text file on your PC. After you select a printer, the **Paper size, source** group displays at the bottom of the screen.
- **Use Pass-through Printing**: If enabled, the local printer is used for pass-through printing.
  Refer to Pass-through printing, on page 127 for more information on configuring pass-through printing.
- **Do not wrap print line**: If enabled, long print lies are truncated rather than wrapped to the next line. The number of characters that are truncated or wrapped depends upon the font, font style, and font size selected for the printer and the page width chosen.

Windows Print Settings

- **Font name**: Select an installed font for printing.
- **Size**: Set the font size that the text is printed.
- **Bold face**: If enabled, the text is printed in bold face.
- **Character Set**: Select the desired character set.
- **Portrait** or **Landscape**: Select the desired page orientation.

Page header text

For normal printing (not pass-through), an optional page header can be added. The heading line only prints if text is present.

Page size, source

Click **Edit** to change the listed values.

8. Click **OK**.

Pass-through printing

If the **Use Pass-through Printing** check box is enabled, the Printer Device Selection and Setup dialog changes by displaying the Pass-through Print Settings dialog and eliminating the Windows Print Settings group.

Set the following options for pass-through printing:

Pass-through Print Settings

The controls in this group are only available when the **Use Pass-through Printing** check box is checked.

Pass-through printing prints directly to a printer and may be useful in situations where the page oriented nature of Windows print management conflicts with the non-page orientation of some older TIP applications.

Whenever possible, you should print using standard Windows print management (the default). Windows controls all page formatting based on property settings for a configured print driver on your PC. In this instance, the host application must not send any page control commands (i.e., form feeds) to the printer.

When you bypass Windows print management and print directly to a printer, the host application program must supply all page control. BlueZone UTS simply passes all information directly through to a configured printer.

Pass-through Options

The options in this group control special line and form advancement.

- **Send LF after CR**: BlueZone UTS uses CR LF at the end of a line.
- **Send CR after LF**: BlueZone UTS uses LF CR at the end of a line.
- **Send CR after FF**: BlueZone UTS uses FF CR at the end of a line.
- **Send FF on Close**: BlueZone UTS inserts an FF at the close of the print.
- **Send LF at End of Screen**: BlueZone UTS adds an LF at the end of each screen.

  Note

  This box should not be checked when using MAPPER AUX because MAPPER includes an LF at the end of the screen (you would get one more line). Send LF at End of Screen is for transactions that do not put in an LF, thus causing the next screen's data to print starting at the end of the last line.

- **Send FF at End of Screen**: BlueZone UTS adds a FF at the end of each screen.

  Note

  This will send a Form Feed at the end of each screen or block from the host. If the host message does not include an EOMI status, this action is not taken, allowing data from multiple screens to be printed without the form feed.

- **No Auto-close Print**: BlueZone UTS keeps the print open at the end of a print operation.
- **No Auto Page Feed**: BlueZone UTS does not perform a page eject after printing.

Character Translations

The entries in this table can be used to specify the ASCII characters that BlueZone UTS is to substitute when receiving special ASCII characters from the host.

- **Host Char.**: Type the decimal representation of the anticipated ASCII host character.
- **Print Char. 1 through Print Char. 4**: In each column, type the decimal representation of the ASCII replacement character(s) to be sent to the printer.

Example of translating the tilde (~) to the Esc character:

Host Char	Print Char 1
126	27

Note

If additional rows are needed for translation, press the right mouse button over the table and select Add Row from the drop-down menu with the left mouse button. The new row will be inserted at the bottom of the table. The Delete Row item on the drop-down menu may be used to delete a selected row.

Printer Start and End Strings (max 41 chars)
The entries in this box can be used to provide special starting and ending strings to be sent to certain printer devices. Up to 41 characters may be supplied for each string.

- **Start String**: In this row, type the decimal representations of the ASCII characters to be sent to the printer as a beginning string.
- **End Scrn Str**: In this row, type the decimal representation of the ASCII characters to be sent to the printer as an ending string at the end of each screen (when no EOMI present). If the End Screen string is present, the Send LF at end of screen and Send FF at end of screen are ignored.
- **End String**: In this row, type the decimal representations of the ASCII characters to be sent to the printer as an ending string.
- **Import**: Click to import an existing pass-through print settings file.
- **Export**: Click to export the pass-through settings to a file.

Import
Click to import a text file.

Export
Click to export the data as a text file.

Selecting configured printers

Once printers are added in the UTS Printer Manager, you can assign printers to one of three screen DIDs.

1. In the UTS Terminal Configuration Settings dialog, open the desired screen.
2. Click the **Screen Settings** tab.
3. Click **Configure Printers**.

   The Select Configured Printers dialog opens.
4. From the following drop-down menus, select the desired printers.
   - **Primary Printer (DID1)**: Select the primary printer.
   - **Alternate Printer (DID2)**: Select an alternate printer.
   - **Alternate Printer (DID3)**: Select an alternate printer.

   To add more printers, click **Manage Printers**. Refer to Adding printers, on page 126 for more information.
5. Click **OK** to close the Select Configured Printers dialog.
6. Click **OK** to close the Edit Screen Settings dialog.
7. Click **Save and Close** to exit the UTS Terminal Configuration Settings dialog.
8. Click **OK** to close the Session Configuration dialog.

Connecting to host sessions

After the session configuration is complete, you can connect to the host system.

From the BlueZone menu bar, click **Session** ® **Connect**.

When connecting to the host, the Session Status Indicator field on the status bar initially displays **Connecting...**, and then it changes to **Connected** when the connection is complete.

For your convenience, the **Session** ® **Connect** menu item changes to **Session** ® **Disconnect** and the **Connect** icon on the BlueZone menu bar changes to the **Disconnect** icon.

Disconnecting from the host session

From the BlueZone menu bar, click **Session** ® **Disconnect**.

Chapter 6: Display interface

File menu

The **File** menu is identical between all display types, expect for BlueZone VT, which contains unique logging and print setup options.

The common options between all displays emulators are:

New
Opens the Define New Connection window so you can create a new session. The session type is the same as the session you are currently working in.

Open
Opens the Open Configuration window where you can browse for a saved configuration.

Save
Saves the display settings.

Save As
Allows you to save the display settings as a different file name.

Open Session
Opens a new session. If you are currently working in S1, an S2 session opens.

Close All Sessions
Closes all of the open sessions.

Exit
Exits the current session.

The following topics describe the other options from the **File** menu and the unique BlueZone VT settings in greater detail.

File properties

The File Properties window controls BlueZone's operating parameters. From the BlueZone menu bar, click **File** ® **Properties**. The File Properties window opens. It contains the **Program**, **Title Bar**, **Auto-Launch**, **Profile Schemes**, and **Options** tabs.

Program tab

Session Description
This is an optional field. Enter a unique session description. This description displays in the window title bar, after the program and connection names. The session description can help to identify a session when multiple sessions are active.

Main Window Always on Top
If selected, the BlueZone program window always remains above all non-topmost windows.

Minimize Window on Startup
If selected, BlueZone runs minimized on startup. This can be used when using BlueZone in conjunction with WinJa or JWalk.

The following items are read-only:

Command-Line Switches
Displays any command line parameters used when launching the session.

Program Group
Displays the BlueZone program group. For example, **BlueZone 6.1**.

Installation Directory
Displays the BlueZone installation directory.

Working Directory
Displays the BlueZone working directory.

Preferred Connection Type
Displays the BlueZone preferred connection type. The preferred connection type is used to determine how BlueZone connects to the host system the first time a session is launched.

Global Configuration Lock
If selected, the global configuration lock option is active.

Session Configuration Lock
If selected, the session configuration lock option is active.

The following items are selectable by the user:

Enable Password Vault
By default, BlueZone PasswordVault is disabled. To enable it, select the check box. This option is not available in BlueZone VT.

Use the Consolidated Settings Viewer
If selected, all of the properties, options, and configuration windows contain a left navigation pane. The Settings Viewer allows you to easily navigate and set multiple options through one window.

Title Bar tab

This group is used to configure the text that displays on the BlueZone title bar. By default, the Session Identifier, Profile Name, Session Description, and Program Name are displayed on the BlueZone title bar. You have the option of turning off these items or you can create you own custom title bar by using the desired variable (%1, %2, %3 and so on) in the **Display Custom Title Bar** field:

Session Identifier (%1)
If selected, the standard BlueZone session identifier is displayed on the title bar. For example, S1, S2, S3 and so on.

HLLAPI Short Name (%2)
If selected, the standard BlueZone HLLAPI short name session identifier is displayed on the title bar.

Profile Name (%3)
If selected, the name of the current BlueZone profile that was used to launch this session is displayed on the title bar.

Session Description (%4)
If selected, the value of the **Session Description** field located on the **Program** tab (see Program tab, on page 131 above) is used, unless the **Use Connection Name as Session Description** check box located on the **Connections** tab (**Session** ® **Configure** ® **Properties** from the BlueZone menu bar), is checked. Then the connection name that was used to create the session is displayed on the title bar.

Connection Name (%6)

If selected, the value of the **Connection Name** field located on the **Connections ® Edit Connection** dialog is displayed on the title bar.

Note

If the **Use Connection Name as Session Description** check box located on the **Connections** tab (**Session ® Configure ® Properties** from the BlueZone menu bar), is checked, the connection name is displayed twice on the title bar.

Program Name (%5)

If enabled, the standard BlueZone program name is displayed on the title bar. For example, BlueZone Mainframe Display, BlueZone iSeries Display, and so on.

Separator

Type a character to be used to separate the above values. Spaces are valid separators and can be used in conjunction with other characters. The default separator is " - " (space hyphen space).

Display Custom TitleBar

If enabled, any text in this field is displayed on the title bar instead of the selected values above. This feature overrides any of the above options. Also, you can build a custom title bar in any order you want by placing the desired variable values (%1, %2, %3, and so on) in the field in the order in which you want them to appear on the title bar. You can also mix in your own text as well.

For example, if you want the Session Description followed by the Session Identifier followed by the words "Claims Application" to display in the title bar, type the following in this field:
`%4 - %1 - Claims Application`

CAUTION

If the Display Custom Title Bar check box is selected and the field is left blank, the result is a blank title bar.

Display Custom Icon

If you would like to change the icon that displays on the BlueZone title bar, select this check box and browse to the location where the desired icon is located. We suggest keeping the icon in a predicable location like the BlueZone installation directory.

Auto-Launch tab

Run Sessions on Startup

This group is used to configure up to four additional BlueZone sessions to launch along with this session. This feature can be used to launch a BlueZone Printer session along with a BlueZone Display session.

To launch an additional session or sessions:

1. Select a check box.
2. From the **Session Type** menu, select the session type:
   - **Mainframe Display**
   - **Mainframe Printer**
   - **iSeries Display**
   - **iSeries Printer**
   - **VT Display**
   - **TCP/IP Print Server**
   - **UTS Display**
   - **T27 Display**
   - **ICL Display**
3. **Optional**: Type any command line switches.

The next time that you open this BlueZone Display session, any additional sessions that have been configured, will automatically open at the same time.

Run Program on Connect

This group is used to launch and run external programs when BlueZone makes a host connection:

- **Launch the WinJa (TM) Windows Client on Connect**: If selected, the WinJa (or JWalk) client launches as soon as BlueZone makes the host connection.
  - **Switches**: Specifies any additional program command line parameters when launching.
- **Run Custom Command**: If selected, you can specify an external program to launch when BlueZone makes the host connection.
  - **Browse**: Click to locate the external program.

Profile Schemes tab

The profile schemes feature is covered in detail in the Configuration Management section. Refer to Profile schemes, on page 24 for more information.

Options tab

Save

- **Ask to save configuration settings on exit**: If selected, the user is prompted whether or not to save the configuration settings on program shutdown.
- **Always save configuration settings on exit**: If selected, the configuration settings are always saved on program shutdown.
- **Do not save configuration settings on exit**: If selected, the configuration settings are not saved on program shutdown.
- **Auto-Backup settings in Profile Mode**: If selected, a backup of the configuration file is automatically saved whenever a change is made.

Open/Save As

- **File Description**: This field configures the text that displays in the Common File window, describing the type of files to list.
- **Default Extension**: Limits the initial list for the Common File window, the extension is limited to three characters.
- **Profile Format**: Select the format of the configuration file: **Binary** or **Text**. If you select **Text**, you can edit the configuration file in any text editor.

Open/Close All Sessions

- **Enable Opening of New Sessions**: Controls whether or not this session can be used to start additional sessions.
- **Prompt before Closing All Sessions**: If selected, the user is prompted before closing all sessions.
- **Display Profile List when Opening Sessions**: If selected, you are prompted with a list of available configuration files to choose from when opening sessions.

Print setup

The Print Setup property page displays the currently configured printer and page settings. These parameters determine what happens when a user invokes BlueZone's Copy to Printer function under the **Edit** menu. This feature is commonly referred to as Print Screen.

To configure the behavior of BlueZone screen printing, go to the BlueZone menu bar, and click **File** ® **Print Setup**. The Print Setup property page displays the **Printer/Page**, **Font**, and **Options** tabs.

Refer to Copying text to the printer, on page 152 for more information.

Printer/Page tab

Printer

- **Device Name**: Name of the currently selected printer.
- **Location**: Displays the destination port name for print output.
- **Always use Windows Default Printer on Startup**: If enabled, your Windows Default Printer is automatically selected when you launch the BlueZone session.
- **Change Printer**: Click to change the printer displayed in the Printer group on this page. A standard Windows Printer Selection dialog displays. All available printers are displayed in the drop-down list box. You can also access the printer Properties from the Printer Selection dialog. The available properties varies depending on the selected printer.

Page

- **Paper Size**: Displays the currently configured paper size.
- **Orientation**: Paper orientation currently configured, options include either Portrait or Landscape settings.
- **Margins**: Displays the currently configured paper margins.
- **Page Setup**: Click to change the page settings displayed in the Page group on this page. A standard Windows Page Setup dialog displays.

Note

When a BlueZone Display session is first invoked, it uses the printer and page settings of the default Windows system printer. To change any of the Page or Printer settings, click **Page Setup** or **Change Printer** to open the available page and printer options.

Font tab

The Printer Font property page displays the currently configured printer font. These parameters determine what happens when a user invokes BlueZone's Copy to Printer function under the **Edit** menu.

Font Selection

- **Name**: Displays the printer font name.
- **Style**: Shows the currently selected printer font style.
- **Size**: Displays the printer font size.
- **Change**: Click to change any of the configuration items displayed.
- **Auto-Size Font to Fit the Paper Size**: If enabled, the font size is automatically calculated based on the margin settings, paper size, and host screen model type.

Character Set

Print in Unicode: Generally, this check box can be left unchecked unless you are printing in Arabic.

Refer to Bidirectional language support, on page 178 for more information on configuring BlueZone for Arabic language support.

Print Color

Print in Color: If enabled, screen prints are in the same color as they appear on the screen, except white is printed as black.

Options tab

The Printer Options property page displays the currently configured printer options. These parameters determine what happens when a user invokes BlueZone's Copy to Printer function under the **Edit** menu.

Page

- **Header**: Used to enter a customizable page header that prints at the top of each page. The Page Header also supports the following optional variables:
  - **%1**: Computer Name - Computer Name configured in Windows
  - **%2**: User Name - Windows Logon Account Name
  - **%3**: Date Time - Time HH:MM:SS, Day of Week, Month, Day, Year Format

  To use this feature, simply place the desired variable(s) in the Header Field along with any other text.

  Note

  If your top margin setting is zero or very small, the contents of the Page Header may be placed behind and over written by the main body text. To rectify this problem, increase the size of your top margin so that the main body text will start further down on the page.

- **Append Date and Time to Header**: If enabled, the current date and time is printed in the page header.
- **Number of Copies**: Used to set the number of copies to print. This setting overrides the print driver setting in Windows but does not affect the way other applications print.

Printer Line Wrap

Wrap Text at Right Margin: If enabled, any text exceeding the Right Margin of the page is printed on the following line.

Orientation

Auto-Set to Portrait / Landscape Based on Model Type: If enabled, the page orientation is automatically set based on the host screen model type. Models 2, 3, and 4 are set to Portrait; Models 5 and 3290 are set to Landscape.

Print Options

- **Display Print Dialog before each Print Job**: If enabled, the standard Windows Print dialog displays before BlueZone sends any print data to the printer. If not enabled, BlueZone sends any print data directly to the printer that is currently defined in the Print Setup dialog.
- **Suspend Print Area Functionality**: If enabled, the Print Area Feature is turned off. Refer to Configuring the print area feature, on page 139 for more information.

Passthrough tab

Passthrough Options

- **Send All Data Directly to Printer**: If enabled, print data is sent directly to the printer, bypassing the printer driver.
- **Send Form Feed after Printing**: If enabled, a form feed is sent to the printer, after the Copy to Printer operation.

Print Area tab

This dialog is used to configure the Print Area feature.

Refer to Configuring the print area feature, on page 139 for more information.

Print Area Definitions

- **Add**: Click to create a new Print Area Definition.
- **Remove**: Click to remove an existing Print Area Definition.

Screen Identification

This section is used to identify the desired screens that you want to be part of the Print Area definition.

All Screens

- **Search for Text**: Enter a text string that displays on every screen like the title of the page.
- **Appearing on Row**: Enter the Row number on which this text displays.

First Screen

- **Search for Text**: Enter a text string that displays on the first page.
- **Appearing on Row**: Enter the Row number on which this text displays.

Last Screen

- **Search for Text**: Enter a text string that is only found on the last screen like "End of File" or "Bottom of Data".
- **Appearing on Row**: Enter the Row number on which this text displays.

Note

If you are using something like "End of File" or "Bottom of Data", that might not land on a predicable row, enter a 0 for Row number. This tells BlueZone to look for this text anywhere on the screen.

Print Range

This is where you set the exact location on the host screen where you want the print capture to start from and end. This feature is designed so that you only have to print the screen data. You can eliminate things like column headings, row numbers and the control keys that are usually displayed at the bottom of every screen.

First Screen

- **Start Row, Column**: Enter the row and column that represents the start of the capture. You can include column headings on this screen.
- **End Row, Column**: Enter the row and column that represents the end for the capture.

Remaining Screens

- **Start Row, Column**: Enter the row and column that represents the start of the capture. You can eliminate the column heading on these screens.
- **End Row, Column**: Enter the row and column that represents the end for the capture.

Page Keys

The Page Keys are used by the Print Area feature to send Page Ups and Page Downs as needed to capture all the screen data.

- **Up**: Used to define the Function Key used to invoke a Page Up
- **Down**: Used to define the Function Key used to invoke a Page Down

Refer to Configuring the print area feature, on page 139 for more information.

Printing the current screen

The BlueZone Display emulator also has the ability to print the current screen.

Click **File** ® **Print Screen** from the BlueZone menu bar or click the **Print Screen** icon from the BlueZone toolbar.

Printing multiple screens

The BlueZone Display emulator also has the ability to print multiple screens.

1. From the BlueZone menu bar, click **File** ® **Print Multiple Screens**.
2. Move focus back to the BlueZone Display emulator, and navigate to the first screen that you want to print.
3. In the Print Multiple Screens window, click the **Capture Screen** icon.

   The screen capture is added to the Capture List.
4. Go back to the BlueZone Display emulator (the emulator retains focus), and navigate to the next screen that you want to print.
5. Click the **Capture Screen** icon again.

   The screen image is added to the Capture List.
6. If you want to remove the screens from the Capture List after printing, select the **Capture List to Auto-Clear** check box. If you do not to remove the screens in the Capture List, clear the check box.
7. When all of the screens are captured, perform one of the following options:
   - Click the **Print Screens** icon to send the screen capture to your printer.
   - Click the **Print to File** icon to send the screen capture to a text file.
   - Click the **Mail Recipient** icon to send the screen capture to an e-mail with the captured text as the message.

- Click the **Mail Recipient (as Attachment)** icon to send the screen capture to an e-mail with the captured text as an attachment.

8. To delete a screen capture, highlight the screen capture from the list, and click the **Delete Item from List** icon.

Options

There are several options associated with this feature. To display the options, click **Options** on the Print Multiple Screens window.

Print Options

- **Host Screen Per Page**: Set the number of host screen captures you want the printer to print on each page.
- **Print Setup**: Click to open the Print Setup window. Refer to Print setup, on page 135 for more information on these settings.

Close Options

- **Auto-Close after Printing**: If checked, the Print Multiple Screens dialog automatically closes when the screen capture is sent to the printer.
- **Prompt when Closing**: If checked, BlueZone prompts you before closing the Print Multiple Screens dialog.

Print to File Options

- **Prompt for File Name**: If checked, BlueZone prompts you for the file name to use.
- **Filename**: Use this edit box to store the name of the file name including the path.
  - **Browse**: Click to browse to an existing file name.
- **Overwrite File Data**: If selected, BlueZone overwrites the data in the currently specified file in the Filename edit box above.
- **Append Date to File**: If selected, BlueZone appends the screen capture to the data in the currently specified file in the Filename edit box above.

Configuring the print area feature

This dialog is used to configure the print area feature. Print area is a very powerful feature that allows you to create and store definitions that uniquely identify multiple screens of data so that these screens can be automatically printed out in a semi-custom report like format.

When you are not using the print area feature, invoking the Print Screen command results in the current screen being printed. However, if you are using the print area feature, and the current screen meets the criteria of an exiting print area definition, invoking the Print Screen command results in the printing of the defined screen data even if the data exists on multiple screens.

To turn off or suspend this feature, from the menu bar, click **File** ® **Print Setup** and click the **Options** tab. Enable the **Suspend Print Area Functionality** check box.

For example, you want to print the results of a multiple screen query in an easy to read continuous format without having to manually navigate to each screen.

1. Click **Add** to create a new Print Area Definition.
2. Run the query and choose text strings to be used as the screen identifiers. This is accomplished by looking at your screen data and entering the a text string along with row numbers where the text string resides on the screen. All three Screen Identifiers are required:
   - **All Screens**: (Required) Type a text string that displays on every screen like the title of the page.
   - **First Screen**: (Required) Type a text string that displays on the first screen of the query.

- **Last Screen**: (Required) Type a text string that displays on the last screen of the query like "End of File", and so on.

Note

If you are using something like "End of File" or "Bottom of Data" as the Last Screen identifier, enter a 0 (zero) for Row number since it is likely that this text does not always land on the same line number. Using a 0 signals BlueZone to look for this text anywhere on the last screen.

3. Set up the Print Range. This feature allows you to eliminate undesired or repeated text from the printout.
   - **First Screen**: Type the Row and Column where you want the print capture to start and the Row and Column where you want the print to end on the first screen. You may want to include the column headings on the first screen to make the report easier to read. Also, if there are control keys at the bottom of the screen, you may want to eliminate them from the printout.
   - **Remaining Screens**: Type the Row and Column where you want the print capture to start and the Row and Column where you want the print to end on all the remaining screens. On the remaining screens, you probably don't want to include the column headings. Also, as above, if there are control keys at the bottom of the screen, you may want to eliminate them from the printout.
4. Verify that the function keys used for Page Up and Page Down are correct.

To test, invoke the BlueZone Print Screen command, click **File** ® **Print Screen** from the menu bar.

Keep in mind that once the Print Area definition has been created, you don't have to do anything special to "turn on" this feature. All you have to do is navigate to the screen that applies to this definition, and invoke the Print Screen command.

BlueZone VT host access print setup

There are four types of printing:

- **Windows API**: Choose this setting when you want to control the formatting of the print job.
- **Passthrough**: Choose this setting when you want to "pass" all the formatting contained in the print job "through" to the printer without BlueZone having any affect on the print job.
- **Passthrough using a Printer Definition**: Choose this setting when you need BlueZone to convert host commands to escape sequences so that the print job will print properly on modern printers.
- **Print to a File**: This setting is used to direct the print job output to a file rather than to an actual printer.

Customizing the print settings

All of the settings that control how the print job is interpreted as it is sent from the host, and how it is formatted when sent the to the printer are located in the Print Setup property sheet. From the BlueZone menu bar, click **File** ® **Print Setup**.

The Print Setup property sheet opens displaying the **Printer**, **Page**, **Layout**, **Font**, **Options**, and **Print to File** tabs depending on which Method of Printing is selected on the Printer tab.

Printer settings

Printer tab

Printer

Displays and sets information about the Windows printer on which the host print jobs will be printed:

- **Device Name**: Displays the name of the currently defined Windows printer. (display only field)
- **Output Port**: Displays the port that is being used by the above printer. (display only field)
- **Always use Windows Default Printer on Startup**: If checked, BlueZone automatically uses the Windows default printer upon startup.
- **Change Printer**: Click to change the current printer shown in the Device Name window above.
- **Printer Info**: Click to display detailed information about the currently selected printer.

Method of Printing

- **Windows API**: When this option is selected, the settings on the Page tab, Layout tab, Fonts tab, and Options tab are the settings that control print output. In other words, the BlueZone application interfaces with the Windows print driver to control the print output. This option gives you complete control over print output.
- **Passthrough - Send All Data Directly to the Printer**: If checked, BlueZone bypasses the Windows print driver and sends the data directly to the printer. Note that selecting this option causes the Page tab, Layout tab, Fonts tab and Options tab to disappear because all printer controls are contained in the data steam of the print job.
- **Passthrough using Printer Definition - Convert Host Commands to Escapes**: Selecting this option, allows direct control of the printer by the printer emulator. Host SCS printer control information is converted to ASCII printer escape sequences contained in the supplied Printer Definition File. Note that selecting this option causes the Fonts tab to disappear.
  - **Printer Definition**: Displays the currently selected printer definition. This is automatically selected using the closest match to the name of the selected Windows printer. If necessary, select a printer or printer family that is close to the target printer. A small subset of ASCII escape sequences are supported because only a limited set of functions are available in the SCS data stream.
- **Print to File - Redirect Print output to File**: Check to enable the print to file feature. Note that selecting this option causes only the Print to File tab to appear.
- **Suppress Form Feed at End of Job**: If checked, BlueZone eliminates the form feed sent by the host to prevent the printing of an extra blank page at the end of the print job.

Tip

When using the "Always Use Default Windows Printer on Startup" feature, edit printer names in the Printer Definition File for the known target printers to automatically match the printer definition file to the printer.

Tip

When printing preprinted forms or specially formatted print jobs, use pass-through printing and a printer definition file. This ensures that font selections which are not scaled, but are exactly the proper pitch and line density.

Printer Selection

Display Print Dialog before each Print Job: If selected, the standard Windows Print dialog opens before BlueZone sends the data to the printer. If cleared, BlueZone sends the data directly to the printer.

Printer Spool Wait Time

Set a a delay, in seconds, at the end of a print job to make sure that all of the data has indeed been received by the printer.

Page settings

Page tab

Page Settings

Sets and displays the page size and margins:

- **Paper Size**: This box displays the currently selected paper size. (display only field)
- **Page Setup**: Click to change the paper size, margins, orientation and source.
- **Specify Custom Paper Size**: If checked, a dialog launches that allows you to specify the exact width, length and preferred unit of measure (inches or millimeters). Use this to set a paper size not available in the standard Windows dialogs. This is useful when printing custom forms like checks and invoices.
- **Orientation**: Indicates the currently selected page orientation. (display only field) This value can be overridden by the **Auto-Switch to Portrait/Landscape Based on CPL** check box.
- **Auto-Switch to Portrait/Landscape Based on CPL**: If checked, BlueZone switches the page orientation to landscape if the characters per line exceeds 100 characters.
- **Margins**: These radio buttons set the margin command sent to the printer. Minimum is the default and contains the values returned to the printer emulator by the printer driver.

  Note

  If the host does not send a value that corresponds with a setting in this dialog, the dialog value is used.

Layout settings

Layout tab

Spacing

Spacing settings are used for two purposes: during LU1 print jobs to tell the emulation when to insert form feeds and during font auto-sizing to instruct the printer emulator how to scale the font to fit the page:

- **Lines Per Page**: Tells the emulation or font auto-sizing how long the page is in lines.
- **Lines Per Inch**: Sets the number of lines per inch to set for the printed output if not specified by the host or overridden by the user.
- **Characters Per Line**: Sets the maximum characters printed on a line before the emulator inserts a carriage return/line feed.
- **Characters Per Inch**: Sets font size based on characters per inch.

  Note

  Characters per inch combined with lines per inch determines how many characters will fit on a line and how many lines to a printed page.

- **Double Space Lines**: If checked, BlueZone double spaces between lines when printing.

Presentation

- **Print Quality**: Select Draft mode or Near Letter Quality mode when in Pass Through Mode using a printer definition file that supports draft or NLQ modes.
- **Duplex Mode**: Select to control single or double-sided printing. Only works in Windows API mode.

Print Scaling

- **Scale Factor**: This edit box allows enlarging or reducing the printed output by the selected percentage. Only works in Windows API mode.
- **Auto-Size Fonts to fit the Paper Size**: If checked, BlueZone fits the font to the page based on the spacing settings set by the host or set by the emulator.
- **Scale Fonts to Closest Point Size**: This feature is useful when auto-sizing fonts yields different font sizes for normal and bold text.

Tip

In Windows API mode, the auto-size font option scales to fit the page exactly. In Pass through mode, a printer definition file is required, and will scale to the nearest fixed font size supported by the printer.

Font settings

Font tab

The Fonts settings are used to set the default font used by Windows. This function only works in Windows API mode.

Font Selection

- **Name**: Displays the selected font.
- **Style**: Displays the selected font style.
- **Change**: Use this button to change the font.

Optional settings

Options tab

Printer Line/Page Wrap

- **Wrap Text at Right Margin to Next Line**: Check box prints any text exceeding the page width on the next line.
- **Wrap Text at Bottom Margin to Next Page**: Check box prints any text exceeding the page length on the next page.

Form Feed

- **Soft - Form Feed by Sending Multiple Line Feeds**: If selected, sends form feeds by sending multiple line feeds to reach the end of the page.
- **Standard - Form Feed by Instructing Driver to End Page**: If selected, instructs the printer or Window print driver to end the page.

Text Styles

Use Upper and Lower Case Characters: If checked, allows dual case printing. When disabled, upper case characters only are printed.

Page Options

- **Page Header**: Type text here to print a custom header on each printed page. The Page Header also supports the following optional variables:
  - **%1**: Computer Name - Computer Name configured in Windows

- **%2**: User Name - Windows Logon Account Name
- **%3**: Date Time - Time HH:MM:SS, Day of Week, Month, Day, Year Format

To use this feature, simply place the desired variable(s) in the Header Field along with any other text.

Note

If your top margin setting is zero or very small, the contents of the Page Header may be placed behind and over written by the main body text. To rectify this problem, increase the size of your top margin so that the main body text will start further down on the page.

- **Append Date and Time to Header**: If checked, BlueZone enters the current date and time to the custom header.
- **Number of Copies**: Overrides the number of copies setting in the Windows Print driver.

Print to file settings

Print to File tab

Printer output can be redirected to a file. This can be useful when sending print jobs to shared directories to be viewed in a text editor rather than using paper to print multiple copies. This tab is only available if you select the **Print to File - Redirect Print Output to File** check box in the **Printer** tab.

Options

- **Output Filename**: If selected, allows the user to enter a target file name in the adjacent edit box.
- **Prompt for Filename**: If selected, prompts the user for a target file name when the job is printed.
- **Base Output File Name**: If selected, BlueZone automatically creates target file names based on the base name entered in the adjacent edit box.
- **Output Directory**: Displays the destination name for print output.
  - **Browse**: Click to specify the directory and path where the print files are to be written.
- **Append Data to File**: If checked, BlueZone appends new print data to the end of the specified file rather than overwriting it.

BlueZone VT host access logging

You can capture the screen data in a log file. This log file can be sent to a printer or saved to a specific location and viewed later in a text editor.

To configure your logging options, click **File** ® **Logging**.

Enable Logging

Select to enable the logging feature.

Direct to

This group defines where the log is directed. There are the following three options:

- **Printer**: Sends the log file to the defined printer.
  - **Change Printer**: Click to change the default printer.
- **File**: Saves the log file to the defined location.
  - **Browse**: Click to change the location where the log file is saved.
- **Serial**: Redirects the output to serial device/port. You cannot configure this option through this dialog and it is disabled. To enable the Serial option, you must configure the

Host Automation Object. Refer to the *BlueZone Advanced Automation Developer's Guide* for more information.

- **Change**: Click to change the serial device/port where the log is directed.

After you configure the logging options, you can start logging. From the BlueZone menu bar, click **File** ® **Start Logging**.

When logging is started, the menu bar option changes to **File** ® **Stop Logging**.

When you are finished logging, click **File** ® **Stop Logging**.

Edit menu

The following topics describe the options that are available from the **Edit** menu.

Edit properties – Except BlueZone VT

The Edit Properties window is used to configure the BlueZone copy and paste functionality. From the BlueZone menu bar, click **Edit** ® **Properties**. The Edit Properties window opens displaying the **General**, **Copy to Clipboard**, **Copy to File**, **Copy to Printer**, and **Paste from Clipboard** tabs.

This dialog does not apply to BlueZone VT.

General tab

Options

- **Use a Rectangle to show Selected Text**: If enabled, a rectangular outline is drawn around selected text. You cannot control the color used to create the outline.
- **Use Colors to show Selected Text**: If enabled, a solid color box is drawn around selected text. The box is shown using the configured foreground (character color) and background colors.
  - **Foreground Color**: Displays the currently configured foreground color.
    - **Customize**: Click to choose a new foreground color.
  - **Background Color**: Displays the currently configured background color.
    - **Customize**: Click to choose a new background color.
- **Auto-Deselect after Copy**: If enabled, the selected text is automatically deselected after the copy operation is complete.
- **Enable Drag Drop Copy Paste**: If enabled, selected text can be dragged to another portion of the screen by dragging and dropping to text in desired location.
  - **Drag Color**: The "Drag Color" is the color of the selected text while it is being dragged. The pasted text reverts to its original color after the user releases the mouse button to paste the screen selection.
    - **Customize**: Click to choose a new drag color.
- **Auto-Copy Mouse Selections**: If enabled, BlueZone auto-copies to the clipboard after a mouse edit selection.
- **Insert CR/LF character when Appending**: If enabled, data appended to the clipboard starts on a new line.

Edit Prompting

- **Prompt for Filename before each Copy To File operation**: If enabled, and **Edit** ® **Copy to File** is selected, the Common File dialog displays for output file name selection.

- **Prompt for Paste Options before each Paste operation**: If enabled, BlueZone invokes the Paste Options dialog before each **Edit** ® **Paste** operation.

Copy to Clipboard tab

Copy Options

The Copy Options group is used to configure how text from the display session is copied to the clipboard:

- **Copy "screen shots" to the Clipboard (if no selection)**: If enabled, and no text is selected on the screen, the entire host screen text is copied to the Clipboard on Copy to Clipboard operations. If a portion of the screen is selected, then only the text in the selected area is copied to the Clipboard on Copy to Clipboard operations.

  Note

  When this option is selected, the **Auto-Screen Shots** option (see below) becomes available.

- **Copy Selected Text Only**: If selected, only the highlighted host screen text is copied to the Clipboard on Copy to Clipboard operations.
  - **Auto- "screen shots"**: If enabled, BlueZone auto-screen copies each time an AID-Key is entered. An AID-Key is any key that sends data to the host.
    Selecting this option also enables the Clipboard Options on the bottom half of the dialog.
- **Only Copy Text from Input Fields**: If enabled, only copy text from unprotected input fields on Copy to Clipboard operations.
- **Copy with Columns Aligned**: If enabled, this option keeps column alignment on all Copy to Clipboard operations. If column alignment is enabled, then any non-copy cells are padded with spaces.

  Note

  The Copy with Columns Aligned option must be enabled for Paste with Column Alignment to function properly with text placed on the Clipboard using Copy to Clipboard.

- **Cell Delimited Pasting for Spreadsheet Paste**: If enabled, BlueZone copies screen data to clipboard for spreadsheet applications.
  - **Delineate on Word Boundaries**: Select this option to Delineate on Word Boundaries.
  - **Delineate on Field Boundaries**: Select this option to Delineate on Field Boundaries.
- **Include Bitmap Image of Selection**: If enabled, BlueZone copies the selected data as a bitmap image instead of individual characters. The bitmap copy is in addition to the already copied ANSI or Unicode text.
- **Compress Data on Cut**: If enabled, cut data is replaced with data farther to the right. This only works, in user typeable fields. Protected data within the selection box is not effected. With this option cleared, cut operates as before, where the data is replaced with nulls.
  - **Cut Filler**: Used to specify whether Cut text is replaced with Nulls or Spaces.

Clipboard Options

The Clipboard Options group is used to configure additional Copy to Clipboard options:

- **Auto-"screen shots" Overwrite Clipboard Data**: If enabled, auto-screen copies overwrite any data on the Clipboard.
- **Auto-"screen shots" Append Data to Clipboard**: If enabled, auto-screen copies are appended to any data on the Clipboard.

Copy to File tab

Copy Options

- **Copy “screen shots” to Disk**: If enabled, entire host screen text is copied to the Clipboard on Copy to File operations.
  - **Auto-"screen shots"**: If enabled, BlueZone auto-copies screen shots to file each time the user presses a Attention Identifier(AID) key. Enabling this option disables the Prompt for file name before each Copy option on the bottom half of this dialog.
- **Copy Selected Text Only**: If enabled, only the highlighted host screen text is copied to the Clipboard on Copy to File operations.
- **Only Copy Text from Input Fields**: Enable this option to copy text from unprotected input fields on Copy to File operations.
- **Copy with Columns Aligned**: Use this option to keep column alignment on all Copy to File operations. If column alignment is enabled, then any non-copy cells are padded with spaces.

File Options

- **Prompt for Filename before each Copy**: If enabled, the Common File dialog is displayed for the user to select a file before each Copy To File operation. This option is disabled if Auto-"screen shots" is enabled on the top half of this dialog.
  - **Default Output Filename**: Used to enter a default file name to be used in all Copy to File operations.
- **Overwrite File Data**: If enabled, the output file is overwritten on each Copy to File operation.
- **Append Data to File**: If enabled, text is appended to the end of the output file on each Copy to File operation.

Copy to Printer tab

Copy Options

- **Copy “screen shots” to the Printer**: If enabled, entire host screen text is copied to the printer on Copy to Printer operations.
- **Copy Selected Text Only**: If enabled, only the highlighted host screen text is copied to the printer on Copy to Printer instances.
- **Only Copy Text from Input Fields**: Enable this option for copying text from unprotected input fields on Copy to Printer operations.
- **Copy with Columns Aligned**: Use this option to keep column alignment on all Copy to Printer operations. If column alignment is enabled then any non-copy cells will be padded with spaces.

Note

The desired printer can be controlled by selecting **File** ® **Print Setup** from the menu bar.

Refer to Print setup, on page 135 for more configuration options.

Paste from Clipboard tab

Paste Options

The Paste Options group is used to configure how text from the clipboard is pasted into the display session window:

- **Straight Paste with Wrapping**: When enabled, the text from the clipboard is pasted as if the user were typing each character on the keyboard.

- **Paste with Columns Aligned**: With this option enabled, text from the clipboard is pasted keeping the columns aligned between rows of text. For correct operation, text being pasted with this option enabled must have been copied to the clipboard with the Copy to Clipboard with Columns Aligned option enabled.
- **Paste using Field Delimiters**: If enabled, text from the clipboard is pasted using the configured field delimiter string. This option is used to paste database records from the clipboard into the host screen. Each field delimiter string encountered in the text causes a field advance operation in the host screen.
- **Word Wrap**: If enabled, BlueZone (when pasting) auto-wraps words to the next row when the complete word does not fit on the current row.
- **Move Cursor**: If enabled, BlueZone moves the cursor after edit / paste operations. If selected, BlueZone moves the cursor to the end of the pasted text after the paste is complete. When cleared, the cursor stays at the paste origin.
- **Treat Tabs as Spaces**: If enabled, BlueZone pastes a space character when encountering a Tab in the paste data.
  - **Number of Spaces Listbox**: Used to control the number of spaces that are pasted when the Treat Tabs as Spaces check box is enabled.
- **Stop Pasting when Protected Row Encountered**: If enabled, when pasting into a BlueZone session, the paste function stops when it encounters a protected row.

  Note

  This feature only works with **Paste with Columns Aligned** and **Paste using Field Delimiters**.

- **Paste Range**: Number of Paste-Protected Rows Starting from Bottom of Screen. Check this box and enter the number of Paste-Protected Rows in the list box.
- **Erase EOF after Paste**: If selected and **Straight Paste with Wrapping** or **Paste with Columns Aligned** is selected, the current field is cleared to the end of the paste operation. If selected and **Paste with Columns Aligned** is selected, it also clears the remainder of each field when it reaches the right column of the paste area.
  This option is only active when not in insert mode.

Continue Paste tab

Continue Paste

The Continue Paste group is used to configure Paste operations when the Clipboard buffer contains more data than will fit into the host screen:

- **Enable Continue Paste**: When pasting data into a BlueZone session, if the amount of data in the clipboard is greater than the screen that you are pasting into, using the Enable Continue Paste feature allows you to be able to page down and continue pasting data until all the data is pasted.
- **Auto Send Function Key**: If enabled then BlueZone auto-sends the specified function key when the clipboard buffer contains more data than will fit into the host screen.
  - **Drop-Down List**: Used to specify a function key to auto-send when the clipboard buffer contains more data than fits into the host screen.
- **Auto-Position Cursor in new Host Screen**: If enabled then BlueZone auto-positions the cursor after the new host screen is displayed.
  - **Row**: Used to specify the row number for auto-positioning of the cursor after the new host screen is displayed.
  - **Column**: Used to specify the column number for auto-positioning of the cursor after the new host screen is displayed.
- **Auto-Paste Continued Text into New Host Screen**: If enabled then BlueZone auto-pastes the continued data into the new host screen.

Edit properties - BlueZone VT

The Edit Properties window is used to configure the BlueZone VT copy and paste functionality. From the BlueZone VT menu bar, click **Edit** ® **Properties**. The Edit Properties dialog opens displaying the **General**, **Copy to Clipboard**, **Copy to File**, **Copy to Printer**, and **Paste from Clipboard** tabs.

General tab

Options

- **Use a Rectangle to show Selected Text**: If enabled, a rectangle is drawn when showing any selected text.
- **Use Colors to show Selected Text**: If enabled, selected text is shown using the configured foreground and background colors.
  - **Foreground Color**: Displays the currently configured foreground color.
    - **Customize**: Click to choose a new foreground color.
  - **Background Color**: Displays the currently configured background color.
    - **Customize**: Click to choose a new background color.
- **Auto-Deselect after Copy**: If selected, the text selection is automatically deselected after the copy operation is complete.

Copy to Clipboard tab

Copy Options

The Copy Options group is used to configure how text from the display session is copied to the clipboard:

- **Copy “screen shots” to the Clipboard**: If selected, the entire host screen text is copied to the clipboard on Copy to Clipboard operations. This also enables the "Auto-Screen Shots" option to the right.
- **Copy Selected Text Only**: If selected, only the highlighted (selected) host screen text is copied to the Clipboard on Copy to Clipboard operations.
  - **Auto- "screen shots"**: If enabled, BlueZone auto-screen copies each time an AID-Key is entered. An AID-Key is any key that sends data to the host.
    Selecting this option also enables the Clipboard Options on the bottom half of the dialog.
- **Copy Entire Scrollback Buffer**: If selected, the entire Scrollback Buffer is copied to the clipboard on Copy to Clipboard operations.
- **Copy Text as Tab Separated Fields for Spreadsheets**: Select this option to maintain column alignment in all Copy to Clipboard operations.

Clipboard Options

The Clipboard Options group works in conjunction with the Auto "screen shots" feature, and is used to configure additional Copy to Clipboard options:

- **Auto-"screen shots" Overwrite Clipboard Data**: If selected, auto-screen copies overwrite any data on the clipboard.
- **Auto-"screen shots" Append Data to Clipboard**: If selected, auto-screen copies are appended to any data on the clipboard.

Copy to File tab

Copy Options

- **Copy “screen shots” to Disk**: If selected, the entire host screen text is copied to the Default Output File on Copy to File operations.
- **Copy Selected Text Only**: If selected, only the highlighted host screen text is copied to the Default Output File on Copy to File operations.
  - **Auto-"screen shots"**: If selected, BlueZone auto-copies "screen shots" to the Default Output File each time the user presses a Attention Identifier (AID) key.
- **Copy Entire Scrollback Buffer**: If selected, the entire Scrollback Buffer is copied to the Default Output File on Copy to File operations.
- **Copy Text as Tab Separated Fields for Spreadsheets**: Select this option to maintain column alignment in all Copy to File operations.

File Options

- **Prompt for Filename before each Copy**: If selected, the Common File dialog is displayed for the user to select a file name before each Copy To File operation. This option is automatically disabled if Auto-"screen shots" is enabled on the top half of this dialog.
  - **Default Output Filename**: Used to enter a default file name to be used in all Copy to File operations.
- **Overwrite File Data**: If selected, the output file is overwritten on each Copy to File operation.
- **Append Data to File**: If selected, text is appended to the end of the output file on each Copy to File operation.

Copy to Printer tab

Copy Options

- **Copy “screen shots” to the Printer**: If selected, the entire host screen text is copied to the printer on Copy to Printer operations.
- **Copy Selected Text Only**: If selected, only the highlighted host screen text is copied to the printer on Copy to Printer operations.
- **Copy Entire Scrollback Buffer**: If selected, the entire Scrollback Buffer is copied to the printer on Copy to Printer operations.

Note

The printer can be changed by selecting **File** ® **Print Setup** from the menu bar.

Paste from Clipboard tab

Paste Options

Remove formatting data when pasting: If selected, BlueZone strips any formatting like CRs and LFs when pasting text. This feature is useful when you are coping and pasting formatted multi-line text from one field into another of a different size. Without this feature enabled, text can appear to be misaligned.

Use Undo and Redo

In Mainframe, iSeries, T27, and UTS Display sessions, you can undo and redo actions related to the following: mouse cursor movement, emulation cursor and field functions, Edit, Cut and Paste, and user text typing. BlueZone stores up to 32 of the supported actions.

Undo and redo can be accessed through the BlueZone menu bar, under **Edit** ® **Undo** or **Edit** ® **Redo**. In addition, Undo and Redo icons can be added to the BlueZone toolbar.

Refer to BlueZone Mainframe and iSeries toolbars, on page 269 for more information.

Use the Undo command

When a user invokes one of the supported functions mentioned above, the Undo function turns from gray to normal. Also, the Undo function label changes to the last supported function.

For example, if you enter some text on the screen, the Undo function changes to Undo Typing. If you move the cursor to a new location, the Undo function changes to Undo Move Cursor and so on. If you perform many of the above supported functions, the Undo function can undo each item in reverse order.

Use the Redo command

Redo is the opposite of Undo. For example, if you used the Cut function to remove text from a field, and after the text was cut, you thought you made a mistake so you used the Undo function to put the text back. But then you realized that you did not make a mistake after all, you can use the Redo function to Redo the original Cut function which results in the text being removed form the screen.

Cutting text to the clipboard

With BlueZone, users have the ability to remove session text from the display session and paste it onto the Windows clipboard. The clipboard text can then be pasted back into another screen of the display session or into another Windows application. To cut session text to the clipboard:

1. Highlight the desired text.
2. From the BlueZone menu bar, click **Edit** ® **Cut**.
3. To view the text on clipboard, use the Clipboard Viewer application that comes with Windows. To view the text in the correct context ensure the Display, OEM Text option is enabled in the Clipboard Viewer.

Note

When using **Edit** ® **Cut** to remove session text, only unprotected input data is cut to the clipboard. Also, the **Edit** ® **Cut** operation always functions as if Copy with Columns Aligned is enabled.

Copying text to the clipboard

With BlueZone, users have the ability to copy session text from the display session and place it into the Windows clipboard. This clipboard text can then be pasted back into another screen of the display session or into another Windows application.

1. Highlight the desired text.
2. From the BlueZone menu bar, click **Edit** ® **Copy to Clipboard**.
3. To view the text on clipboard, use the Clipboard Viewer application that comes with Windows. To view the text in the correct context ensure the Display, OEM Text option is enabled in the Clipboard Viewer.

Note

What text actually gets copied to the clipboard depends on the configuration settings of the Edit Properties property sheet. Refer to Edit properties – Except BlueZone VT, on page 145 for more information.

Copying text to a file

BlueZone users may copy session text from the display session and write the text to a disk file. To highlight text in the display session for copying to a file:

1. Highlight the desired text or use the keyboard select functions: Left, Up, Right, Down, All.
2. From the BlueZone menu bar, click **Edit** ® **Copy to File**.

Note

What text actually gets copied to a file depends on the configuration settings of the Edit Properties property sheet. Refer to Edit properties – Except BlueZone VT, on page 145 for more information.

Copying text to the printer

With BlueZone, users have the ability to copy session text from the display session and send it to the printer. To highlight text in the display session for copying to the printer:

1. Highlight the desired text or use the keyboard select functions: Left, Up, Right, Down, All.
2. From the BlueZone menu bar, click **Edit** ® **Copy to Printer**.

Note

What text actually gets copied to the printer depends on the configuration settings of the Edit Properties property sheet. Refer to Edit properties – Except BlueZone VT, on page 145 for more information.

Pasting text in display sessions

BlueZone users have the ability to copy text from the Windows clipboard and place it into the host screen of a display session.

1. Place the cursor at the correct starting position on the host screen.
2. From the BlueZone menu bar, click **Edit** ® **Paste** or click the **Paste** icon on the toolbar.

   If there is no text available for pasting, the Paste menu item and button are disabled (grayed).
3. If you attempt to paste more text than there is room for, the following Continue Paste Status dialog opens.

4. This dialog is letting you know that there is more text to be pasted. When this happens, make more space, then click **Edit** ® **Continue Paste** from the menu bar or click the **Paste** icon on the toolbar.

BlueZone continues pasting as much of the text as possible. Keep selecting **Edit** ® **Continue Paste** until all the text is pasted. When there is no more text, the Continue Paste Status dialog closes.

Note

How text is actually pasted into the display session depends on how the text was originally copied to the clipboard and on the configuration settings of the Edit Properties property sheet. Refer to Edit properties – Except BlueZone VT, on page 145 for more information.

Select options

The **Edit** ® **Select** menu options allows you to select an area or word of the current panel, or the entire panel for copying or cutting.

The following options are available:

- **Left**: If this is the first selection, the current position of the cursor is highlighted. Upon subsequent selections, an additional position to the left is highlighted.
- **Up**: If this is the first selection, the current position of the cursor is highlighted. Upon subsequent selections, one line up is highlighted.
- **Right**: If this is the first selection, the current position of the cursor is highlighted. Upon subsequent selections, an additional position to the right is highlighted.
- **Down**: If this is the first selection, the current position of the cursor is highlighted. Upon subsequent selections, one lines down is highlighted.
- **Word**: Highlights the word that is under the cursor.
- **All**: Highlights the entire panel.
- **Cancel**: Clears any selections.

For quick access, you can add the Select icons to the toolbar:

1. Click **View** ® **Properties**.
2. Click **Customize** next to the **Show Menu Buttons** option.
3. In the **Available toolbar buttons** list, double-click the seven Select buttons to move them to the **Current toolbar button** list.
4. Click **Close**.
5. Save the display.

Copying and dragging text

BlueZone users can select session text and then copy it to another location on the screen by dragging the selected text. Make sure that the **Enable Drag Drop Copy Paste** check box is enabled on the Edit Properties **General** tab.

Refer to Edit properties – Except BlueZone VT, on page 145 for more information.

To select text, move your mouse pointer to a place on the screen where you want to start the selection. Click the left mouse button and move the mouse to begin creating a box around the desired text. Release the left mouse button to stop the text selection process.

1. Click on the screen where you want to start the selection process.
2. Drag the cursor over the desired text or use the keyboard select functions: Left, Up, Right, Down, All.
3. Drag the selected text to the desired location on the screen.

   The selected text is copied from the original location and pasted into the desired location.

Note

You can resize the selected area by releasing the left mouse button and placing the mouse over the edge of the outline or the solid color box, and dragging the edge to the new location.

Using BlueZone VT OLE drag-and-drop

BlueZone supports OLE drag-and-drop to and from other Windows OLE compliant applications. For example, you can drag-and-drop text from a BlueZone VT session to a Word document or Excel spreadsheet and vice versa.

No particular configuration is needed to turn on this feature.

1. Open a BlueZone VT Display session.
2. Connect to a host and navigate to the desired screen.
3. Open a Windows application.
4. Locate the text in either the Windows application or the VT or host.
5. Highlight the text.
6. Drag-and-drop the highlighted text to the other application.

Options menu

The **Options** menu contains the following choices:

Display
Opens the Display Options window.

Keyboard
Opens the Keyboard Options window.

Mouse
Opens the Mouse Options window.

Sounds
Opens the Sounds Options window.

API
Opens the API Properties window.

Password Vault
Opens the Password Vault application.

This option is only active if the **Enable Password Vault** check box is selected in the File Properties window. For more information on Password Vault, refer to BlueZone PasswordVault, on page 342.

This option is not included in BlueZone VT.

The options in these windows vary from display to display. The following topics are organized by display type to provide clear information on each type.

IBM Mainframe display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- HotSpots and GUI mode
- Watermark
- Advanced options
- Bidirectional language support

Font tab

The Font tab in Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Font** tab.

Font Selection

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: Click to change any of the features listed above.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: (relative to size of Session Window) When checked, BlueZone auto-sizes the font to the largest font possible while still displaying all the session rows and columns within the session window. How well the auto-size font feature works depends largely on the quality of the font selected.
- **Auto-Size Session Window**: (relative to the Font Size) If checked, and the OK or Apply button is clicked, BlueZone auto-sizes the session window to the smallest window possible, while still displaying all the session rows and columns.
- **Dual Case Characters**: If enabled then both upper and lower case characters are displayed in the session window. If disabled then only upper case characters are displayed in the session window.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters slide control has the keyboard input focus then the Sample group displays a sample of the currently configured blink rate. To get focus, click on the slide control itself.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected, then this setting can affect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected, then this setting can affect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data starts at the extreme edges of the display window. Increasing the size of the border places that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Highlight Zero Character**: Used to choose how BlueZone displays the zero character. In many fonts, its hard to tell the difference between a capital O and the number zero. This feature helps distinguish the number zero from the capital O by adding a dot or a slash to the zero. From the drop-down list box, choices are:
  - **No Highlighting**: Displays the zero character exactly as the currently configured font displays it.
  - **Add Center Dot**: Adds a dot to the center of the zero character.
  - **Add Slash**: Adds a slash to the zero character.
- **Fixed-Aspect Ratio (%)**: When selected along with **Auto-Size Font**, BlueZone keeps the font width proportional to the font height. When **Auto-Size Session Window** is cleared, BlueZone centers the host screen.

Sample

The Sample window is used to show how the currently configured font settings appear in the display session.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. **Small** is essentially an underscore cursor and **Large** is a block cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window is used to show how the currently configured cursor settings appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.
- **Show Cursor Cross-Hair Guide**: If selected, BlueZone displays horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.
- **Auto-Scroll to Cursor**: If selected, and the "Auto Size Font" / "Auto-Size Session Window" options are disabled, BlueZone auto-scrolls the session window to keep the cursor in view.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone Mainframe Display menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Color Scheme

The Color Scheme group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black. Attribute and Extended Colors automatically change to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white. Attribute and Extended Colors automatically change to white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Customize**: Click to change the color of the currently selected item. The colors available are dependent on the display hardware and operating system configuration of the PC.

Background Color

The Background Color group is used to set the background color of the display session.

- **Background**: To change the background color select the Background radio button then select a standard color square or click **Customize** to select a custom color.

Attribute Colors

The Attribute Colors group is used to set the text foreground color based on the associated host field attribute. To change the color, select the color item to change then choose a color square or click **Customize**:

- **Unprotected**: Sets the foreground color of text being displayed in a host unprotected field. To change the color, make the Unprotected radio button active, then choose a standard color square or click **Customize** to select a custom color.
- **Unprotected Bold**: Sets the foreground color of text being displayed in a host unprotected bold field. To change the color, make the Unprotected Bold radio button active, then choose a standard color square or click **Customize** to select a custom color.
- **Protected**: Sets the foreground color of text being displayed in a host protected field. To change the color, make the Protected radio button active, then choose a standard color square or click **Customize** to select a custom color.
- **Protected Bold**: Sets the foreground color of text being displayed in a host unprotected field. To change the color, make the Protected Bold radio button active, then choose a standard color square or click **Customize** to select a custom color.

Extended Colors

The Extended Colors group is used to set the text foreground color based on the attributes of the 3270 Extended Data Stream . In order for these colors to be viewed, the Mainframe must support the 3270 Extended Data Stream with Color Attribute Support. Also, the host application must use these attributes when writing to the display. Choices include: Blue, Red, Pink, Green, Turquoise, Yellow and White.

To change any member of the Extended Colors group select the radio button of the Color you want to change and select a standard color square or click **Customize** to select a custom color.

HotSpots and GUI mode

The GUI tab in the Display Options property sheet is used to configure HotSpots in the Session Window. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **GUI** tab.

GUI tab

HotSpots

The HotSpots Options group is used to enable and configure HotSpots:

- **Enable HotSpots**: If enabled, BlueZone creates HotSpots based on the criteria stored in the Customize dialog. Also, BlueZone creates HotSpots when the following file extensions are found on the screen: `.jpg`, `.bmp`, `.doc`, `.xls`, and `.pdf`. When these HotSpots are clicked, BlueZone sends the file name and path, if provided, to Windows. Windows uses its current file association to launch the correct application.
- **Display HotSpots as Buttons**: If enabled, HotSpots are displayed as buttons in the session window.
- **Use Mouse Pointer and Colors to Show HotSpots**: If enabled then HotSpots are invisible until the cursor is positioned over them. In that case the configured foreground and background colors are used to reveal the HotSpot.
- **Foreground Color**: Used to set the HotSpot foreground color.
- **Background Color**: Used to set the HotSpot background color.
- **Customize**: Click to customize HotSpots functionality. Refer to Customize HotSpots button, on page 159 below for more information.
- **Expand HotSpots to Include Associated Text**: If enabled, then the HotSpot expands to include any associated text. For example, a HotSpot labeled F3 can expand to a HotSpot labeled 'F3=Exit'.
- **Expand HotSpots Across Single Spaces**: If enabled, then the HotSpot expands across single spaces.

  Note

  HotSpots only work in protected fields.

Edit

The Edit group is used to enable or disable the GUI Edit Controls option. This option turns the normal command line into an edit box to emulate a more GUI like user interface. The behavior of the cursor and other edit controls inside an edit box is more like a typical Windows program.

- **Display Unprotected Fields Using GUI Edit Controls**: If enabled, unprotected fields are replaced with GUI edit controls.

  Tip

  This feature is especially useful when the end users are more familiar with Windows applications than with IBM terminal emulation programs.

Auto-GUI On / Off

The Auto-GUI On/Off group is used to select GUI or Green Screen mode.

- **GUI Me and Close**: Used to set the display options to the default GUI settings and close the Display Options dialog box.
- **Green Me and Close**: Used to set the display options to the default non-GUI settings and close the Display Options dialog box.

Customize HotSpots button

Options

The Options group contains controls for the configuration of session HotSpots:

- **Turn "Number" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces in the session window.

- **Turn "Number+Period" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces on the left and a period (.) on the right.
- **Turn "HTTP://" Strings into HotSpots (Auto-Launch Web Browser to URL)**: If enabled, "http://" strings are used to auto-launch the web browser to the designated address.
- **Turn "FILE://" Strings into HotSpots (Auto-Open File)**: If enabled, "file://" strings are used to auto-open the designated file.
- **Custom Search Strings**: Displays a list of the currently configured custom HotSpots search strings. BlueZone searches the session window each time a host write occurs and creates a HotSpot if the search string is found.
  - **New**: Used to define a new custom search string.
  - **Edit**: Used to edit the currently highlighted custom search string.
  - **Delete**: Used to remove the currently highlighted custom search string from the list.
- **Action / Function**: Displays the action that occurs when a HotSpot that is defined for the currently highlighted search string is selected. To change the action simply select a different entry from the list.
- **Default Custom Settings Button**: Used to restore the search strings and action lists to their default values.

Note

When creating new custom search strings, keep in mind that HotSpots only work in protected fields.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Use **Browse** to locate the bit-mapped file you wish to use. Example: `C:\Windows\clouds.bmp`.
- **Position**: If the Center box is not checked, then you can use Row and Column positioning for the image. Checking the **Center** box overrides (grays out) **Row** and **Column** positioning:
  - **Row**: Type the Row number where you want the image to start.
  - **Column**: Type the Column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone places the bitmap image in the center of the display and the **Row** and **Column** selection boxes are disabled.

Tip

Use the **Position** option when you want to display a small logo in a part of the display screen that is not normally used.

- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Advanced tab

The Advanced tab in the Display Options property sheet is used to select Advanced Display Options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Advanced** tab.

Options

- **Show Unprotected Fields**: If enabled, BlueZone shows all unprotected fields using the specified method below.
  - **As Underlined**: If selected, non-underlined unprotected fields are displayed as underlined.
  - **Using Character**: If selected, blank positions in unprotected fields display using the specified character shown in the Selection Box.

    Note

    Enabling this option disables the smart screen updates feature.

- **Show Unprotected NULLs Using Character**: If enabled, NULL characters in unprotected fields display using the specified character shown in the Selection Box.
- **Always Use 4-Color Rules when Host Specifies "Default" Color**: If enabled, BlueZone overrides the 3270 data stream specification's use of the 2-Color Default color. Select this option if certain screen colors are not displaying as desired.
- **Paint NULLs as Spaces**: If enabled, BlueZone paints NULLs in the screen buffer using space characters. This is to aid hooking software that monitors the Win32 ExtTextOut() function.

Bidirectional language support

Starting with version 5.1, BlueZone has added bidirectional language support (BiDi) to the IBM 3270 and IBM iSeries emulators. Currently, the only BiDi language that is supported is Arabic.

Windows configuration requirements

To configure BlueZone to support Arabic, several Windows settings have to be set.

Note

If you have been using this machine with other programs that support BiDi for Arabic, you may not have to make any changes to your Windows settings.

1. Access the Windows Control Panel and launch the Regional and Language Options settings dialog.
2. On the **Languages** tab, ensure the **Install files for complex script and right-to-left languages** check box is checked.
   If this item is not checked, checking it will cause Windows to install some files and perform a restart of your computer. If this is the case, go ahead and let Windows install the files and restart your computer now. When the restart is complete, access the Windows Control Panel and launch the Regional and Language Options settings again. Click the Languages tab and proceed to step 3.
   If the item is already checked, proceed to step 3.
3. Click **Details**. In the Installed Services window, there must be an installed service for Arabic. If not, click **Add** and add one of the input language selections for Arabic. There must also be one for English.
4. Click the **Advanced** tab. Check the **Extend support of advanced text services to all programs** check box if it's not already checked. If you make any changes, you will get a message to restart Windows. Restart Windows so that these changes take affect.

BlueZone configuration requirements

1. Launch a BlueZone IBM Mainframe 3270 Display or iSeries 5250 Display Session.
2. From the BlueZone menu bar, click **Session** ® **Configure**.
3. Click the **3270 Emulation** (or **5250 Emulation**) tab.
4. In the language (CCSID) list box, set the language to **Arabic (420)** and click **OK**.
5. From the BlueZone menu bar, click **Options** ® **Display**. You are automatically on the **Font** tab.
6. Click **Font** and set the font to either **BlueZone Arabic Terminal** or **Farabi Multi**.
7. Click **OK** to close the Font Selection dialog.
8. Click **OK** to close the Display Options dialog.
9. Ensure that the BlueZone character set is **Unicode** on the Font tab in the Print Setup dialog. Print Setup can be accessed by selecting **File** ® **Print Setup** from the BlueZone menu bar.

Switching between languages

There are several ways to switch between English input and Arabic input. One way is to use the Windows Language Bar. Another is to use the Windows Language Bar shortcut, left ALT+SHIFT. Assuming that you only have English and Arabic configured, ALT+SHIFT will toggle back and forth between these two languages.

However, using Windows to simply switch to Arabic while in a BlueZone session will not change the direction of the Arabic input. We recommend using the following Key commands for controlling the input of Arabic characters.

New BlueZone 3270/5250 key commands for BiDi Arabic

Conventions

Several of the BlueZone 3270/5250 Key Commands for BiDi Arabic use keys located on the Number Pad area of the keyboard. For example, the Reverse/Push key command is invoked by holding down the Control Key followed by pressing the Forward Slash key located on the Number Pad. In the following documentation, this command is expressed as CTRL+(Num Pad /).

Key commands

Reverse/Push - CTRL+(Num Pad /)

Reverse/Push changes between left-to-right data entry and right-to-left. It also causes the Windows language bar to switch between English and Arabic (if the language settings described above are setup properly).

Close - CTRL+(Num Pad *) or ALT+F1

Close closes a field after entering English data on the left and Arabic data on the right. The nulls in the center of the field are removed and the field is shifted to the left or right, based on the reverse mode.

Screen Direction - ALT+F4

Screen Direction (supported in BlueZone Mainframe 3270 only), reverses or flips the orientation of the entire screen left-to-right and vice-versa. When the screen orientation is reversed, the language is automatically changed to the default language of the new screen orientation. For example, if the screen is reversed to right-to-left, the language is changed to Arabic. If the screen is reversed to left-to-right, the language is changed to English.

This feature is used when the Mainframe application only supports data entry in the left to right mode. By being able to reverse (flip) the screen, Arabic characters will be shown in their normal right to left orientation, making easier to read, even though the actual data is being stored in the required left to right manner.

Toggle RDE/RTE - ALT+(Num Pad *) or ALT+F11
Toggle RDE/RTE switches between Reverse Data Entry and Reverse Text Entry modes.

Reverse / Push - CTRL+(Num Pad /)
When in Reverse Data Entry mode (RDE), invoking this key is the Reverse function. In Reverse Text Entry (RTE) mode, this key is the Push function.

Auto Reverse - ALT+Backspace or ALT+(Num Pad /)
Auto Reverse toggles the auto reverse or auto push mode, depending on the RDE/RTE setting. These modes cause reverse or push mode to become active automatically upon entering a field, based on whether the field contains English or Arabic data.

BlueZone status bar changes

When using BlueZone with a supported BiDi language, the BlueZone status bar changes slightly.

The following is the new BlueZone status bar for BiDi Arabic support:

The field that was formerly used for the APL/DBCS Mode Indicator, now contains two green arrows as shown above in section A.

Left Arrow
The left arrow indicates the current typing direction (Reverse/Push key), left-to-right or right-to-left. An outlined arrow stem ⇨ or ⇦ indicates RDE mode, a solid arrow stem ➡ or ⬅ indicates RTE mode.

Right Arrow
The right arrow indicates the current screen direction (Screen Direction key). The arrow will point to the right when entry is from left to right ➡. The Arrow will point to the left when entry is from right to left ⬅.

Caps Lock Indicator
The field that was formerly used for the Caps Lock Indicator, now contains a green square cut into four quadrants as shown above in section B. One of the quadrants is always filled, the others are empty.
The filled quadrant indicates whether the current input setting is left-to-right (left side filled) or right-to-left (right side filled), and the current Caps Lock setting (bottom part or top part filled).

Caps Lock Off Data Entry from Left to Right

Caps Lock On Data Entry from Left to Right

Caps Lock Off Data Entry from Right to Left

Caps Lock On Data Entry from Right to Left

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone program functions to key sequences on the keyboard and to control various keyboard related options.

From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar. The Keyboard Options dialog opens, which contains the **Key Mappings** (a bitmap image of a keyboard), **Options**, and **More Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

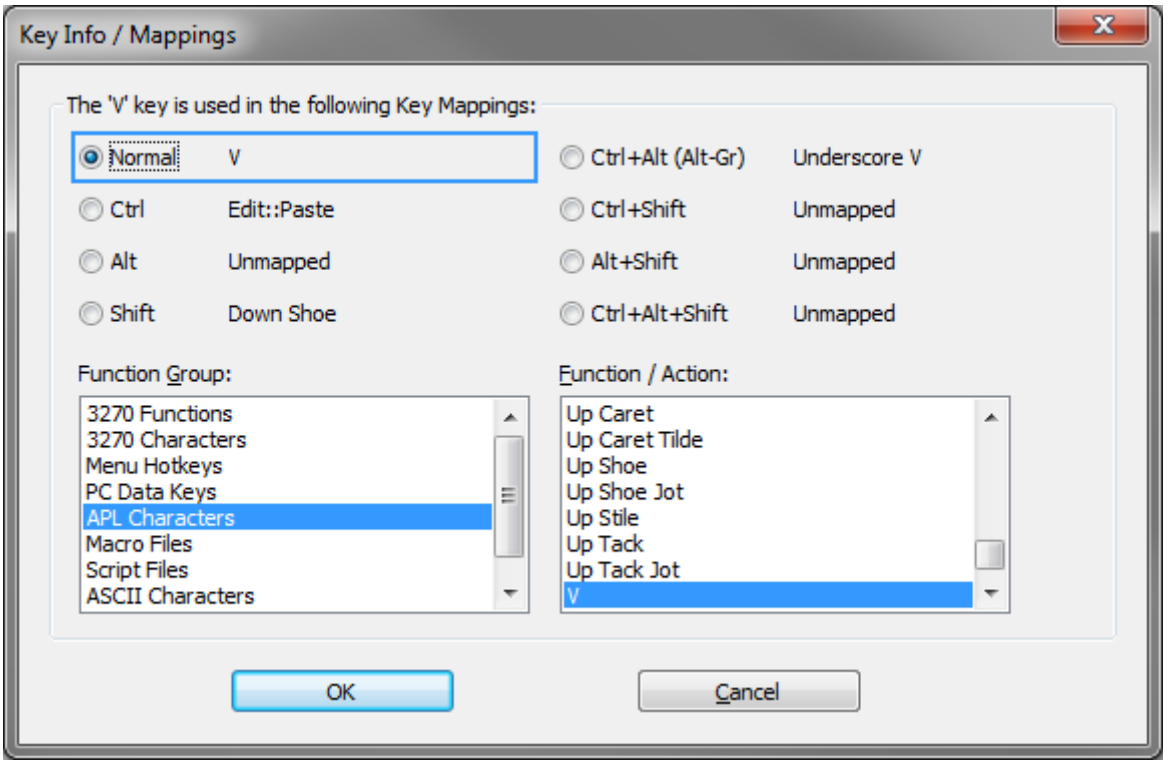
If you have installed a non-English version of BlueZone, the default keyboard map that will be displayed is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click a gray key, the Key Info/Mappings window opens and lists all of the key mappings for each function group. It also lists any combination key mappings that this key is used in.

The following figure shows the associated mappings with the V key. The normal V key is mapped to the V APL character, the Ctrl key is mapped to the Edit::PasteMenu Hotkeys, the Shift key is mapped to the Down Shoe APL character, and the Ctrl+Alt key is mapped to the Underscore V APL character . All of the other available key mappings are unmapped.

Figure 7: IBM Mainframe key mappings information



Red keys

Red keys cannot be used to map 3270 Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map 3270 Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is the default BlueZone Full Screen Hotkey key.

Options

- **Keyboard Type**: A drop-down menu that contains a list of keyboard options for BlueZone. Select the type of keyboard required for your display:
  - Default
  - Unicomp 0852-M 122 Key
  - KeyTronic KB3270/Plus
  - Dutch
  - French
  - German
  - Japanese
  - United States
  - United States-International

    Note

    If you select either the **Unicomp 0852-M 122 Key** or the **KeyTronic KB3270/Plus** keyboard, a **122 Keys** button displays in the upper right hand corner of the dialog. Click this button to display a floating keyboard bitmap of the extended keys.

- **Functions Group**: A drop-down menu that contains a list of a the BlueZone Function Groups that can be mapped.
  - **3270 Functions**: Lists the 3270 functions and what keys they are currently mapped to.
  - **3270 Characters**: Lists special 3270 characters like the Cent Sign, Logical Not, and the Solid Vertical Bar and what keys they are currently mapped to.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping.
  - **APL Characters**: Lists APL graphics characters and what they are currently mapped to.
  - **Macros Files**: Lists the macro files available for key mapping. BlueZone macro files are created by selecting **Macro** ® **Record** from the BlueZone menu bar.

    Note

    When Macro Files is selected, only macro files from the BlueZone program directory will be listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by selecting **Script** ® **Record** from the BlueZone menu bar.

    Note

    When Script Files is selected, only script files from the BlueZone program directory will be listed for selection.

- **Functions**: Lists the functions available for key mapping. The functions displayed are dependent on which function is selected in the Functions Group list box above.
  For example, if 3270 Functions is selected the Functions Group List Box, then only 3270 Functions will be displayed in the Functions window along with their respective Key Mappings in the Key Mappings window.
- **Key Mappings**: Lists the key mapping or mappings if any, that will execute the highlighted function in the Functions list box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Functions Group list box. For example, if you want a printout of all the 3270 keyboard functions

and what keys they are currently mapped to, make sure that 3270 Functions is in the Functions Group list box and click **Print**.

- **New**: Adds a new key mapping entry to the Key Mappings list box.

  Note

  Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the Key Mappings list box.
- **OK**: Accepts the key mapping and assigns it to the 3270 Function.
- **Cancel**: Cancels the key mapping.

Overstrike feature

The 3270 Function Overstrike Sequence allows a non-ASCII character in the EBCDIC character set (such as è) to be entered from the keyboard. Overstrike causes the emulation to enter overstrike mode, after which two ANSI characters (such as e and `) are typed to represent the desired character. If the two characters represent a valid combination, the resulting EBCDIC character is entered into the device buffer. An uncompleted overstrike can be canceled with the Reset key.

Refer to 3270 overstrike sequences, on page 375 for a complete list of valid overstrikes.

Options tab

Options

- **Operate 3270 Function Backspace as a Destructive Backspace**: If enabled, the 3270 Function Backspace deletes the character underneath the cursor after the cursor has been moved.
- **Auto-Reset when keyboard is locked (an audible sound will be heard)**: If enabled, the 3270 Function Reset is automatically executed if the keyboard state becomes locked with an “X Error” condition.
  - **Auto Tab After Reset**: If enabled, an Auto-Tab is issued immediately after the keyboard is unlocked by the Auto-Reset feature above. The purpose of this feature is to automatically bring the cursor to the closest field of entry.
  - **Immediate Auto-Reset**: If enabled, the Auto-Rest is issued immediately.
  - **Auto-Rest when Next Key is Pressed**: If enabled, the Auto-Rest is issued only after a key is pressed.
- **Operate 3270 Function Rapid Left/Right as Word Rapid Left/Right**: If enabled, the 3270 Functions Rapid Left and Rapid Right operates as Word Left and Word Right.
- **3270 Function Insert - Classic, True IBM Mainframe Emulation**: If enabled, the 3270 Function Insert activates Insert Mode. In addition, Insert Mode deactivates each time the user presses an AID-Key.
- **3270 Function Insert - PC Style, Insert Mode Toggles On/ Off**: If enabled, the 3270 Function Insert toggles Insert Mode On / Off.
- **3270 Function Insert - Combination Style, Toggles On/ Off and AID-Key Disables Insert Mode**: If enabled, the 3270 Function Insert toggles Insert Mode On / Off. In addition, Insert Mode deactivates each time the user presses an AID-Key.
- **3270 Function Insert - Treat Trailing Spaces as Nulls**: If enabled, BlueZone auto-removes trailing spaces at the end of field when typing in insert mode.

More Options tab

Options

- **3270 Function End - Move Cursor to End of Text on Line**: If enabled, the 3270 function "End" moves the cursor to the end of any text on that Line. When this option is enabled, protected text is honored.
- **3270 Function End - Move Cursor to End of Text in Field**: If enabled, the 3270 function "End" moves the cursor to the end of text in the current or next unprotected field. If the cursor is already at the end of text, the cursor is moved to the end of field and any trailing spaces are ignored. If the cursor is already at the end of field, the next unprotected field is used.
- **Hard-Map Print Screen Key to Menu Hotkey File::Print Screen**: If enabled, the 3270 Function Print Screen executes when pressing the Print Screen key on the keyboard.

  Note

  The Print Screen key is a system key and also causes Windows to copy the contents of the desktop clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, Control, Alt and Shift keys operate in Auto-Repeat Mode.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function keys auto-repeat while continuously pressed.
- **Convert Input to Uppercase**: If enabled, BlueZone forces the entry of all characters to be uppercase regardless of the state of the Caps Lock key.

Mouse Options dialog

The Mouse Options dialog is used to configure the BlueZone special mouse features which control the behavior of the mouse when using BlueZone.

From the menu bar, click **Options** ® **Mouse** or click the **Mouse** icon from the toolbar.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click highlights the word, if any, that the cursor is on. A word is considered to be upper or lowercase characters and digits. A trailing blank is added if it is present.
  - **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **“ ’**

    : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **Include Trailing Space**: If selected, any extra trailing space is highlighted for Copy/Paste when double-click is configured to highlight word.
- **Send 3270 Function Enter on Mouse Left Double-Click**: If selected, a double-click automatically executes the 3270 Function Enter after the cursor has been moved.

- **Send 3270 Function Cursor Select on Mouse Left Double-Click - (Light Pen Support)**: If selected, a double-click automatically executes the 3270 Function Cursor Select after the cursor has been moved. This function is used with host applications that have support for Light Pen devices.
  - Instead, have a Mouse Left Single-Click send the 3270 Function Cursor Select: If enabled, a mouse left single-click automatically executes the 3270 Function Cursor Select after the cursor has been moved. This option is available for selection only if the **Send 3270 Function Cursor Select on Mouse Left Double-Click** check box is selected.
- **Display Pop-up Menu on Mouse Right Click**: If selected, the Mainframe Display pop-up menu is displayed when the mouse right button is clicked.

  Tip

  The Popup Menu is very useful. It allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the edit properties dialogs, connect a session, disconnect a session, configure a session, access display options, access keyboard options, jump screen, as well as others.

- **Send 3270 Function on Mouse Right Click**: If selected, the highlighted emulation function from the drop-down list box is executed when the mouse right button is clicked.
- **Send 3270 Function on Mouse Wheel Up**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the up direction. The default command is PF07. As an option, you can configure the mouse wheel to send any BlueZone supported 3270 function.
- **Send 3270 Function on Mouse Wheel Down**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the down direction. The default command is PF08. As an option, you can configure the mouse wheel to send any BlueZone supported 3270 function.

Sounds Options dialog

The Sounds Options window is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds**.

Sounds tab

Options

There are two options: one to enable the host bell and one to enable the BlueZone application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If selected, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the **System Sound** list box. By default, the system default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.
  - **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can choose both the frequency and the duration of the sound.
    - **Frequency**: Is in Hertz
    - **Duration**: Is in Milliseconds
  - **Test**: Click to test the selected option above.
- **Enable BlueZone Application Sounds**: This is used to choose whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties window is used to configure BlueZone to work with external programs. To open the API Properties window, click **Options** ® **API**.

Typical applications that use the BlueZone API interface, use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 171 for more information.

Options tab

The API (Application Program Interface) Properties, Options tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone modifies the registry settings and invokes NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network(LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.
- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone automatically associates the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone runs/closes the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.
- **Allow Multiple Simultaneous Connections**: If enabled, the BlueZone HLLAPI allows connection requests from a single application tread to the same BlueZone session as long as it is using the same HLLAPI Short Name Session Identifier. If disabled (default),

the session only allows multiple simultaneous connections to its presentation space if the first HLLAPI application connecting had specified WRITE_WRITE when calling HLLAPI SetSessionParameters.

Trace tab

The API Properties **Trace** tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Select to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Select to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision, and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification may be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied in the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder in the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`
- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.
2. Check the **Enable DDE Server Interface** check box.

   BlueZone is now listening for a DDE connection.
3. Run the HLLAPI application and check to see if it connects to BlueZone.

IBM iSeries display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- HotSpots and GUI mode
- Watermark
- Bidirectional language support

Font tab

The Font tab in the Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Font** tab.

Font Selection

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: Click to change any of the features listed above.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: (relative to size of Session Window) When checked, BlueZone auto-sizes the font to the largest font possible while still displaying all the session rows and columns within the session window. How well the auto-size font feature works depends largely on the quality of the font selected.
- **Auto-Size Session Window**: (relative to the Font Size) If checked, and **OK** or **Apply** is clicked, BlueZone auto-sizes the session window to the smallest window possible, while still displaying all the session rows and columns.
- **Dual Case Characters**: If enabled then both upper and lower case characters are displayed in the session window. If disabled then only upper case characters are displayed in the session window.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters slide control has the keyboard input focus then the Sample group displays a sample of the currently configured blink rate. To get focus, click on the slide control itself.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data starts at the extreme edges of the display window. Increasing the size of the border places that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Highlight Zero Character**: Used to choose how BlueZone displays the zero character. In many fonts, its hard to tell the difference between a capital O and the number zero. This feature helps distinguish the number zero from the capital O by adding a dot or a slash to the zero. From the drop-down list box, choices are:
  - **No Highlighting**: Displays the zero character exactly as the currently configured font displays it.
  - **Add Center Dot**: Adds a dot to the center of the zero character.
  - **Add Slash**: Adds a slash to the zero character.
- **Fixed-Aspect Ratio (%)**: When selected along with **Auto-Size Font**, BlueZone keeps the font width proportional to the font height. When **Auto-Size Session Window** is cleared, BlueZone centers the host screen.

Sample

The Sample window shows how the currently configured font settings will appear in the display session.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. Small is essentially an underscore cursor and Large is a block cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window shows how the currently configured cursor settings will appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.
- **Show Cursor Cross-Hair Guide**: If selected, BlueZone displays horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.
- **Auto-Scroll to Cursor**: If selected, and the "Auto Size Font" / "Auto-Size Session Window" options are disabled, BlueZone auto-scrolls the session window to keep the cursor in view.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone iSeries Display menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Color Scheme

The Color Scheme group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black. Attribute and Extended Colors automatically change to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white. Attribute and Extended Colors automatically change to white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Customize**: Click to change the color of the currently selected item. The colors available are dependent on the display hardware and operating system configuration of the PC.

Colors / Attributes

In the BlueZone iSeries Display, Colors and Attributes are defined together. To change the color of a particular attribute:

1. Locate the particular attribute you want to change in the **Colors / Attributes** scroll box and select it by clicking its radio button.

   Note

   You may have to use the scroll bar in order to find the particular attribute you are looking for.

2. Select the desired color from the standard Windows color palette under the Color Scheme section on the left. The color box for that attribute changes to the selected color.
3. Click **Apply** or **OK**. The changes take effect.

Attribute Overrides

In BlueZone iSeries Display, it is possible to change the associated attribute behavior of a particular attribute.

To give you an idea how this feature works, try this exercise.

1. While on the main iSeries login screen, locate the Green/Underscore attribute and select its radio button. The default color is green. In the Attribute Overrides section, the **Underscore** check box is checked.
2. Change the color to yellow by clicking the yellow square in the Windows color palette located on the left hand side of the dialog. Click **Apply**. The underscores change to yellow.
3. Check the **Reverse Image** check box and click **Apply**. The underscores change to yellow boxes with a black line at the bottom.
4. Clear the **Underscore** check box and click **Apply** button. The black lines (really underscores) disappear leaving only the yellow boxes.

If you like, you can experiment with other color and override settings. If you are not happy with the results, you can always click **Default All** to set all colors and attributes back to their default values.

Display Column Separators as Points

Use this check box to turn iSeries Column Separators into very tiny points.

Default All Button

Click to set all colors associated with all attributes back to their default values.

HotSpots and GUI mode

The GUI tab in the Display Options property sheet is used to configure HotSpots in the Session Window. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **GUI** tab.

GUI tab

HotSpots

The HotSpots Options group is used to enable and configure HotSpots:

- **Enable HotSpots**: If enabled, BlueZone creates HotSpots based on the criteria stored in the Customize dialog. Also, BlueZone creates HotSpots when the following file extensions are found on the screen: `.jpg`, `.bmp`, `.doc`, `.xls`, and `.pdf`. When these HotSpots are clicked, BlueZone sends the file name and path, if provided, to Windows. Windows uses its current file association to launch the correct application.
- **Display HotSpots as Buttons**: If enabled, HotSpots are displayed as buttons in the session window.
- **Use Mouse Pointer and Colors to Show HotSpots**: If enabled then HotSpots are invisible until the cursor is positioned over them. In that case the configured foreground and background colors are used to reveal the HotSpot.
- **Foreground Color**: Used to set the HotSpot foreground color.
- **Background Color**: Used to set the HotSpot background color.
- **Customize**: Click to customize HotSpots functionality. Refer to Customize HotSpots button, on page 176 below for more information.
- **Expand HotSpots to Include Associated Text**: If enabled, then the HotSpot expand to include any associated text. For example, a HotSpot labeled F3 can expand to a HotSpot labeled F3=Exit.
- **Expand HotSpots Across Single Spaces**: If enabled, then the HotSpot expand across single spaces.

Note

HotSpots only work in protected fields.

Edit

The Edit group is used to enable or disable the GUI Edit Controls option. This option turns the normal command line into an edit box to emulate a more GUI like user interface. The behavior of the cursor and other edit controls inside an edit box is more like a typical Windows program.

- **Display Unprotected Fields Using GUI Edit Controls**: If enabled, unprotected fields are replaced with GUI edit controls.

Tip

This feature is especially useful when the end users are more familiar with Windows applications than with IBM terminal emulation programs.

Auto-GUI On / Off

The Auto-GUI On/Off group is used to select GUI or Green Screen mode.

- **GUI Me and Close**: Used to set the display options to the default GUI settings and close the Display Options dialog box.
- **Green Me and Close**: Used to set the display options to the default non-GUI settings and close the Display Options dialog box.

Customize HotSpots button

Options

The Options group contains controls for the configuration of session HotSpots:

- **Turn "Number" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces in the session window.

- **Turn "Number+Period" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces on the left and a period(.) on the right.
- **Turn "HTTP://" Strings into HotSpots (Auto-Launch Web Browser to URL)**: If enabled, "http://" strings are used to auto-launch the web browser to the designated address.
- **Turn "FILE://" Strings into HotSpots (Auto-Open File)**: If enabled, "file://" strings are used to auto-open the designated file.
- **Custom Search Strings**: Displays a list of the currently configured custom HotSpots search strings. BlueZone searches the session window each time a host write occurs and creates a HotSpot if the search string is found.
  - **New**: Used to define a new custom search string.
  - **Edit**: Used to edit the currently highlighted custom search string.
  - **Delete**: Used to remove the currently highlighted custom search string from the list.
- **Action / Function**: Displays the action that occurs when a HotSpot that is defined for the currently highlighted search string is selected. To change the action simply select a different entry from the list.
- **Default Custom Settings Button**: Used to restore the search strings and action lists to their default values.

Note

When creating new custom search strings, keep in mind that HotSpots only work in protected fields.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Use **Browse** to locate the bit-mapped file you want to use. Example: `C:\Windows\clouds.bmp`.
- **Position**: If the **Center** box is not checked, then you can use **Row** and **Column** positioning for the image. Checking the **Center** box overrides (grays out) **Row** and **Column** positioning:
  - **Row**: Type the row number where you want the image to start.
  - **Column**: Type the column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone places the bitmap image in the center of the display and the **Row** and **Column** selection boxes are disabled.

Tip

Use the **Position** option when you want to display a small logo in a part of the display screen that is not normally used.

- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Bidirectional language support

Starting with version 5.1, BlueZone has added bidirectional language support (BiDi) to the IBM 3270 and IBM iSeries emulators. Currently, the only BiDi language that is supported is Arabic.

Windows Configuration Requirements

To configure BlueZone to support Arabic, several Windows settings have to be set.

Note

If you have been using this machine with other programs that support BiDi for Arabic, you may not have to make any changes to your Windows settings.

1. Access the Windows Control Panel and launch the Regional and Language Options settings dialog.
2. On the **Languages** tab, ensure the **Install files for complex script and right-to-left languages** check box is checked.
   If this item is not checked, checking it will cause Windows to install some files and perform a restart of your computer. If this is the case, go ahead and let Windows install the files and restart your computer now. When the restart is complete, access the Windows Control Panel and launch the Regional and Language Options settings again. Click the Languages tab and proceed to step 3.
   If the item is already checked, proceed to step 3.
3. Click **Details**. In the Installed Services window, there must be an installed service for Arabic. If not, click **Add** and add one of the input language selections for Arabic. There must also be one for English.
4. Click the **Advanced** tab. Check the **Extend support of advanced text services to all programs** check box if it's not already checked. If you make any changes, you will get a message to restart Windows. Restart Windows so that these changes take affect.

BlueZone configuration requirements

1. Launch a BlueZone IBM Mainframe 3270 Display or iSeries 5250 Display Session.
2. From the BlueZone menu bar, click **Session** ® **Configure**.
3. Click the **3270 Emulation** (or **5250 Emulation**) tab.
4. In the language (CCSID) list box, set the language to **Arabic (420)** and click **OK**.
5. From the BlueZone menu bar, click **Options** ® **Display**. You are automatically on the **Font** tab.
6. Click **Font** and set the font to either **BlueZone Arabic Terminal** or **Farabi Multi**.
7. Click **OK** to close the Font Selection dialog.
8. Click **OK** to close the Display Options dialog.
9. Ensure that the BlueZone character set is **Unicode** on the Font tab in the Print Setup dialog. Print Setup can be accessed by selecting **File** ® **Print Setup** from the BlueZone menu bar.

Switching between languages

There are several ways to switch between English input and Arabic input. One way is to use the Windows Language Bar. Another is to use the Windows Language Bar shortcut, left ALT+SHIFT. Assuming that you only have English and Arabic configured, ALT+SHIFT will toggle back and forth between these two languages.

However, using Windows to simply switch to Arabic while in a BlueZone session will not change the direction of the Arabic input. We recommend using the following Key commands for controlling the input of Arabic characters.

New BlueZone 3270/5250 key commands for BiDi Arabic

Conventions

Several of the BlueZone 3270/5250 Key Commands for BiDi Arabic use keys located on the Number Pad area of the keyboard. For example, the Reverse/Push key command is invoked by holding down the Control Key followed by pressing the Forward Slash key located on the Number Pad. In the following documentation, this command is expressed as CTRL+(Num Pad /).

Key commands

Reverse/Push - CTRL+(Num Pad /)

Reverse/Push changes between left-to-right data entry and right-to-left. It also causes the Windows language bar to switch between English and Arabic (if the language settings described above are setup properly).

Close - CTRL+(Num Pad *) or ALT+F1

Close closes a field after entering English data on the left and Arabic data on the right. The nulls in the center of the field are removed and the field is shifted to the left or right, based on the reverse mode.

Screen Direction - ALT+F4

Screen Direction (supported in BlueZone Mainframe 3270 only), reverses or flips the orientation of the entire screen left-to-right and vice-versa. When the screen orientation is reversed, the language is automatically changed to the default language of the new screen orientation. For example, if the screen is reversed to right-to-left, the language is changed to Arabic. If the screen is reversed to left-to-right, the language is changed to English.

This feature is used when the Mainframe application only supports data entry in the left to right mode. By being able to reverse (flip) the screen, Arabic characters will be shown in their normal right to left orientation, making easier to read, even though the actual data is being stored in the required left to right manner.

Toggle RDE/RTE - ALT+(Num Pad *) or ALT+F11

Toggle RDE/RTE switches between Reverse Data Entry and Reverse Text Entry modes.

Reverse / Push - CTRL+(Num Pad /)

When in Reverse Data Entry mode (RDE), invoking this key is the Reverse function. In Reverse Text Entry (RTE) mode, this key is the Push function.

Auto Reverse - ALT+Backspace or ALT+(Num Pad /)

Auto Reverse toggles the auto reverse or auto push mode, depending on the RDE/RTE setting. These modes cause reverse or push mode to become active automatically upon entering a field, based on whether the field contains English or Arabic data.

BlueZone status bar changes

When using BlueZone with a supported BiDi language, the BlueZone status bar changes slightly.

The following is the new BlueZone status bar for BiDi Arabic support:

The field that was formerly used for the APL/DBCS Mode Indicator, now contains two green arrows as shown above in section A.

Left Arrow

The left arrow indicates the current typing direction (Reverse/Push key), left-to-right or right-to-left. An outlined arrow stem or indicates RDE mode, a solid arrow stem or indicates RTE mode.

Right Arrow

The right arrow indicates the current screen direction (Screen Direction key). The arrow will point to the right when entry is from left to right . The Arrow will point to the left when entry is from right to left .

Caps Lock Indicator

The field that was formerly used for the Caps Lock Indicator, now contains a green square cut into four quadrants as shown above in section B. One of the quadrants is always filled, the others are empty.
The filled quadrant indicates whether the current input setting is left-to-right (left side filled) or right-to-left (right side filled), and the current Caps Lock setting (bottom part or top part filled).

Caps Lock Off Data Entry from Left to Right

Caps Lock On Data Entry from Left to Right

Caps Lock Off Data Entry from Right to Left

Caps Lock On Data Entry from Right to Left

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone program functions to key sequences on the keyboard and to control various keyboard related options.

From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar. The Keyboard Options dialog opens, which contains the **Key Mappings** (a bitmap image of a keyboard), **Options**, and **More Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

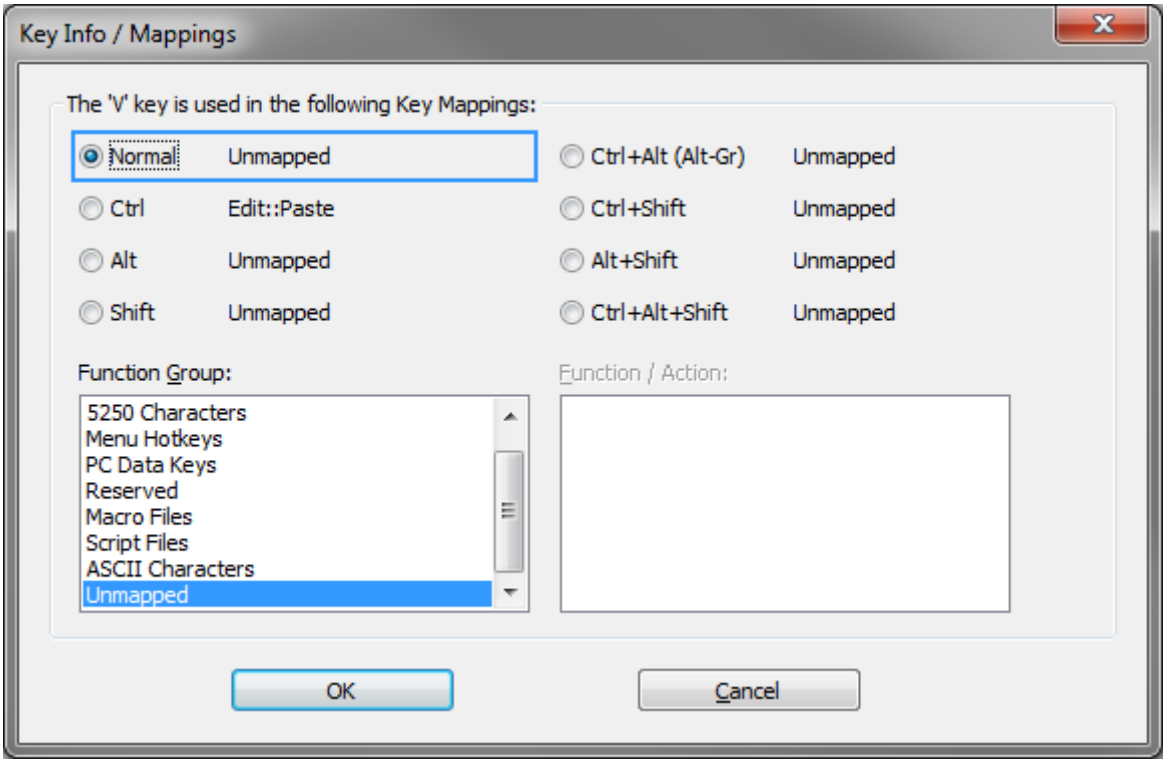
If you have installed a non-English version of BlueZone, the default keyboard map that displays is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click a gray key, the Key Info/Mappings window opens and lists all of the key mappings for each function group. It also lists any combination key mappings that this key is used in.

The following figure shows the associated mappings with the V key. The Ctrl key is mapped to the Edit::PasteMenu Hotkeys. All of the other available mappings are unmapped.

Figure 8: IBM iSeries key mappings information



Red keys

Red keys cannot be used to map 5250 Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map 5250 Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is the default BlueZone Full Screen Hotkey key.

Options

- **Keyboard Type**: A drop-down menu that contains a list of keyboard options for BlueZone. Select the type of keyboard required for your display:
  - Default
  - Unicomp 0852-M 122 Key
  - KeyTronic KB3270/Plus
  - Dutch
  - French
  - German
  - Japanese
  - United States
  - United States-International

    Note

    If you select either the **Unicomp 0852-M 122 Key** or the **KeyTronic KB3270/Plus** keyboard, a **122 Keys** button displays in the upper right hand corner of the dialog. Click this button to display a floating keyboard bitmap of the extended keys.

- **Functions Group**: A list box that contains a list of a the BlueZone Function Groups that can be mapped.
  - **5250 Functions**: Lists the 5250 functions and what keys they are currently mapped to.
  - **5250 Characters**: Lists special 5250 characters and what keys they are currently mapped to.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping.
  - **Reserved**: Not used at this time.
  - **APL Characters**: Lists APL graphics characters and what they are currently mapped to.
  - **Macros Files**: Lists the macro files available for key mapping. BlueZone macro files are created by selecting **Macro** ® **Record** from the BlueZone menu bar.

    Note

    When Macro Files is selected, only macro files from the BlueZone program directory will be listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by selecting **Script** ® **Record** from the BlueZone menu bar.

    Note

    When Script Files is selected, only script files from the BlueZone program directory will be listed for selection.

- **Functions**: Lists the functions available for key mapping. The functions displayed are dependent on which function is selected in the Functions Group list box above.
  For example, if 5250 Functions is selected the Functions Group List Box, then only 5250 Functions will be displayed in the Functions window along with their respective Key Mappings in the Key Mappings window.
- **Key Mappings**: Lists the key mapping or mappings if any, that will execute the highlighted function in the Functions list box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Functions Group list box. For example, if you want a printout of all the 5250 keyboard functions

and what keys they are currently mapped to, make sure that 5250 Functions is in the Functions Group list box and click **Print**.

- **New**: Adds a new key mapping entry to the Key Mappings list box.

  Note

  Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the Key Mappings list box.
- **OK**: Accepts the key mapping and assigns it to the 3270 Function.
- **Cancel**: Cancels the key mapping.

Options tab

Options

- **Operate 5250 Function Backspace as a Destructive Backspace**: If enabled, the 5250 Function Backspace deletes the character underneath the cursor after the cursor has been moved.
- **Auto-Reset when keyboard is locked (an audible sound will be heard)**: If enabled, the 5250 Function Reset is automatically executed if the keyboard state becomes locked with an “X Error” condition.
  - **Auto Tab After Reset**: If enabled, an Auto-Tab is issued immediately after the keyboard is unlocked by the Auto-Reset feature above. The purpose of this feature is to automatically bring the cursor to the closest field of entry.
  - **Immediate Auto-Reset**: If enabled, the Auto-Rest is issued immediately.
  - **Auto-Rest when Next Key is Pressed**: If enabled, the Auto-Rest is issued only after a key is pressed.
- **Operate 5250 Function Rapid Left/Right as Word Rapid Left/Right**: If enabled, the 5250 Functions Rapid Left and Rapid Right operate as Word Left and Word Right.

More Options tab

Options

- **5250 Function End - Move Cursor to End of Text on Line**: If enabled, the 5250 function "End" moves the cursor to the end of any text on that Line.
- **5250 Function End - Move Cursor to End of Text in Field / End of Field**: If enabled, the 5250 function "End" moves the cursor to the end of any Text in the Field or to the end of the Field.
- **Hard-Map Print Screen Key to Menu Hotkey File® Print Screen**: If enabled, the 5250 Function print executes when pressing the Print Screen key on the keyboard.

  Note

  The Print Screen key is a system key and also causes Windows to copy the contents of the desktop to the clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, Control, Alt and Shift keys operate in Auto-Repeat Mode.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter Keys operate continuously while pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function Keys operate continuously while pressed.

- **Convert Input to Uppercase**: If enabled, BlueZone forces the entry of all characters to be uppercase regardless of the state of the Caps Lock key.

Mouse Options dialog

The Mouse Options dialog is used to configure the BlueZone special mouse features which control the behavior of the mouse when using BlueZone.

From the menu bar, click **Options** ® **Mouse** or click the **Mouse** icon from the toolbar.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click highlights the word, if any, that the cursor is on. A word is considered to be upper or lower-case characters and digits. A trailing blank is added if it is present.
  - **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **“ ‘**

    : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **Include Trailing Space**: If selected, any extra trailing space is highlighted for Copy/Paste when left mouse double-click is configured to highlight word.
- **Send 5250 Function Enter on Mouse Left Double-Click**: If selected, a double-click automatically executes the 5250 Function Enter after the cursor has been moved.
- **Send 5250 Function Cursor Select on Mouse Left Double-Click - (Light Pen Support)**: If selected, a double-click automatically executes the 5250 Function Cursor Select after the cursor has been moved. This function is used with host applications that have support for Light Pen devices.
  - Instead, have a Mouse Left Single-Click send the 5250 Function Cursor Select: If enabled, a single-click automatically executes the 5250 Function Cursor Select after the cursor has been moved. This option is available for selection only if the **Send 5250 Function Cursor Select on Mouse Left Double-Click** check box is selected.
- **Display Pop-up Menu on Mouse Right Click**: If selected, the iSeries Display pop-up menu is displayed when the mouse right button is clicked.

  Tip

  The Popup Menu is very useful. This menu allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the edit properties dialogs, connect a session, disconnect a session, configure a session, access display options, access keyboard options, jump screen, as well as others.

- **Send 5250 Function on Mouse Right Click**: If selected, the highlighted emulation function from the drop-down list box is executed when the mouse right button is clicked.
- **Send 5250 Function on Mouse Wheel Up**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the up direction. The default command is Roll Down. As an option, you can configure the mouse wheel to send any BlueZone supported 5250 function.
- **Send 5250 Function on Mouse Wheel Down**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the down direction. The default command

is Roll Up. As an option, you can configure the mouse wheel to send any BlueZone supported 5250 function.

Sounds Options dialog

The Sounds Options dialog is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds** or click the **Sounds** icon from the BlueZone toolbar.

Sounds tab

Options

There are two options: one to enable the host bell and one to enable the BlueZone application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If enabled, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the **System Sound** list box. By default, the system default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.
  - **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can choose both the frequency and the duration of the sound.
    - **Frequency**: Is in Hertz
    - **Duration**: Is in Milliseconds
  - **Test**: Click to test the selected option above.
- **Enable BlueZone Application Sounds**: This is used to select whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties dialog is used to configure BlueZone to work with external programs. To launch the API Properties dialog, go to the BlueZone menu bar, and click **Options** ® **API**.

Typical applications that use the BlueZone API interface use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 171 for more information.

Options tab

The API (Application Program Interface) Properties, Options tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone modifies registry settings and invoke NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network (LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.
- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone automatically associates the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone runs/closes the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.
- **Allow Multiple Simultaneous Connections**: If enabled, the BlueZone HLLAPI allows connection requests from a single application tread to the same BlueZone session as long as it is using the same HLLAPI Short Name Session Identifier. If disabled (default), the session only allows multiple simultaneous connections to its presentation space if the first HLLAPI application connecting had specified WRITE_WRITE when calling HLLAPI SetSessionParameters.

Trace tab

The API Properties Trace tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Enable to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Enable to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third-party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision, and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification can be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied on the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder in the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`
- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.
2. Check the **Enable DDE Server Interface** check box.

   BlueZone is now listening for a DDE connection.
3. Run the HLLAPI application and check to see if it connects to BlueZone.

VT host access display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- HotSpots
- Watermark
- Scrollback buffer

Font tab

The Font Options property page of the Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Font** tab.

Font Selection

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: Click to change any of the features listed above.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: If enabled, the size of the font is calculated based on the size of the session window. If this option is enabled, the Auto Size Session Windows option is disabled.
- **Auto-Size Session Window**: If enabled, the size of the session window is calculated based on the selected font size. If this option is enabled, the Auto Size Font option is disabled.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters track bar control has the keyboard input focus then the Sample group displays a sample of the currently configured blink rate.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data starts at the extreme edges of the display window. Increasing the size of the border places that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Fixed-Aspect Ratio (%)**: When selected along with **Auto-Size Font**, BlueZone keeps the font width proportional to the font height. When **Auto-Size Session Window** is cleared, BlueZone centers the host screen.

Sample

The Sample window shows how the currently configured font settings will appear in the display session.

Note

As a general rule, BlueZone works best with the bitmap font called New Renex Terminal. You can of course, choose any other Windows font you like.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. Small is essentially an underscore cursor and Large is a block cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window shows how the currently configured cursor settings will appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.

- **Show Cursor Cross-Hair Guide**: If selected, BlueZone displays horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone VT menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Options

The Options group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Enable Underline**: If enabled, allows characters with the underline attribute be shown with an underline style font. Disabling this option shows the font with the regular style. This option is independent of whatever color is selected for Underline(Bold) and Underline(Dim). This makes it possible to display underlined characters without the underline but with a different color than non-underlined text.
- **Enable Blinking**: If enabled, allows characters with the blinking attribute to blink. Disabling this option disables blinking. This option is independent of whatever color is selected for Blinking(Bold) and Blinking(Dim).
- **Override Inverse Colors**: If enabled, allows the setting of colors to be used for Inverse and Inverse Underline. If the option is not enabled then BlueZone VT just reverses the foreground and background colors for a specific attribute. Note that when this option is not selected, the Inverse and Inverse Underline radio buttons are disabled.

Screen Attributes

The Screen Attributes list box contains a list of all of the possible Screen Attributes supported by BlueZone VT. To see how a particular attribute is configured, highlight that attribute and the Sample text box displays a sample of how that particular attribute is displayed on the screen.

All attributes are displayed with a background color and a foreground color. The foreground color is just another name for the character color.

Note

You cannot change any of the "Inverse" attributes directly. That is because they are the "Inverse" (opposite) of the "Normal" version of the attribute. For example, "Inverse" has the opposite color settings of "Normal". "Inverse Underline" has the opposite color setting of "Underline". To change an "Inverse" attribute, change the "Normal" attribute and the "Inverse" is changed accordingly.

- **Background**: Select to change the Background color.
- **Foreground**: Select to change the Foreground (character) color.

- **Customize**: Click to create a custom color when a satisfactory color can not be found in the standard 16 color palette.

Changing an attribute color

1. Highlight the particular attribute that you want to change in the **Screen Attributes** list box.
2. Observe the current color settings in the Sample text window.
3. Decide whether you want to change the Background color or the Foreground (character) color and select the corresponding radio button.
4. Select the desired color from the standard Windows 16 color palette. If you don't like any of the standard 16 colors, you can customize the color. See Customizing a color below.
5. Observe that the new color displays in the **Sample** text box.
6. Click **OK** to save the change.

Customizing a color

1. Select the closest color in the 16 color palette and click **Customize**.
2. The color you selected in step 1 is displayed in the **Color|Solid** box.
3. Either select a color from the 48 color palette or create your own color with the color palette controls provided.
4. When you are satisfied with the custom color, click **Add to Custom Colors**.
5. Click **OK**. The custom color is displayed in the **Sample** text box.
6. Click **OK** to save the change.

Changing an attribute color using the quick colors feature

BlueZone has a feature that is called quick colors. This feature is designed to make it easier for the end user to change attribute colors. The quick colors feature works by displaying a 16 color bar just above the host display which the end user can use to select attribute colors.

1. From the menu bar, click **View** ® **Toolbars** ® **Custom Color**. The Quick Colors 16 Color Bar opens.
2. Click the desired color on the Color Bar. The cursor turns into a cross.
3. Place the cross on the text or background that you want change and click.
4. All screen attributes that have the same type as the one that was clicked, change to that color.

HotSpots tab

The **HotSpots** tab in the Display Options window is used to configure HotSpots in the Session Window. From the BlueZone VT menu bar, click **Options** ® **Display**, and click the **HotSpots** tab.

Hotspots tab

HotSpots

The HotSpots Options group is used to enable and configure HotSpots:

- **Enable HotSpots**: If enabled, BlueZone creates HotSpots in the session window.
- **Display HotSpots as Buttons**: This feature is not available in BlueZone VT.
- **Use Mouse Pointer and Colors to Show HotSpots**: If enabled, HotSpots are invisible until the cursor is positioned over them. In that case the configured foreground and background colors are used to reveal the HotSpot.
- **Foreground Color**: Used to set the HotSpot foreground color.
- **Background Color**: Used to set the HotSpot background color.
- **Customize**: Click to customize HotSpots functionality. Refer to Customize HotSpots buttons below
- **Expand HotSpots to Include Associated Text**: If enabled, the HotSpot expands to include any associated text. For example, a HotSpot labeled F3 can expand to a HotSpot labeled F3=Exit.
- **Expand HotSpots Across Single Spaces**: If enabled, the HotSpot expands across single spaces.

Edit

This feature is not available in BlueZone VT.

Auto-GUI On / Off

This feature is not available in BlueZone VT.

Customize HotSpots buttons

Options

The Options group contains controls for the configuration of session HotSpots:

- **Turn "Number" Strings into HotSpots**: This feature is not available in BlueZone VT.
- **Turn "Number+Period" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces on the left and a period(.) on the right.
- **Turn "HTTP://" Strings into HotSpots (Auto-Launch Web Browser to URL)**: If enabled, "http://" strings are used to auto-launch the web browser to the designated address.
- **Turn "FILE://" Strings into HotSpots (Auto-Open File)**: If enabled, "file://" strings are used to auto-open the designated file.
- **Custom Search Strings**: Displays a list of the currently configured custom HotSpots search strings. BlueZone searches the session window each time a host write occurs and creates a HotSpot if the search string is found.
  - **New**: Used to define a new custom search string.
  - **Edit**: Used to edit the currently highlighted custom search string.
  - **Delete**: Used to remove the currently highlighted custom search string from the list.
- **Default Custom Settings Button**: Used to restore the search strings and action lists to their default values.

Note

When creating new custom search strings, keep in mind that HotSpots only work in protected fields.

HotSpot Action

Used to select the type of HotSpot action you want to create. Possible actions are VT Function, Send Text, or Play Script. To change the action, select a different entry from the list.

- **VT Function**: If selected, you must select the specific VT function that you want to associate with the custom HotSpot.
  - **Function**: Select the specific VT function that you want to associate with the custom HotSpot from this list.
- **Send Text**: If selected, you must enter the specific text that you want to associate with the custom HotSpot.
  - **Text to send**: Enter the specific text that you want to associate with the custom HotSpot in this box.
- **Play Script**: If selected, you must enter the specific script file name that you want to associate with the custom HotSpot.
  - **Script to play**: Enter the specific script file name that you want to associate with the custom HotSpot in this box.
  - **Browse**: Click to browse to the BlueZone VT script folder so that you can select the script file that you want to associate with the custom HotSpot.

HotSpot Location

- **Row**: Used to select a specific row for the custom HotSpot. If you want the custom HotSpot to be enabled anywhere on the screen, select **Any**.
- **Column**: Used to select a specific column for the custom HotSpot. If you want the custom HotSpot to be enabled anywhere on the screen, select **Any**.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Click **Browse** to locate the bit-mapped file that you want to use. For example, `C:\Windows\clouds.bmp`.
- **Position**: If the **Center** box is not selected, you can use the **Row** and **Column** positioning for the image. Selecting the **Center** box disables the **Row** and **Column** positioning:
  - **Row**: Enter the row number where you want the image to start.
  - **Column**: Enter the column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone places the bitmap image in the center of the display and the **Row** and **Column** selection boxes are disabled.

    Tip

    Use the Position option when you want to display a small logo in a part of the display screen that is not normally used.
- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Scrollback tab

The scrollback buffer is a configurable feature. You can choose to turn it on or off and also, you can set the size of the scrollback buffer.

Scrollback Buffer Options

- **Enable Scrollback Buffer**: If selected, BlueZone VT creates a scrollback buffer based on the size configured below.
- **Number of lines in scrollback buffer**: Set the number of lines that you want in your scrollback buffer here. Valid ranges are from 50 to 99999 lines.
- **Memory Check**: Click to check to see if you have enough memory resources for the size scrollback buffer you have configured. If you do not have enough memory, try reducing the size of the scrollback buffer.

Note

The scrollback buffer is not configurable when BlueZone VT is connected to a host.

Scrolling Options

- **Enable Smooth Scrolling**: When cleared, the scrolling is done as fast as possible. When selected, the scrolling is delayed to look smoother.

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone VT program functions to key sequences on the keyboard and to control various keyboard related options.

From the BlueZone menu bar, click **Options** ® **Keyboard**. The Keyboard Options window opens. It contains the **Key Mappings** (a bitmap image of a keyboard), **Escape Sequences**, and **Additional Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

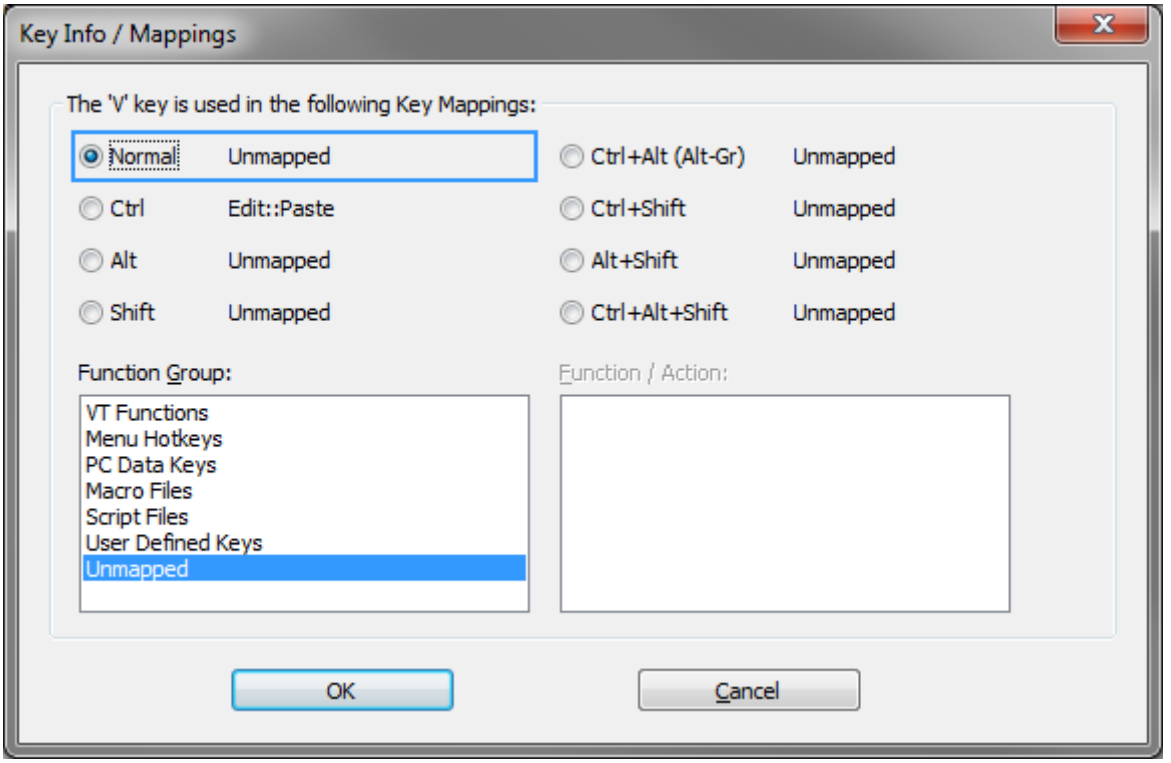
If you have installed a non-English version of BlueZone, the default keyboard map that displays is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click a gray key, the Key Info/Mappings window opens and lists all of the key mappings for each function group. It also lists any combination key mappings that this key is used in.

The following figure shows the associated mappings with the V key. The Ctrl key is mapped to the Edit::PasteMenu Hotkeys. All of the other available mappings are unmapped.

Figure 9: BlueZone VT key mappings information



Red keys

Red keys cannot be used to map BlueZone VT Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map BlueZone VT Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is mapped to Esc.

Options

- **Keyboard Functions Group**: Lists the various groups of keyboard functions that are available for keyboard mapping.
  - **VT Functions**: Used to map VT Terminal related functions like the Function Keys, Answerback, PF1 through PF4, Find, Insert, Remove, Select, Previous Screen, Next Screen, Hold, and so on.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping, like Broken Vertical Bar, Degree Sign, Plus Sign, Minus Sign, Euro Currency Symbol, and so on.
  - **Macro Files**: Lists the macro files available for key mapping. BlueZone macro files are created by selecting **Macro** ® **Record** from the BlueZone menu bar.

    Note

    Only macro files from the BlueZone program directory are listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by selecting **Script** ® **Record** from the BlueZone menu bar.

    Note

    Only script files from the BlueZone program directory are listed for selection.

  - **User Defined Keys**: There are fifteen user defined keys available for mapping. User 6 through User 20.
- **Functions**: Lists the various functions available for key mapping. The functions displayed are dependent on which function is selected in the **Keyboard Functions Group** list box.
- **Key Mappings**: Lists the key mapping or mappings if any, that execute the highlighted function in the **Functions** list box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Functions Group list box. For example, if you want a printout of all the 5250 keyboard functions and what keys they are currently mapped to, make sure that 5250 Functions is in the **Functions Group** list box and click **Print**.
- **New**: Adds a new key mapping entry to the **Key Mappings** list box.

  Note

  Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the **Key Mappings** list box.
- **OK**: Accepts the key mapping and assigns it to the 3270 Function.
- **Cancel**: Cancels the key mapping.

Escape Sequences tab

The **Escape Sequences** tab is used to view or change the default BlueZone VT escape sequences that are associated with certain BlueZone VT keys like Function Keys, Backspace, Arrow Keys, and so on.

VT Functions

The VT Functions group is used to set or reset an ASCII escape sequence for any VT function:

- **Overwrite Function**: Enable this check box, if you want to edit or create a custom escape sequence for a particular VT key or command.

- **Escape Sequence**: This field is used to edit or create a custom escape sequence for the selected VT function. The syntax requires a back-slash (\ ) then a two digit hexadecimal number. For example, `\1B` is the value for Escape (ESC). Multiple items are simply typed in as a continuous string with no spaces. For example, the function key F13 has the following escape sequence `\1B\5B\32\35\7E`.

Additional Options tab

The **Additional Options** tab controls the behavior of the backspace, arrow, and number pad functions.

Send Backspace as

There are two choices for the behavior of the backspace function:

- **Backspace / Non-Destructive (08h)**: Causes the cursor to move to the left without deleting any characters.
- **Delete / Destructive (7Fh)**: Causes the cursor to move to the left and deletes any characters it encounters.

Cursor Keys

Controls the behavior of the arrow key functions.

- **Host Controlled**: The host sets the cursor keypad mode and controls the escape sequence that the arrow keys send.
- **Normal**: Sends the application and numeric control sequences to the host.
- **Application**: Sends only the application control sequence to the host.

Keypad Mode

Controls the behavior of the numeric keypad functions.

- **Host Controlled**: The host sets the numeric keypad mode and controls the escape sequence that the numeric keypad keys send.
- **Numeric**: Sends only the numeric control sequence to the host. When **Numeric** is selected, **Num** displays in the status bar.
- **Application**: Sends only the application control sequence to the host. When **Application** is selected, **App** displays in the status bar.

Mouse Options dialog

The Mouse Options window is used to change several BlueZone VT mouse options.

From the menu bar, click **Options** ® **Mouse**.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click on a word automatically selects the entire word so that you can copy and paste more efficiently. After the word is selected, you can either copy it to the Windows clipboard or you can drag-and-drop the highlighted word to another Windows OLE compliant application like Microsoft Word or Excel.

  Tip

  The OLE drag-and-drop feature is not limited to just one word. You can also select blocks of text (or even the whole screen) and drag it to your OLE compliant application.

  - **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.

- **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
- **“ ‘**

  : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
- **Include Trailing Space**: As an option you can include the trailing space at the end of the word if desired.

- **Send Function Enter on Mouse Left Double-Click**: If enabled, a double-click acts as if you pressed the Enter key.
- **Attempt to set Cursor Position on Mouse Left Double-Click**: If enabled, this feature attempts (see note below) to reposition the cursor to any place on the screen where you double-clicked.
  - **Instead, have a Mouse Left Single-Click Attempt to Set Cursor Position**: This changes the feature to operate with a single click.

    Note

    This feature may not work with all host types. Generally speaking, when connected to a host session, if you can move the position of the cursor with your arrow keys then this feature will most likely work. Some hosts unfortunately, do not support this functionality.

- **Display Pop-up Menu on Mouse Right Click**: If selected, the BlueZone VT menu pop-up menu is displayed when you right-click.

  Tip

  The pop-up menu is very useful. This menu allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the printer setup dialog, enable logging, access the edit properties dialog, connect a session, disconnect a session, access display options, access keyboard options, toggle between 80 and 132 columns, jump screen, as well as others.

- **Send Function on Mouse Right Click**: If selected, a right-click sends the selected function from the provided list.

Sounds Options dialog

The Sounds Options dialog is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds** or click the **Sounds** icon from the BlueZone toolbar.

Sounds tab

Options

There are two options: one to enable the host bell and one to enable the BlueZone application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If enabled, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the **System Sound** list box. By default, the system default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.

- **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can select both the frequency and the duration of the sound.
  - **Frequency**: Is in Hertz
  - **Duration**: Is in Milliseconds
- **Test**: Click to test the selected option above.

- **Enable BlueZone Application Sounds**: This is used to select whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties window is used to configure BlueZone to work with external programs. To launch the API Properties window, click **Options** ® **API**.

Typical applications that use the BlueZone API interface, use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 187 for more information.

Options tab

The API Properties, **Options** tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone modifies registry settings and invoke NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network (LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.

- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone automatically associates the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone runs/closes the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.

Trace tab

The API Properties, **Trace** tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Enable to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Enable to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification can be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied on the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder on the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`

- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.

2. Check the **Enable DDE Server Interface** check box.

   BlueZone is now listening for a DDE connection.

3. Run the HLLAPI application and check to see if it connects to BlueZone.

ICL 7561 display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- HotSpots and GUI mode
- Watermark
- Advanced options

Font tab

The Font tab in the Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Font** tab.

Font Selection

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: Click to change any of the features listed above.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: (relative to size of Session Window) When checked, BlueZone auto-sizes the font to the largest font possible while still displaying all the session rows and columns within the session window. How well the auto-size font feature works depends largely on the quality of the font selected.
- **Auto-Size Session Window**: (relative to the Font Size) If checked, and **OK** or **Apply** is clicked, BlueZone auto-sizes the session window to the smallest window possible, while still displaying all the session rows and columns.
- **Dual Case Characters**: If enabled, both upper and lower case characters are displayed in the session window. If disabled , only upper case characters are displayed in the session window.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters slide control has the keyboard input focus then the Sample group displays a sample of the currently configured blink rate. To get focus, click the slide control itself.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected then this setting can affect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data starts at the extreme edges of the display window. Increasing the size of the border places that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Highlight Zero Character**: Used to choose how BlueZone displays the zero character. In many fonts, its hard to tell the difference between a capital O and the number zero. This feature helps distinguish the number zero from the capital O by adding a dot or a slash to the zero. From the drop-down list box, choices are:
  - **No Highlighting**: Displays the zero character exactly as the currently configured font displays it.
  - **Add Center Dot**: Adds a dot to the center of the zero character.
  - **Add Slash**: Adds a slash to the zero character.

Sample

The Sample window shows how the currently configured font settings will appear in the display session.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. Small is essentially an underscore cursor and Large is a block cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window shows how the currently configured cursor settings will appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.
- **Show Cursor Cross-Hair Guide**: If selected, BlueZone displays horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.
- **Auto-Scroll to Cursor**: If selected, and the "Auto Size Font" / "Auto-Size Session Window" options are disabled, BlueZone auto-scrolls the session window to keep the cursor in view.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Color Scheme

The Color Scheme group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black. Attribute and Extended Colors automatically change to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white. Attribute and Extended Colors automatically change to white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Customize**: Click to change the color of the currently selected item. The colors available are dependent on the display hardware and operating system configuration of the PC.

Background Color

The Background Color group is used to set the background color of the display session:

- **Background**: To change the background color select the Background radio button then select a standard color square or press the Customize button to select a custom color.

Attribute Colors

The Attribute Colors group is used to set the text foreground color based on the associated host field attribute. To change the color, select the color item to change then choose a color square or press the Customize button:

- **Unprotected**: Sets the foreground color of text being displayed in a host unprotected field. To change the color, make the Unprotected radio button active, then choose a standard color square or click **Customize** to select a custom color.

- **Unprotected Bold**: Sets the foreground color of text being displayed in a host unprotected bold field. To change the color, make the Unprotected Bold radio button active, then choose a standard color square or click **Customize** to select a custom color.
- **Protected**: Sets the foreground color of text being displayed in a host protected field. To change the color, make the Protected radio button active, then choose a standard color square or click **Customize** to select a custom color.
- **Protected Bold**: Sets the foreground color of text being displayed in a host unprotected field. To change the color, make the Protected Bold radio button active, then choose a standard color square or click **Customize** to select a custom color.

HotSpots and GUI mode

The GUI tab in the Display Options property sheet is used to configure HotSpots in the Session Window. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **GUI** tab.

GUI tab

HotSpots

The HotSpots Options group is used to enable and configure HotSpots:

- **Enable HotSpots**: If enabled, BlueZone creates HotSpots based on the criteria stored in the Customize dialog. Also, BlueZone creates HotSpots when the following file extensions are found on the screen: `.jpg`, `.bmp`, `.doc`, `.xls`, and `.pdf`. When these HotSpots are clicked, BlueZone sends the file name and path, if provided, to Windows. Windows uses its current file association to launch the correct application.
- **Display HotSpots as Buttons**: If enabled, HotSpots are displayed as buttons in the session window.
- **Use Mouse Pointer and Colors to Show HotSpots**: If enabled, HotSpots are invisible until the cursor is positioned over them. In that case the configured foreground and background colors are used to reveal the HotSpot.
- **Foreground Color**: Used to set the HotSpot foreground color.
- **Background Color**: Used to set the HotSpot background color.
- **Customize**: Click to customize HotSpots functionality. Refer to Customize HotSpots buttons, on page 206 below for more information.
- **Expand HotSpots to Include Associated Text**: If enabled, the HotSpot expands to include any associated text. For example, a HotSpot labeled F3 can expand to a HotSpot labeled F3=Exit.
- **Expand HotSpots Across Single Spaces**: If enabled, the HotSpot expands across single spaces.

Note

HotSpots only work in protected fields.

Edit

The Edit group is used to enable or disable the GUI Edit Controls option. This option turns the normal command line into an edit box to emulate a more GUI like user interface. The behavior of the cursor and other edit controls inside an edit box is more like a typical Windows program.

- **Display Unprotected Fields Using GUI Edit Controls**: If enabled, unprotected fields are replaced with GUI edit controls.

  Tip

  This feature is especially useful when the end users are more familiar with Windows applications than with IBM terminal emulation programs.

Auto-GUI On / Off

The Auto-GUI On/Off group is used to select GUI or Green Screen mode.

- **GUI Me and Close**: Used to set the display options to the default GUI settings and close the Display Options dialog box.
- **Green Me and Close**: Used to set the display options to the default non-GUI settings and close the Display Options dialog box.

Customize HotSpots buttons

Options

The Options group contains controls for the configuration of session HotSpots:

- **Turn "Number" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces in the session window.
- **Turn "Number+Period" Strings into HotSpots**: If enabled, HotSpots are created for number strings that are enclosed by spaces on the left and a period(.) on the right.
- **Turn "HTTP://" Strings into HotSpots (Auto-Launch Web Browser to URL)**: If enabled, "http://" strings are used to auto-launch the web browser to the designated address.
- **Turn "FILE://" Strings into HotSpots (Auto-Open File)**: If enabled, "file://" strings are used to auto-open the designated file.
- **Custom Search Strings**: Displays a list of the currently configured custom HotSpots search strings. BlueZone searches the session window each time a host write occurs and creates a HotSpot if the search string is found.
  - **New**: Used to define a new custom search string.
  - **Edit**: Used to edit the currently highlighted custom search string.
  - **Delete**: Used to remove the currently highlighted custom search string from the list.
- **Action / Function**: Displays the action that occurs when a HotSpot that is defined for the currently highlighted search string is selected. To change the action, select a different entry from the list.
- **Default Custom Settings Button**: Used to restore the search strings and action lists to their default values.

  Note

  When creating new custom search strings, keep in mind that HotSpots only work in protected fields.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Use **Browse** to locate the bit-mapped file you want to use. Example: `C:\Windows\clouds.bmp`.
- **Position**: If the **Center** box is not checked, then you can use the **Row** and **Column** positioning for the image. Checking the **Center** box overrides (grays out) **Row** and **Column** positioning:
  - **Row**: Enter the row number where you want the image to start.
  - **Column**: Enter the column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone places the bitmap image in the center of the display and the **Row** and **Column** selection boxes are disabled.

    Tip

    Use the **Position** option when you want to display a small logo in a part of the display screen that is not normally used.

- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Advanced tab

The Advanced tab in the Display Options property sheet is used to select Advanced Display Options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Advanced** tab.

Options

- **Show Unprotected Fields**: If enabled, BlueZone shows all unprotected fields using the specified method below.
  - **As Underlined**: If selected, non-underlined unprotected fields are displayed as underlined.
  - **Using Character**: If selected, blank positions in unprotected fields display using the specified character shown in the Selection Box.

    Note

    Enabling this option disables the Smart Screen Updates feature.

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone program functions to key sequences on the keyboard.

From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar. The Keyboard Options dialog opens, which contains the **Key Mappings** (a bitmap image of a keyboard), **Options**, and **More Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

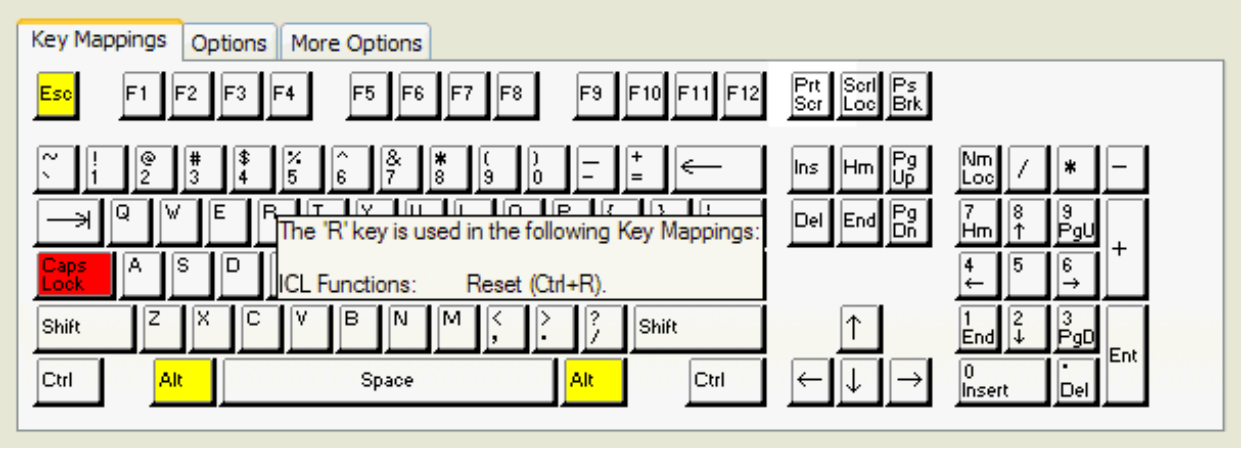
If you have installed a non-English version of BlueZone, the default keyboard map that displays is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click on a gray key, a light yellow box opens with the mappings of that particular key and also any combination key mappings that this key is used in.

The following illustration shows all Key Mappings associated with the R key.

Figure 10: ICL keyboard



Red keys

Red keys cannot be used to map ICL Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map ICL Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is the default BlueZone Full Screen Hotkey key.

Options

- **Keyboard Type**: A drop-down menu that contains a list of keyboard options for BlueZone. Select the type of keyboard required for your display:
  - Default
  - Unicomp 0852-M 122 Key
  - KeyTronic KB3270/Plus
  - Dutch
  - French
  - German
  - Japanese
  - United States
  - United States-International

    Note

    If you select either the **Unicomp 0852-M 122 Key** or the **KeyTronic KB3270/Plus** keyboard, a **122 Keys** button displays in the upper right hand corner of the dialog. Click this button to display a floating keyboard bitmap of the extended keys.

- **Functions Group**: A List Box which contains a list of a the BlueZone Function Groups that can be mapped.
  - **ICL Functions**: Lists the ICL functions and what keys they are currently mapped to.
  - **ICL Characters**: Lists special ICL characters and what keys they are currently mapped to.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping.
  - **Reserved**: Not used at this time.
  - **Macros Files**: Lists the macro files available for key mapping. BlueZone macro files are created by clicking **Macro ® Record** from the BlueZone menu bar.

    Note

    When Macro Files is selected, only macro files from the BlueZone program directory will be listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by clicking **Script ® Record** from the BlueZone menu bar.

    Note

    When Script Files is selected, only script files from the BlueZone program directory will be listed for selection.

- **Functions**: Lists the functions available for key mapping. The functions displayed are dependent on which function is selected in the Functions Group list box above.
  For example, if ICL Functions is selected the Functions Group list box, then only ICL Functions will be displayed in the Functions window along with their respective Key Mappings in the Key Mappings window.
- **Key Mappings**: Lists the key mapping or mappings if any, that will execute the highlighted function in the Functions list box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Functions Group list box. For example, if you want a printout of all the ICL keyboard functions and what keys they are currently mapped to, make sure that ICL Functions is in the Functions Group list box and click **Print**.

- **New**: Adds a new key mapping entry to the Key Mappings list box.

  Note

  Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the Key Mappings list box.
- **OK**: Accepts the key mapping and assigns it to the 3270 Function.
- **Cancel**: Cancels the key mapping.

Options tab

Options

- **Operate ICL Function Backspace as a Destructive Backspace**: If enabled, the ICL Function Backspace deletes the character underneath the cursor after the cursor has been moved.
- **Auto-Reset when keyboard is locked (an audible sound will be heard)**: If enabled, the ICL Function Reset automatically executes if the keyboard state becomes locked with an “X Error” condition.
  - **Auto Tab After Reset**: If enabled, an Auto-Tab is issued immediately after the keyboard is unlocked by the Auto-Reset feature above. The purpose of this feature is to automatically bring the cursor to the closest field of entry.
  - **Immediate Auto-Reset**: If enabled, the Auto-Rest is issued immediately.
  - **Auto-Rest when Next Key is Pressed**: If enabled, the Auto-Rest is issued only after a key is pressed.
- **Operate ICL Function Rapid Left/Right as Word Rapid Left/Right**: If enabled, the ICL Functions Rapid Left and Rapid Right will operate as Word Left and Word Right.
- **ICL Function Insert - Classic, True IBM Mainframe Emulation**: If enabled, the ICL Function Insert activates Insert Mode. In addition, Insert Mode deactivates each time the user presses an AID-Key.
- **ICL Function Insert - PC Style, Insert Mode Toggles On/ Off**: If enabled, the ICL Function Insert toggles Insert Mode On / Off.
- **ICL Function Insert - Combination Style, Toggles On/ Off and AID-Key Disables Insert Mode**: If enabled, the ICL Function Insert toggles Insert Mode On / Off. In addition, Insert Mode deactivates each time the user presses an AID-Key.
- **ICL Function Insert - Treat Trailing Spaces as Nulls**: If enabled, BlueZone auto-removes trailing spaces at the end of field when typing in insert mode.

More Options tab

Options

- **ICL Function End: Move Cursor to End of Text on Line**: If enabled, the ICL function "End" moves the cursor to the end of any text on that Line. When this option is enabled, protected text is honored.
- **ICL Function End: Move Cursor to End of Text in Field**: If enabled, the ICL function "End" moves the cursor to the end of text in the current or next unprotected field. If the cursor is already at the end of text, the cursor is moved to the end of field and any trailing spaces are ignored. If the cursor is already at the end of field, the next unprotected field is used.
- **Hard-Map Print Screen Key to Menu Hotkey File® Print Screen**: If enabled, the ICL Function Print Screen executes when pressing the Print Screen key on the keyboard.

Note

The Print Screen key is a system key and will also cause Windows to copy the contents of the desktop to the clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, Control, Alt and Shift keys operates in Auto-Repeat Mode.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter Keys operates continuously while pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function Keys operates continuously while pressed.

Mouse Options dialog

The Mouse Options dialog is used to configure the special mouse features which control the behavior of the mouse when using BlueZone ICL.

From the menu bar, click **Options** ® **Mouse** or click the **Mouse** icon from the toolbar.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click highlights the word, if any, that the cursor is on. A word is considered to be upper or lower-case characters and digits. A trailing blank is added if it is present.
  - **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **“ ’**

    : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **Include Trailing Space**: If selected, any extra trailing space is highlighted for Copy/Paste when double-click is configured to highlight word.
- **Send ICL Function Enter on Mouse Left Double-Click**: If selected, a double-click automatically executes the 3270/5250 Function Enter after the cursor has been moved.
- **Send ICL Function Cursor Select on Mouse Left Double-Click - (Light Pen Support)**: If selected, a double-click automatically executes the 3270/5250 Function Cursor Select after the cursor has been moved. This function is used with host applications that have support for Light Pen devices.
  - Instead, have a Mouse Left Single-Click send the ICL Function Cursor Select: If checked, a mouse left single-click automatically executes the ICL Function Cursor Select after the cursor has been moved. This option is available for selection only if the **Send ICL Function Cursor Select on Mouse Left Double-Click** check box is selected.
- **Display Pop-up Menu on Mouse Right Click**: If selected, the ICL Display pop-up menu will be displayed when the mouse right button is clicked.

  Tip

  The pop-up menu is very useful. This menu allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the edit properties dialogs, connect a session, disconnect a session, configure a session, access display options, access keyboard options, jump screen, as well as others.

- **Send ICL Function on Mouse Right Click**: If selected, the highlighted emulation function from the drop-down list box is executed when the mouse right button is clicked.
- **Send ICL Function on Mouse Wheel Up**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the up direction. You can configure the mouse wheel to send any BlueZone supported ICL function.
- **Send ICL Function on Mouse Wheel Down**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the down direction. You can configure the mouse wheel to send any BlueZone supported ICL function.

Sounds Options dialog

The Sounds Options dialog is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds** or click the **Sounds** icon from the BlueZone toolbar.

Sounds tab

Options

There are two options, one to enable the Host Bell and one to enable the BlueZone Application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If enabled, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the System Sound list box. By default, the system default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.
  - **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can choose both the frequency and the duration of the sound.
    - **Frequency**: Is in Hertz
    - **Duration**: Is in Milliseconds
  - **Test**: Use this button to test the selected option above.
- **Enable BlueZone Application Sounds**: This is used to choose whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties dialog is used to configure BlueZone to work with external programs. To launch the API Properties dialog, go to the BlueZone menu bar, and click **Options** ® **API**.

Typical applications that use the BlueZone API interface use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 201 for more information.

Options tab

The API (Application Program Interface) Properties, Options tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone will modify registry settings and invoke NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network(LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.
- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone will automatically associate the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone will run/close the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.
- **Allow Multiple Simultaneous Connections**: If enabled, the BlueZone HLLAPI will allow connection requests from a single application tread to the same BlueZone session as long as it is using the same HLLAPI Short Name Session Identifier. If disabled (default), the session will only allow multiple simultaneous connections to its presentation space if the first HLLAPI application connecting had specified WRITE_WRITE when calling HLLAPI SetSessionParameters.

Trace tab

The API Properties Trace tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Enable to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Enable to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

CAUTION

This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification can be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied on the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder on the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`

- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.

2. Check the **Enable DDE Server Interface** check box.

   BlueZone is now listening for a DDE connection.

3. Run the HLLAPI application and check to see if it connects to BlueZone.

Unisys T27 display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- Watermark

Font tab

The Font tab in the Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display** ® **Options**. Click the **Font** tab.

Font Selection ----

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: To change any of the features listed above, use the Change button to select a different display font name, style, and or size.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: (relative to size of Session Window) When checked, BlueZone will auto-size the font to the largest font possible while still displaying all the session rows and columns within the session window. How well the auto-size font feature works depends largely on the quality of the font selected.
- **Auto-Size Session Window**: (relative to the Font Size) If checked, and the OK or Apply button is pressed, BlueZone will auto-size the session window to the smallest window possible, while still displaying all the session rows and columns.
- **Dual Case Characters**: If enabled then both upper and lower case characters will be displayed in the session window. If disabled then only upper case characters will be displayed in the session window.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters slide control has the keyboard input focus then the Sample group will display a sample of the currently configured blink rate. To get focus, left click on the slide control itself.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected then this setting may effect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected then this setting may effect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data will start at the extreme edges of the display window. Increasing the size of the border will place that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Highlight Zero Character**: Used to choose how BlueZone displays the "zero" character. In many fonts, its hard to tell the difference between a capital O and the number zero. This feature helps distinguish the number zero from the capital O by adding a dot or a slash to the zero. From the drop-down list box, choices are:
  - **No Highlighting**: Displays the zero character exactly as the currently configured font displays it.
  - **Add Center Dot**: Adds a dot to the center of the zero character.
  - **Add Slash**: Adds a slash to the zero character.
- **Fixed-Aspect Ratio (%)**: When selected along with **Auto-Size Font**, BlueZone keeps the font width proportional to the font height. When **Auto-Size Session Window** is cleared, BlueZone centers the host screen.

Sample

The Sample window shows how the currently configured font settings will appear in the display session.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. Small is essentially an "underscore" cursor and Large is a "block" cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window is used to show how the currently configured cursor settings will appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.
- **Show Cursor Cross-Hair Guide**: If selected, BlueZone will display horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.
- **Auto-Scroll to Cursor**: If selected, and the "Auto Size Font" / "Auto-Size Session Window" options are disabled, BlueZone will auto-scroll the session window to keep the cursor in view.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Color Scheme

The Color Scheme group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black, Attribute and Extended Colors will automatically change to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white, Attribute and Extended Colors will automatically change to white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Customize**: Click to change the color of the currently selected item. The colors available are dependent on the display hardware and operating system configuration of the PC.

Colors / Attributes

In the Unisys T27 Display, colors and attributes are defined together. To change the color of a particular attribute:

1. Locate the particular attribute you want to change in the **Colors / Attributes** scroll box, and select it by clicking its radio button.

   Note

   You may have to use the scroll bar in order to find the particular attribute you are looking for.

2. Select the desired color from the standard Windows color palette under the **Color Scheme** section on the left. The color box for that attribute changes to the selected color.
3. Click **Apply** or **OK**. The changes take effect.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Use **Browse** to locate the bit-mapped file you want to use. Example: `C:\Windows\clouds.bmp`.
- **Position**: If the Center box is not checked, then you can use Row and Column positioning for the image. Checking the Center box will override (gray out) Row and Column positioning:
  - **Row**: Type the Row number where you want the image to start.
  - **Column**: Type the Column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone will place the bitmap image in the center of the display and the Row and Column selection boxes will be disabled.

    Tip

    Use the **Position** option when you want to display a small logo in a part of the display screen that is not normally used.

- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone T27 program functions to key sequences on the keyboard.

From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar. The Keyboard Options dialog opens, which contains the **Key Mappings** (a bitmap image of a keyboard), **Options**, and **More Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

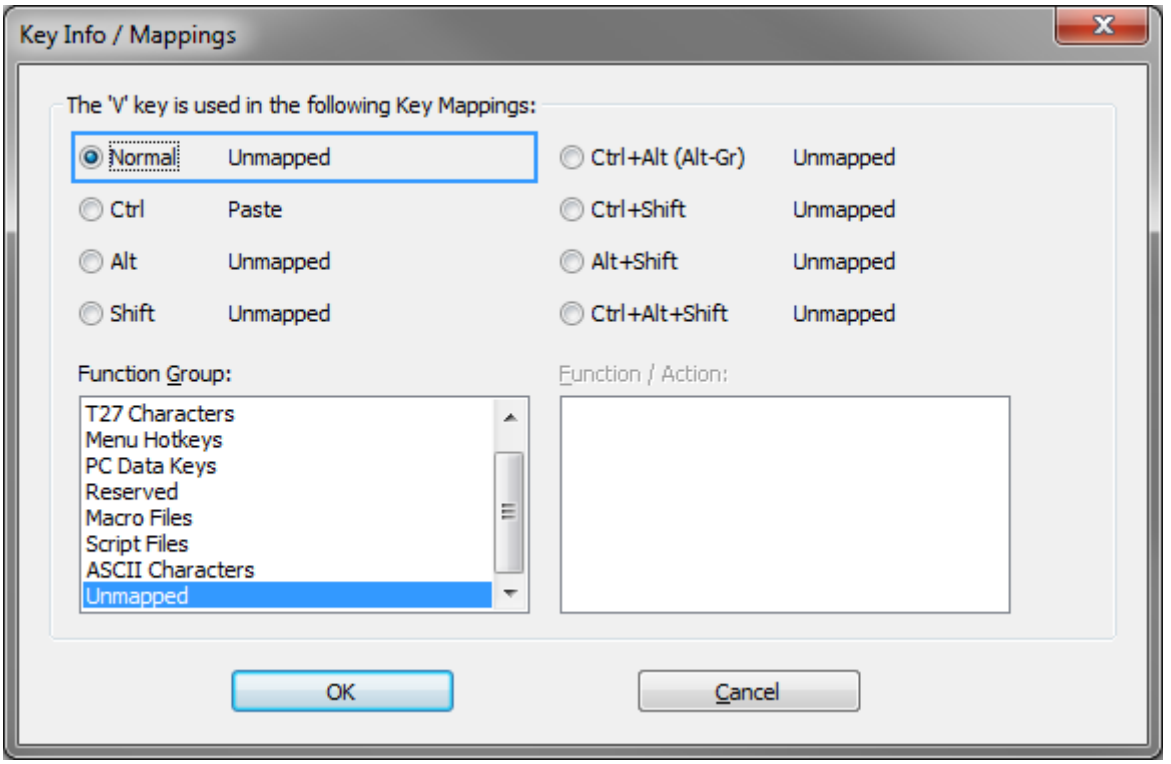
If you have installed a non-English version of BlueZone, the default keyboard map that will be displayed is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click a gray key, the Key Info/Mappings window opens and lists all of the key mappings for each function group. It also lists any combination key mappings that this key is used in.

The following figure shows the associated mappings with the V key. The Ctrl key is mapped to the Edit::PasteMenu Hotkeys. All of the other available mappings are unmapped.

Figure 11: BlueZone T27 key mappings information



Red keys

Red keys cannot be used to map BlueZone T27 Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map BlueZone T27 Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is mapped to Esc.

Options

- **Keyboard Type**: A drop-down menu that contains a list of keyboard options for BlueZone. Select the type of keyboard required for your display:
  - Default
  - Unicomp 0852-M 122 Key
  - KeyTronic KB3270/Plus
  - Dutch
  - French
  - German
  - Japanese
  - United States
  - United States-International

    Note

    If you select either the **Unicomp 0852-M 122 Key** or the **KeyTronic KB3270/Plus** keyboard, a **122 Keys** button displays in the upper right hand corner of the dialog. Click this button to display a floating keyboard bitmap of the extended keys.

- **Functions Group**: Lists the various groups of keyboard functions that are available for keyboard mapping.
  - **T27 Functions**: Used to map T27 Terminal related functions like the Arrow Keys, Clear Keys, F1 through F10, Home, Insert Line, Local, and so on.
  - **T27 Characters**: Used to map special T27 characters lice the Cent Sign, Logical Not and Solid Vertical Bar.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping, like Broken Vertical Bar, Degree Sign, Plus Sign, Minus Sign, Euro Currency Symbol, and so on.
  - **Macro Files**: Lists the macro files available for key mapping. BlueZone macro files are created by clicking **Macro ® Record** from the BlueZone menu bar.

    Note

    Only macro files from the BlueZone program directory are listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by clicking **Script ® Record** from the BlueZone menu bar.

    Note

    Only script files from the BlueZone program directory are listed for selection.

- **Functions**: Lists the various functions available for key mapping. The functions displayed are dependent on which function is selected in the Functions Group list box.
- **Key Mappings**: Lists the key mapping or mappings if any, that execute the highlighted function in the Functions List Box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Keyboard Functions Group: list box. For example, if you want a printout of all the T27 keyboard functions and what keys they are currently mapped to, ensure that T27 Functions is in the Keyboard Functions Group box and click **Print**.
- **New**: Adds a new key mapping entry to the Key Mappings list box.

Note

Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the Key Mappings list box.
- **OK**: Accepts the key mapping and assigns it to the T27 Function.
- **Cancel**: Cancels the key mapping.

Options tab

Note

There are additional keyboard options located on the Keyboard Options tab in the T27 Terminal Configuration Settings dialog. Refer to Unisys DCA configuration, on page 102 for more information.

Options

- **Auto-Reset when keyboard is locked (an audible sound will be heard)**: If enabled, the T27 Function Reset is automatically executed if the keyboard state becomes locked with an "X Error" condition.
  - **Auto Tab After Reset**: If enabled, an Auto-Tab is issued immediately after the keyboard is unlocked by the Auto-Reset feature above. The purpose of this feature is to automatically bring the cursor to the closest field of entry.
  - **Immediate Auto-Reset**: If enabled, the Auto-Rest is issued immediately.
  - **Auto-Rest when Next Key is Pressed**: If enabled, the Auto-Rest is issued only after a key is pressed.
- **Hard-Map Print Screen Key to Menu Hotkey File® Print Screen**: If enabled, the T27 Function Print Screen executes when pressing the Print Screen key on the keyboard.

  Note

  The Print Screen key is a system key and causes Windows to copy the contents of the desktop clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, the Ctrl, Alt, and Shift keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function keys auto-repeat while continuously pressed.

More Options tab

Note

There are additional keyboard options located on the Keyboard Options tab in the T27 Terminal Configuration Settings dialog. Refer to Unisys DCA configuration, on page 102 for more information.

Options

- **Hard-Map Print Screen Key to Menu Hotkey File® Print Screen**: If enabled, the T27 Function Print Screen executes when pressing the Print Screen key on the keyboard.

  Note

  The Print Screen key is a system key and causes Windows to copy the contents of the desktop clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, the Ctrl, Alt, and Shift keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function keys auto-repeat while continuously pressed.

Mouse Options dialog

The Mouse Options dialog is used to configure the special mouse features which control the behavior of the mouse when using BlueZone T27.

From the menu bar, click **Options** ® **Mouse** or click the **Mouse** icon from the toolbar.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click highlights the word, if any, that the cursor is on. A word is considered to be upper or lower-case characters and digits. A trailing blank is added if it is present.
  - **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **" '**
    : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
  - **Include Trailing Space**: If selected, any extra trailing space is highlighted for Copy/Paste when double-click is configured to highlight word.
- **Send T27 Function Enter on Mouse Left Double-Click**: If selected, a double-click automatically executes the 3270/5250 Function Enter after the cursor has been moved.
- **Display Pop-up Menu on Mouse Right Click**: If selected, the T27 Display pop-up menu displays when the mouse right button is clicked.

  Tip

  The pop-up menu is very useful. This menu allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the edit properties dialogs, connect a session, disconnect a session, configure a session, access display options, access keyboard options, jump screen, as well as others.

- **Send T27 Function on Mouse Right Click**: If selected, the highlighted emulation function from the drop-down list box is executed when the mouse right button is clicked.
- **Send T27 Function on Mouse Wheel Up**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the up direction. The default command is Roll Down. As an option, you can configure the mouse wheel to send any BlueZone supported T27 function.
- **Send T27 Function on Mouse Wheel Down**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the down direction. The default command is Roll Up. As an option, you can configure the mouse wheel to send any BlueZone supported T27 function.

Sounds Options dialog

The Sounds Options dialog is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds** or click the **Sounds** icon from the BlueZone toolbar.

Sounds tab

Options

There are two options: one to enable the host bell and one to enable the BlueZone application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If enabled, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the **System Sound** list box. By default, the system default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.
  - **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can choose both the frequency and the duration of the sound.
    - **Frequency**: Is in Hertz
    - **Duration**: Is in Milliseconds
  - **Test**: Click to test the selected option above.
- **Enable BlueZone Application Sounds**: This is used to choose whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties dialog is used to configure BlueZone to work with external programs. To launch the API Properties dialog, go to the BlueZone menu bar, and click **Options** ® **API**.

Typical applications that use the BlueZone API interface use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 214 for more information.

Options tab

The API (Application Program Interface) Properties, Options tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone modifies registry settings and invoke NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network (LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.
- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone automatically associates the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone runs/closes the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.
- **Allow Multiple Simultaneous Connections**: If enabled, the BlueZone HLLAPI allows connection requests from a single application tread to the same BlueZone session as long as it is using the same HLLAPI Short Name Session Identifier. If disabled (default), the session only allows multiple simultaneous connections to its presentation space if the first HLLAPI application connecting had specified WRITE_WRITE when calling HLLAPI SetSessionParameters.

Trace tab

The API Properties Trace tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Enable to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Enable to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third-party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision, and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification can be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied on the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder on the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`

- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.

2. Check the **Enable DDE Server Interface** check box.

   BlueZone is now listening for a DDE connection.

3. Run the HLLAPI application and check to see if it connects to BlueZone.

Unisys UTS display options

Display Options dialog

The Display Options dialog allows you to configure the following settings:

- Font
- Cursor
- Color
- Watermark

Font tab

The Font tab in the Display Options property sheet is used to select a session display font and to configure additional font options. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Font** tab.

Font Selection

The Font Selection group is used to select a session display font. Options include:

- **Name**: Displays the currently selected font name.
- **Style**: Shows the currently selected font style.
- **Size**: Displays the currently selected font size or 'A' if the font has been auto-sized by BlueZone. See Font Options below for information on auto-sizing the session display font.
- **Change**: Click to change any of the features listed above.

Options

The Options group is used to configure additional display font properties. Configuration options include:

- **Auto-Size Font**: (relative to size of Session Window) When checked, BlueZone auto-sizes the font to the largest font possible while still displaying all the session rows and columns within the session window. How well the auto-size font feature works depends largely on the quality of the font selected.
- **Auto-Size Session Window**: (relative to the Font Size) If checked, and **OK** or **Apply** is clicked, BlueZone auto-sizes the session window to the smallest window possible, while still displaying all the session rows and columns.
- **Dual Case Characters**: If enabled then both upper and lower case characters are displayed in the session window. If disabled then only upper case characters are displayed in the session window.
- **Blinking Characters**: Used to set the blink speed of blinking characters displayed in the host screen. When the Blinking Characters slide control has the keyboard input focus then the Sample group displays a sample of the currently configured blink rate. To get focus, click on the slide control itself.
- **Row Spacing**: Used to set the distance in pixels between lines of text in the session window. If Auto-Size Font is selected then this setting can effect the Font Size.
- **Column Spacing**: Used to set the distance in pixels between characters in the session window. If Auto-Size Font is selected then this setting can effect the Font Size.
- **Border Size**: Used to set the border width in pixels. The Border (if set to a number greater than 0) is an equal space that goes all the way around the BlueZone display window. Left side, top, right side and bottom. You don't actually see a border, you see the space created by the border size setting. If the size is set to zero, screen data starts at the extreme edges of the display window. Increasing the size of the border will place that amount of space in pixels between the edge of the display window and the screen data, equally around the entire screen.
- **Default**: Used to set all of the controls in Options group to their default values.
- **Highlight Zero Character**: Used to choose how BlueZone displays the "zero" character. In many fonts, its hard to tell the difference between a capital O and the number zero. This feature helps distinguish the number zero from the capital O by adding a dot or a slash to the zero. From the drop-down list box, choices are:
  - **No Highlighting**: Displays the zero character exactly as the currently configured font displays it.
  - **Add Center Dot**: Adds a dot to the center of the zero character.
  - **Add Slash**: Adds a slash to the zero character.
- **Fixed-Aspect Ratio (%)**: When selected along with **Auto-Size Font**, BlueZone keeps the font width proportional to the font height. When **Auto-Size Session Window** is cleared, BlueZone centers the host screen.

Sample

The Sample window shows how the currently configured font settings will appear in the display session.

Cursor tab

The Cursor tab in the Display Options property sheet is used to configure the Cursor settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Cursor** tab.

Cursor Settings

The Cursor Settings group is used to set the cursor size and cursor blinking speed:

- **Size**: A sliding scale used to set the size of the session display cursor. Settings are from Small to Large. Small is essentially an underscore cursor and Large is a block cursor.
- **Blink Rate**: Used to set the cursor blinking speed. Settings are from Steady to Fast.

Sample Window

The Sample window shows how the currently configured cursor settings will appear in the display session.

Options

- **Vertical Cursor**: If selected, the cursor displays vertically instead of horizontally. To configure the cursor to display as a word processor's cursor would, set the **Size** slider to **Small** (all the way to the left) and select **Vertical Cursor**.
- **Show Cursor Cross-Hair Guide**: If selected, BlueZone displays horizontal and or vertical lines across the session window positioned from the bottom-left side of the cursor depending on which options are selected below. This is sometimes referred to as a cross hair or cross hair cursor.
  - **Horizontal**: Displays the Cross-Hair Guide as a horizontal line only.
  - **Vertical**: Displays the Cross-Hair Guide as a vertical line only.
  - **Cross Hair**: Displays the Cross-Hair Guide as both a horizontal and vertical line.
- **Cursor Guide Color**: Displays the current cursor color.
- **Customize**: Click to change the color of the Cross-Hair guide.
- **Auto-Scroll to Cursor**: If selected, and the "Auto Size Font" / "Auto-Size Session Window" options are disabled, BlueZone auto-scrolls the session window to keep the cursor in view.

Colors tab

The Colors tab in the Display Options property sheet is used to configure the Color settings. From the BlueZone menu bar, click **Options** ® **Display** or right-click in the session window and select **Display Options**. Click the **Colors** tab.

Color Scheme

The Color Scheme group is used to select a color scheme or make an individual color selection:

- **Black on White**: Use this radio button to set the session display background color to white and the foreground color to black, Attribute and Extended Colors will automatically change to black.
- **White on Black**: With this radio button enabled, the session displays a background color of black and the foreground color of white, Attribute and Extended Colors will automatically change to white.
- **Color**: Sets the background and foreground of the session display to use the colors as defined. To change an individual color select the item to change then select a color square or click **Customize**.
- **Customize**: Click to change the color of the currently selected item. The colors available are dependent on the display hardware and operating system configuration of the PC.

Colors / Attributes

In the Unisys UTS Display, Colors and Attributes are defined together. To change the color of a particular attribute:

1. Locate the particular attribute you want to change in the **Colors / Attributes** scroll box, and select it by clicking its radio button.

Note

You may have to use the scroll bar in order to find the particular attribute you are looking for.

2. Select the desired color from the standard Windows color palette under the **Color Scheme** section on the left. The color box for that attribute changes to the selected color.
3. Click **Apply** or **OK**. The changes take effect.

- **Use UTS60 Colors**: Enable this option if you want to use the UTS60 color scheme.
- **Display Column Separators as Points**: If enabled, column separators are displayed as small dots instead of vertical bars.

Watermark tab

BlueZone has the ability to display a bitmap image (sometimes referred to as a watermark) in the display background. This feature can give BlueZone a custom look by displaying your company's logo in the display background. It's best to use an image that does not interfere with the display text. A very subtle image, or watermark works best.

Options

- **Display Watermark Picture as Background**: When enabled, BlueZone displays a bitmap image in the background of the emulation display screen.
- **Image File Name**: Use **Browse** to locate the bit-mapped file you want to use. Example: `C:\Windows\clouds.bmp`.
- **Position**: If the Center box is not checked, then you can use Row and Column positioning for the image. Checking the Center box will override (gray out) Row and Column positioning:
  - **Row**: Type the Row number where you want the image to start.
  - **Column**: Type the Column number where you want the image to start.
  - **Center**: When this box is checked, BlueZone will place the bitmap image in the center of the display and the Row and Column selection boxes will be disabled.

    Tip

    Use the **Position** option when you want to display a small logo in a part of the display screen that is not normally used.

- **Tile**: When this option is selected, BlueZone tiles the bitmap image over the entire display area.
- **Stretch**: When this option is selected, BlueZone stretches the image to fit the display area.

Keyboard Options dialog

The Keyboard Options dialog is used to map BlueZone UTS program functions to key sequences on the keyboard.

From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar. The Keyboard Options dialog opens, which contains the **Key Mappings** (a bitmap image of a keyboard), **Options**, and **More Options** tabs.

Refer to Mapping keyboards, on page 311 for more information.

Key Mappings tab

Note

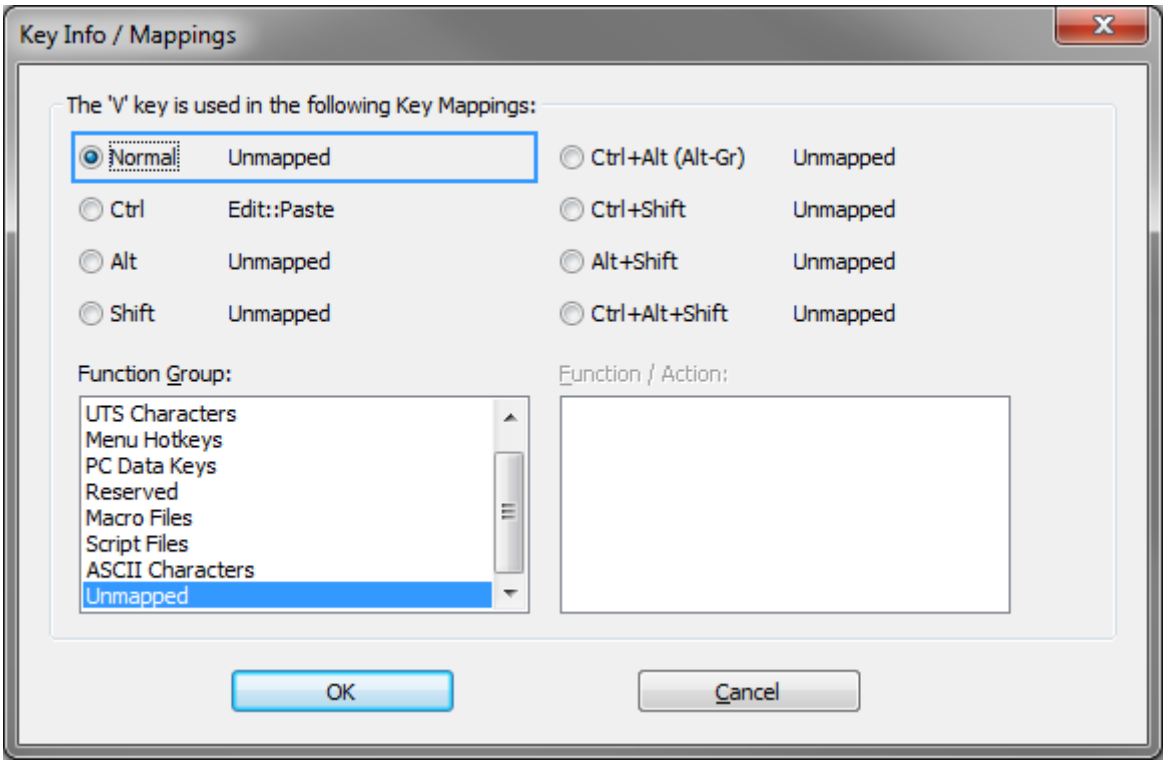
If you have installed a non-English version of BlueZone, the default keyboard map that will be displayed is based on your currently selected language in the Regional and Language Options in Windows.

Gray keys

Gray keys can be mapped. If you click a gray key, the Key Info/Mappings window opens and lists all of the key mappings for each function group. It also lists any combination key mappings that this key is used in.

The following figure shows the associated mappings with the V key. The Ctrl key is mapped to the Edit::PasteMenu Hotkeys. All of the other available mappings are unmapped.

Figure 12: BlueZone UTS key mappings information



Red keys

Red keys cannot be used to map BlueZone UTS Functions.

Yellow keys

Yellow keys are caution keys. Care should be taken when using the yellow keys to map BlueZone UTS Functions. The caution keys include the Alt keys and the Esc key. Windows uses the Alt keys with menu accelerators and the Esc key is mapped to Esc.

Options

- **Keyboard Type**: A drop-down menu that contains a list of keyboard options for BlueZone. Select the type of keyboard required for your display:
  - Default
  - Unicomp 0852-M 122 Key
  - KeyTronic KB3270/Plus
  - Dutch
  - French
  - German
  - Japanese
  - United States
  - United States-International

    Note

    If you select either the **Unicomp 0852-M 122 Key** or the **KeyTronic KB3270/Plus** keyboard, a **122 Keys** button displays in the upper right hand corner of the dialog. Click this button to display a floating keyboard bitmap of the extended keys.

- **Functions Group**: Lists the various groups of keyboard functions that are available for keyboard mapping.
  - **UTS Functions**: Used to map UTS Terminal related functions like the Arrow Keys, Clear Keys, F1 through F10, Home, Insert Line, Local, and so on.
  - **UTS Characters**: Used to map special UTS characters like the Cent Sign, Logical Not and Solid Vertical Bar.
  - **Menu Hotkeys**: Lists the BlueZone menu items available for key mapping.
  - **PC Data Keys**: Lists the PC Keyboard Keys available for key mapping, like Broken Vertical Bar, Degree Sign, Plus Sign, Minus Sign, Euro Currency Symbol, and so on.
  - **Macro Files**: Lists the macro files available for key mapping. BlueZone macro files are created by clicking **Macro** ® **Record** from the BlueZone menu bar.

    Note

    Only macro files from the BlueZone program directory are listed for selection.

  - **Script Files**: Lists the script files available for key mapping. BlueZone script files are created by clicking **Script** ® **Record** from the BlueZone menu bar.

    Note

    Only script files from the BlueZone program directory are listed for selection.

- **Functions**: Lists the various functions available for key mapping. The functions displayed are dependent on which function is selected in the Functions Group list box.
- **Key Mappings**: Lists the key mapping or mappings if any, that execute the highlighted function in the Functions List Box.

Key Mappings Buttons

- **Print**: Allows you to print out the mappings for whatever is displayed in the Keyboard Functions Group list box. For example, if you want a printout of all the UTS keyboard functions and what keys they are currently mapped to, ensure that UTS Functions is in the Functions Group box and click **Print**.
- **New**: Adds a new key mapping entry to the Key Mappings list box.

Note

Functions can be mapped to more than one key.

- **Edit**: Edits the highlighted key mapping entry.
- **Delete**: Removes the highlighted key mapping entry from the Key Mappings list box.
- **OK**: Accepts the key mapping and assigns it to the UTS Function.
- **Cancel**: Cancels the key mapping.

Options tab

Options

- **Auto-Reset when keyboard is locked (an audible sound will be heard)**: If enabled, the UTS Function Reset is automatically executed if the keyboard state becomes locked with an "X Error" condition.
  - **Auto Tab After Reset**: If enabled, an Auto-Tab is issued immediately after the keyboard is unlocked by the Auto-Reset feature above. The purpose of this feature is to automatically bring the cursor to the closest field of entry.
  - **Immediate Auto-Reset**: If enabled, the Auto-Rest is issued immediately.
  - **Auto-Rest when Next Key is Pressed**: If enabled, the Auto-Rest is issued only after a key is pressed.

More Options tab

Options

- **Hard-Map Print Screen Key to Menu Hotkey File® Print Screen**: If enabled, the UTS Function Print Screen executes when pressing the Print Screen key on the keyboard.

  Note

  The Print Screen key is a system key and causes Windows to copy the contents of the desktop clipboard.

- **Auto-Repeat Mode for Ctrl, Alt and Shift Keys**: If enabled, the Ctrl, Alt, and Shift keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Enter Keys**: If enabled, the Enter keys auto-repeat while continuously pressed.
- **Auto-Repeat Mode for Function Keys**: If enabled, the Function keys auto-repeat while continuously pressed.

Mouse Options dialog

The Mouse Options dialog is used to configure the special mouse features which control the behavior of the mouse when using BlueZone UTS.

From the menu bar, click **Options** ® **Mouse** or click the **Mouse** icon from the toolbar.

Mouse tab

Options

- **Highlight Word for Copy/Paste on Mouse Left Double-Click**: If selected, a double-click highlights the word, if any, that the cursor is on. A word is considered to be upper or lower-case characters and digits. A trailing blank is added if it is present.

- **@ # $ % ^ & * ( ) _ - + =**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
- **{ } [ ] < >**: If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
- **“ ‘**

  : If selected, these special characters will be considered part of the word and are highlighted when double-clicked.
- **Include Trailing Space**: If selected, any extra trailing space is highlighted for Copy/Paste when double-click is configured to highlight word.

- **Send UTS Function Enter on Mouse Left Double-Click**: If selected, a double-click automatically executes the 3270/5250 Function Enter after the cursor has been moved.
- **Display Pop-up Menu on Mouse Right Click**: If selected, the UTS Display pop-up menu displays when the mouse right button is clicked.

  Tip

  The pop-up menu is very useful. This menu allows you to directly select many key functions and features. For example, you can copy and paste, select text, access the edit properties dialogs, connect a session, disconnect a session, configure a session, access display options, access keyboard options, jump screen, as well as others.

- **Send UTS Function on Mouse Right Click**: If selected, the highlighted emulation function from the drop-down list box is executed when the mouse right button is clicked.
- **Send UTS Function on Mouse Wheel Up**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the up direction. The default command is Page Up. As an option, you can configure the mouse wheel to send any BlueZone supported UTS function.
- **Send UTS Function on Mouse Wheel Down**: If enabled, BlueZone sends the configured command when the mouse wheel is moved in the down direction. The default command is Page Down. As an option, you can configure the mouse wheel to send any BlueZone supported UTS function.

Sounds Options dialog

The Sounds Options dialog is used to configure the BlueZone special sound features which control the behavior of host and application sounds when using BlueZone.

From the BlueZone menu bar, click **Options** ® **Sounds** or click the **Sounds** icon from the BlueZone toolbar.

Sounds tab

Options

There are two options, one to enable the Host Bell and one to enable the BlueZone Application sounds. These options are mutually exclusive and can be used and configured separately.

- **Enable Host Bell**: If enabled, the host bell sounds when BlueZone makes a host connection. No sound is made when BlueZone disconnects from the host. The sound played depends on one of the following settings:
  - **Play the Windows System Sound**: This choice uses the sound that is associated with the sound name that displays in the System Sound list box. By default, the System Default sound is selected. In this case, the sound that is associated with the Default Beep in Windows, is the sound that is played as the host bell.

- **Beep the PC Speaker**: This choice sends a beep to the PC speaker as the host bell. You can choose both the frequency and the duration of the sound.
  - **Frequency**: Is in Hertz
  - **Duration**: Is in Milliseconds
- **Test**: Click to test the selected option above.

- **Enable BlueZone Application Sounds**: This is used to choose whether or not you want BlueZone to use the preconfigured Windows sound settings for Windows applications.

For example, in the Windows Control Panel, if you have a Windows sound associated with Device Connect, that sound is played each time BlueZone makes a host connection.

Note

If you also have the **Enable Host Bell** option selected, the host bell also sounds each time BlueZone makes a host connection, resulting in a double sound.

API Properties dialog

The API Properties dialog is used to configure BlueZone to work with external programs. To launch the API Properties dialog, go to the BlueZone menu bar, and click **Options** ® **API**.

Typical applications that use the BlueZone API interface use a HLLAPI interface to communicate with BlueZone. In order for BlueZone to communicate with a HLLAPI application through the BlueZone DDE Interface, you must enable the BlueZone DDE Interface. Refer to Configuring BlueZone to work with an existing HLLAPI application, on page 225 for more information.

Options tab

The API (Application Program Interface) Properties, Options tab allows the configuration of DDE and HLLAPI items.

Dynamic Data Exchange (DDE)

The Dynamic Data Exchange Group is used to configure DDE operating parameters:

- **Enable DDE Interface**: Enable to allow the BlueZone session to function as a DDE Server. DDE client applications can communicate with DDE servers to exchange data. This option must be enabled in order for BlueZone to communicate with HLLAPI client applications.
  - **Server / Service Name**: Displays the Server / Service Name as “BlueZone”.
  - **Topic Name**: Displays the session’s DDE Topic Name. The Topic Name can be changed by configuring the HLLAPI Short Name Session Identifier.
- **Enable Network DDE Initialization**: If checked, BlueZone will modify registry settings and invoke NETDDE.EXE to enable DDE client applications to communicate with BlueZone over a Local Area Network (LAN).

  Note

  Only use this option when the HLLAPI application is on a computer separate from the computer that BlueZone is running on.

  - **DDE Share**: Displays the DDE Share Name that NETDDE uses to establish a DDE connection over the Local Area Network(LAN).

High Level Language API (HLLAPI)

The High Level Language API group is used to configure HLLAPI operating parameters:

- **Short Name Session Identifier**: Used to set the HLLAPI identifier for the BlueZone session. The HLLAPI Short Name Session Identifier is also used as the DDE Topic Name.
- **Session Long Name**: Used to set the HLLAPI description name for the BlueZone session.

- **Auto Assign HLLAPI Names ('A' for S1, 'B' for S2, etc.)**: If enabled, BlueZone will automatically associate the Short Name Identifier to a session number 'A' for S1, 'B' for S2 and so on.
- **Auto-Launch the BlueZone DOS HLLAPI Redirector**: If enabled, BlueZone will run/close the BlueZone DOS HLLAPI Redirector program each time the BlueZone DDE Server initializes/de-initializes.
- **Allow Multiple Simultaneous Connections**: If enabled, the BlueZone HLLAPI will allow connection requests from a single application tread to the same BlueZone session as long as it is using the same HLLAPI Short Name Session Identifier. If disabled (default), the session will only allow multiple simultaneous connections to its presentation space if the first HLLAPI application connecting had specified WRITE_WRITE when calling HLLAPI SetSessionParameters.

Trace tab

The API Properties Trace tab allows the user to trace problems encountered while using the DDE and HLLAPI interfaces.

Trace Options

The Trace Options group is used to create API trace files:

- **Trace DDE Interface**: Enable to trace DDE conversation transactions.
- **Trace HLLAPI Interface**: Enable to trace HLLAPI function calls and return values.
- **Trace RUI Interface**: Enable to trace RUI conversation transactions.
- **Trace File**: Used to specify a trace file name for API tracing.
  - **Browse**: Displays a dialog used to select the directory and file name. BlueZone provides a Traces directory in the BlueZone installation directory.

    CAUTION

    This must be a valid path or the trace feature does not work.

- **Start Trace**: Used to start the API trace.
- **Stop Trace**: Used to stop the API trace.

BlueZone HLLAPI support

BlueZone is fully 32-bit WHLLAPI and EHLLAPI 1.1 compatible allowing easy migration to BlueZone of many custom or third-party applications used with other emulators. BlueZone HLLAPI is compatible with third-party HLLAPI applications including (but not limited to) those from Shared Medical (Siemens), Neasi-Webber, Real Vision, and Decision Technology.

To support older HLLAPI applications on 32-bit systems, BlueZone also supports DOS HLLAPI and 16-bit HLLAPI conversations with 32-bit BlueZone.

Advantages

HLLAPI is a standard API supported by many software vendors.

Disadvantages

- The specification may be interpreted differently from vendor to vendor causing some incompatibilities.
- HLLAPI requires a programmer to write the application.
- The interface must be constantly polled by the HLLAPI application to get the status of the host screen.
- For new development, the BlueZone Host Automation Object is much easier to implement, and supports a wider range of development tools.

Note

If you intend on writing a program to interface with BlueZone via the HLLAPI interface, the following documents are provided in the `Docs\WHLLAPI` folder of the BlueZone CD image.

- `BZWhll.h`
- `BZWhll_i.c`
- `WOSA HLLAPI 1.1.DOC`

BlueZone DDE support

BlueZone is a DDE server and uses DDE to communicate with the HLLAPI interface. BlueZone also uses Network DDE to allow communication across a network between a DDE application running on one system and BlueZone running on another. DDE calls supported in BlueZone are detailed in the `BZDDE.H` file supplied on the BlueZone CD image.

Note

The `BZDDE.H` file is located in the `Docs` folder on the BlueZone CD image.

Configuring BlueZone to work with an existing HLLAPI application

Configuring BlueZone to work with a third-party HLLAPI application is really quite simple. Your knowledge of, and your ability to change the configuration of your external HLLAPI application is really the key to making it work with BlueZone.

Note

This procedure is provided as a quick reference for configuring BlueZone to work with a HLLAPI application. The *BlueZone Desktop Administrator's Guide* contains more detailed information on this subject. If you are a BlueZone administrator, we recommend that you read "HLLAPI Overview" and related topics in Chapter 5 of the *BlueZone Desktop Administrator's Guide*.

There are a few things you must know and do in order for BlueZone to work properly:

- In your HLLAPI application, is there a way you can change the name and the location (path) of the HLLAPI program used by your emulator?

  No: If not, you must re-name the BlueZone HLLAPI DLL and manually copy it to the location where your HLLAPI application is expecting to find it. You may already have a HLLAPI DLL in this location. If you do, temporarily re-name it so that you do not over write it with the BlueZone DLL.
  Yes: Launch the Configuration Interface of your HLLAPI application and change the name and location of the HLLAPI DLL to that used by BlueZone. The BlueZone HLLAPI DLL is called WHLLAPI.DLL and can be found in the main BlueZone installation directory. The default installation directory for BlueZone is: `C:\Program Files\BlueZone`

- Is there a HLLAPI.DLL from a competitor's product installed on the same workstation that you are using to test the BlueZone HLLAPI interface?

  Yes: If so, you may have to temporarily rename that DLL while testing BlueZone to prevent conflicts.
  No: Proceed BlueZone Configuration After BlueZone Desktop is installed, launch a BlueZone Display session.

Follow the steps below to configure BlueZone:

1. On the BlueZone menu bar, click **Options** ® **API**.

   The API Properties dialog opens.

2. Check the **Enable DDE Server Interface** check box.

BlueZone is now listening for a DDE connection.

3. Run the HLLAPI application and check to see if it connects to BlueZone.

Changing the display font

This procedure uses BlueZone Mainframe Display as an example.

1. From the BlueZone menu bar, click **Options** ® **Display**.
2. In the Font Selection group, click **Change**.
3. Highlight the **Font** that you want to use from the list of available fonts.

   Note

   Only fixed pitch fonts are displayed in the font list.

4. Select the **Font style** and **Size** that you want to use.
5. Click **OK**.
6. From the BlueZone menu bar, click **File** ® **Save**.

Changing the display colors

This procedure uses BlueZone Mainframe Display as an example.

1. From the BlueZone menu bar, click **Options** ® **Display** or click the **Display** icon on the BlueZone toolbar.
2. Click the **Colors** tab.
3. By default, the **Background** color is selected by default. This is the active selection.
4. To change the background color, select the desired color form the color grid in the **Color Scheme** group.
5. Click **Apply** to apply the new color.
6. To change the colors of the characters, select one of the items in the **Attribute Colors** group and make that attribute the active selection.

   Note

   There can only be one active selection at a time.

7. After one of the **Attribute Colors** has been selected, select the desired color form the color grid in the **Color Scheme** group.
8. Click **Apply** to apply the new color.
9. From the BlueZone menu bar, click **File** ® **Save**.

Scripting a HotSpot

In the Customize HotSpots window, one of the available options that can be selected is Play Script. This feature allows you to identify an existing or custom text string that displays on the screen, and associate a script with that string.

Here's an example. Suppose that critical customer information, like account balance, is located on a different host. Also, let's suppose that you developed a BlueZone script that automatically launches a new BlueZone session that retrieves the customer's account balance and displays it to the user.

Now, you can create a custom Search String that will be used to launch the script.

This procedure uses BlueZone Mainframe Display as an example.

1. From the BlueZone menu bar, click **Options** ® **Display** or click the **Display** icon on the BlueZone toolbar.

   The Display Options dialog displays.
2. Click the **GUI** tab.
3. Verify that the **Enable HotSpots** check box is selected.
4. Click **Customize**.

   The Customize HotSpots dialog displays.
5. Click **New**.

   The Define Custom Search dialog opens.
6. Type the string of characters that is used to create a HotSpot that is used to launch the script.
7. Click **OK**.

   The new Custom Search String opens.
8. With the new Custom Search String selected, go to the **Action / 3270 Function** edit box and select **Play Script**.

   A field displays.
9. Type the name of the script that you want to be associated with your new Custom Search String.
10. Click **OK**.

Whenever the defined string displays on the screen, it will be turned into a button or highlighted when you mouse over the string. This behavior is controlled by the options selected on the GUI tab in Display Options.

When the HotSpot is clicked, it launches the associated script defined above.

Transfer menu

BlueZone Secure FTP

BlueZone Secure FTP is an integral part of the BlueZone family of emulators. Specific help for BlueZone Secure FTP is in a separate help file that can be accessed from within the application by clicking **Help** ® **BlueZone Help FTP Topics** on the BlueZone FTP menu bar.

Like all the BlueZone emulators, BlueZone Secure FTP client uses the Secure Sockets Layer (SSL) protocol to protect the FTP data stream. When a BlueZone Secure FTP session is active, a small padlock icon displays on the BlueZone status bar.

Also, BlueZone Secure FTP has the ability to perform iSeries data transfers via FTP and automatically place the data into a Microsoft Excel Spreadsheet, comma delimited file, or tab delimited file. The resulting spreadsheet or file can be edited and transferred back to the iSeries host.

Refer to the *BlueZone Secure FTP Help* for more information.

Launching BlueZone Secure FTP from a BlueZone Session

BlueZone Secure FTP can be launched directly from any BlueZone display session window by selecting **Transfer** ® **FTP** from the BlueZone menu bar or by clicking the FTP icon found on the BlueZone toolbar.

The letters **FTP** are highlighted on the menu if BlueZone Secure FTP is installed. If the letters FTP or the BlueZone Secure FTP icon is disabled, then BlueZone Secure FTP is not installed. If BlueZone Secure FTP is not installed, contact your system administrator.

Normally, when **Transfer** ® **FTP** is selected from the BlueZone menu bar, a dialog opens, allowing the end user to select the FTP configuration profile they want to use. To eliminate this step, BlueZone can automatically open an FTP configuration profile if the file name is identical to the configuration profile name of the display sessions.

Example: BlueZone Mainframe Display using a configuration profile named `mainframe.zmd` automatically opens a FTP configuration profile name `mainframe.zft`.

Follow the steps below to configure BlueZone FTP to automatically use a profile when launched from a BlueZone display session:

1. Configure a BlueZone Display emulation session and save the settings to a profile by selecting **File** ® **Save As** from the menu bar.

   This example names the profile `mainframe.zmd`.

2. From the menu bar of the BlueZone Display emulator, click **Transfer** ® **FTP**.

   BlueZone FTP launches and you are prompted to enter the FTP host connection information.

3. Enter the desired FTP host connection information and save the FTP session to a profile by selecting **File** ® **Save As** from the menu bar.

4. When prompted, type the profile name `mainframe.zft`.

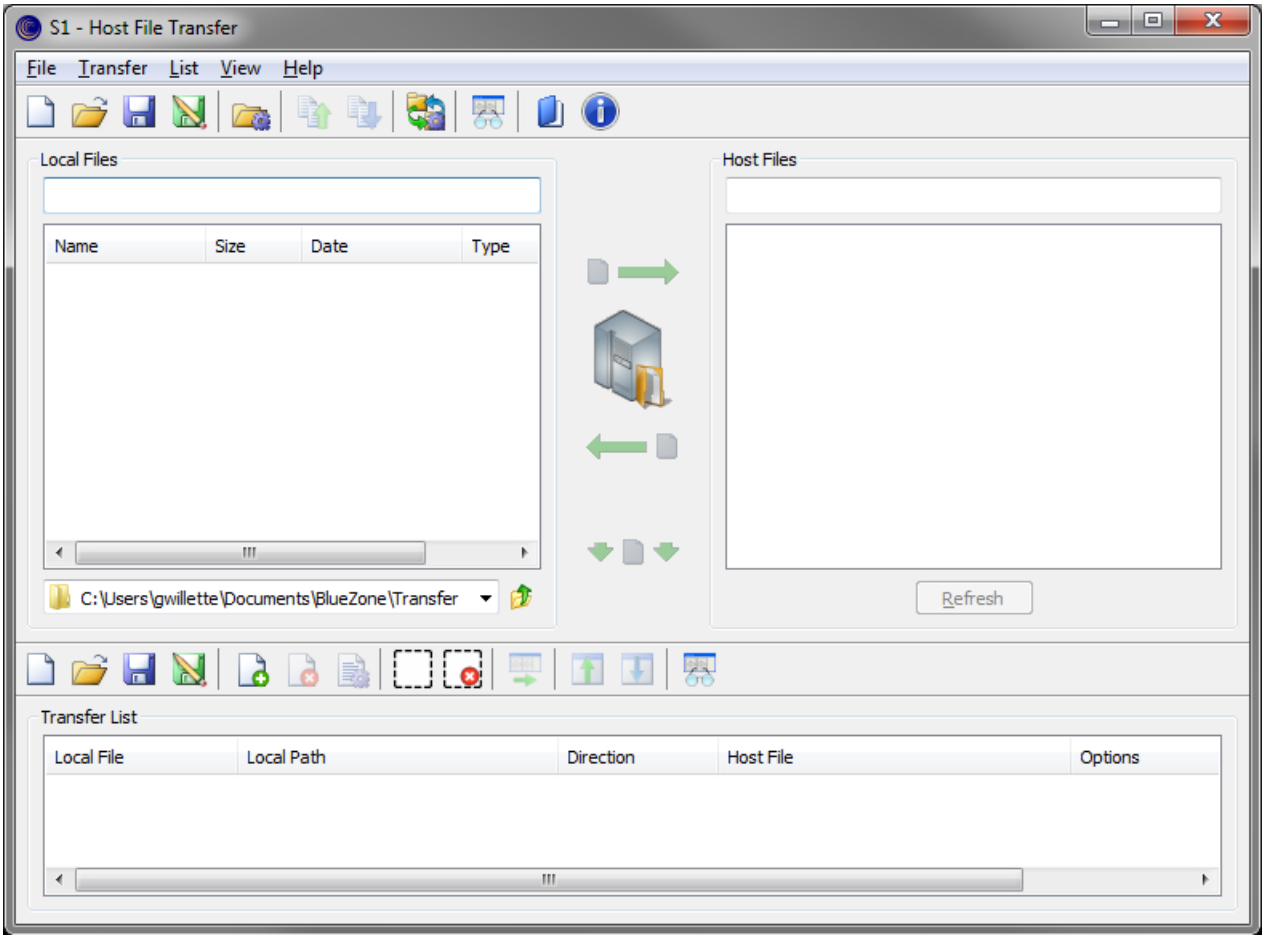
IND$FILE transfer - IBM Mainframe (3270)

The IND$FILE transfer is controlled through the Host File Transfer window. The Host File Transfer window provides an easy-to-use graphical interface. You can send or receive a single file to or from the host. You can also create transfer lists to easily preform batch file transfers.

Note

The Host File Transfer window is new starting in version 6.1. To continue to use the old IND$FILE transfer method, delete `Bzindf.dll` from the installation directory, and double-click the `setup.exe` file to reinstall BlueZone.

Figure 13: IND$File Host File Transfer window



Transfer toolbar

Contains the following icons (from left to right):

- **New**: Creates a Mainframe Display transfer file (`.mdf`).
- **Open**: Opens a saved Mainframe Display transfer file.
- **Save**: Saves the transfer options with the display session. The next time the session is opened, the options set in the Transfer Setup window are already configured.
- **Save As**: Saves the Mainframe Display Transfer file as an `.mdf` file in the `\Config` folder by default. This allows you to create, save, and reuse multiple transfer configurations.
- **Options**: Opens the File Options window. Refer to Setting file options, on page 243 for more information.
- **Send**: Sends the selected local file to the host.
- **Receive**: Receives the selected host file to your local machine.
- **Transfer Setup**: Opens the Transfer Setup window. Refer to Configuring IND$FILE transfer setup, on page 241 for more information.
- **Expand View**: Expands the view of the transfer pane of the window; the **Transfer List** pane disappears. Click the icon again to return to the default view.
- **BlueZone Help Topics**: Opens the *BlueZone Display and Printer Help*.
- **About BlueZone**: Opens the About BlueZone window which contains version and copyright information.

Local Files pane

Displays the files on your local machine. In the field, you can type the file name on the local computer. Or, use the list to navigate through your machine to locate the necessary files.

Host Files pane

Displays the files on the host. In the field, you can type the file name on the host. Click **Refresh** to update the list.

Note

If you selected the **TSO** host system type during configuration, your session must be at a READY prompt or the ISPF command shell. If it is not, you cannot view the host files and you will receive an error when you click **Refresh**.

Center icons

The middle of the window contains the following icons (from top to bottom):

- **Send**: Sends the selected local file to the host.
- **Receive**: Receives the selected host file to your local machine.
- **Add to List**: Moves the selected local or host file to the **Transfer List**.

Transfer List toolbar

Contains the following icons (from left to right):

- **New**: Creates a new Mainframe Display Transfer List file (`.mdl`).
- **Open**: Opens a saved Mainframe Display transfer list file.
- **Save**: Saves the current Mainframe Display transfer list with the session. The next time the session is opened, the transfer list is displayed in the **Transfer List** pane.
- **Save As**: Saves the Mainframe Display transfer list file as an `.mdl` file in the `\Config` folder by default. This allows you to create, save, and reuse multiple transfer lists.
- **Add**: Opens the Transfer Properties window. From here, you can add a file to the transfer list. Refer to Using the Transfer Properties window, on page 247 for more information.
- **Remove**: Removes the selected file from the transfer list.
- **Properties**: Opens the Transfer Properties window for the selected file.
- **Select All**: Selects all of the files in the transfer list.
- **Select Cancel**: Deselects all of the files in the transfer list.
- **Run**: Sends or receives the files in the transfer list.
- **Move Up**: Moves the selected file up one space in the list.
- **Move Down**: Moves the selected file down one space in the list.
- **Expand View**: Expands the view of the **Transfer List** pane; the transfer pane disappears. Click the icon again to return to the default view.

Transfer List pane

Contains the files in the transfer list. This pane contains the following columns:

- **Local File**: The file name of the local file.
- **Local Path**: The location of the local file.
- **Direction**: Send, Receive, or None.
- **Host File**: The name of the host file that is being received or that the local file is being sent to.
- **Options**: Displays the file options for the transfer. For example, Text, Binary, CRLF, and/or Append.

Configuring IND$FILE transfer setup

1. From a Mainframe Display session, click **Transfer** ® **Configure**.

The Transfer Setup window opens. This window contains the **Settings** and **Advanced** tabs. If the display is configured for Arabic, the **Arabic** tab is also available.

2. In the **Settings** tab, configure the following options:

Host System

Select the type of mainframe operating environment. Depending on your selection, the options in this window can change. The

- **VM/CMS**: Virtual Machine/Conversational Monitor System
- **TSO**: Time Sharing Options
- **CICS/VS**: Customer Information Control System for Virtual Storage

Host File Options

Enter the following host file information:

- **File Type**: The VM file type.
- **File Mode**: The VM file mode.

File Options

Configure the following additional file settings:

- **Text**: Select if the file is a text file.
- **Binary**: Select if the file is a binary file.
- **CR/LF**: Specifies that carriage return and line feed characters are recognized and deleted before storage within the host or inserted before storage to the PC.
- **Append**: Specifies that the file data is appended to the end of an existing file.

Transfer Options

Configure the following additional transfer options:

- **Use local Translate Tables**: If selected, BlueZone translates characters in the file using the currently selected translate table. The translate table is based on the currently selected language (CCSID) that is selected in the **3270 Emulation** tab of the Session Configuration window.

  Note

  A separate configurable translate table is available for IND$FILE transfers. By default, the settings start out identical to the character translation table.

- For VM/CMS host systems: **Send <Clear> before Transfer**: if select, the host screen is cleared before the file transfer is performed.
  For TSO or CICS/VS host systems: **Auto <Erase Input> before Transfer**: If selected, all unprotected fields are cleared before the file transfer is performed.
- **Packet Size**: Select the packet size for Write Structure fields file transfers.

3. Click the **Advanced** tab and set the following options:

Record Format

Configure the following file record format settings for a VM/CMS or TSO file transfer upload:

- **Default**: Select to use the host default record format.
- **Variable**: Select to specify whether the record length of the data file is variable.
- **Fixed**: Select to specify that the record length of the data file is fixed.
- **Undefined**: Select to specify that the record length of the data file is undefined.
- **Record Length**: Specifies the length of each logical record stored within the host.
- **Block Size**: Indicates the length in bytes of a data block to be stored within the host. If Block Size is omitted then the default is Record Length.

Space

Configure the following allocation parameters for a TSO file transfer upload:

- **Allocate Size**: Specifies the amount of space to allocate for the new data set. If Allocate Size is zero, no space parameters are sent to the host system.
- **Increment**: Specifies the amount of additional space allocated each time more space is necessary.
- **Unspecified**: Select to not specify an allocation method.
- **Avg. Blocks**: Select to specify a block size to store in blocks.
- **Cylinders**: Select to specify that transfers are stored in pairs of tracks that are the same distance from the center of the storage diskette.
- **Tracks**: Select to store in concentric circles.

Options

Configure the following additional file transfer operating parameters:

- **Host File Password**: Required only if password protect is specified for a particular data set.
- **Transfer Program Name**: Specifies the transfer program name on host system. The default program name is IND$FILE.
- **Include Left Parenthesis**: Select if the host requires left parenthesis on the command line.
- **Include Right Parenthesis**: Select if the host requires right parenthesis on the command line.
- **Additional Parameters**: Type any additional data. This data will be appended to the transfer command.

4. If your display is configured for Arabic, the **Arabic** tab is available. Refer to Configuring IND$FILE with Arabic support, on page 247 for more information.
5. Click **OK**.

   The Host File Transfer window opens.

Setting file options

BlueZone Host File Transfer has the same file save options that are available in a display session.

1. In a BlueZone Mainframe Display, click **Transfer** ® **Send** or **Transfer** ® **Receive**.
2. Click **File** ® **Options**, and configure the following options:

Save Settings on Close

- Ask to Save Settings
- Always Save Settings
- Never Save Settings

Save Transfer List on Close

- Ask to Save Transfer List
- Always Save Transfer List
- Never Save Transfer List

Options

- Center Transfer Window on Open
- Submit Completed Transfers to the Transfer List
- Max Transfer List Entries

3. Click **OK**.

Receiving files from the host

BlueZone has the ability to transfer files to and from the PC and the host system. During the transfer, BlueZone performs the file translation between the ASCII (PC) and EBCDIC (Host) character sets. BlueZone supports Write Structured fields file transfers as well as screen-based file transfers.

This procedure assumes that you have already configured IND$FILE transfer to meet your file transfer requirements. For more information on configuring IND$FILE transfer, refer to Configuring IND$FILE transfer setup, on page 241.

1. From the BlueZone mainframe display, click **Transfer** ® **Receive**.

   The Host File Transfer - Receive window opens.

2. In the **Local Files** pane, select the location where you want to receive the host file. By default, this is the `\Transfer` folder.
3. In the **Host Files** pane, select the file you want to receive. If no files are displayed, click **Refresh**.

   Note

   If you selected the **TSO** host system type during configuration, your session must be at a READY prompt or the ISPF command shell. If it is not, you cannot view the host files and you will receive an error when you click **Refresh**.

4. From the menu bar, select **Transfer** ® **Receive** or click the **Receive** icon in the center pane.

   Note

   To receive multiple files, see Creating and saving transfer lists, on page 245.

Sending files to the host

BlueZone has the ability to transfer files to and from the PC and the host system. During the transfer, BlueZone will perform the file translation between the ASCII (PC) and EBCDIC (Host) character sets. BlueZone supports Write Structured Fields file transfers as well as screen-based file transfers.

This procedure assumes that you have already configured the IND$FILE transfer to meet your file transfer requirements. For more information on configuring IND$FILE transfer, refer to Configuring IND$FILE transfer setup, on page 241.

1. From the BlueZone mainframe display, click **Transfer** ® **Send**.

   The Host File Transfer - Send window opens.
2. In the **Local Files** pane, navigate to the desired file and select it.
3. In the **Host Files** pane, select the host file that you want to send the local file to. If no files are displayed, click **Refresh**.

   Note

   If you selected the **TSO** host system type during configuration, your session must be at a READY prompt or the ISPF command shell. If it is not, you cannot view the host files and you will receive an error when you click **Refresh**.
4. From the menu bar, select **Transfer** ® **Send** or click the **Send** icon in the center pane.

   Note

   To send multiple files, see Creating and saving transfer lists, on page 245.

Transfer lists

Transfer lists are used to control batch file transfers. A transfer list can contain files that are being transferred in both directions. Multiple transfer lists can be created, saved, and used again in the future. Each entry in a transfer list can have a customized transfer setup.

Creating and saving transfer lists

You can create a transfer list using the method below or you can manually add each transfer entry using the Transfer Properties window. Refer to Using the Transfer Properties window, on page 247 for more information.

To create and save a transfer list:

1. Connect to the desired Mainframe session.
2. Click **Transfer** ® **Configure**.
3. Configure the IND$FILE transfer.

   Refer to Configuring IND$FILE transfer setup, on page 241 for more information.
4. In the **Local Files** pane, select the desired local file.
5. In the **Host Files** pane, select the desired host file. If no files are displayed in the list, click **Refresh**.

   Note

   If you selected the **TSO** host system type during configuration, your session must be at a READY prompt or the ISPF command shell. If it is not, you cannot view the host files and you will receive an error when you click **Refresh**.
6. Click the **Add to List** icon in the center pane.

   The file entry displays in the **Transfer List** pane.
7. *Optional*: Set the entry's transfer properties:

   a. Highlight the desired file entry and click the **Properties** icon.

   b. In the **Transfer Direction** drop-down menu, select **<- Receive** or **Send ->**.

      If you leave the **Transfer Direction** set to **None**, the entry transfer is dependent on the window:

      - From the Host File Transfer - Send window, the entry will be sent to the host.

- From the Host File Transfer - Receive window, the entry will be received from the host.
- From the Host File Transfer window, the entry will be bypassed.

c. To change the setup options, click **Transfer Setup**.

The Transfer Setup - Entry # window opens. These are the same options set in the initial setup but will be applied to this particular transfer entry. Refer to Configuring IND$FILE transfer setup, on page 241 for more information on these settings.

Make the desired changes and click **OK**.

d. Click **OK**.

8. Repeat steps 4–7 until all of the desired files are in the transfer list.
9. Save the transfer list using one of the following two options:
   - Select **List** ® **Save** from the menu bar or click the **Save** icon in the transfer list toolbar. This saves the transfer list with the current display session. The next time this session is opened, the transfer list is displayed in the **Transfer List** pane.
   - Select **List** ® **Save As** from the menu bar or click the **Save As** icon from the transfer list toolbar. This saves the transfer list as a `.mdl` file for future use.

Running transfer lists

After you create a transfer list, you can run it through one of three windows:

- Host File Transfer window
- Host File Transfer - Send window
- Host File Transfer - Receive window

1. From a Mainframe display, select one of the following menu options:
   - **Transfer** ® **Configure**. Opens the Transfer Setup window. Configure the setup and click **OK**. The Host File Transfer window opens.
   - **Transfer** ® **Send**. Opens the configured Host File Transfer - Send window.
   - **Transfer** ® **Receive**. Opens the configured Host File Transfer - Receive window.

   If the transfer list was saved with the display session, it is already displayed in the **Transfer List** pane.
2. If the transfer list was not saved with the display session or you want to open a different transfer list, click **List** ® **Open** or click the **Open** icon in the Transfer List toolbar.
3. Select the desired transfer list (`.mdl`) and click **Open**.

   The transfer list displays in the **Transfer List** pane.

   Note

   Before you run the transfer list, note that if the **Transfer Direction** is set to **None**, the entry transfer is dependent on the window:

   - From the Host File Transfer window, the entry will be bypassed.
   - From the Host File Transfer - Send window, the entry will be sent to the host.
   - From the Host File Transfer - Receive window, the entry will be received from the host.

4. Click **List** ® **Run** or click the **Run** icon in the Transfer List toolbar.

   The transfer entries are either sent to the host, received from the host, or bypassed.

Using the Transfer Properties window

You can configure the transfer list entries through the interface, as described in Creating and saving transfer lists, on page 245, or you can manually add each transfer entry using the Transfer Properties window.

To open the Transfer Properties window and create a transfer entry:

1. From the Host File Transfer window, click **List** ® **Add**.

   The Transfer Properties - New Entry window opens.
2. In the **Local File** field, type the name of the desired local file.
3. In the **Local File Path** field, type the location of the Local File or click Browse to find the location.
4. From the **Transfer Direction** drop-down menu, select the desired direction of the transfer.

   If you leave the **Transfer Direction** set to **None**, the entry transfer is dependent on the starting window:
   - From the Host File Transfer - Send window, the entry will be sent to the host.
   - From the Host File Transfer - Receive window, the entry will be received from the host.
   - From the Host File Transfer window, the entry will be bypassed.
5. In the **Host File** field, type the name of the host file.
6. Click **Transfer Setup** to define the transfer options. These are the same options that are available through **Transfer** ® **Setup** . Refer to Configuring IND$FILE transfer setup, on page 241 for more information.
7. Click **OK** to exit the Transfer Setup window.
8. Click **OK** to exit the Transfer Properties - New Entry window.

   The entry displays in the **Transfer List** pane.
9. Repeat steps 1–8 until all of the necessary files are in the transfer list.

Configuring IND$FILE with Arabic support

Before you can transfer Arabic files, you must properly configure the bidirectional language and translation options.

Before you can configure IND$FILE for Arabic support, you must ensure that the following requirements are met:

- Ensure that the Windows and BlueZone configuration requirements for BiDi support are met. Refer to Configuring BiDi support, on page 81 for more information.
- Disable spell checking. If spell checking is enabled, you cannot process Arabic files. Refer to Spell Checking tab, on page 39 for more information.

1. From the Mainframe Display sessions, click **Transfer** ® **Configure**.

   The Host File Transfer window opens.
2. Click the **Arabic** tab.

   Note

   If the **Arabic** tab is not available, ensure that prerequisite steps above are complete.
3. Select the **Enable Arabic Processing** check box.
4. Select the **PC Code Page**.

   BlueZone automatically handles the PC code page selection for uploads by reading the header on the file. If there is no header, it is assumed to be 1256. Arabic processing only converts 864 to the selected target PC code pages.

5. Click **OK**.

Technical reference

This technical reference describes the free form text that may be entered into the custom file type parameters input field for file transfer options. The valid text that may be entered depends on the file transfer operation (Send or Receive) and the mainframe operating system (CICS, MVS/TSO or VM/CMS).

Mainframe system requirements

Depending on the IBM host system that is used, one of the following IBM host-supported file transfer programs must be installed at your host site. The **Options** tab on the File Transfer window is used to configure the mainframe operating system and the file transfer program name.

MVS/TSO Mainframe operating system

IBM 3270-PC File Transfer Program Release 1 (5665-311)

At the TSO command level, type: `IND$FILE`. If the program is not installed, you receive the message: `[IKJ56500I] COMMAND IND$FILE NOT FOUND`

VM/CMS Mainframe operating system

IBM 3270-PC File Transfer Program Release 1 (5664-281)

The installation and support of the IBM host-supported file transfer program is outside the scope of this documentation. A quick way to determine if the IBM file transfer product is installed on your host, is to do the following: In the CMS environment, type: `IND$FILE`. If the program is not installed, you will receive the message: `UNKNOWN CP/CMS COMMAND`

CICS Mainframe operating system

Ask your systems administrator if the IBM IND$FILE host file transfer program is installed.

CMS send parameters

Send parameters are optional and are passed as parameters to the host IND$FILE program. The following parameters are valid for the VM/CMS send file transfer operation. When using the following parameters, an open parenthesis character "(" must precede the actual parameter string and a close parenthesis character “)” must follow the parameter string. For example:

```
( ASCII RECFM F LRECL 125 )
```

ASCII

If the PC file consists of character data only, specify ASCII. This causes the translation of all graphic and control characters from ASCII to EBCDIC during the transfer so that it is usable on the host computer.

CRLF

Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file. If the PC file consists of data other than text such as binary format data, do not specify either ASCII or CRLF.

APPEND

If the CMS file already exists and is not empty, APPEND specifies that the contents of the PC file are to be appended to the file.

RECFM x

Specifies the record format of the CMS file. Replace x with either F, V, or U. F specifies that the data set contains fixed length records. V specifies that the data set contains variable length records. U specifies that the data set contains undefined length records. For existing CMS files the default value is the record format of the CMS file.

LRECL n

Specifies the logical record length n for a CMS file consisting of fixed length records or the maximum logical record length for a CMS file consisting of variable length records. Values permitted are 1 to 32760. For new CMS files the default value is 80. This parameter is ignored if APPEND is specified. For CMS files consisting of variable length records, the actual logical record length (for example, the value stored in the Data Set Control Block) following the file transfer is set to the minimum of the value of LRECL and the longest record in the CMS file.

CMS receive parameters

Receive parameters are optional and are passed as parameters to the host IND$FILE program. When using the following parameters, an open parenthesis character "(" must precede the actual parameter string. The close parenthesis character ")" must terminate the parameter string. The following parameters are valid for the VM/CMS receive file transfer operation:

APPEND

APPEND specifies that if the file exists, the CMS file contents are to be appended to it. Unless APPEND is specified, the PC file is replaced by the contents of the CMS file.

ASCII

If the CMS file consists of character data only, specify ASCII. This causes the translation of all graphic and control characters from ASCII to EBCDIC during the transfer.

CRLF

Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file.

TSO send parameters

Send parameters are optional and are passed as parameters to the host IND$FILE program. The following parameters are valid for the MVS/TSO send file transfer operation:

ASCII

If the PC file consists of character data only, specify ASCII. This will cause the translation of all graphic and control characters from ASCII to EBCDIC during the transfer.

CRLF

Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file. If the PC file consists of data other than text, such as binary format data, do not specify either ASCII or CRLF.

APPEND

If the data set already exists and is not empty, APPEND specifies that the contents of the PC file are to be appended to the data set. APPEND cannot be specified for members of a partitioned data set.

RECFM(x)

Specifies the record format of the data set. Replace x with either F, V, or U. F specifies that the data set contains fixed length records. V specifies that the data set contains variable length records. U specifies that the data set contains undefined length records. For existing data sets, the default value is the existing record format.

LRECL(n)

Specifies the logical record length (n) for a data set consisting of fixed length records or the maximum logical record length for a data set consisting of variable length records. Values permitted are 1 to 32760. For new data sets the default value is 80. This parameter is ignored if APPEND is specified. For data sets consisting of variable length records, the actual logical record length (i.e. the value stored in the Data Set Control Block) following the file transfer is set to the minimum of the value of LRECL and the longest record in the data set.

BLKSIZE(n)
Specifies the block size (n) for a new data set. For data sets containing fixed-length records, the block size must be a multiple of the record length. For data sets containing variable-length records, the block size must be greater than or equal to the record length plus four bytes. The block size must not exceed the track length of the device on which the data set resides. The block size must also not exceed 32,760 bytes. The default value is 3120. This parameter is ignored if the data set already exists.

SPACE(quantity[,increment])
Specifies the amount of disk space to be allocated for a new data set. If the SPACE parameter is used, you can use one of the three following options to specify the units used for quantity and increment:

- SAVBLOCK(value)
- TRACKS
- CYLINDERS

TSO receive parameters

Receive parameters are optional and are passed as parameters to the host IND$FILE program. When using the following positional parameters, care should be taken to include the "(" open parenthesis character and ")" parentheses character in describing RECFM, LRECL, and BLKSIZE. For example:

```
ASCII CRLF RECFM(F) LRECL(80) BLKSIZE(6160)
```

In the MVS/TSO, Receive Parameters include the following:

The following parameters are valid for the MVS/TSO receive file transfer operation:

ASCII
If the PC file consists of character data only, specify ASCII. This causes the translation of all graphic and control characters from EBCDIC to ASCII during the transfer.

CRLF
Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file. If the PC file consists of data other than text, such as binary format data, do not specify either ASCII or CRLF.

APPEND
If the data set already exists and is not empty, APPEND specifies that the contents of the Mainframe file are to be appended to the data set. APPEND cannot be specified for members of a partitioned data set.

RECFM(x)
Specifies the record format of the data set. Replace x with either F, V, or U. F specifies that the data set contains fixed length records. V specifies that the data set contains variable length records. U specifies that the data set contains undefined length records. For existing data sets, the default value is the existing record format.

LRECL(n)
Specifies the logical record length (n) for a data set consisting of fixed length records or the maximum logical record length for a data set consisting of variable length records. Values permitted at 1 to 32760. For new data sets, the default value is 80. This parameter is ignored if APPEND is specified. For data sets consisting of variable-length records, the actual logical record length (i.e., the value stored in the Data Set Control Block) following the file transfer, is set to the minimum of the value of LRECL and the longest record in the data set.

BLKSIZE(n)
Specifies the block size (n) of the data set. For data sets containing fixed-length records, the block size must be a multiple of the record length. For data sets containing variable-length records, the block size must be greater than or equal to the record length plus four bytes.

The block size must not exceed the track length of the device on which the data set resides. The block size must also not exceed 32,760 bytes. The default value is 3120.

CICS send parameters

Send parameters are optional and are passed as parameters to the host IND$FILE program. The following parameters are valid for the CICS send file transfer operation:

ASCII
If the PC file consists of character data only, specify ASCII. This causes the translation of all graphic and control characters from ASCII to EBCDIC during the transfer so that it is usable on the host computer.

BINARY
If the PC file consists of binary data, specify BINARY.

CRLF
Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file. CRLF is a default option.

NOCRLF
Do not use <CR> <LF> pairs to terminate records in the CICS file.

CICS receive parameters

Receive parameters are optional and are passed as parameters to the host IND$FILE program. The following parameters are valid for the CICS receive file transfer operation:

APPEND
APPEND specifies that if the PC file exists, the CICS file contents are to be appended to it. Unless APPEND is specified, the PC file is replaced by the contents of the CICS file.

ASCII
If the CICS file consists of character data only, specify ASCII. This causes the translation of all graphic and control characters from ASCII to EBCDIC during the transfer.

BINARY
If the PC file consists of binary data, specify BINARY.

CRLF
Following the convention for ASCII text files, <CR> <LF> pairs are used to terminate records in the PC file, and a CTRL-Z (x'1A') marks the end of file.

NOCRLF
Do not use <CR> <LF> pairs to terminate records in the PC file.

File Transfer - Host Error Messages

TRANS00 - Error in file transfer: file transfer canceled
An error occurred in the file transfer, which can be an error in the data being transferred, or an unidentified system error.

TRANS03 - File transfer complete
The file transfer operation has been successfully completed.

TRANS04 - File transfer complete with records segmented
The file transfer operation has been completed, and any record greater than the logical record length (LRECL) of the file being appended has been divided and becomes multiple records.

TRANS05 - Personal computer filespec incorrect: file transfer canceled
An error exists in the PC's file name.

TRANS06 - Command incomplete: file transfer canceled
You did not enter the required parameters after a SEND or RECEIVE command.

TRANS13 - Error writing file to host: file transfer canceled
The host program has detected an error in the file data during a RECEIVE operation.

TRANS14 - Error reading file from host: file transfer canceled
The host program has detected an error in the file data during a RECEIVE operation.

TRANS15 - Required host storage unavailable: file transfer canceled
You need 30 KB of main storage (not disk space) on the host for the file transfer, in addition to the host requirement.

TRANS16 - Incorrect request code: file transfer canceled
An invalid SEND or RECEIVE parameter was sent to the host.

TRANS17 - Missing or incorrect TSO data set name: file transfer canceled
You did not specify the TSO data set name, or the specified TSO data set name is not a sequential or partitioned data set.

TRANS17 - Invalid file name: file transfer canceled
The command that started the file transfer specified a file name that is not a valid file name for the host. Correct CICS file names must be 1 to 8 characters, composed of letters and numbers.

TRANS17 - Missing or incorrect CMS data set name: file transfer canceled
You did not specify the CMS data set name, or the specified CMS data set name is incorrect.

TRANS18 - Incorrect option specified: file transfer canceled
You specified an option that is invalid.

TRANS19 - Error while reading or writing to host disk: file transfer canceled
There is not enough space available for data on the host.

TRANS28 - Invalid option xxxxxxxx: file transfer canceled
You selected an option that is either not recognized, is specified as a positional keyword, or has an associated value that is incorrect.

TRANS29 - Invalid option xxxxxxxx with RECEIVE: file transfer canceled
You selected an option that is not valid with RECEIVE, but can be used with SEND.

TRANS30 - Invalid option xxxxxxxx with APPEND: file transfer canceled
You selected an option that is not valid with APPEND, but otherwise may be used.

TRANS31 - Invalid option xxxxxxxx without SPACE: file transfer canceled
You selected an option that can only be used if SPACE is also specified.

TRANS32 - Invalid option xxxxxxxx with PDS: file transfer canceled
You selected an option that is invalid with a host-partitioned data set.

TRANS33 - Only one of TRACKS, CYLINDERS, AVBLOCK allowed: file transfer canceled
SPACE can be specified in units of TRACKS, CYLINDERS, or AVBLOCK, and only one option can be used.

TRANS34 - CMS file not found: file transfer canceled
You did not specify an existing CMS file for RECEIVE.

TRANS35 - CMS disk is read-only: file transfer canceled
You specified a CMS file mode for the SEND key that does not allow write access.

TRANS36 - CMS disk is not accessed: file transfer canceled
You specified a CMS file mode that is not in the CMS search order.

TRANS37 - CMS disk is full: file transfer canceled
The CMS disk is full, or the maximum number of files on the minidisk (3400) has been reached, or the maximum number of data blocks per file (16060) has been reached.

TRANS99 - Host program error code xxxxxxxxxx: file transfer canceled
This is a host program error.

BlueZone LIPI host file transfer – iSeries (5250)

Starting with BlueZone version 5.0 a new Host File Transfer utility has been added to BlueZone iSeries Display. BlueZone Host File Transfer supports the LIPI File Transfer (Licensed Internal Program Interface). LIPI is a feature rich and robust file transfer environment that is designed specifically for IBM AS/400 and iSeries host systems. LIPI enables file transfer over TCP/IP.

Enabling the LIPI File servers

The LIPI servers must be enabled on the iSeries or AS/400 host, before LIPI file transfers can take place. Consult with your iSeries or AS400 administrator about enabling the LIPI servers.

File system differences

The file system of an iSeries or AS/400 host is very different than a PC file system. To handle this difference, an additional file is sent down from the host that contains important information that is used by the iSeries or AS/400 host when a file is transferred up to the iSeries or AS400 host.

This additional file is called a File Definition File (FDF). BlueZone LIPI automatically gives the FDF the same name as the file that is being downloaded, but with a file extension of `.FDF`.

You cannot transfer a file to an iSeries or AS/400 host using BlueZone LIPI File Transfer unless you have an FDF.

Configuring the host file transfer

You must configure the following host file transfer options.

1. Configure the transfer setup options., on page 253
2. **Optional**: Configure the data format options., on page 257
3. **Optional**: Build SQL queries., on page 258
4. **Optional**: Add the host file transfer icon to the BlueZone toolbar., on page 258
5. Set the file options., on page 259
6. Add libraries to the Host Files pane., on page 259
7. Remove libraries from the Host Files pane., on page 259
8. Save the configurations. , on page 260

Configuring the transfer setup options

1. Start a BlueZone iSeries Display session.
2. From the BlueZone menu bar, click **Transfer** ® **Send/Receive**.
3. From the Host File Transfer menu bar, click **Transfer** ® **Transfer Setup**.
4. In the **Connection** tab, set the following options:

   Transfers can be configured for the host that you are currently connect to or you can select a different host.

Host Address

Type the IP address of the host that you want to send or receive files. The format can be IPv4, IPv6, or DNS name. It can be the same host that started this session or it can be a different host.

Note

If you leave the **Host Address** field blank, BlueZone Host File Transfer automatically uses the current host connection.

Language (CCSID)

Sets your coded character set identifier. This setting is also sometimes referred to as a code page setting. Each language has its own CCSID.

Username

This field is optional. If you do not type a user name, you are prompted when you begin the transfer.

Password

This field is optional. If you do not type a password, you are prompted when you begin the transfer.

Use Windows Credentials

Select this check box if the host credentials are the same as your Windows credentials.

a. Click **Security**.

b. In the **Security** tab, set the following options:

SSL Version

Select the necessary encryption option: **SSL v3** or **TLS v1**.

Invalid Certificates

Configure how invalid certificates are handled. The available options are:

- **Always Reject**
- **Ask before Accepting**
- **Always Accept**
- **Preferred Cypher Suite**: You can select a specific Cypher Suite or let BlueZone and the host negotiate the highest level of encryption that both BlueZone and the host system have in common.

c. Click the **Certificate** tab and set the following options:

Note

Certificates are optional. You do not need to use a certificate in order to encrypt your data. Certificates are used when it is important or required to prove the identity of the client.

Client Certificate

- **No Client Certificate**: Turns off the client certificate feature.
- **Client Certificate in Disk File**: If your client certificate is stored on a disk drive, click **Browse** to select the file and **View** to view the certificate. Click the second **Browse** button to open your Private Key file.
- **Client Certificate in Certificate Store**: If your client certificate is stored in the Windows Certificate Store, click **Browse** to open the file and **View** to view the certificate.
- **Client Certificate on Smart Card**: This feature is not currently implemented.

Root Certificates
Select the necessary type of root certificate: **Use OpenSSL Root Certificates** or **Use Windows Root Certificates**.

d. Click **OK** to close the Security window.

5. Click the **Transfer** tab and set the following options:

Transfer Method
Select the file transfer method:

- ASCII
- Basic Sequential
- BIFF8
- CSV
- DIF
- DOS Random
- No Conversion
- Tab Delimited

Output to
Select the place where to transfer the data.

- **Display**: Displays the data in the Query Results window.
- **File**
- **Spreadsheet**: Saves the data to a `.DIF` file.

Show Transfer Status Window
Sets the Transfer Status Window on or off when you are downloading a file from the host. When this check box is cleared, transfers take less time because the host does not have to count the number of selected records before transferring them.

6. If you want to configure the data format options, click **Fields**.

Refer to Configuring the data format options, on page 257 for more information.

7. Click the **Local** tab and set the following options:

If File Exists
Select how existing files are treated:

- **Abort**
- **Append**
- **Overwrite**
- **Prompt before Overwrite**: Select this check box if you do not want the file to be accidentally overwritten.

Save Description File
If selected, the description file that is downloaded from the host is saved locally on your machine with the same name as the file that you are receiving.

Delete Trailing Spaces (ASCII Only)
If selected, any trailing spaces that were used to "pad" the file that you are receiving, are deleted.

8. Click the **Host** tab and set the following options:

File Creation
Select how you want existing files on the host to be treated. The available options are:

- **Create File and Member**
- **Create Member**
- **Replace Member**
- **Append to Member**

Prompt before Replace
Select this check box if you do not want the file to be accidentally overwritten. This option is available only when **Replace Member** is selected.

Use Description File
Select this check box if you want to use a description file. If selected, a file extension must be entered in this field. For example, `*.FDF`.

Note

The remaining options are only available when **Create File and Member** is selected from the **File Creation** menu.

File Type
Select the type of file to create on the Host.

- **Data**: Creates a physical data file and member.
- **Source**: Creates a physical source file and member.

Authority
Select the permissions for the host file.

- **All**
- **None**
- **Read**
- **Read/Write**

File Text
Type a description of the host file.

Member Text
Type a description of the new member that is being created.

Record Length
Set the record length, in bytes. The default is 92 bytes.

Reference File
Assign a reference file to the file that you are sending to the host. The new file is created by using the field names in the description file and the definitions of the fields in the reference file.

9. Click the **SQL** tab.

   SQL queries are used when downloading one or more files to your PC. An SQL query allows you to select specific records, how they are sorted, and how they are grouped. Click **Options** to connect to the server to retrieve the field information for each file selected. You can type the SQL query directly into the field or click **Options** to use the SQL Query Options window to create SQL queries.

   Refer to Building SQL queries, on page 258 for more information.

10. Click **OK**.

Configuring the data format options

You can specify the data format options of the transferred files.

1. Click **Transfer** ® **Transfer Setup**.
2. Click the **Transfer** tab.
3. Click **Fields**.
4. Select the data options that match the data in your file.
   a. In the **Date Format** menu, select the appropriate option:
      - [DMY] Day/Month/Year
      - [EUR] European
      - [ISO] International Standards Organization
      - [JIS] JIS
      - [JUL] Julian
      - [MDY] Month/Day/Year
      - [USA] USA
      - [YMD] Year/Month/Day
   b. In the **Date Separator** menu, select the appropriate option:

      Note

      Not all of the following separators are available for all of the date formats.

      - [] Blank
      - [,] Comma
      - [.] Period
      - [/] Slash
      - [-] Dash
   c. In the **Time format** menu, select the appropriate option:
      - [EUR] European
      - [HMS] Hours/Minutes/Seconds
      - [ISO] International Standards Organization
      - [JIS] JIS
      - [USA] USA
   d. In the **Time Separator** menu, select the appropriate option:

      Note

      Not all of the following separators are available for all of the time formats.

      - [] Blank
      - [,] Comma
      - [.] Period
      - [:] Colon
   e. In the **Decimal Separator** menu, select the appropriate option:
      - [,] Comma
      - [.] Period
5. Click **OK** to save and close the Data Options window.
6. Click **OK** to save and close the Transfer Setup window.

Building SQL queries

SQL queries are used when downloading one or more files to your PC. An SQL query allows you to select specific records, how they are sorted, and how they are grouped. You can enter the SQL query directly into the edit box or use the SQL Query Options dialog to create SQL queries.

1. Start an iSeries Display session.
2. Click **Transfer** ® **Send/Receive**.
3. In the Host File Transfer window, click **Transfer** ® **Transfer Setup**.
4. Click the **SQL** tab.
5. There are two method to building SQL queries:
   - Type the SQL query directly in the **SQL Query** field. Click **OK** when finished.
   - Click **Options** to connect to the server and retrieve the field information for each file selected. Continue to step 6.
6. Click **Options** to connect to the server.
7. Log in to the host or click **Cancel**.
8. Build your SQL Query statements in the SQL Query Options window.

   Each tab in the SQL Query Options window represents an SQL query condition:
   - **Select**: Determines which fields to transfer. Required.
   - **Where**: One or more conditions that must occur for a record to be transferred.
   - **Group by**: Separates the result data into more than one group.
   - **Having**: One or more conditions that must occur by each summary record to be transferred.
   - **Order by**: Specifies an order in which to return the rows.
   - **Join by**: Specifies how the data from multiple files is combined.

   Each clause must be on a separate line. The default SQL query of SELECT * is used when there is no custom SQL query configured. For example:

   ```
   SELECT *
   WHERE (t1.IMITM = t2.IMITM)
   ```

9. Click **OK** to save and close the SQL Query Options window.
10. Click **OK** to save and close the Transfer Setup window.

Adding the transfer icon to the toolbar

You can add the BlueZone Host File Transfer icon to the BlueZone toolbar.

1. Start a BlueZone iSeries Display session.
2. From the BlueZone menu bar, click **View** ® **Properties**.
3. Select the **Show Menu Buttons** check box, if it is not already selected.
4. Next to **Show Menu Buttons**, click **Customize**.
5. In the **Available toolbar buttons** pane, highlight the **Send/Receive** icon.
6. Click **Add**.
7. Drag the **Send/Receive** icon to the necessary location in the **Current toolbar buttons** lists.
8. Click **Close** to close the Customize Toolbar window.
9. Click **OK** to close the View Properties window.

Note

You must save your BlueZone Display session for the toolbar change to be permanent.

Setting the file and tracing options

You can save your host file transfer settings to a file, set program options, and configure tracing. BlueZone Host File Transfer has the same file save options as found in the BlueZone Display emulators.

1. Start a BlueZone iSeries Display session.
2. From the BlueZone menu bar, click **Transfer** ® **Send/Receive**.
3. In the Host File Transfer window, click **File** ® **Options**.
4. In the **Options** tab, set the following options.
   a. Select when settings are saved on close:
      - **Ask to Save Settings**
      - **Always Save Settings**
      - **Never Save Settings**
   b. Select when the transfer list is saved:
      - **Ask to Save Transfer List**
      - **Always Save Transfer List**
      - **Never Save Transfer List**
   c. Select or set the remaining options as needed:
      - **Center Transfer Window on Open**
      - **Submit Completed Transfers to the Transfer List**
      - **Max Transfer List Entries**
5. Click the **Trace** tab and set the following options.
   a. To enable tracing, select the **Enable Tracing to File** check box.
   b. Type a file name in the field. By default, tracing files are saved in the `\Traces` folder in the working directory. To change the location, click **Browse** and select a new location.
   c. Click **View Trace** to view the selected trace file.
6. Click **OK**.

Adding libraries to the host pane

To add a library to the **Host Transfer** pane, the library must already exist on the host system.

1. Start a BlueZone iSeries Display session.
2. From the BlueZone menu bar, click **Transfer** ® **Send/Receive**.
3. Under the **Host Files** pane, click **Refresh**.

   If you do not have a user name and password saved in the Host File Transfer configuration, you are prompted for them now. The Libraries that you currently have access to are displayed in the Host File pane.
4. Click the **Add Library** icon located to the right of **Refresh**.
5. In the Add Library window, type the name of the library that you want to add and click **OK**.

   The library opens in the **Host Files** pane.

Removing libraries from the host pane

1. Start a BlueZone iSeries Display session.
2. From the BlueZone menu bar, click **Transfer** ® **Send/Receive**.
3. Under the **Host Files** pane, click **Refresh**.

If you do not have a user name and password saved in the Host File Transfer configuration, you are prompted for them now.

4. Highlight the library that you want to remove.
5. Click the **Remove Library** icon located to the right of **Refresh**.

   A Confirm Delete message opens.
6. Click **Yes** to remove the library.

   The library is removed from the **Host Files** pane. This process does not delete the library; it still exists on the host.

Saving configuration settings

All LIPI file transfer settings can be saved in two different ways:

- Saved with your iSeries Display settings
- Saved as a separate configuration file

When you start and configure a LIPI file transfer session, all of your host file transfer configuration settings are saved as part of your iSeries configuration. By default, BlueZone host file transfer is configured to automatically save its configuration settings along with your iSeries Display session settings. This is controlled by the file options settings.

Refer to Setting the file and tracing options, on page 259 for more information.

Unless you have a need to export your LIPI file transfer settings, you do not have to create a configuration file to save your settings.

To save with your iSeries Display settings:

1. In the Host File Transfer window, click **File** ® **Save** from the menu bar.
2. Close the Host File Transfer window.
3. Save your iSeries Display.

To save as a separate configuration file:

1. In the Host File Transfer window, click **File** ® **Save As**.
2. Type a name for the file.
3. Click **Save**.

   By default, LIPI file transfer configuration files are saved in the `\Config` folder of the working directory with a file extension of `.ADF`.

Receiving files from the host

Prerequisite

This procedure assumes that you have already configured the host file transfer to meet your file transfer requirements. Refer to Configuring the host file transfer, on page 253 for more information.

Procedure

1. Start BlueZone Host File Transfer.
2. Under the **Host Files** pane, click **Refresh**.
3. In the **Host Files** pane, expand the library that contains the file or files that you want to receive.
4. Highlight the file that you want to receive.
5. In the center pane, click the **Receive File** icon.

Note

The **Send** and **Receive** buttons in the desktop application are disabled until a valid file has been selected.

Your file is downloaded to your machine.

Sending files to the host

Prerequisite

This procedure assumes that you have already configured host file transfer to meet your file transfer requirements. Refer to Configuring the host file transfer, on page 253 for more information.

Procedure

1. Start BlueZone Host File Transfer.
2. Under the **Host Files** pane, click **Refresh**.
3. In the **Host Files** pane, expand the library where you want to send the file.
4. In the **Local Files** pane, highlight the file that you want to send.
5. In the center pane, click the **Send File** icon.

   Note

   The **Send** and **Receive** buttons in the desktop application are disabled until a valid file has been selected.

   Your file is uploaded to the host.

Transfer lists

Transfer lists are used to control batch file transfers. A transfer list can contain files that are being transferred in both directions. Multiple transfer lists can be created, saved, and used again in the future. Each entry in a transfer list can have a customized transfer setup.

Creating and saving transfer lists

Prerequisite

Before you create a transfer list, ensure that the host file transfer configuration is complete. Refer to Configuring the host file transfer, on page 253 for more information.

Procedure

1. Start and connect to an iSeries Display session.
2. Click **Transfer** ® **Send/Receive**.
3. In the **Local Files** pane, select a local file to add to the transfer list.
4. In the center pane, click the **Add to List** icon.

   The file entry displays in the **Transfer List** pane.
5. Repeat steps 3–4 until all of the local files that you want are in the **Transfer List** pane.
6. In the **Host Files** pane, select a host file to add to the transfer list. If no files are displayed in the list, click **Refresh**.
7. In the center pane, click the **Add to List** icon.

The file entry displays in the **Transfer List** pane.

8. Repeat steps 6–7 until all of the host files that you want are in the **Transfer List** pane.
9. Set the transfer properties:
   a. In the **Transfer List** pane, highlight a file entry and click the **Properties** icon.
   b. In the **Transfer Direction** menu, select **<- Receive** or **Send ->**.
   c. **Optional**: Click **Transfer Setup** to change the setup options.

      The Transfer Setup - Entry # window opens. These are the same options that are set in the initial configuration but are applied to this specific transfer file entry only. Refer to Configuring the transfer setup options, on page 253 for more information on these settings.

      Make the necessary changes.
   d. Click **OK** to save and close the Transfer Setup - Entry # window.
   e. Click **OK** to save and close the Transfer Properties - Entry # window.
   f. Repeat this process for all of the transfer list file entries.
10. Save the transfer list using one of the following two options:
    - Click **List** ® **Save**. This saves the transfer list with the current display session. The next time this session is opened, the transfer list is displayed in the **Transfer List** pane.
    - Click **List** ® **Save As**. This saves the transfer list as a `.adl` file for future use.

Manually adding file transfer entries

It is possible to manually add a transfer entry to the Transfer List. This is useful when you want to set up a file transfer to be used in the future, without actually transferring the file at this time.

This procedure assumes that you have already configured Host File Transfer to meet your file transfer requirements, and that you know how to start the BlueZone Host File Transfer application.

1. Start the BlueZone Host File Transfer.
2. From the menu bar, click **List** ® **Add**.
3. In the **Local File** field, type the name of the local file.
4. In the **Local File Path** field, type the location of the local file or click **Browse** to find the location.
5. From the **Transfer Direction** menu, select the direction of the transfer.
6. In the **Host File** field, type the name of the host file.
7. Click **Transfer Setup** to define the transfer options. These are the same options that are available through **Transfer** ® **Setup** . Refer to Configuring the transfer setup options, on page 253 for more information.
8. Click **OK** to exit the Transfer Setup window.
9. Click **OK** to exit the Transfer Properties - New Entry window.

   The file entry displays in the **Transfer List** pane.
10. Repeat steps 2–9 until all of the necessary files are in the transfer list.
11. Click **OK**.

Running transfer lists

1. Start an iSeries Display session.
2. Click **Transfer** ® **Send/Receive**.

If the transfer list was saved with the display session, it is already displayed in the **Transfer List** pane.

3. If the transfer list was not saved with the display session or you want to open a different transfer list, click **List** ® **Open**.
4. Select a transfer list (`.adl`) and click **Open**.
5. Click **List** ® **Run**.

   The transfer entries are either sent to the host or received from the host.

Saving the transfer list

All LIPI File Transfer settings can be saved in two different ways:

- Saved with your iSeries Display settings
- Saved as a separate configuration file

To save with your iSeries Display settings:

When you launch and configure a LIPI File Transfer session, all your Host File Transfer transactions can be saved as part of your iSeries configuration. By default, BlueZone Host File Transfer is not configured to automatically save its configuration settings along with your iSeries Display session settings. This is controlled by the File Options settings.

If you want your transfer lists to be automatically saved along with your iSeries Display session settings, you will need to change

Refer to Setting the file and tracing options, on page 259 for more information.

Note

Click **List** ® **Save** from the menu bar or clicking the **List Save** icon on the lower Transfer List toolbar, saves your current Host File Lists to your iSeries Display session configuration. Of course, you must also save your iSeries Display session in order for your Host File Transfer Lists to be saved. The Host File Transfer List settings are dependent on the iSeries Display session settings being saved.

Unless you have a need to export your LIPI File Transfer Lists, you do not have to create a configuration file to save your Transfer Lists.

To save as a separate configuration file:

This feature is provided primarily as a way to export your Host File Transfer settings to another user or machine. LIPI File Transfer configuration files are saved in your BlueZone `\Config` folder with a file extension of `.ADL`.

1. From the menu bar, click **List** ® **Save As** or click the **List:Save As** icon on the lower Transfer List toolbar.

   A standard Windows file dialog displays.
2. Type a name for the transfer list.
3. Click **Save**.

Creating iSeries database files

1. Start a BlueZone iSeries Display session.
2. Click **Transfer** ® **Send/Receive**.
3. From the Host File Transfer menu bar, click **Transfer** ® **Create iSeries Database File**.
4. Click **Browse** and locate the local file that contains the data from which the iSeries file is created and click **Next**.

The File Type dialog opens. BlueZone automatically chooses the File Type based on the file structure of the database file you chose in the previous step. For example, if you chose an Excel spreadsheet, the File Type is BIFF8.

Supported file types:

- **ASCII**: A simple text file format where the records are separated by CRLF.
- **Basic Sequential**: Fixed-length records; text-based file format.
- **BIFF8**: The Binary Interchange File Format is used by Microsoft Excel (`.XLS`); binary-based file format.
- **CSV**: Comma-Separated Values; text-based file format; fields separated by comma; rows are separated by CRLF.
- **DIF**: Data Interchange Format; text-based file format.
- **DOS Random**: Fixed-length records; text-based file format.
- **No Conversion**: The host data is stored as-is on the PC.
- **Tab Delimited**: Text-based file format; fields separated by tab; rows are separated by CRLF.

5. Click **Next**.
6. Change the name of the FDF or use the default name and click **Next**.
7. If necessary, change the **Date**, **Time**, and **Decimal** data options to match the data in your file.
8. Click **Next**.
9. Click **Start Scan**.

   BlueZone scans the PC data file to determine its contents. A progress bar shows the progress of the scan.

   The check box **First row of data contains field names** must be selected to use the first row as field names and the second row is used as the first row of data. If cleared, the first row in the PC File is used as the first row of data.

   You can skip the scan but you are prompted to continue.

   If any errors are detected, you receive an error message with a description of the error. Fix any errors and scan the file again. Keep fixing errors until the file has been scanned successfully.
10. Click **Next**.

    If the file was scanned successfully, a list of configured fields displays in the File Contents window.

    You can right-click a field to edit, delete, or move the field. You can also insert new fields.
11. To edit a field, select the field and click **Details**. You can edit the following options:

    - **Name**: Field name
    - **Description**: Optional description for the field
    - **Type**: Field type
    - **Length**: Number of digits or number of characters for the field
    - **Allocate**: Fixed length space allocated for the field for VARCHAR and VARGRAPHICS
    - **Scale**: Number of digits after the decimal
    - **Padding**: Allows for extra space in a CHARACTER or GRAPHIC field
    - **CCSID**: The host CCSID for the field
    - **Default**: The default value of the field when empty
    - **Null Capable**: The field can contain null values

12. Click **OK** to save and close the Field Details window.
13. When you have the necessary fields and settings, click **Next**.
14. Type the iSeries file that will be created. You must have authority in the specific library. Click **Next**.
15. **Optional**: Type an description of the iSeries file on the host. Click **Next** to continue.
16. Review the settings and click **Back** to make any necessary changes.
17. When the settings are complete, click **Finish.**

Kermit file transfer (VT)

The Host File Transfer window is used to configure the Kermit Options in BlueZone VT. To open the Host File Transfer window, from the BlueZone menu bar, click **Transfer** ® **Configure**. The Host File Transfer window contains the **Transfer**, **Advanced**, and **Batch Transfers** tabs.

Transfer tab

The Transfer tab is used to enter the names of the files that you want to transfer.

Host File

File Name: Type the name of the file that you want to transfer from the Host to your PC.

PC File

File Name: Type the name of the file that you want to transfer from your PC to the host.

File Options

Select one of the following file transfer modes:

- ASCII
- Binary
- Auto-Detect

Advanced tab

The Advanced tab of the Host File Transfer property sheet is used to configure Kermit file transfer settings. Options include:

Kermit Options

- **Checksum**: Select the Checksum type from the menu.
- **Packet Size**: Type the Packet Size in the field.
- **Window Size**: Type the Window Size in the field.
- **Server Mode**: Select this option if you want to operate in the Server Mode.
- **Use PC Time for Time Stamp**: Select this option if you prefer to use the PC time to time stamp file transfers as opposed to the server time.

Default Transfer Path

Type the Default Transfer Path for the saving of transferred files.

- **Browse**: Click to browse to the location that you wish to use for Kermit file transfers.

Host Commands

- **Send Command**: This field is used to place the desired Kermit Send Command string when sending files to the host. If you require a different Kermit Send Command, make those changes here in the field.
- **Receive Command**: This field is used to place the desired Kermit Receive Command string when receiving files from the host. If you require a different Kermit Receive Command, make those changes here in the field.

- **Server Startup Command**: This field is used to place the desired Kermit Startup Command string when connecting to the host. If you require a different Kermit Startup Command, make those changes here in the field.

Transferring files

Click **Transfer** ® **Configure** from the BlueZone menu bar.

The Host File Transfer property sheet displays.

Important

In Kermit File Transfer, the sending and receiving of files is from the perspective of the host system. For example, sending a file means that the host is sending a file to your PC. Receiving a file means that the host is receiving a file from your PC.

Sending files to the host (host receive)

1. On the **Transfer** click **Browse** and navigate to the file you want the host to receive.

   The file displays in the **PC File** field.

   Tip

   If you place the file or files you want for the host to receive in your `BlueZone\Transfer` folder, a list of these files automatically displays when you click **Browse**.

2. Click **Save**.
3. Select the desired file transfer option:
   - **ASCII**
   - **Binary**
   - **Auto-Detect**

   If you are not sure what value to use, select **Auto-Detect**.
4. Check the **Advanced** tab for any configuration changes that might be needed.
5. Click the **Receive File** icon located on the Host File Transfer toolbar.

   A Transfer Status dialog opens showing the progress of your file transfer. Click **Abort** if you want to abort the file transfer.

Receiving files from the host (host send)

1. On the **Transfer** tab, type the name of the file that you want the host to send in the **Host File** field.
2. Select the desired file transfer option:
   - **ASCII**
   - **Binary**
   - **Auto-Detect**

   If you are not sure what value to use, select **Auto-Detect**.
3. Check the **Advanced** tab for any configuration changes that might be needed. Ensure that the **Default Transfer Path** location is acceptable.
4. Click the **Send File** icon located on the Host File Transfer toolbar.

   A Transfer Status dialog opens showing the progress of your file transfer. Click **Abort** if you want to abort the file transfer.

Batch file transfers

You have the option of creating batch file transfers. Batch file transfers are two or more individual file transfers that you configure, which can be launched by clicking one button.

Configuring batch file transfers

1. Click **Transfer** ® **Configure** from the BlueZone menu bar.
2. Click the **Batch Transfers** tab.
3. Click **New**.

   BlueZone automatically assigns the name **Batch Definition #1** to this particular batch definition.
4. If you want to rename this batch definition, click **Rename**. Otherwise you can keep this name.
5. Click **Add** to add your first transfer to the batch, .

   BlueZone automatically assigns the name **File Transfer #1** to this particular transfer.
6. Click **Edit** to configure this transfer definition.
7. At this time, you can edit the name of the transfer definition if you want. Type the desired file transfer information and click **OK**.
8. Ensure that you have the correct **Transfer Direction** selected for this transfer definition as shown:
   In the above example, **File Transfer #1** of the batch, the host is receiving a file from the PC.
9. Click **Add** to add the next file transfer definition to the batch.

   BlueZone automatically assigns the name **File Transfer #2** to this particular transfer definition.
10. Click **Edit** to configure this transfer.
11. At this time, you can edit the name of the transfer if you want. Type the desired file transfer information and click **OK**.
12. Highlight **File Transfer #2** and ensure that the correct **Transfer Direction** is selected.
    In the above example, **File Transfer #2** of the batch is sending a file from the host to the PC.
13. Add any additional file transfers to the batch definition.
14. Create any additional batch file transfer definitions you require by repeating the steps above.
15. To execute a batch file transfer, highlight the desired batch in the **Batch Transfer Definitions** window and click **Execute Batch Transfer**.

    A Transfer Status dialog opens showing the progress of your file transfer. Click **Abort** if you want to abort the file transfer.

Saving batch file transfer configurations to a file

You can save, or export, batch file transfers for the purposes of managing multiple batches or you can save them so you can share them with other BlueZone users.

1. Click **Transfer** ® **Configure** from the BlueZone menu bar.
2. Click the **Batch Transfers** tab.

   The Batch Transfers dialog opens.
3. Click the **Export** icon located on the Host File Transfer toolbar.

   A standard Windows File Save dialog displays.
4. Type a name for this configuration and click **Save**.

BlueZone automatically assigns the correct file extension (`.vdf`) to this file. The file is stored in the `BlueZone\Config` folder.

Importing batch file transfer configuration files

You can import Batch File Transfers that have been previously saved.

1. Click **Transfer** ® **Configure** from the BlueZone menu bar.
2. Click the **Batch Transfers** tab.

   The Batch Transfers dialog opens.
3. Click the **Import** icon located on the Host File Transfer toolbar.

   A standard Windows File Open dialog displays.
4. Locate the configuration file that you want to import, highlight the file, and click **Open**.

View menu

View properties

The View Properties window is used to configure the toolbar, power pads, status bar, and the color scheme.

Note

Starting with BlueZone version 4.0, the power keys feature is not enabled by default. Power keys have been replaced by power pads.

From the BlueZone menu bar, click **View** ® **Properties**. The View Properties window contains the following tabs:

Menu
All emulators.

ToolBars tab
IBM
BlueZone VT
ICL 7561
Unisys

Power Pads tab
All emulators

Note

Support for Power Keys can be enabled by a BlueZone Administrator. If you want to use the Power Keys feature, contact your BlueZone Administrator or consult the *BlueZone Desktop Administrator's Guide* to enable the Power Keys feature.

Power Keys tab
IBM
BlueZone VT
ICL 7561
Unisys

StatusBar tab
IBM 5250 iSeries
BlueZone VT
ICL 7561
Unisys

Color Scheme tab
All emulators

Showing or hiding the menu bar

1. Click **View** ® **Properties**.
2. In the **Menu** tab, select or clear the **Show Menubar** check box.
3. Click **OK**.

BlueZone Mainframe and iSeries toolbars

BlueZone has several toolbars that allow quick access to many functions. The toolbars can be customized by the end user or customized by the BlueZone administrator to match the emulator being replaced.

Toolbar types include:

- **Menu Buttons**: Provides one click access to any function accessible through the menu system.
- **3270 or 5250 Keys**: Sends the indicated aid key to the host.
- **Quick Colors**: Allows the user to quickly select and change emulation colors.
- **Auto-Entry**: Saves all or selected user input and automatically reenters it when selected from the list. Saved input can also be edited. This is a good method for storing frequently used command lines or IND$FILE transfers.
- **TN3270E or TN5250E**: Provides quick access to TN related functions including a drop-down box showing TN connections, launching the session configuration dialog, starting, stopping and viewing traces.

Note

This is the only toolbar that cannot be customized.

BlueZone toolbars are completely user definable. Buttons can be removed, added and rearranged on the BlueZone toolbar.

To customize a toolbar, click **View** ® **Properties** from the BlueZone menu bar, and click the **Toolbars** tab.

Toolbars tab

The ToolBars tab is used to control which toolbars are displayed in the BlueZone display session and the look and feel of the buttons. It is also used to customize the toolbars.

The **Settings** group is used to set the availability of the toolbars on the desktop:

Show Menu Buttons

If selected, the main BlueZone Iconic toolbar (Menu Buttons) is displayed.

- **Customize**: Click to customize the toolbar.

  Available Buttons

  Displays the buttons that you can add to the toolbar in the active window. To make a button available on the toolbar, highlight the desired button and click **Add**.

  ToolBar Buttons

  Displays the buttons in the order they appear (from left to right) on the toolbar in the active window. To remove a button from the toolbar, highlight it and click **Remove**. To reposition a button, highlight the desired button and click **Move Up** or **Move Down**. You can also drag and drop the button in its desired position.

  Close Button

  Closes the dialog, accepting the changes you have made but does not save to the registry until you click **File** ® **Save**.

  Reset Button

  Restores the default set of buttons on the toolbar in the active window.

Show 3270 or 5250 Keys

If selected, the 3270 or 5250 Keys toolbar is displayed.

- **Customize**: Click to customize the toolbar.

  Available Buttons

  Displays the buttons that you can add to the toolbar in the active window. To make a button available on the toolbar, highlight the desired button and click **Add**.

  Toolbar buttons

  Displays the buttons in the order they appear (from left to right) on the toolbar in the active window. To remove a button from the toolbar, highlight it and click **Remove**. To reposition a button, highlight the desired button and click **Move Up** or **Move Down**. You can also drag and drop the button in its desired position.

  Close Button

  Closes the dialog, accepting the changes you have made but does not save to the registry until you click **File** ® **Save**.

  Reset Button

  Restores the default set of buttons on the toolbar in the active window.

Show Quick Colors

If selected, the Quick Colors toolbar is displayed.

- **Customize**: Click to display the Define Custom Colors dialog. Select the desired color and click **OK** to accept the changes. The changes are not saved until you click **File** ® **Save**.

  Note

  To use the Quick Colors toolbar, position your mouse pointer over the desired color on the Quick Colors toolbar and click once with the left mouse button. Drag the mouse pointer to the desired area on the display screen to change colors and click once with the left mouse button. If the color of letters is to be changed, make sure the cross-hatch is directly over a spot on the letter. If the cross-hatch is off by just a little bit, the background color will change.

Show Auto-Entry
If selected, the Auto-Entry toolbar is displayed.

- **Customize**: Click to display the Customize Auto-Entry ToolBar dialog.

  Maintain Current List Manually (stop recording all events):
  If enabled, no new events will be added to the Auto-Entry toolbar drop-down list. Items may, however, be added to the list manually by typing directly into the Auto-Entry edit box.

  Record Input Fields - Associate AID-Key with Last Field:
  If enabled, the last text event recorded for the screen will auto-send the associated AID-Key on playback.

  Record Input Fields - No AID-Key Association with Last Field:
  If enabled, the last text event recorded for the screen will not auto-send an AID-Key on playback.

  Record (IND$FILE) Send and Receive Host File Transfers:
  If enabled, host file transfers (IND$FILE 3270 only) will be recorded in the Auto-Entry list.

  Record Macro File Playbacks:
  If enabled, Macro playbacks will be recorded in the Auto-Entry list.

  Record Script File Playbacks:
  If enabled, Script playbacks will be recorded in the Auto-Entry list.

  Clear Auto-Entry List:
  Select this button to remove all entries from the Auto-Entry drop-down list.

Show TN3270/E or TN5250/E
If selected, the TN3270/E or TN5250/E Quick Access toolbar is displayed.

BlueZone VT toolbars

There are several toolbars that allow quick access to many functions. You can customize the toolbars or the display session may come pre-customized by the BlueZone administrator.

Toolbar types include:

- **Menu Buttons**: Provide one click access to any function accessible through the menu system.
- **Function Keys**: Are used to send the indicated function key to the host.
- **Quick Colors**: Allows the user to quickly select and change emulation colors.
- **Connection ToolBar**: Provides quick access to related functions including a drop-down box showing the configured connections, launching the session configuration dialog, starting, stopping and viewing traces.

  Note

  This is the only toolbar that cannot be customized.

BlueZone toolbars are completely user definable. Buttons can be removed, added, and rearranged on the BlueZone toolbar.

To customize a toolbar, click **View** ® **Properties** from the BlueZone menu bar. The View Properties window opens. Click the **ToolBars** tab.

ToolBars tab

The ToolBars tab is used to control which toolbars will be displayed in the BlueZone display session and the look and feel of the buttons. It is also used to customize the toolbars.

The **Settings** group is used to set the availability of the toolbars on the desktop:

Show Menu Buttons
If selected, the main BlueZone Iconic toolbar (Menu Buttons) displays.

Show Function Keys
If selected, the VT Function Keys toolbar displays.

Show Quick Colors
If selected, the Quick Colors toolbar displays.

Show Connection
If selected, the Quick Access toolbar displays.

Customizing the toolbars

Menu Buttons and VT Keys
The interface used for customizing the Menu Buttons toolbar and VT Function Keys toolbar, is exactly the same. Click **Customize** to the right of the toolbar to be changed.

- **Available Buttons**: Displays the buttons that you can add to the toolbar in the active window. To make a button available on the toolbar, highlight a button and click **Add**.
- **ToolBar Buttons**: Displays the buttons in the order they appear (from left to right) on the toolbar in the active window. To remove a button from the toolbar, highlight it and click **Remove**. To reposition a button, highlight it and drag it to the new position. You can also use **Move Up** or **Move Down** to reposition it.
- **Close**: Click to close the dialog, accepting the changes you have made but are not saved to the registry until the **File** ® **Save** menu item is selected.
- **Reset**: Click to restore the default set of buttons on the toolbar in the active window.

Quick Colors
To customize the Quick Colors toolbar, click **Customize** associated with this toolbar. The Define Custom Colors dialog opens. Select the desired color and click **OK** to accept the changes. The changes are not saved until **File** ® **Save** is selected from the BlueZone menu bar.

Note

To use the Quick Colors toolbar, position your mouse pointer over the desired color on the Quick Colors toolbar and click once with the left mouse button. Drag the mouse pointer to the desired area on the display screen to change colors and click once with the left mouse button. If the color of letters is to be changed, make sure the cross-hatch is directly over a spot on the letter. If the cross-hatch is off by just a little bit, the background color will change.

Select this button to remove all entries from the Auto-Entry drop-down list.

ICL 7561 toolbars

BlueZone ICL has several toolbars which allow quick access to many functions. The toolbars can be customized by the end user or customized by the BlueZone administrator to match the emulator being replaced.

Toolbar types include:

- **Menu Buttons**: Provides one click access to any function accessible through the menu system.
- **ICL Keys**: Used to send the indicated function key to the host.
- **Quick Colors**: Allows the user to quickly select and change emulation colors.
- **Auto-Entry**: Saves all or selected user input and automatically reenters it when selected from the list. Saved input may also be edited. This is a good method for storing frequently used Command Lines.

- **Connection ToolBar**: Provides quick access to related functions including a drop-down box showing the configured connections, launching the session configuration dialog, starting, stopping and viewing traces.

  Note

  This is the only toolbar that cannot be customized.

BlueZone toolbars are completely user definable. Buttons can be removed, added and rearranged on the BlueZone toolbar.

To customize a toolbar, click **View** ® **Properties** from the BlueZone menu bar. The View Properties dialog displays. Click the **ToolBars** tab.

ToolBars tab

The ToolBars tab is used to control which toolbars will be displayed in the BlueZone display session and the look and feel of the buttons. It is also used to customize the toolbars.

The **Settings** group is used to set the availability of the toolbars on the desktop.

Show Menu Buttons
If selected, the main BlueZone Ionic toolbar (Menu Buttons) displays.

Show ICL Keys
If selected, the ICL Keys toolbar (with Function Keys) displays.

Show Quick Colors
If selected, the Quick Colors toolbar displays.

Show Auto Entry
If selected, the Auto-Entry toolbar displays.

Show RFC1006
If selected, the Quick Access toolbar displays.

Customizing the toolbars

Menu Buttons and ICL Keys
The interface used for customizing the Menu Buttons toolbar and ICL Key toolbar, is exactly the same. Click the **Customize** button to the right of the toolbar to be changed.

- **Available Buttons**: Displays the buttons that you can add to the toolbar in the active window. To make a button available on the toolbar, highlight a button and click **Add**.
- **ToolBar Buttons**: Displays the buttons in the order they appear (from left to right) on the toolbar in the active window. To remove a button from the toolbar, highlight it and click **Remove**. To reposition a button, highlight it and drag it to the new position. You can also use **Move Up** or **Move Down** to reposition it.
- **Close**: Click to close the dialog, accepting the changes you have made but will not be saved to the registry until the **File** ® **Save** menu item is selected.
- **Reset**: Click to restore the default set of buttons on the toolbar in the active window.

Quick Colors

To customize the Quick Colors toolbar, click **Customize** associated with this toolbar. The Define Custom Colors dialog opens. Select the desired color and click **OK** to accept the changes. The changes are not saved until **File** ® **Save** is selected from the BlueZone menu bar.

Note

To use the Quick Colors toolbar, position your mouse pointer over the desired color on the Quick Colors Toolbar and click once with the left mouse button. Drag the mouse pointer to the desired area on the display screen to change colors and click once with the left mouse button. If the color of letters is to be changed, make sure the cross-hatch is directly over a spot on the letter. If the cross-hatch is off by just a little bit, the background color will change.

Select this button to remove all entries from the Auto-Entry drop-down list.

Auto-Entry

To change the properties of the Auto-Entry toolbar, click **Customize** associated with this toolbar. The Customize Auto-Entry ToolBar dialog opens.

Options

- **Maintain Current List Manually (stop recording all events)**: If enabled, no new events are added to the **Auto-Entry ToolBar** drop-down list. Items can be added to the list manually by typing directly into the **Auto-Entry** edit box.
- **Record Input Fields - Associate AID-Key with Last Field**: If enabled, the last text event recorded for the screen auto-sends the associated AID-Key on playback.
- **Record Input Fields - No AID-Key Association with Last Field**: If enabled, the last text event recorded for the screen does not auto-send an AID-Key on playback.
- **Record IND$FILE Send and Receive Host File Transfers**: If enabled, host file transfers are recorded in the Auto-Entry list.
- **Record Macro File Playbacks**: If enabled, Macro playbacks are recorded in the Auto-Entry list.
- **Record Script File Playbacks**: If enabled, Script playbacks are recorded in the Auto-Entry list.
- **Clear Auto-Entry List**: Click to remove all entries from the Auto-Entry drop-down list.

ToolBar Button Styles

Used to set the style and size of the toolbar buttons.

- **Use "Classic" 3-D Buttons**: If selected, the toolbars will use the 3-D button style.
- **Use "Cool" Flat Buttons**: If selected, the toolbars will use the flat button style.
- **Image Library**: Use this list box to choose the desired Image Library. The Image Library controls the size of the buttons (icons) that appear on the BlueZone toolbar. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels (default setting)
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels

Unisys T27 or UTS toolbars

BlueZone has several toolbars which allow quick access to many functions. The toolbars may be customized by the end user or customized by the BlueZone administrator to match the emulator being replaced.

Toolbar types include:

- **Menu Buttons**: Provides one click access to any function accessible through the menu system.

- **UTS or T27 Keys**: Sends the indicated aid key to the host.
- **Quick Colors**: Allows the user to quickly select and change emulation colors.
- **Auto-Entry**: Saves all or selected user input and automatically reenters it when selected from the list. Saved input can also be edited. This is a good method for storing frequently used command lines.
- **Unisys DCA**: Provides quick access to DCA related functions including a drop-down box showing DCA connections, launching the session configuration dialog, starting, stopping and viewing traces.

Note

This is the only toolbar that cannot be customized.

BlueZone toolbars are completely user definable. Buttons can be removed, added, and rearranged on the BlueZone toolbar.

To customize a toolbar, click **View** ® **Properties** from the BlueZone menu bar. The View Properties dialog displays. Click the **ToolBars** tab.

ToolBars tab

The ToolBars tab is used to control which toolbars will be displayed in the BlueZone display session and the look and feel of the buttons. It is also used to customize the toolbars.

The **Settings** group is used to set the availability of the toolbars on the desktop.

Show Menu Buttons
If selected, the main BlueZone Iconic toolbar (Menu Buttons) displays.

Show UTS or T27 Keys
If selected, the UTS Keys or T27 Keys toolbar displays.

Show Quick Colors
If selected, the Quick Colors toolbar displays.

Show Auto-Entry
If selected, the Auto-Entry toolbar displays.

Show Unisys DCA
If selected, the DCA Quick Access displays.

Customizing the toolbars

Menu Buttons and UTS or T27 Keys
The interface used for customizing the Menu Button toolbar and T27 or UTS Keys toolbar, is exactly the same. Click **Customize** to the right of the toolbar to be changed.

- **Available Buttons**: Displays the buttons that you can add to the toolbar in the active window. To make a button available on the toolbar, highlight a button and click **Add**.
- **ToolBar Buttons**: Displays the buttons in the order they appear (from left to right) on the toolbar in the active window. To remove a button from the toolbar, highlight it and click **Remove**. To reposition a button, highlight it and drag it to the new position. You can also use **Move Up** or **Move Down** to reposition it.
- **Close**: Click to close the dialog, accepting the changes you have made but will not be saved to the registry until the **File** ® **Save** menu item is selected.
- **Reset**: Click to restore the default set of buttons on the toolbar in the active window.

Quick Colors

To customize the Quick Colors toolbar, click **Customize** associated with this toolbar. The Define Custom Colors dialog opens. Select the desired color and click **OK** to accept the changes. The changes are not saved until **File** ® **Save** is selected from the BlueZone menu bar.

Note

To use the Quick Colors toolbar, position your mouse pointer over the desired color on the Quick Colors Toolbar and click once with the left mouse button. Drag the mouse pointer to the desired area on the display screen to change colors and click once with the left mouse button. If the color of letters is to be changed, make sure the cross-hatch is directly over a spot on the letter. If the cross-hatch is off by just a little bit, the background color will change.

Select this button to remove all entries from the Auto-Entry drop-down list.

Auto-Entry

To change the properties of the Auto-Entry toolbar, click **Customize** associated with this toolbar. The Customize Auto-Entry ToolBar dialog opens.

Options

- **Maintain Current List Manually (stop recording all events)**: If enabled, no new events are added to the **Auto-Entry ToolBar** drop-down list. Items can be added to the list manually by typing directly into the **Auto-Entry** edit box.
- **Record Input Fields - Associate AID-Key with Last Field**: If enabled, the last text event recorded for the screen auto-sends the associated AID-Key on playback.
- **Record Input Fields - No AID-Key Association with Last Field**: If enabled, the last text event recorded for the screen does not auto-send an AID-Key on playback.
- **Record IND$FILE Send and Receive Host File Transfers**: If enabled, host file transfers are recorded in the Auto-Entry list.
- **Record Macro File Playbacks**: If enabled, Macro playbacks are recorded in the Auto-Entry list.
- **Record Script File Playbacks**: If enabled, Script playbacks are recorded in the Auto-Entry list.
- **Clear Auto-Entry List**: Click to remove all entries from the Auto-Entry drop-down list.

ToolBar Button Styles

Used to set the style and size of the toolbar buttons.

- **Use "Classic" 3-D Buttons**: If selected, the toolbars will use the 3-D button style.
- **Use "Cool" Flat Buttons**: If selected, the toolbars will use the flat button style.
- **Image Library**: Use this list box to choose the desired Image Library. The Image Library controls the size of the buttons (icons) that appear on the BlueZone toolbar. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels (default setting)
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels

Power pad properties

Power pads are configured in the **Power Pads** tab of the View Properties window.

1. In a BlueZone display session, click **View** ® **Properties**, and click the **Power Pads** tab.
2. Complete the following fields:

Field	Description
Show Power Pads	Select this check box to enable power pads.
Always Show Docked Pads	Select this check box to always show docked power pads. If a power pad is docked, and the **Show Power Pads** check box is cleared, the docked power pads are displayed.
Enable Docking	Select this check box to enable docking of power pads. Refer to Docking and stacking power pads, on page 323 for more information.
Available Power Pads	Lists the power pads that are saved in the **Power Pads Directory** and not used in the display session.
Active Power Pads	Lists the power pads that are used in the display session.
Add	Adds a power pad to the **Active Power Pads** list. In the **Available Power Pads** list, select a power pad, and click **Add**.
Remove	Removes a power pad from the **Active Power Pads** list. In the **Active Power Pads** list, select a power pad, and click **Remove**.
New	Click to create a new power pad.
Edit	Select an existing power pad in either list, and click to edit the power pad.
Power Pads Directory	Displays the directory where the power pads are saved. Click **Change** to edit this location.

3. Click **OK**.
4. Save the BlueZone display session.

IBM 3270 Mainframe status bar indicators

To change what is displayed on the status bar, click **View** ® **Properties** from the BlueZone menu bar and click the **Statusbar** tab or double-click the status bar.

Settings

This group is used for overall status bar options:

- **Show Statusbar**: Determines whether or not the status bar is displayed.
- **Statusbar Size**: Use the drop-down list box to select the desired status bar size. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels
- **Field Styles**: Determines the border type of the different sections of the status bar. Select one of the following options from the menu:
  - **No Borders**
  - **Full Static Edge**
  - **Single White Line**
  - **Two Line Notch**

Show Fields

This group is used to add or remove status bar indicators. The indicators are listed starting with the left column, then going down the right column of the dialog display. Clearing the check box next to the indicator, will remove it from the status bar. Please note that the

following items are listed in the order that they appear in the status bar configuration dialog, and not the order that they appear in the actual BlueZone status bar display.

- **Session Identifier**: S1, S2, S3, and so on.
- **Host Keyboard Lock Status**: Used to show / hide the Keyboard Lock Status on the status bar.

  Possible status values are:

  - **Ready (X)**: Keyboard is available for input. Followed by the Keyboard Restore Count in (X). See Keyboard Restore Count below.
  - **X Wait**: Keyboard is locked. Time is required for the system to perform a function.
  - **X-f**: The requested function in not available.
  - **X Num**: A non-numeric entry was made in a numeric field.
  - **X Too Much** - The operator attempted to enter too much data into a field.
  - **X Not Here**: Protected field, cannot type when the cursor is at this position.
  - **X What?**: The last input was not accepted.
  - **X Prog x**: A program error was detected in the data received by the host; "x" describes the probable cause.
  - **X Comm x**: An attempt was made to access host communications while a communications error exists; "x" describes the probable cause.
  - **X Mach x**: Host machine check; "x" describes the probable cause.
  - **X System**: The program has disabled the keyboard following an entry.
- **Session Status Indicator/ Host IP Address / Session Description**: Displays the current Session Status, the IP address of the host, or the Session Description.

  Possible values of the Status Indicators are:

  - **Licensing**: Displays while BlueZone is checking for available licenses.
  - **Initializing**: Displays at startup.
  - **Connecting**: Displays while attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Disconnecting**: Displays while disconnecting form the host.
  - **Disconnected**: Displays when the session is disconnected.
- **Driver Designator/ LU Pool Name/ TN3270E LU Name**: Shows either TN3270, TN3270/E or the Active LU Name depending on what the host supports.
- **APL / DBCS Mode Indicator**: APL (Alternate Code Set) mode, displays whether or not the APL character set is in use or if a DBCS character set is in use.
- **System Time and Date**: Displays the current date and time in military format.
- **Keyboard Insert Mode Indicator**: Indicates whether or not the keyboard is in Insert mode. If the box is blank, Insert mode is off. If a green carat is displayed, Insert Mode is turned on.
- **Keyboard Numlock Indicator**: Displays the status of the Num Lock key. If the letters NUM are displayed on the BlueZone status bar with full intensity, Num Lock is on, if NUM is disabled, then Num Lock is off.
- **Cursor Row and Column Indicator**: Displays the current cursor position as Row, Column.
- **Keyboard Lock Status Bitmaps**: There are several icons (bitmaps) that can be displayed on the BlueZone status bar. If this check box is enabled, the associated icon will be displayed when the corresponding condition exists. The following is a list of icons that can be displayed on the BlueZone status bar:

  - When the keyboard encounters a lock condition, the keyboard lock icon  displays.

- When an attempt is made to type in a protected field, the not here icon displays.
- When the BlueZone API is active, the API icon displays.
- When an encrypted session is established, the SSL Connection Status icon displays. In addition, when this icon is displayed on the status bar, you can click the icon to get information about the encrypted session.

Note

In addition to the above icons, additional icons will appear in the BlueZone status bar when using BlueZone in BiDi mode. Refer to Bidirectional language support, on page 161 for more information on these status bar icons.

- **Keyboard Restore Count**: If enabled, the number of keyboard restores sent from the host system will be displayed here. This option is useful when developing high-speed scripts using the BlueZone Scripting Host and the TN3270/E communication driver.
- **Keyboard Capslock Indicator**: Indicates whether or not the keyboard lock is enabled. If the keyboard lock is on, a green up arrow will be displayed in this box.
- **Bound Time / Response Time**: You can choose between one of the following to be displayed on the status bar:
  - **Active LU Bound Time**: Displays the total LU bound time of the current connection.

    or
  - **Host Response Time**: Displays the host response time of the last transaction.

IBM 5250 iSeries status bar indicators

To change what is displayed on the status bar, click **View** ® **Properties** from the BlueZone menu bar and click the **Statusbar** tab or double-click the status bar.

Settings

This group is used for overall status bar options.

- **Show Statusbar**: Determines whether or not the status bar is displayed.
- **Statusbar Size**: Use the drop-down list box to select the desired status bar size. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels
- **Field Styles**: Determines the border type of the different sections of the status bar. Select one of the following options from the menu:
  - **No Borders**
  - **Full Static Edge**
  - **Single White Line**
  - **Two Line Notch**

Show Fields

This group is used to add or remove status bar indicators. The indicators are listed starting with the left column, then going down the right column of the dialog display. Clearing the check box next to the indicator, will remove it from the status bar. Please note that the following items are listed in the order that they appear in the status bar configuration dialog, and not the order that they appear in the actual BlueZone status bar display.

- **Session Identifier**: S1, S2, S3, and so on.
- **Host Keyboard Lock Status**: Used to show / hide the Keyboard Lock Status on the status bar.

  Possible status values are:
  - **Ready (X)**: Keyboard is available for input. Followed by the Keyboard Restore Count in (X). See Keyboard Restore Count below.
  - **X Wait**: Keyboard is locked. Time is required for the system to perform a function.
  - **X-f**: The requested function in not available.
  - **X Num**: A non-numeric entry was made in a numeric field
  - **X Too Much**: The operator attempted to enter too much data into a field.
  - **X Not Here**: Protected field. Cannot type when the cursor is at this position.
  - **X What?**: The last input was not accepted
  - **X Prog x**: A program error was detected in the data received by the host; "x" describes the probable cause.
  - **X Comm x**: An attempt was made to access host communications while a communications error exists; "x" describes the probable cause.
  - **X Mach x**: Host machine check; "x" describes the probable cause.
  - **X System**: The program has disabled the keyboard following an entry.
- **Session Status Indicator/ Host IP Address / Session Description**: Displays the current Session Status, the IP address of the host, or the Session Description.

  Possible values of the Status Indicators are:
  - **Licensing**: Displays while BlueZone is checking for available licenses.
  - **Initializing**: Displays at startup.
  - **Connecting**: Displays while attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Disconnecting**: Displays while disconnecting form the host.
  - **Disconnected**: Displays when the session is disconnected.
- **Driver Designator / Device Name / TN5250E Device Name**: Shows either TN5250, TN3270/E or the Device Name depending on what the host supports.
- **SSL Connection Status Indicator**: When a secure SSL or TLS connection is established, the SSL Connection Status Indicator will be displayed on the BlueZone status bar.
- **Message Light Indicator / DBCS Mode Indicator**: An indication that there is a message waiting in the message queue will appear here. Or, it can be used to indicate that the DBCS mode is active.
- **System Time and Date**: Displays the current date and time in military format.
- **Keyboard Insert Mode Indicator**: Indicates whether or not the keyboard is in Insert mode. If the box is blank, Insert mode is off. If a green carat is displayed, Insert Mode is turned on.
- **Number NumLock Indicator**: Displays the status of the Num Lock key. If the letters NUM are displayed on the BlueZone status bar with full intensity, Num Lock is on, if NUM is disabled, then Num Lock is off.
- **Keyboard Lock Status bitmaps**: There are several icons (bitmaps) that can be displayed on the BlueZone status bar. If this check box is enabled, the associated icon will be displayed when the corresponding condition exists. The following is a list of icons that can be displayed on the BlueZone status bar:
  - When the keyboard encounters a lock condition, the keyboard lock icon  displays.

- When an attempt is made to type in a protected field, the not here icon displays.
- When the BlueZone API is active, the API icon displays.
- When an encrypted session is established, the SSL Connection Status icon displays. In addition, when this icon is displayed on the status bar, you can click icon to get information about the encrypted session.

- **Keyboard Restore Count**: If enabled, the number of keyboard restores sent from the host system will be displayed here. This option is useful when developing high-speed scripts using the BlueZone Scripting Host and the TN5250/E communication driver.
- **Keyboard CapsLock Indicator**: Indicates whether or not the keyboard lock is enabled. If the keyboard lock is on, a green up arrow will be displayed in this box.
- **Active LU Bound Time**: Displays the total time of the current connection.
- **Cursor Row and Column Indicator**: Displays the current cursor position as Row, Column.

BlueZone VT status bar indicators

To change what is displayed on the status bar, click **View** ® **Properties**, and click the **Statusbar** tab.

To remove any of the configured options from the status bar, disable it by clearing the check box.

Settings

This group is used for overall status bar options.

- **Show Statusbar**: Determines whether or not the status bar is displayed.
- **Statusbar Size**: Use the drop-down list box to select the desired status bar size. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels
- **Field Styles**: Determines the border type of the different sections of the status bar. Select one of the following options from the menu:
  - **No Borders**
  - **Full Static Edge**
  - **Single White Line**
  - **Two Line Notch**

Show Fields

This group is used to add or remove status bar indicators. By default, all the status bar indicators are enabled. The indicators listed are displayed from left to right. Clearing the check box next to the indicator, will remove it from the status bar. Please note that the following items are listed in the order that they appear in the status bar configuration dialog, and not the order that they appear in the actual BlueZone status bar display.

- **Session Identifier**: Displays the Session number, followed by the HLLAPI Short Name Session Identifier. For example, S1/A, S2/B, S3/C, and so on.
- **Session Status Indicator / Host IP Address**: Displays the current Session Status or the Host IP Address.

  Possible status values are:
  - **Licensing**: Displays while BlueZone is checking for available licenses.
  - **Initializing**: Displays at startup.

  - **Connecting**: Displays while attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Disconnecting**: Displays while disconnecting form the host.
  - **Disconnected**: Displays when the session is disconnected.
- **Connection Name**: Displays the name of the current connection. This is the Connection Name as it displays in the Connection List.
- **Keypad Mode**: Indicates whether the numeric keypad function is currently set to **Host Controlled**, **Numeric** (**Num**), or **Application** (**App**).
- **Keyboard Insert Mode Indicator**: Indicates whether or not the keyboard is in Insert mode. If the box is blank, Insert mode is off. `Ins` is displayed when Insert Mode is turned on.
- **System Time and Date**: Displays the current date and time in military format.
- **Active Connect Time**: Displays the total time of the current connection.
- **Cursor Row and Column Indicator**: Displays the current cursor position as Row, Column.
- **Override Session Status Indicator with HLLAPI Status**: Allows you to choose whether or not you want the current HLLAPI status shown in place of Session Status.

T27 status bar indicators

To change what is displayed on the status bar, click **View** ® **Properties** from the BlueZone menu bar and click the **Statusbar** tab or double-click the status bar.

Settings

This group is used for overall status bar options.

- **Show Statusbar**: Determines whether or not the status bar is displayed.
- **Statusbar Size**: Use the drop-down list box to select the desired status bar size. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels (default setting)
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels
- **Field Styles**: Determines the border type of the different sections of the status bar. Select one of the following options from the menu:
  - **No Borders**
  - **Full Static Edge**
  - **Single White Line**
  - **Two Line Notch**

Show Fields

This group is used to add or remove status bar indicators. The indicators are listed starting with the left column, then going down the right column of the dialog display. Clearing the check box next to the indicator, will remove it from the status bar. Please note that the following items are listed in the order that they appear in the status bar configuration dialog, and not the order that they appear in the actual BlueZone status bar display.

- Session Identifier: S1, S2, S3, and so on.
- Data Comm Status: Used to show the current Datacomm Status on the status bar.

  Possible values are:
  - **RCV**
  - **LOCAL**

  - **XMT**
  - **ENQ**
  - **SETMKBIND**
  - **RCVGPG**
  - **ERROR**
  - **OVERFLOW**
  - **TTY**
- **Session Status Indicator**: Displays the current Session Status, the IP address of the host, or the Session Description.

  Possible values are:

  - **Licensing**: Displays while BlueZone is checking for available licenses.
  - **Initializing**: Displays at startup.
  - **Connecting**: Displays while attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Disconnecting**: Displays while disconnecting form the host.
  - **Disconnected**: Displays when the session is disconnected.
- **Forms Mode Indicator**: Displays the current Forms Mode status. If you are in Forms Mode, the word FORM will appear here. If you are not in Forms Mode, this space will be blank.
- **System Time and Date**: Displays the current date and time in military format.
- **Keyboard Insert Mode Indicator**: Indicates whether or not the keyboard is in insert mode. If the box is blank, insert mode is off. If `InsPg` or `InsLn` is displayed, insert mode is turned on.

  Possible values are:

  - **InsPg**: Insert Page
  - **InsLn**: Insert Line
- **Keyboard NumLock Indicator**: Displays the status of the Num Lock key. If the letters NUM are displayed on the BlueZone status bar with full intensity, the Num Lock is on, if NUM is disabled, then the Num Lock is off.
- **Keyboard CapsLock Indicator**: Indicates whether or not the keyboard lock is enabled. If the keyboard lock is on, a green up arrow will be displayed in this box.
- **Page Number Indicator**: The current page number is displayed here.
- **Cursor Row and Column Indicator**: Displays the current cursor position as Row, Column.

UTS status bar indicators

To change what is displayed on the status bar, click **View** ® **Properties** from the BlueZone menu bar and click the **Statusbar** tab or double-click the status bar.

Settings

This group is used for overall status bar options.

- **Show Statusbar**: Determines whether or not the status bar is displayed.
- **Statusbar Size**: Use the drop-down list box to select the desired status bar size. Your choices are:
  - **Small**: 16 x 16 Pixels
  - **Medium**: 24 x 24 Pixels (default setting)
  - **Large**: 32 x 32 Pixels
  - **Extra Large**: 48 x 48 Pixels
- **Field Styles**: Determines the border type of the different sections of the status bar. Select one of the following options from the menu:
  - **No Borders**
  - **Full Static Edge**
  - **Single White Line**
  - **Two Line Notch**

Show Fields

This group is used to add or remove status bar indicators. The indicators are listed starting with the left column, then going down the right column of the dialog display. Clearing the check box next to the indicator, will remove it from the status bar. Please note that the following items are listed in the order that they appear in the status bar configuration dialog, and not the order that they appear in the actual BlueZone status bar display.

- **Session Identifier**: S1, S2, S3, and so on.
- **Host Keyboard Lock Status**: Displays whether or not the keyboard is locked by the host.
- **Session Status Indicator / Host IP Address / Session Description**: Displays the current Session Status, the IP address of the host, or the Session Description.

  Possible values are:
  - **Licensing**: Displays while BlueZone is checking for available licenses.
  - **Initializing**: Displays at startup.
  - **Connecting**: Displays while attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Disconnecting**: Displays while disconnecting form the host.
  - **Disconnected**: Displays when the session is disconnected.
- **Driver Designator**: Displays the current driver. Possible values are:
  - **Unisys DCA**
- **Keyboard Lock Status Bitmaps**: There are several icons (bitmaps) that can be displayed on the BlueZone status bar. If this check box is enabled, the associated icon will be displayed when the corresponding condition exists. The following is a list of icons that can be displayed on the BlueZone status bar:
  - When the keyboard encounters a lock condition, the keyboard lock icon  displays
  - When an attempt is made to type in a protected field, the not here icon  displays.
  - When the BlueZone API is active, the API icon  displays.
- **System Time and Date**: Displays the current date and time in military format.

- **Keyboard Restore Count**: If checked, the number of keyboard restores sent from the host system will be displayed here. This option is useful when developing high-speed scripts using the BlueZone Scripting Host.
- **Keyboard NumLock Indicator**: Displays the status of the Num Lock key. If the letters NUM are displayed on the BlueZone status bar with full intensity, Num Lock is on, if NUM is disabled, then Num Lock is off.
- **Keyboard CapsLock Indicator**: Indicates whether or not the keyboard lock is enabled. If the keyboard lock is on, a green up arrow will be displayed in this box.
- **Active LU Bound Time**: Displays the total time of the current connection.
- **Cursor Row and Column Indicator**: Displays the current cursor position as Row, Column.

Color schemes

You can customize the color scheme of the menu bar, toolbar, and status bar. There are predefined color schemes available or you can create a unique color scheme.

To customize the color scheme, click **View** ® **Properties** from the BlueZone menu bar and click the **Color scheme** tab.

Color scheme tab

Options

Select one of the following color scheme options:

- **Use Windows Theme Colors**: Select this radio button if you want to use standard Windows colors.
- **Apply BlueZone Color Scheme**: Select this radio button to use the predefined BlueZone color schemes. Select the specific color scheme that you want from the menu.
- **Use Custom Color Scheme**: Select this radio button if you want to define a unique color scheme.

Sample

A sample menu bar, toolbar, and status bar display in the **Sample** pane.

Settings

If you selected the **Use Custom Color Scheme** radio button, you can customize the color scheme with the following settings:

- **Element**: Select the element that you want to configure. The available elements are:
  - Menu bar
  - Toolbars
  - Status bar

  You can configure the remaining options for each of the above elements.
- **Background Color**: To change the background color of the select element, select the radio button and click **Color**.
- **Foreground Color**: To change the foreground color of the selected element, select the radio button and click **Color**. This option is only available for the **Menu bar** and **Status bar** elements.
- **Background Image**: Select the gradient, or fade, of the background image of the selected element. The available options are:
  - Solid Color
  - Light Source Top
  - Dual Light Source Panes
- **Element Size Settings**: Select the size of the toolbar icons and status bar text. The available sizes are:

- Small
- Medium
- Large
- X Large

This option is only available for the toolbar and status bar elements when either the **Light Source Top** or **Dual Light Source Panes** option is selected.

- **Pixels per Color**: Define the amount of pixels (1–24) per color. This option is only available when the **Light Source Top** or **Dual Light Source Panes** option is selected.
- **Light Intensity**: Move the slider to the right to brighten or to the left to dim the gradient background color. This option is only available for the toolbar and status bar elements when either the **Light Source Top** or **Dual Light Source Panes** option is selected.

Screen history

The screen history feature captures an image of each screen displayed in the emulator and saves it to a buffer. Users can search through these historical screens to view their content, copy text to the clipboard, and so on. A history pad is also provided to quickly search through the historical screens. The screen history buffer clears automatically when you disconnect from the host system.

The screen history feature is enabled by default, but may require some additional configuration.

Configuring screen history

To configure, or disable, the screen history feature, click **View** ® **Properties** and click the **Screen History** tab. Set the following options:

Enable Screen History
Select to enable the screen history feature. This is selected by default.

History Background Color
Displays the background color of the historical screens. Click **Customize** to change the background color of the historical screens.

Maximum Screen Buffers
Sets the number of screens to save in the history buffer. The default is 32 screens. The maximum number of screens is 999.

Note

The more screens saved in the buffer, the more memory that is used.

Configuring the history pad

The History Pad window is a type of power pad that provides a visual representation of each screen that is stored in the screen history buffer. Like a power pad, the History Pad window can be viewed as a separate window or docked to the display.

The power pad feature must be enabled for the History Pad window to display. To enable power pads:

1. Click **View** ® **Properties**.
2. Select the **Power Pads** tab.
3. Select the **Show Power Pads** check box.
4. If you want to dock the History Pad window, select the **Enable Docking** check box.
5. Click **OK**.

Viewing screen history

There are three methods to view and search through the screen history:

- Using the toolbar buttons
- Using the menu bar options
- Using the History Pad window

When viewing the screen history, the background of the screen changes to the color set in the **History Background Color** field on the **Screen History** tab. This allows users to easily distinguish between active and historical screens.

Toolbar buttons

Screen history toolbar buttons can be added to the toolbar to search through screen history. Seven screen history buttons are available:

Table 1: Screen history toolbar buttons

Icon	Name	Description
	History Pad	Toggles the History Pad window on and off.
	First Screen	Displays the first screen history window.
	Prev Screen	Displays the previous screen history window.
	Next Screen	Displays the next screen history window.
	Last Screen	Displays the last screen history window.
	History Cancel	Cancels screen history and returns to the active screen.
	History Clear	Clears all of the screens from the screen history buffer. This will also clear the screens in the History Pad window.

The screen history toolbar buttons are not displayed by default. Refer to the appropriate topic for more information on adding the screen history buttons to the toolbar:

- BlueZone Mainframe and iSeries toolbars, on page 269
- BlueZone VT toolbars, on page 271
- ICL 7561 toolbars, on page 272
- Unisys T27 or UTS toolbars, on page 274

Menu bar options

Use the **View** ® **Screen History** ® **First**, **Prev**, **Next**, and **Last** menu options to search through the screen history.

History Pad window

To toggle the History Pad window on and off, click **View** ® **Screen History** ® **History Pad** or click the **History Pad** toolbar button.

To dock the History Pad window on either side of the BlueZone display, docking must be enabled in the power pad settings. When enabled, size the History Pad window to the desired width, then drag it to the edge of the screen.

The History Pad window contains the same toolbar buttons as above, except for the **History Pad** button. Use the toolbar buttons to navigate through screen history. When the History Pad window has the focus, the user can also navigate through the screen history screens using the mouse wheel, page up and down keys, Ctrl+Home, and Ctrl+End.

When the History Pad window does not have the focus, the keys mapped to screen history navigate the user inside the BlueZone terminal windows. These operate the same whether the History Pad is enabled or not.

Returning to the active screen

There are four methods to cancel the screen history view and return to the active screen:

- Press any key.

  Note

  If the History Pad window is open, the focus must be on the display.

- Click **View** ® **Screen History** ® **Cancel**.
- From the toolbar or the History Pad window, click the **History Cancel** toolbar button.

  Note

  You must manually add the screen history buttons to the toolbar.

- In the History Pad window, click **Active Screen** (the last screen in the window).

Scratch pad

The scratch pad feature provides a text window for BlueZone users to temporarily save information in BlueZone sessions. Information can be copied, pasted, or typed inside the scratch pad. The scratch pad data can be cleared or saved to a file for later use.

The scratch pad is a type of power pad and can be docked to the top, bottom, left or right window, just like a power pad is docked. Docking is enabled using the power pad **Enable Docking** check box. To change this setting, click **View** ® **Properties** and click the **Power Pads** tab. Only one power pad or scratch pad can be docked per edge of the terminal emulator window. Power pads or the scratch pad cannot dock to another power pad or scratch pad.

If the scratch pad is closed while text is still in the window, the text reappears when you reopen the scratch pad.

To open the scratch pad, click **View** ® **Scratch Pad**. The scratch pad contains the following toolbar icons:

Table 2: Scratch pad icons

Icon	Name	Description
	New	Opens a new scratch pad.
	Open	Opens a standard Windows Open dialog. Any text file can be opened in the scratch pad. The original file remains unchanged.
	Save as	Opens a standard Windows Save As dialog. Scratch pads can be saved as text (`.txt`) files.
	Print	Prints the scratch pad. The scratch pad is automatically sent to the default printer.
	Cut	Cuts the highlighted text.
	Copy	Copies the highlighted text.
	Paste	Pastes text that is placed on the clipboard.
	Select All	Selects all of the scratch pad text.

Auto-Size features

BlueZone features include three auto-size functions: Auto-Size Smaller, Auto-Size Larger, and Full Screen. These features can be accessed by selecting **View** from the from the BlueZone menu bar or by clicking the corresponding icon on the toolbar.

Auto-Size Smaller

When selected, the BlueZone main window decreases proportionally to a size associated with the next available font size.

Auto-Size Larger

When selected, BlueZone automatically enlarges the main session window proportionally to the next available font size.

Full Screen

BlueZone Full Screen Mode enables the session window to become detached from the main window and encompass the entire display screen. If **Auto-Size Font** is selected in the Display Options property sheet, then the largest font available is used to display session text.

BlueZone features a Full Screen Mode Hotkey which is used to toggle from Full Screen Mode to normal mode. The default Full Screen Mode Hotkey is the <Esc> key, and can be customized from the Keyboard Mappings window.

Script menu

BlueZone scripts

BlueZone scripts can be recorded in either a proprietary format or in a text-based format recorded in either VBScript or JavaScript.

Note

Some applications refer to the function used to automate tasks as a macro. BlueZone refers to this function as a script and offers several automation technologies from the **Script** menu in the BlueZone emulators.

BlueZone proprietary scripts are targeted at users with a basic understanding of scripting and logic but without skill sets required to write and edit VBScripts or JavaScripts.

BlueZone text-based scripts are targeted at users who wish to leverage their proficiency with either VBScript or JavaScript and want to take advantage of being able to write and edit BlueZone scripts in a scripting language that they already know.

The type of script desired is selected at the time when the script is created by selecting the desired file extension.

Table 3: BlueZone script types

File extension	Script type
.BZS	BlueZone proprietary script
.BBS	BlueZone proprietary script
.VBS	VBScript
.JS	JavaScript

If you are migrating from another terminal emulator application, BlueZone provides support to convert your existing scripts to BlueZone scripts. For more information about converting scripts, refer to the *BlueZone Migration Toolkit*.

Table 4: Mappings of competitor's script to BlueZone scripts lists the competitor's scripts and the BlueZone scripts that they map to.

Table 4: Mappings of competitor's script to BlueZone scripts

Competitor's script	BlueZone script
EXTRA .EBM	BlueZone .BBS
Reflection .RBS	BlueZone .BBS
Reflection VBA .RVS, .R2W, and .R4W	BlueZone Plus VBA .BVP
Rumba .RMC	BlueZone .BZS
Pcom .MAC	BlueZone .VBS
Pcom .VBS	BlueZone .VBS
Hummingbird .EBS	BlueZone .BBS

BlueZone proprietary script format

BlueZone proprietary scripts are recorded and played back using a proprietary method. Scripts are typically created by recording keystrokes, but can be edited later to change the desired playback. Scripts are edited using the BlueZone Script Editor (bzse.exe) application which is

launched from the BlueZone menu bar by selecting **Script ® Edit** and selecting the desired script. Choosing a script that ends in `.bbs` or `.bzs` starts the BlueZone Script Editor application with the requested script displayed in the editing region.

BlueZone Script Editor is a GUI tool allowing users to drag Script Events into the Script flow, change the order of events, and delete previously recorded events. BlueZone Scripts support a proprietary mechanism called Wait_Ready that ensures the host is ready to accept input, even when using TN3270 or TN3270E .

Advantages

- They are easy to record.
- They are easy to edit with BlueZone Script Editor.
- They are keyboard lock state aware.
- They support advanced functions like wait for, watch for, text input, and so on.
- They can execute other programs using the Run command.
- They can run BlueZone Menu commands, ex; Copy, Paste, Print Screen.
- They can accept variables passed from a BlueZone Web to Host Object Tag. ex: Login ID and Password generated dynamically by the web application and used to sign the user into the mainframe.

Disadvantages

- They do not support text input variables.
- They do not support file I/O.
- There is no external application integration.

BlueZone text-based scripts

BlueZone text-based scripts can be written or recorded in either VBScript or JavaScript. Scripts are typically created by recording keystrokes, but can be edited later to change the playback. Scripts are edited using the BlueZone Script Host and Debugger (`bsh.exe`) application which is launched from the BlueZone menu bar by clicking **Script ® Edit** and selecting the script. Selecting a script that ends in either `.vbs` or `.js` script starts the BlueZone Script Host and Debugger application with the requested script displayed in the editing region.

Advantages

- They are easy to record or can be written from scratch.
- They can be written in VBScript or JavaScript
- They are easy to edit with BlueZone Script Host Debugger.
- They support unique BlueZone methods which control the behavior of BlueZone.

Disadvantages

- They require a working knowledge of VBScript or JavaScript.

Refer to the *BlueZone Advanced Automation Developer's Guide* for more information on the BlueZone Script Host, BlueZone Script Host and Debugger, and the BlueZone Dialog Editor.

BlueZone Script Editor

BlueZone scripting is a powerful and flexible scripting language which uses a built-in GUI (Graphical User Interface) designed for the easy automation of tasks on host systems using the BlueZone family of host emulation products.

BlueZone Script Editor is an easy to use and intuitive GUI program designed to create and modify BlueZone scripts. The BlueZone Script Editor can be launched from a BlueZone Display session or can be launched independently. Features include drag and drop and double-click script entry/edit and the ability to add powerful script events to existing script files.

BlueZone Script Editor uses a four pane interface. The Main Window on the left hand side is where the actual lines of BlueZone script are displayed and edited. The three panes on the right hand side contain all the possible BlueZone Script commands for that particular BlueZone emulator.

They are divided into three categories:

- Script Events
- LU Functions
- Menu Commands

Editing scripts

After you have created a BlueZone script, you may find it necessary to edit the script. Editing a BlueZone script is easy and can be accomplished with the Script Editor's GUI interface. There is no need to worry about syntax errors because the GUI editor take care of that for you.

1. From the BlueZone Script Editor menu bar, click **File** ® **Open**.
2. Select the script that you want to edit and click **Open**.

It is important to make sure that you have the correct emulator Mode selected when you are editing a script.

A quick way to make sure you have the correct Mode selected is to visually note which terminal is selected on the toolbar.

Note

Recording and playing Scripts is BlueZone emulator specific (i.e., the script is limited to just the BlueZone emulator that created it and cannot be used to run other BlueZone emulation clients).

Inserting an item into a script

You can insert items into the script by using mouse clicks alone, or a combination of your mouse and buttons on the toolbar.

1. In the Main Window, select the point in the script that you want to add the item. The item is added below the selected item.
   For example: To add a Script Event, you can highlight the desired Script Event in the Script Events pane and double-click. The Script Event is added into the script below the cursor.
   Or, highlight the desired Script Event in the Script Events pane and click the **Insert Script Event** icon located on the toolbar. The Script Event is added into the script below the cursor.
   Refer to Script events, on page 293 for more detailed information.
2. Follow the same procedure to insert LU Functions using the **LU Function** icon on the toolbar.
   Refer to LU functions, on page 296 for more detailed information.
3. Follow the same procedure to insert Menu Commands using the **Menu Command** icon on the toolbar.
   Refer to Menu commands, on page 296 for more detailed information.

Deleting an item in a script

To delete an item, highlight the desired item and press the Delete key on the keyboard or click the **Delete Entry** icon on the toolbar.

Moving an item in a script

To move an item, drag and drop the item either up or down in the script to the desired location.

Editing the value of an item in a script

To edit the value of an item, highlight the desired item and double-click or click the **Edit Entry** icon  .

Script events

A BlueZone script has the ability to execute all menu commands from the BlueZone Display and has the ability to send all host key sequences to the host system. Script events are used to add flow control and user input to BlueZone scripts. In addition, script events can be used to gain the attention of the user, add comments to a script file, and to execute programs on the workstation.

The examples following the script event statements below, reflect what displays in the script view window in BlueZone Script Editor. BlueZone Scripting is a GUI scripting language, meaning that there is no syntax to learn or text files to maintain. Scripts are created by adding, editing, and deleting script statements. BlueZone script files are small because they are a binary representation of the script. BlueZone script files can only be viewed and modified by using the BlueZone Script Editor.

The following is a list of the currently supported Script Events in BlueZone Scripting:

Beep

Causes the PC speaker to produce a sound. Place the Beep Script Event in your script at the point where you want a beep to be heard.

Example: Place the Beep Script Event immediately before the Input Script Event if you want a beep to be sounded when the Input Dialog is displayed to the user to get their attention.

Clear_Watch

Halts all previous Watch_For statements. See Watch_For for more information.

Example: Clear_Watch

;Comment

Used to add remarks and/or blank lines to the script file. Using comments is good practice because it makes it easier for you or others to know what that part of the script is doing.

Example: ;Comment This is where we start the logon process.

Goto

Causes script execution to begin at the specified label. See the Label command for more information.

Example: Goto SignOn

Input

Displays a customized User Input dialog during script execution. The Input Script Event can be used as a simple dialog that captures the characters typed by the user such as their "Username". In this case Input must be followed by the Type Script Event in order to "pass" the captured characters to the host screen. See Example 1 below.

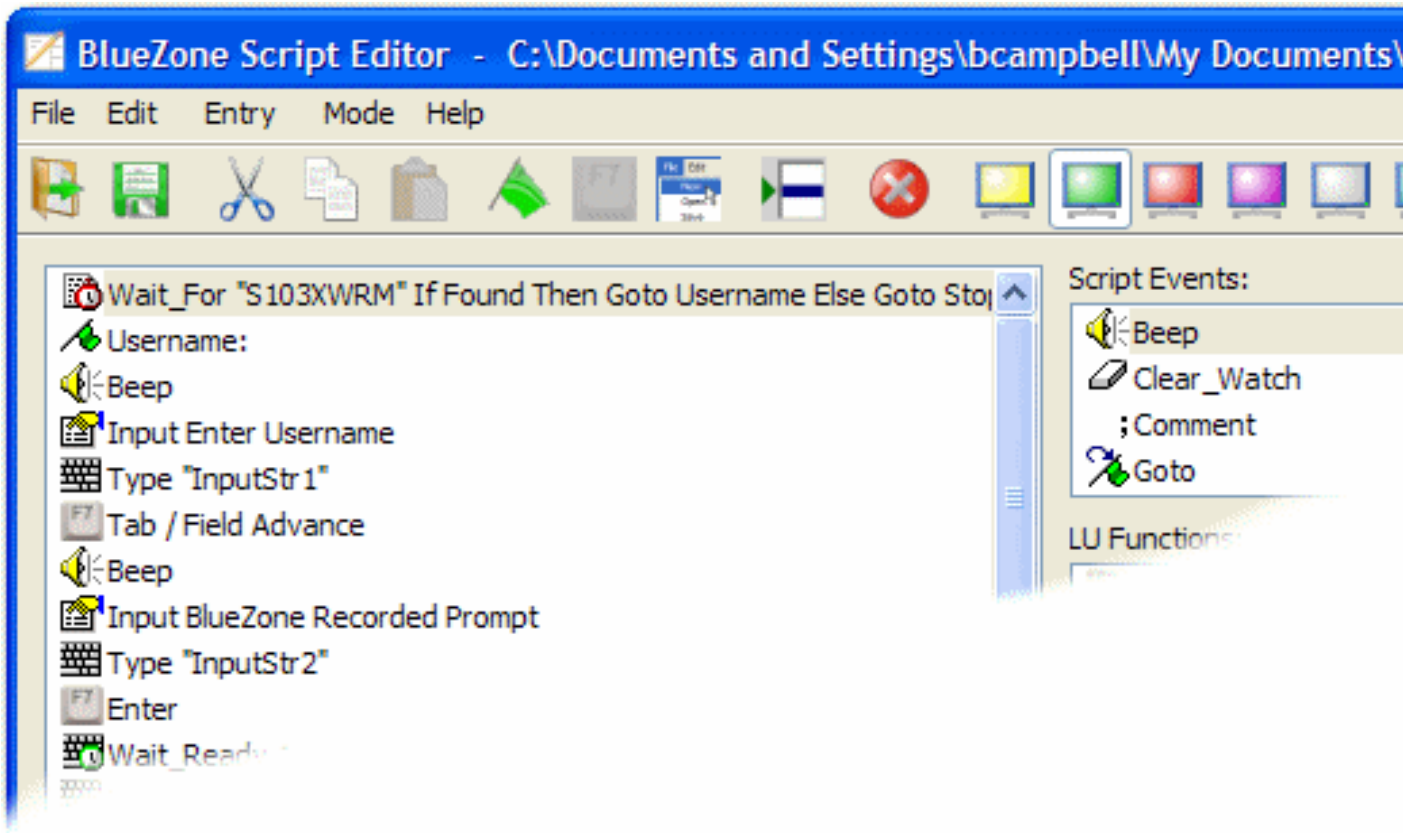
Or, the Input Script Event can provide a mechanism for decision making based on user input and in this case is used in conjunction with the If_Input_Is Script Event. See Example 2 below.

The following options are available for the Input dialog:

- **Input a Character**
  or
- **Input a String of Characters**

- **Hide Input as User Types**: This is important for hiding the End User's password during entry.
- **Maximum String Length**: If desired, you can enter a value from 1 to 255 which will limit the number of characters the End User can enter into the input field. This is particularly helpful if the number of characters being correct is critical to the proper operation of the script. Like when you are expecting a two character state code and not the state name spelled out.

Example 1: In this example, the script will prompt the user for their Username. In order for the characters to be passed on to the screen, the Type Script Event must be placed into the script with the special characters "InputStr1". "InputStr1" is actually a special variable name that is automatically assigned internally to the first Input Script Event in the script which happens to be "Input Enter Username".



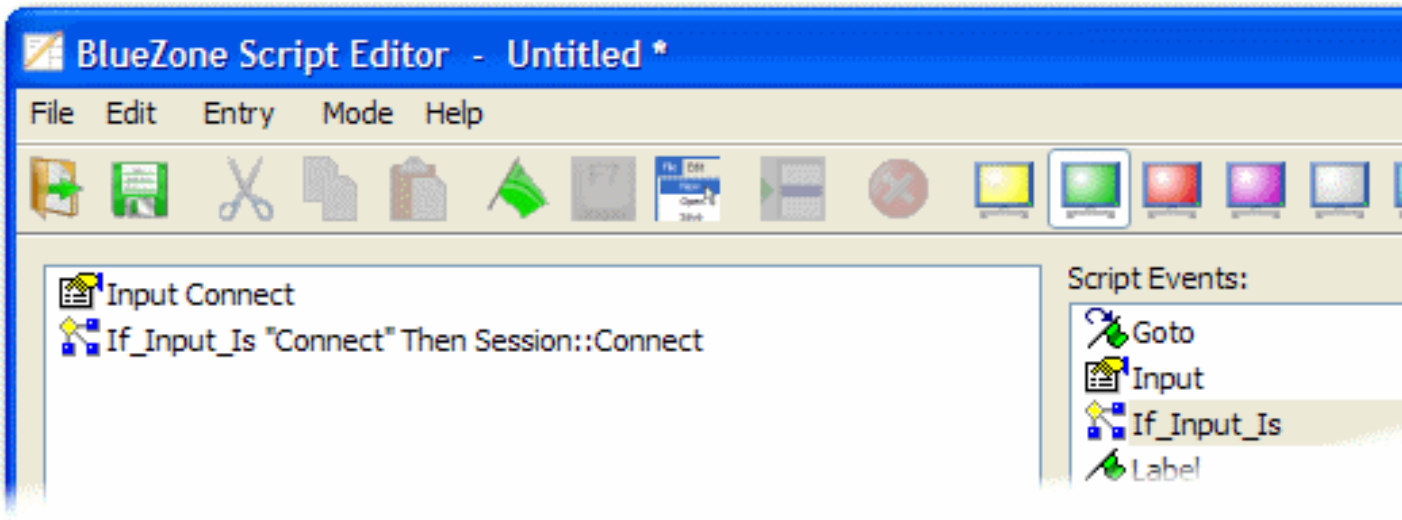
Here's how it works. When the first Input Script Event is used in a script, characters that are entered into the dialog by the user, are automatically assigned to the variable "InputStr1". When the Type Script Event is encountered with the value of "InputStr1", the character string assigned to the "InputStr1" variable, is sent to the host screen.

Refer to Use variables in scripts, on page 303 for more detailed information on using variables.

In the above script, there are two Input Script Events. The second Input Script Event, "Input Enter Password" is automatically assigned to the variable "InputStr2". So after the user enters their password, the Type "InputStr2" will pass the user's captured password to the host screen.

Example 2: In this example, the script is using the If_Input_Is Script Event in conjunction with the Input Script Event. In this script, the user is prompted to type the word "Connect" if they want to connect to the host. "Input Connect" captures the characters typed by the user.

The If_Input_Is Script Event compares the captured characters to the characters "Connect". If the characters match, then the command Session:Connect will be issued. If the characters do not match, then nothing happens.



If_Input_Is
Provides for the ability to determine user input. Used in conjunction with the Input Script Event.

Example: If_Input_Is Quit Then Goto End

Label
Used to specify a position in the script file where a Goto Script Event command can be used to continue script execution.

Example: Label SignOn

Message
Displays a message box with a "Ok" button containing some specified text to the user.

Example: Message Script completed successfully

Return
Causes script execution to continue with the statement following the last Goto Script Event command.

Example: Return

Run
Executes a program.

Example: Run NotePad.exe

Set_Cursor
Used to move the cursor to an exact position on the display by entering in the Row and Column number where you want the cursor to be placed. Using this feature, as opposed to using the Cursor positioning functions, can save valuable script execution time.

Example: Row 8 Column 18

Type
Used to type characters into the host session window starting at the current cursor position.

Example: Type UserId

Wait

Causes script execution to pause for the specified number of seconds.

Example: Wait 3

Wait_For

Causes script execution to suspend until the specified text string is found in the host session window. For example, you can wait for the desired string starting from the very upper left hand corner of the screen and searching to the very end of the screen. You can wait for the desired string starting at a specific row and column or you can wait for the desired string only when found at a specific location on the screen.

In addition, you can also make the search case sensitive and add an optional "Timeout" value.

Refer to Use the Wait_For script event, on page 302 for more detailed information on using this feature.

Wait_Ready

Causes the script execution to suspend until the specified number of keyboard restores have been sent by the host. This prevents the scripts from sending data to the host between keyboard restores, when the host is actually not ready. The number of keyboard restores on a host screen is consistent and a more reliable means of controlling script execution than inserting timers after each script event. The keyboard restore counter is on by default and is located adjacent to the "Ready" on the status line.

Example: Wait_Ready 3 Waits for 3 keyboard restores from the host before proceeding.

Wait_Until

Causes script execution to suspend until the specified time and date.

Example: Wait_Until 09-23-1999 17:30:28

Watch_For

Causes the script to search for the specified text in the host session window each time a host write occurs. If the text is found then the associated statement is then executed. Execution of the script continues after the Watch_For statement. Watch_For statements stay in effect until a Clear_Watch statement is encountered in the script.

Example: Watch_For Error Then Goto End

LU functions

BlueZone scripts have the ability to send all host specific key sequences or commands to the host system. We refer to these host specific commands as LU Functions.

Each BlueZone emulator has it's own set of LU functions. That is because each host has it's own proprietary set of sequences and commands that are specific to that particular type of host.

For example, Enter Attention, Reset and Erase EOF are examples of IBM 3270 Mainframe commands.

Note

Script events and menu commands are the same for all emulators.

A list of all available LU functions for a specific BlueZone emulator can be viewed in the LU functions pane of the BlueZone Script Editor. Select the desired Mode (emulator) from the toolbar. All available LU functions for that emulator are displayed.

Menu commands

BlueZone scripts have the ability to execute all BlueZone menu commands. This includes everything from opening configuration files to launching sessions to executing host file transfers.

Tip

Each BlueZone session can only run one script at a time. However, this does not preclude a BlueZone script from running a BlueZone macro that in turn activates another BlueZone session which executes another script.

A list of all available menu commands can be viewed in the menu commands pane of the BlueZone Script Editor.

Recording scripts

This procedure is intended to provide a step-by-step outline to demonstrate how an end user can use BlueZone to record a script that can then be used over and over again.

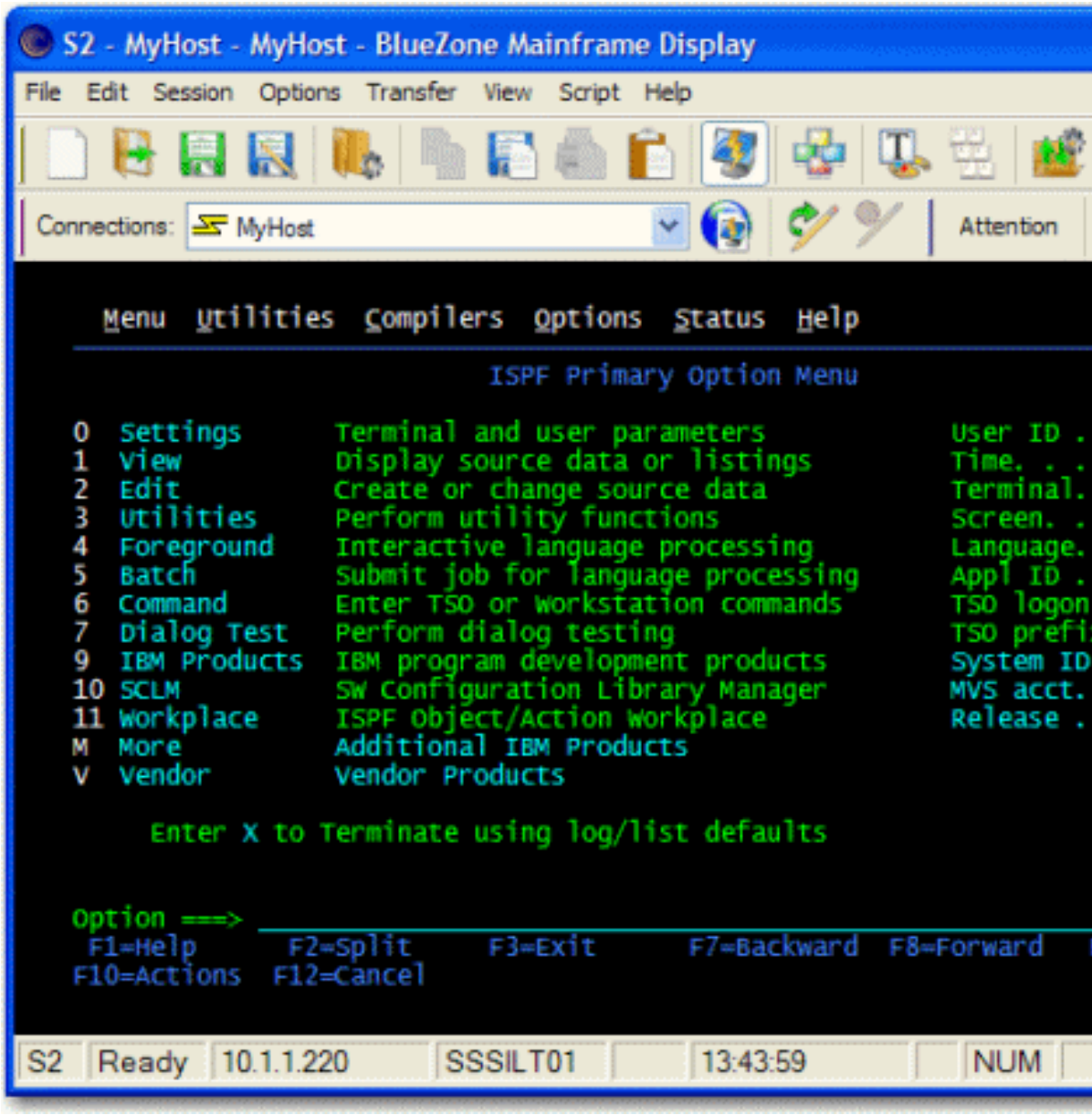
The example used in this script shows how you can automate the process of logging on to TSO on an IBM 3270 Mainframe and automatically navigating to the ISPF Primary Option menu. Note that logging on to TSO requires a password. There are more on how passwords are treated during script recording later in this procedure.

1. Launch a BlueZone Mainframe Display session and connect to your host.
2. Form the BlueZone menu bar, click **Script** ® **Record** or click the **Record Script** icon on the toolbar.

   A standard Windows file dialog opens.
3. Give the script a name like TSO Logon and click **Save** .

   Attention

   From this point forward everything you do is recorded by BlueZone.
4. Log on to TSO and navigate to the place where you want the script to stop recording. This can be as many or few screens as you like. The following example stops on the ISPF Primary Option Menu:



5. From the BlueZone menu bar, click **Script** ® **Stop** to stop the script recording or click on the **Stop Script** icon on the toolbar.

   Your script is recorded.

Playing back scripts

To play your script, follow these steps. Ensure that you are logged off the host before proceeding.

1. Click **Script** ® **Play** from the BlueZone menu bar or click the **Script Play** icon on the toolbar.

   A standard Windows file dialog opens.

2. Select the script that you just created and click **Open**.

   The script runs. If your script required a password during the recording process, a dialog box opens.

This happens because the BlueZone Script Recorder detects that a password field was encountered during the recording process and automatically substitutes a dialog box for the password. The BlueZone Script Recorder did not record the password that you typed during the recording process.

Important

This is a safety feature designed to prevent end users from recording scripts that contain passwords.

3. Type the password and press the Enter key. The script continues until it gets to the place where you stopped recording.

Note

If the Script Status Window was displayed while the script was running, it's because the Display Script Status Window check box is checked.

The purpose of this window is to aid during the development of BlueZone scripts. If you do not want this window being displayed during script playback, you can disable it by following these steps:

a. Click **Script** ® **Properties** from the BlueZone menu bar.

   The Script Properties dialog opens.

b. Clear the **Display Script Status Window** check box.

c. Click **OK**.

   From now on when you play a BlueZone script, the Script Status Window no longer displays.

Playing scripts

BlueZone end users can record keyboard events and save the results to a file for later playback. The process of playing back the resulting file is called playing a Script.

1. From the BlueZone menu bar, click **Script** ® **Play** or click the **Play Script** icon on the toolbar.

   The Play Script File Dialog opens.

2. Select an existing Script file from the **File** dialog and click **Open**.

   Once the Script file is open, BlueZone immediately begins to play the Script.

Note

During Script playback all keyboard events performed by the user is ignored by Windows. This interruption of keyboard input continues until the Script is completed.

Recording and playing Scripts is BlueZone specific (i.e., the script is limited to just the BlueZone application and cannot be used to run other applications).

Some things to consider when playing a Script:

- BlueZone Script playback speed is adjustable. If playing a Script does not produce the desired results, try playing the Script at a slower rate.
- Upon script execution, the Script Status window will be displayed by default. This can be a handy feature during script development. However, if desired, you can turn off the Script Status window in the Script Properties dialog.
- As an option, scripts can automatically be played on Startup, on Connect or on Disconnect. Refer to Script properties, on page 300 for more information.

- Script playback can be aborted by simultaneously pressing the Ctrl-Break or the Ctrl-Alt-Del key combinations.

Auto-playing scripts

In order to Auto-Play a script, you must first create the script that you want to automatically play. Auto-Play simply means that a BlueZone script will automatically start to play when one of three events takes place. The three events are:

- Auto-play script on program startup
- Auto-play script on host connect
- Auto-play script on host disconnect

You can only assign one script per event. However, it is possible to assign different scripts to all three events since these events are mutually exclusive. In other words, it's possible to have one script that runs when the BlueZone applications first starts, one script that runs upon connection of the host session, and one script that runs when the BlueZone is disconnected from the host.

To configure auto-play, follow these steps:

1. Launch a BlueZone Display session.
2. Click **Script** ® **Properties** from the BlueZone menu bar or click the **Script Options** icon on the BlueZone toolbar.

   The Script properties dialog opens.
3. Click **Browse** located by the desired BlueZone script that you want to auto-play.
4. Click **OK**.
5. Save the BlueZone session so that the auto-play selections are saved.

Other options on the Script Properties dialog:

Display Script Status Window
This option is provided as an aid for developers who are creating complex scripts. If you are creating and running simple recorded BlueZone scripts, you do not need the Script Status Window to be displayed during script playback. Turn the Script Status Window off by clearing the check box.

Playback Speed
Playback speed is adjustable using the slider control. Again, this option is provided as an aid to script developers. If you are creating and running simple recorded BlueZone scripts, you should be able to run the scripts as the fastest speed.

Script properties

The Script Properties property sheet is used to configure BlueZone Script playback settings. From the BlueZone menu bar, click **Script** ® **Properties**. The Script Property Sheet opens displaying the following:

Options tab

Playback
The Playback group is used to configure script options:

- **Display Script Status Window**: If enabled, a Script Status window displays during script execution.
- **Auto-Play Script on Startup**: If enabled, BlueZone automatically plays the specified script immediately after the BlueZone program has started.
  - **Browse**: Click to select a script for auto-play on startup.

- **Auto-Play Script on Connect**: If enabled, BlueZone automatically plays the specified script immediately after BlueZone has connected to the host system.
  - **Browse**: Click to select a script for auto-play on connect.
- **Auto-Play Script on Disconnect**: If enabled, BlueZone automatically plays the specified script immediately after the end user selects **Session** ® **Disconnect** or **File** ® **Close**. The session disconnects from the host system after the script has completed.
  - **Browse**: Click to select a script for auto-play on disconnect.
- **Playback Speed**: Used to control the speed that the script executes.

  Tip

  If playing a script does not produce the desired results then try playing it at a slower speed.

- **Scripts Directory**: Used to control the folder where BlueZone stores and look for the end user's scripts. The default location is the end user's `My Documents\BlueZone\Scripts` folder.

Mapping scripts to power pads

After a script has been created and tested, it can be mapped to a power pad to make it instantly accessible with a single click.

1. Create the necessary scripts. Refer to Recording scripts, on page 297 for more information.
2. Create a power pad and assign the script to a button:
   a. Click **View** ® **Properties** and select the **Power Pads** tab.
   b. Click **New**.
   c. Add the necessary objects, for example, add a button.
   d. Double-click the button to edit it. Click the **Action** tab.
   e. In the **Action Type** list, highlight **Play Script**.
   f. In the **Script Files** list, select the necessary script.
   g. Click **OK**.
   h. Save the power pad.

   Refer to Power pads, on page 316 for more information on creating and editing power pads.
3. In the View Properties window, click **Refresh**.

   The newly created power pad displays in the **Available Power Pad** list.
4. From the **Available Power Pads** list, select the power pad and click **Add**.

   The power pad displays in the **Active Power Pads** list.
5. Click **OK**.

   The power pad opens in the display. It can remain floating or it can be docked at any of the four sides of the emulation window.

Mapping scripts to the keyboard

After a script has been created and tested, it can be mapped to a keyboard key to make it instantly accessible from the keyboard.

1. From the BlueZone menu bar, click **Options** ® **Keyboard**.
2. From the **Functions Group** list, select **Menu Hotkeys**.
3. From the **Functions** list, select **Script** ® **Play**.
4. Click **New** to create a new key mapping.

5. Click the key on the keyboard bitmap that you want to execute the Script. Use the Control or Shift keys if necessary. The keys selected display in the **Key Mappings** field.
6. Click **OK** to save and exit the window.
7. From the BlueZone menu bar, click **File** ® **Save**.

Use the Wait_For script event

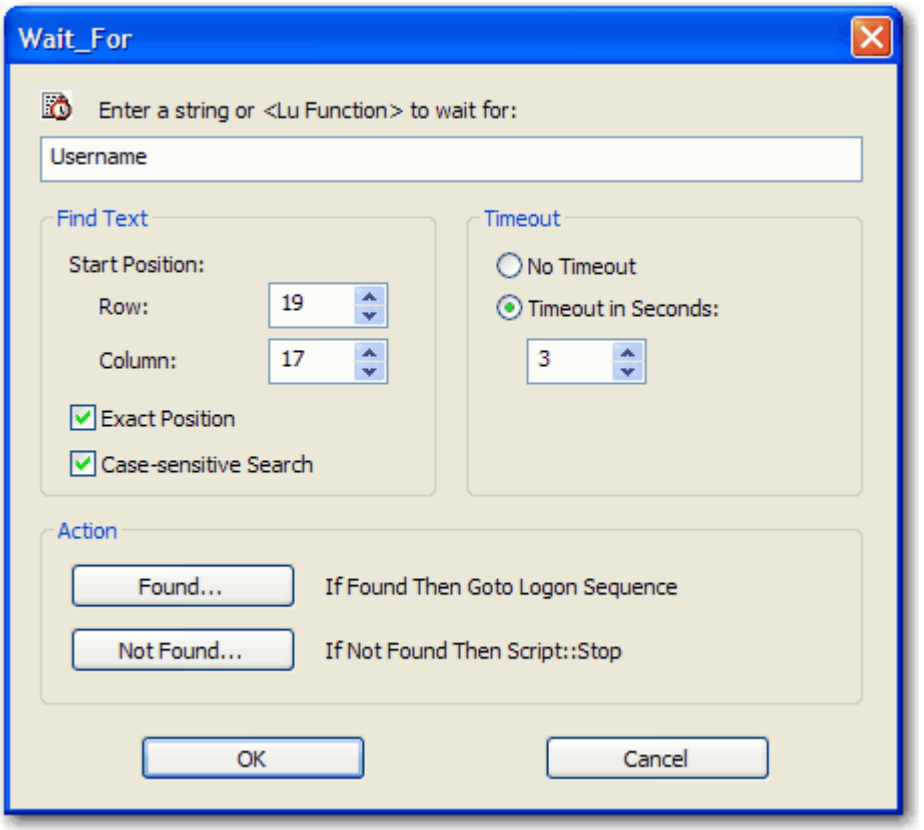
BlueZone scripts support the ability to wait for a specific text string or LU Function to appear in the host session screen. Wait_For is one of the more versatile BlueZone script functions.

The purpose of using Wait_For in a BlueZone script is to cause the script execution to suspend until the specified text string is found in the host session window. This feature is useful if you are running a script that automatically logs the user into an application and you don't want the script to enter the user name and password until the host is ready.

Also, this feature is useful if you want to be absolutely certain that the host is on a specific screen before the script continues.

In addition, you can set a time out value so that if the text string is not found within the desired time, you can script a predicable outcome.

The following screen shot shows the Wait_For dialog configured to wait for the text string "Username" at the exact location of row 19, column 17 with case sensitive search and a time out of 3 seconds.



Examples

For example, you can wait for the desired text string starting from the very upper left hand corner of the host screen and search to the very end of the screen. Or, if desired, you can wait for

the desired text string starting at a specific row and column location, or you can wait for the desired string only when found at a specific row and column on the host screen.

In the following example, the text string "Username" is being used as the Wait_For value.
Wait_For "Username" starting at position 1,1 to the end of the screen

Wait_For "Username" starting at position 12,6 to the end of the screen

Wait_For "Username" at exactly position 24,1

In addition to the Wait_For options above, you can also make the search case sensitive and add an optional "Timeout" value. The advantage to using the Timeout value is that you can invoke boolean logic to branch the script based on the result of the Timeout value. For example, if the Timeout value is reached and the desired string is not found, you can branch to a specific part of the script or to a specific outcome, like ending the script. On the other hand, if the desired string is found within the Timeout value period, you can branch to a specific part of the script with a completely different outcome, like continuing the script.

Note

Wait_For can also be used to wait for LU Functions specified in angle brackets. LU Functions are host commands that are typically sent from the keyboard. Examples are the "Enter" key, the "Tab" key and other host specific commands like "Function" keys. The LU functions will vary depending on the particular host that the script was written for.

Use variables in scripts

BlueZone Scripts support the ability to create up to four variables that can be utilized in a BlueZone script.

There can be many uses for variables. For example, if you want to create a BlueZone script (`.bzs`) to automate the log on process for several host systems, or log on to several sessions on the same host, you can create a BlueZone script with a variable for user name (`InputStr1`) and a variable for password (`InputStr2`) by using the BlueZone "Input" script event. Then the script passes the values of `InputStr1` and `InputStr2` to additional host sessions through the BlueZone command line switch feature and uses the stored values to automatically log on to additional hosts.

BlueZone script exercise

The following BlueZone scripting exercise assumes that you are already familiar with BlueZone and somewhat familiar with BlueZone scripting.

This exercise creates a BlueZone script that prompts the end user for user name and password, then uses the values of user name and password to log onto an iSeries host. Then, the script automatically launches a second iSeries host session and passes the values of user name and password to the second iSeries host session. A script automatically runs on the second iSeries host which uses the values of user name and password to log onto the second host.

By using this technique, the end user is prompted to enter their user name and password only once, at the very beginning of the script, and the script inserts the user name and password values at the correct point for each host.

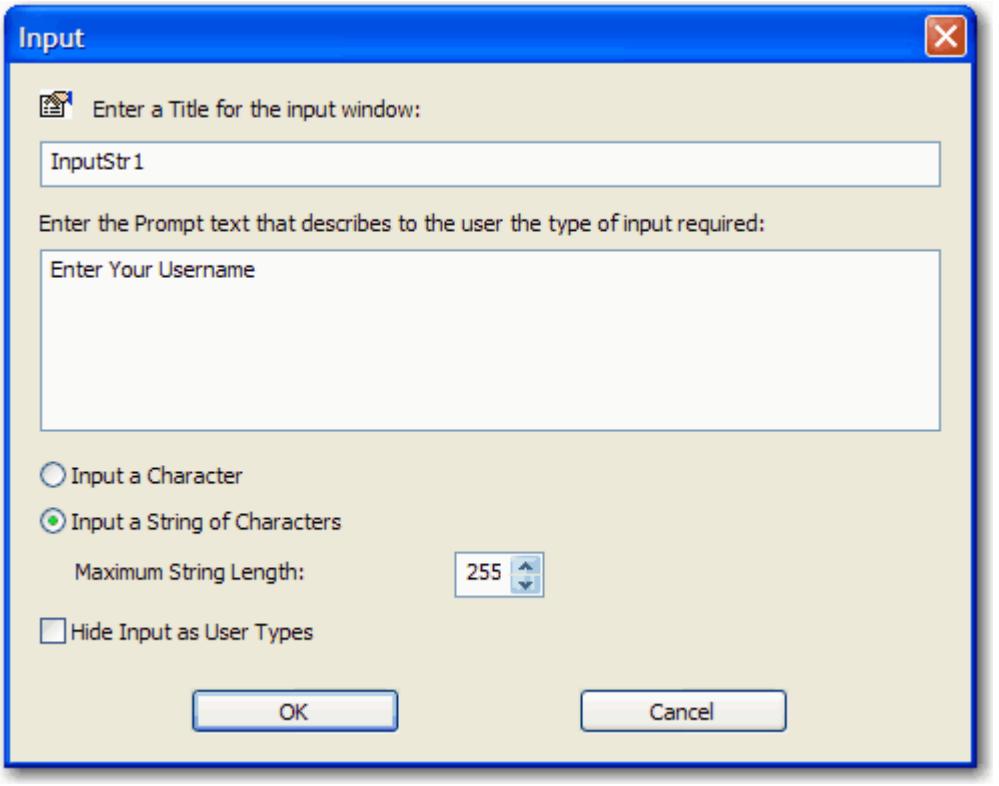
Preparing two BlueZone iSeries Display sessions

1. Launch two BlueZone iSeries display sessions.
2. Configure the sessions to connect to the same or two different iSeries hosts.
3. Save the first session to a file called `session1.zad`.
4. Save the second session to a file called `session2.zad`..

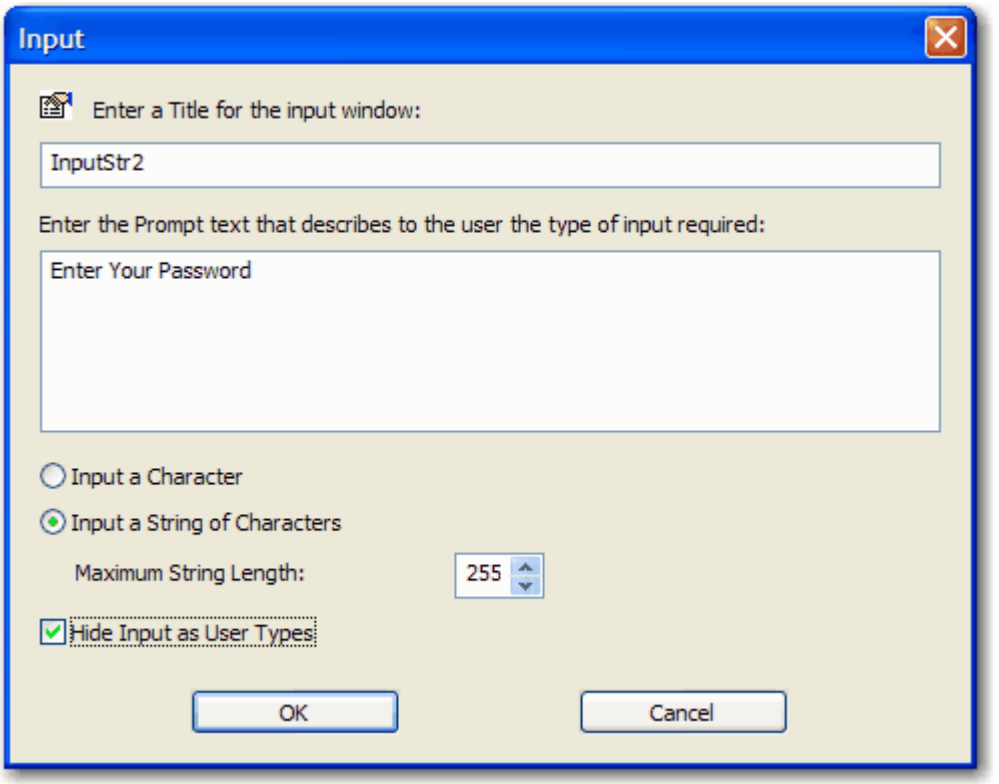
Creating the first BlueZone script

1. Launch the BlueZone Script Editor and start creating a new script as follows.
2. In the Script Events list, double-click the **Input** event.

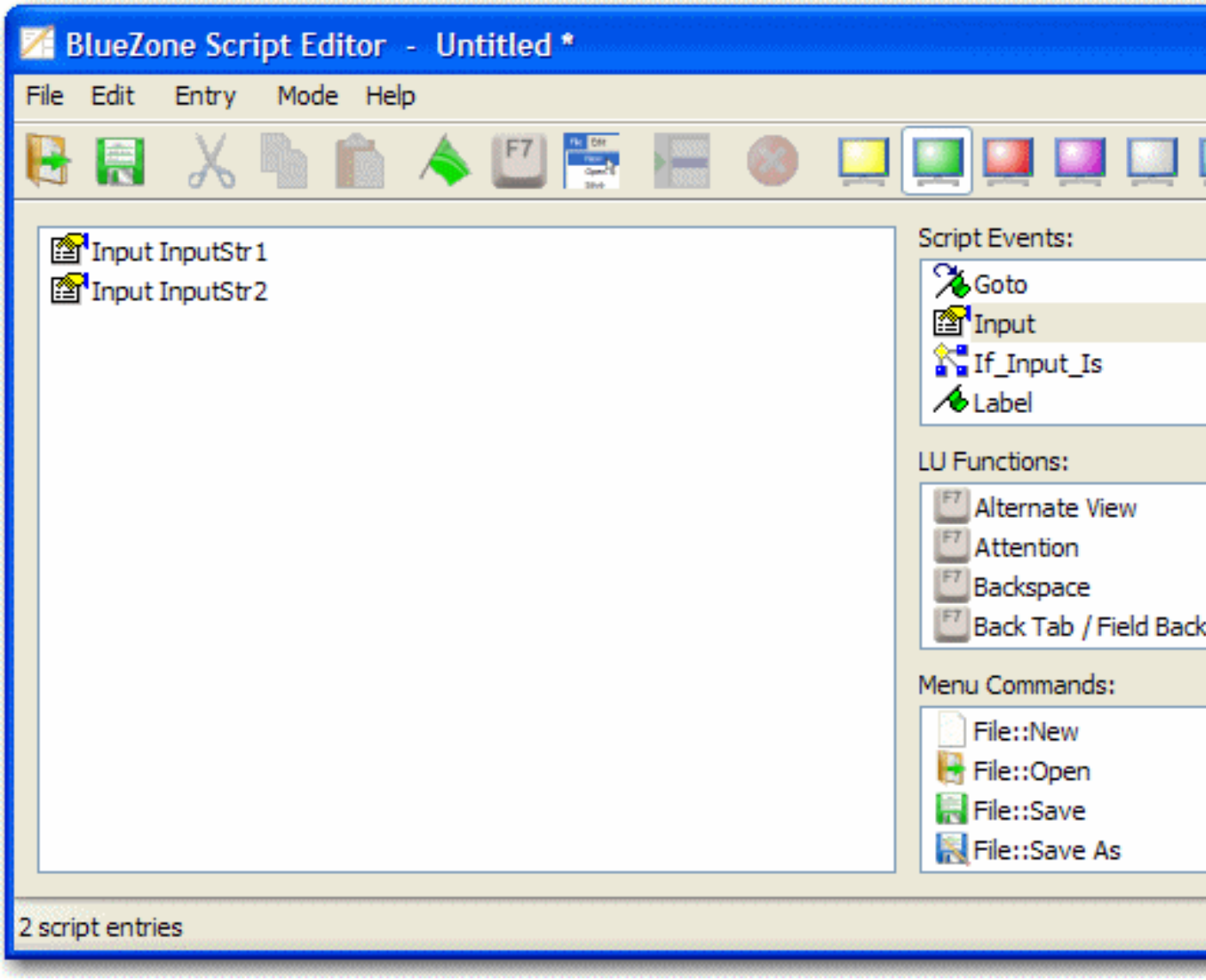
   The Input dialog opens.
3. Type `InputStr1` in the Title field, followed by the text that you want to appear when the end user is prompted. For example, type `Enter your user name.`



4. Click **OK** to enter this event into the script.
5. Repeat the process to create an input box for the end users password as shown here. For the password event, check the **Hide Input as User Types** check box.



6. Click **OK**. So far, your script looks like this:



7. In order to send the value of **InputStr1** to the host, use the Type event. In the **Script Events** list, double-click the **Type** event.

   The Type dialog displays.

8. Type `InputStr1` and click **OK** to add it to the script as shown above.
9. The next step in the log on process is to send a Tab function. This advances the cursor to the **Password** field.
   a. To add a Tab to the script, in the **LU Functions** list, double-click the **Tab / Field Advance** function.

      This adds the Tab / Field Advance function to the script.

10. The next event is to pass the value of the end user's password. This is accomplished by sending a Type **InputStr2** to the host, in the same way we sent the value of user name above.
    a. In the **Script Events** list, double-click the **Type** event.

       The Type dialog displays.

   b. Type `InputStr2`.
   c. Check the **Encrypt and Hide** check box.
   d. Click **OK** to add it to the script.
11. The final step in the log on process is to send an Enter function. This completes the log on sequence:
   a. In the **LU Functions** list, double-click the **Enter** function.

      The Enter function is added to the script.
12. Launch a second iSeries display session. This is accomplished by using the **Run** event. We will create a Run event that calls the correct program, and uses command line switches to set the configuration file to use, and to pass along the InputStr1 and InputStr2 values to the second iSeries session.
13. In the **Script Events** list, double-click the **Run** event.

    The Run dialog displays.
14. Type the following in the command line:

    ```
    C:\Program Files\BlueZone\BZAD.EXE /Fsession2.zad /1InputStr1 /2InputStr2
    ```

15. Click **OK** to enter this event into the script.

    This command line launches a BlueZone iSeries display session, use the configuration file named `session2.zad`, and send the values of InputStr1 and InputStr2 to the new iSeries session.
16. Click **OK**.
17. Save the script and name it `script1.bzs`.

So far, we have created a script that prompts the end user for user name and password, automatically logs on to an iSeries session using the stored values of user name and password, and automatically launches a second iSeries session.

The next step is to create a second BlueZone script that uses the values of `InputStr1` and `InputStr2` from the first script, to automatically log on to the second iSeries host.

Creating the second BlueZone script

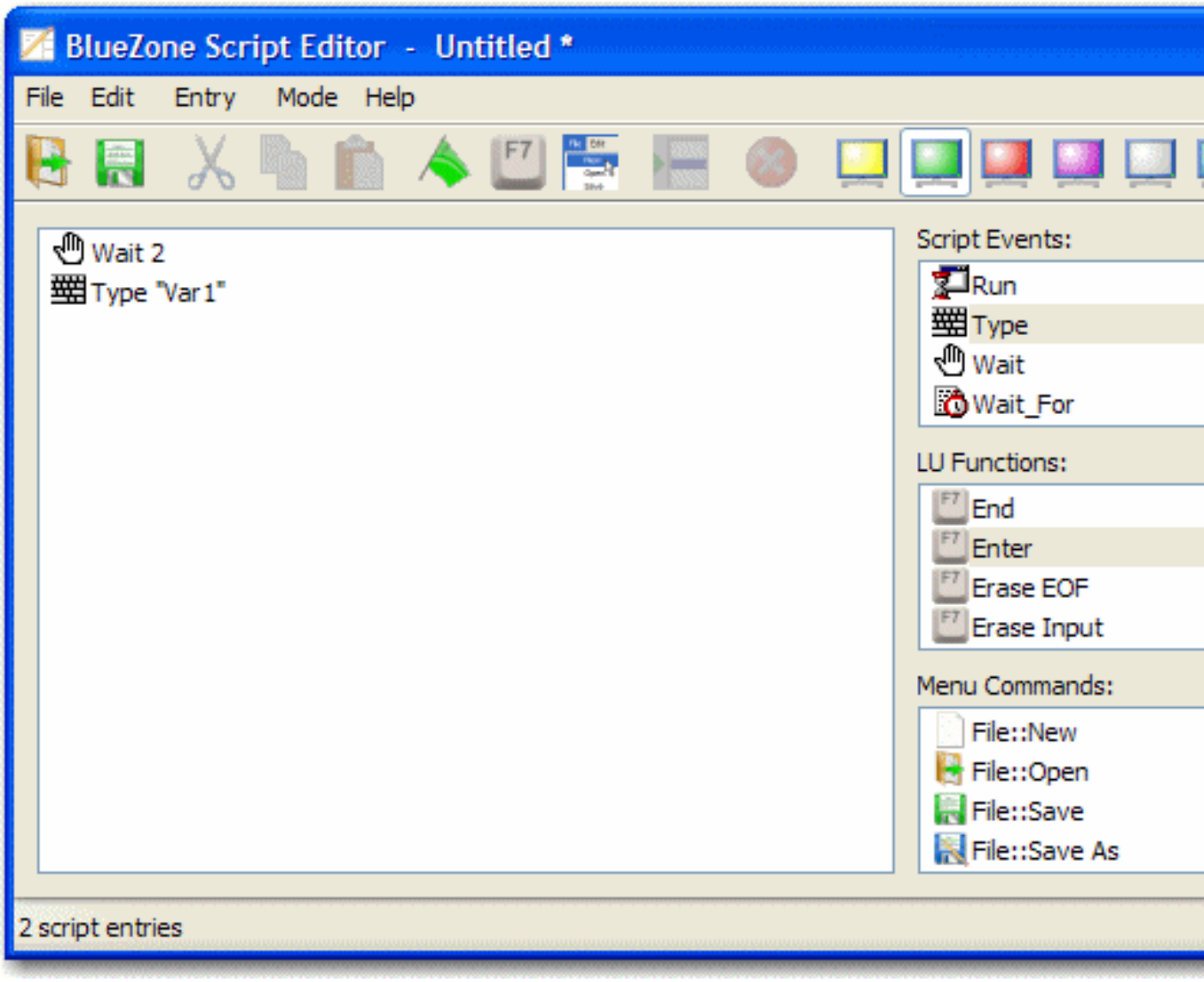
1. Create a second BlueZone script by selecting **New** from the BlueZone Script Editor menu.

   You now have a blank screen in which you can create a new script.
2. It is recommended to start with a Wait event in order to give the new session some time to bring up the main log in screen.
   a. In the Script Events list, double-click the **Wait** event.
   b. Type the number of seconds to wait. For example, `2`.
   c. Click **OK**.
3. Add a Type event:
   a. In the Script Events list, double-click the **Type** event.

      The Type dialog displays.

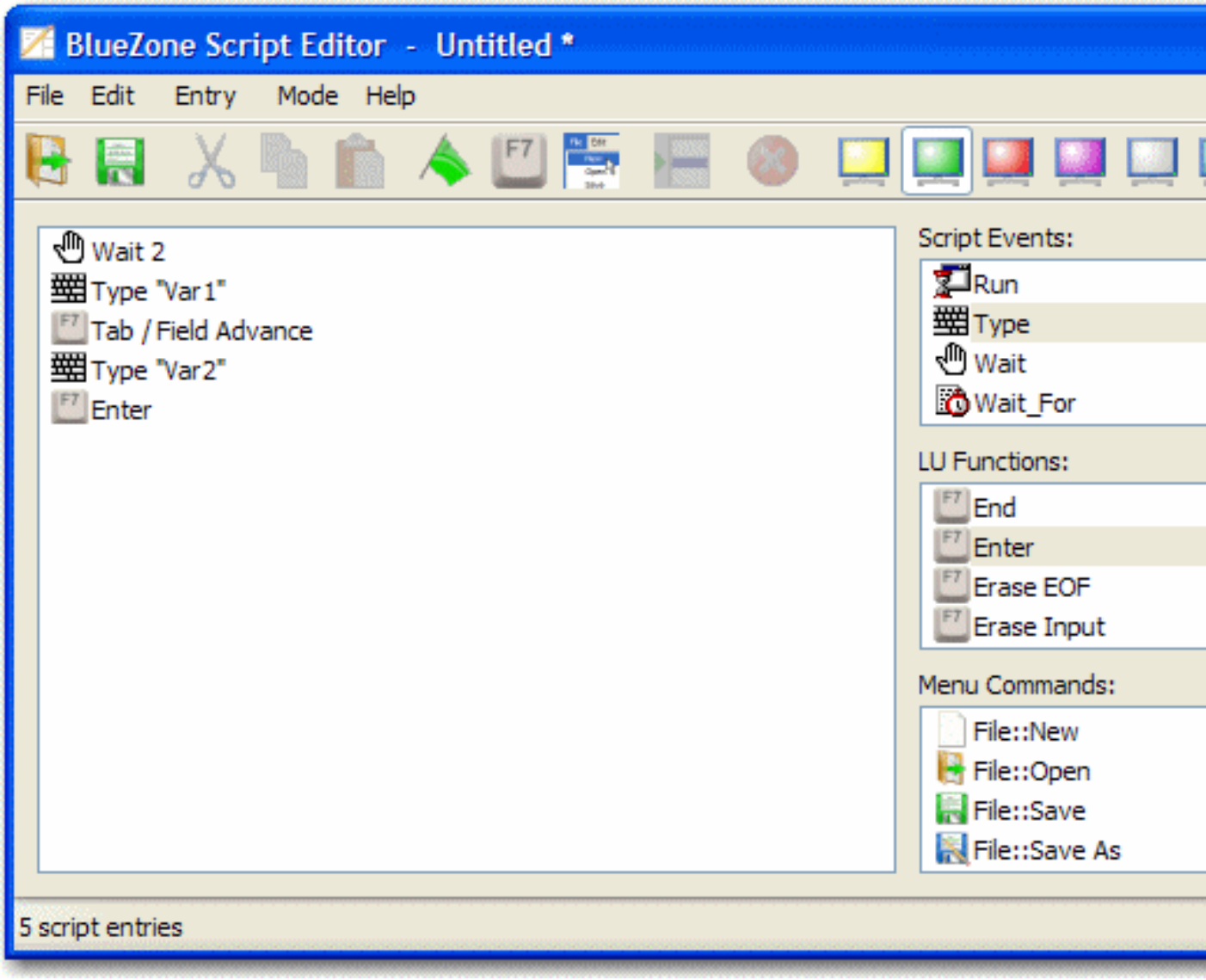
   b. Type `Var1`.
   c. Click **OK** to add this to the script.

   So far, your script looks like this:



4. In the LU Functions list, double-click the **Tab / Field Advance** function.
5. Add a Type event:
   a. In the Script Events list, double-click the **Type** event.
   b. Type `Var2`.
   c. Click **OK**.
6. In the LU Functions list, double-click the **Enter** function.

   Your script now looks like this:



7. Save this script and name it `script2.bzs`.

You must now configure the second iSeries session to automatically launch this script upon connection to the host, which uses the value of **Var1** for the user name, and the value of **Var2** for the password.

Note

Var1 relates to the \1InputStr1 and Var2 relates to the \2InputStr2 that is used in the command line switch that launched the second iSeries display session.

Configuring the second iSeries session to automatically launch Scritpt2.bzs

1. Launch the second iSeries display session.
2. Click **Script** ® **Properties** from the BlueZone menu bar.
3. Check the **Auto-Play Script on Connect** check box.
4. Click **Browse**.

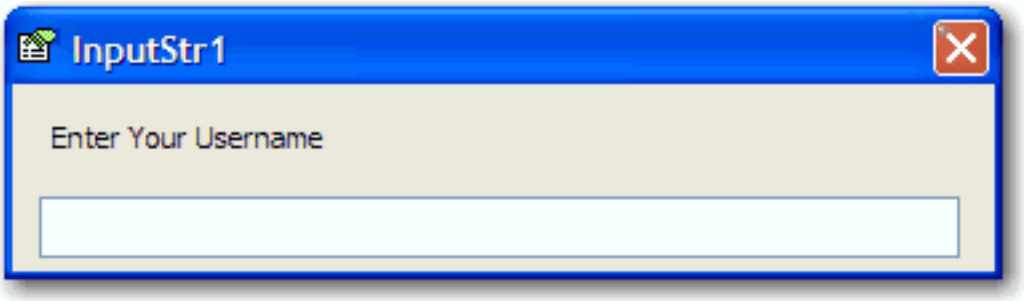
5. Select the `script2.bzs` file and click **Open**.
6. Click **OK** to exit this dialog.
7. Save the iSeries configuration. Make sure you save it as `session2.zad`.

Testing the script

At this point you are ready to test the completed script.

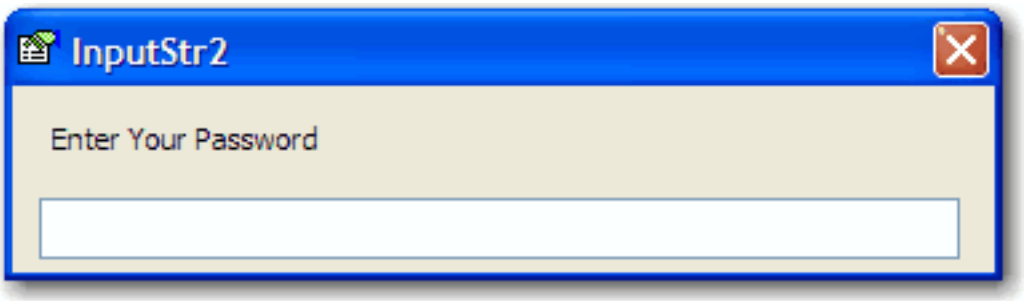
1. To test the script, start the first iSeries session and connect to the host.
2. Click **Script** ® **Play** from the BlueZone menu bar.
3. Select the `script1.bzs` file and click **Open**.

   The script immediately starts running. The Enter Username dialog opens:



4. Type your user name and press the Enter key.

   The Enter Password dialog opens:



5. Type your password and press the Enter key.

   The script continues to run and you are logged onto the host. Then the second iSeries session launches and you are logged onto the second host.

Tips

You can assign the script1 to a BlueZone power key which makes it much easier for the end user to launch a script. Refer to Mapping scripts to power pads, on page 301 for more information.

You can adjust the speed of the script playback. When you are developing a script, sometimes it's helpful if the script runs at a slow speed so you can see exactly what is happening.

Speed up the script and turn off the Script Status Window. Once the script is completely debugged and working properly, you may want to speed up the script execution speed and also turn off the Script Status Window. This is done by selecting **Script** ® **Properties** from the BlueZone menu bar and making any desired changes. Refer to Script properties, on page 300 for more information.

Keyboards

Mapping keyboards

BlueZone keys by default are mapped to a standard BlueZone keyboard map. If you want to change a key mapping, follow this procedure.

Note

If you are switching from a competitor's product to BlueZone, there are several competitor's default keyboard maps available for import. Refer to Importing keyboard maps for more information.

Note

If you have installed a non-English version of BlueZone, the default keyboard map that will be displayed is based on your currently selected language in the Regional and Language Options in Windows.

From the BlueZone menu bar, click **Options** ® **Keyboard**. The Keyboard Options window displays a bitmap image of a keyboard.

Before attempting to map a key, it is a good idea to check and see what that key is currently mapped to. To do so, click a key. The Key Info/Mappings window opens with the key mappings associated to that key.

The following procedures assume that you are mapping a Standard 101/102 -Key keyboard.

To map a function to a new key:

1. Select a group from the **Functions Group** list. When you select a Group, all the Functions associated with that Group, are displayed in the Functions list on the left.

   Functions are divided into logical groups:

   - **3270 Functions**: All IBM 3270 Mainframe functions are listed here. Examples are Erase EOF or Reset.
   - **3270 Characters**: All IBM 3270 special characters are listed here. An example is the Logical Not symbol ¬.
   - **Menu Hotkeys**: All the items located on the BlueZone menu bar are listed here. This enables you to map a key to specific functions that are normally accessed with several clicks. An example would be mapping an unused Function Key to the **Edit** ® **Copy to Printer** menu Hotkey.
   - **PC Data Keys**: All PC Data keys are listed here. Examples are the "At Sign" @ and the "Broken Vertical Bar" ¦.
   - **APL Characters**: All APL Characters are listed here by name. They are also displayed graphically just below the Functions list. So, if you are not sure what a particular APL character is called, you can scroll down the list and see what each character looks like.
   - **Macro Files**: All BlueZone Macro Files are listed here. As long as your macro files are stored in the `\macros` folder of your BlueZone working directory, they appear here.
   - **Script Files**: All BlueZone Script Files are listed here. As long as your script files are stored in the `\scripts` folder of your BlueZone working directory, they appear here.
   - **ASCII Characters**: The entire ASCII character set is listed here. It is possible to map any ASCII character to a key or key sequence in BlueZone.

2. Select a function from the **Function/Action** list.

   Any existing key mappings for that function display in the **Key Mappings** list. If there are no keys currently mapped to this function, BlueZone displays: <No Keys Mapped to Function>.

3. Click **New**.

BlueZone creates a new blank highlight bar in the **Key Mappings** list. If there are existing key mappings, the new blank highlight bar displays below the existing key mappings.

4. In the keyboard bitmap, click the key that you want to associate with the function that you chose in step 2.

   The name of the selected key displays in the **Key Mappings** list.

5. Click **OK**.

   The selected function is now mapped to the new key. Any other keys that are mapped to this function are also displayed in the **Key Mappings** list.

To edit an existing keyboard mapping:

1. Select a group from the **Functions Group** list.
2. Select a function from the **Functions** list.

   Any existing key mappings for that function will appear in the Key Mappings list.

3. Highlight the Key Mapping in the **Key Mappings** list you want to edit.
4. Click **Edit**.
5. In the keyboard bitmap, click the new key that you want to associate with the function that you chose in step 2.

   The highlighted key changes to the key that you just selected.

6. Click **OK**.

   The Function is now mapped to the new key.

Note

If you wish to map a function to a multiple key sequence, you must choose the active key first, then choose the Ctrl or Alt key last. For example, if you wanted to map the New Line function to the keypad enter key, you would click the keypad enter key first, then click the Ctrl key last.

Tips

Mapping Combination Keys

Both the ALT and CTRL keys have a dual modes. They can be mapped to a function by themselves, or they can be used in combination with other keys.

For Example, if you want to map the 3270 function "Print Screen" to CTRL+P, click the right CTRL key which will display as: Right Ctrl. Then click the right CTRL key again and it will change to Ctrl+ , then click the P key which will result in Ctrl+P.

Mapping Overstrike Keys

The 3270 Function Overstrike Sequence allows a non-ASCII character in the EBCDIC character set (such as è) to be entered from the keyboard. Overstrike causes the emulation to enter overstrike mode, after which two ANSI characters (such as e and `) are typed to represent the desired character. If the two characters represent a valid combination, the resulting EBCDIC character is entered into the device buffer. An uncompleted overstrike can be canceled with the Reset key.

Saving keyboard maps

With BlueZone, it is possible to create a custom keyboard map file and save that file so you can share the keyboard map with others.

To export (save) a keyboard map file:

1. Launch a BlueZone display session.

2. From the BlueZone menu bar, click **Options** ® **Keyboard** or click the **Keyboard** icon on the BlueZone toolbar.

   The Keyboard Options dialog displays.
3. Make any desired keyboard map changes if you haven't already done so.
4. In the lower left hand corner, click the **Export Keyboard Options** icon .

   A standard Windows file dialog opens.
5. Type a name for the keyboard map file that you want to export (BlueZone automatically adds the correct file extension).
6. Click **Save**.

   You have successfully exported your keyboard map to the BlueZone `Config` folder.

Importing keyboard maps

BlueZone keys by default are mapped to a standard BlueZone keyboard map. However, BlueZone supplies additional keyboard maps that can be imported. The keyboard map files that are shipped with BlueZone map to competitor's default keyboard maps.

To import a keyboard map file:

1. Start a BlueZone display session.
2. From the BlueZone menu bar, click **Options** ® **Keyboard**.
3. In the lower left corner of the Keyboard Options window, click the **Import Keyboard Options** button .
4. Select the keyboard map file that you want to import and click **Open**.

   The following is a list of current additional Keyboard Maps that are available:

File name	Configured as	Emulator type
`extra101.mdk`	Default Extra! 101 Key Keyboard Map	Mainframe Display
`hod3270.mdk`	Default IBM Host On-Demand Keyboard Map	Mainframe Display
`ibm3270.mdk`	Mimics a Real IBM 3270 Terminal	Mainframe Display
`keytronic122.mdk`	KeyTonic 122 Key Keyboard Map	Mainframe Display
`pcomm101.mdk`	Default PComm 101 Key Keyboard Map	Mainframe Display
`putty.vdk`	Default Putty Keyboard Map	VT Display
`reflection101.mdk`	Default WRQ Reflection Keyboard Map	Mainframe Display
`rumba101.mdk`	Default Rumba 101 Key Keyboard Map	Mainframe Display
`unicomp122.mdk`	Unicomp 122 Key Keyboard Map	Mainframe Display

Note

If no keyboard map files appear in the window, then there are no additional keyboard map files for this particular BlueZone emulator.

Configure IME options

The IME property sheet is used to configure the behavior of the Input Method Editor (IME). You can choose to have the IME window launch at your cursor location or you can have it launch at a specific row and column location. The Input Method Editor is used in conjunction with Double Byte Character Set (DBCS) support.

The IME Options property sheet is used to configure the BlueZone IME Keyboard options which control the behavior of the cursor when using the IME.

From the BlueZone menu bar, click **Options** ® **Keyboard**, or click the **Keyboard** icon found on the BlueZone toolbar, and click the **IME Options** tab on the Keyboard Options property sheet.

Note

The IME Options tab is only available if you have selected a DBCS language in the **3270** or **5250 Emulation** tab.

Refer to Configuring DBCS support, on page 79 for more information.

IME Options tab

Options

- **Position Composition Window at Cursor Location**: If selected, the IME Composition window opens at the location of your cursor.
- **Position Composition Window at Fixed Location**: If selected, the IME Composition window opens at the location specified in the following Row and Column boxes.
  - **Row**: Specify the row number here.
  - **Column**: Specify the column number here.

Configuring BlueZone for JAWS

JAWS is a screen reading software designed to assist visually impaired users. For JAWS to work well with BlueZone, some display settings must be modified.

1. Click **Options** ® **Display** from the BlueZone menu bar.
2. In the **Font** tab, set the following options:
   a. Select a plain, monospaced font such as Lucida Console or Courier New.
   b. Set the font size between 5 and 12.

      JAWS tracks certain font sizes better than others. Excellent results have been achieved with a 12 point font.
3. In the **Cursor** tab, set the following options:
   a. Slide the **Size** scale all the way to the left. This changes the cursor to an underline.
   b. Slide the **Blink Rate** all the way to the right to make the blink rate as fast as possible.
4. In the **Advanced** tab, select the **Paint Nulls as Spaces?** check box.

   This ensures that the entire terminal area is filled with readable values.
5. Click **OK** to save and close the window.
6. Ensure that the BlueZone screen is maximized when using the session with JAWS.

Testing

Test the basic functionality using the commands described below. If any of these fail, you might need to adjust your font size or cursor blink rate.

- As you move the cursor from line to line with the arrow keys, JAWS should read each line.
- As you move along a line from word to word (Insert+Right Arrow or Insert+Left Arrow), JAWS should read each word.
- Insert+NumPadPlus should move the JAWS cursor to the current BlueZone cursor position. JAWS will indicate the move.
- Insert+NumPadMinus should move the BlueZone cursor to the JAWS cursor position. JAWS will indicate the move.

Scripting

JAWS and BlueZone can be further enhanced through JAWS scripting. Several BlueZone customers have created advanced scripts for their visually impaired users to optimize the screen and workflow for them. Most of the script functions are host application specific and must be developed for individual host screens. Refer to the JAWS scripting manual for more information.

Chapter 7: Power pads

Rocket BlueZone power pads are customizable groups of buttons that can be configured to start a number of BlueZone host and menu functions. BlueZone includes preconfigured power pads that contain commonly used functions for each display type and one that contains the BlueZone menu commands. A BlueZone administrator or user can create and edit power pads to open frequently used functions.

Power pads open in a new window that can be positioned anywhere on the Windows desktop. When the Power Pad window is launched, it is always displayed on top of the BlueZone Display session. If you do not want it to overlap or block your view of the BlueZone session, drag the power pad above, below or off to one side. You can also dock the power pads inside the BlueZone display session window.

Power Pad Editor

Power pads are created and edited using Power Pad Editor, which is a stand-alone graphical desktop application. A power pad can contain a single button or it can be a more elaborate affair using various controls that come together to form a power pad as shown in the following example:

The power pad canvas is where you create your power pads. The control icons are used to select and place the various power pad objects that can be placed on the power pad canvas. These objects consist of buttons, text, pictures, and so on.

Using the Power Pad Editor you can:

- Specify the size, title, color, and layout of the power pad.
- Add power pad objects: buttons, text, group boxes, and pictures. A maximum of 128 objects can be added per power pad.
- Configure buttons to perform actions such as sending keystrokes; running an application, script, or macro; and performing any BlueZone menu commands, such as connecting to a host, transferring a file, or printing screens.
- Make single or multiple copies of power pad objects on a grid.
- Align and size the power pad objects on the grid.
- Resize the power pad.

Creating and configuring power pads

Power pads are created and configured in the Power Pad Editor, which is opened from a BlueZone display session.

1. In a BlueZone display session, click **View** ® **Properties**, and click the **Power Pads** tab.
2. Click **New**.
3. Configure the layout options.
4. Configure the power pad properties.
5. Add power pad objects and configure their properties.
6. Edit the layout of the objects.
7. Set the tab order of the objects.
8. Save the power pad.
9. In the View Properties window, add the power pad to the **Active Power Pads** list.
10. Click **OK**.

Configuring the layout options

Before you start adding controls to your power pad, set the layout options. The power pad canvas has a grid that can be used to align the various controls. You can change the width and height of the grid cells.

1. In the Power Pad Editor, click **Layout** ® **Options**, and complete the following fields:

Field	Description
Snap Controls to Grid	If selected, controls that are placed on the canvas are automatically sized to fit to the closest grid coordinate.
Width	Sets the size in pixels of the width of the grid cells.
Height	Sets the size in pixels of the height of the grid cells.
Show Grid	Select or clear to turn the grid display on or off.

2. Click **OK**.

Configuring the power pad properties

You can configure the size, position, and background color of the power pad.

1. Right-click in the power pad canvas. In the Power Pad Properties window, complete the following fields:

Field	Description
Caption	Defines the power pad window title.
Background Color	Displays the currently selected background color. Click **Change** to modify the background color.
XPos	Defines the position of the power pad, in pixels, from the left side of the screen. You can also reposition the window in the Power Pad Editor, and this value is updated.
YPos	Defines the position of the power pad, in pixels, from the top of the screen. You can also reposition the window in the Power Pad Editor, and this value is updated.
Width	Defines the width of the power pad window, in pixels. You can also resize the window in the Power Pad Editor, and this value is updated.
Height	Defines the height of the power pad window, in pixels. You can also resize the window in the Power Pad Editor, and this value is updated.

2. Click **OK**.

Adding power pad objects

You can add four types of power pad objects: buttons, group boxes, text, and pictures.

1. From the Power Pad Editor **Control** menu, select the object type that you want to add.
2. In the power pad canvas, click and drag until the object is the size that you want. You can edit the size of the object at any time.
3. Double-click the object and configure the properties.
   Refer to the following topics for more information:
   - Configuring button object properties, on page 318

- Configuring group box object properties, on page 320
- Configuring text object properties, on page 321
- Configuring picture object properties, on page 322

4. Add and configure as many objects as needed. You can add up to 128 objects per power pad.
5. Save the power pad file.

Configuring button object properties

After a button object is created, you can customize its appearance and assign an action to the button.

1. In the power pad canvas, double-click a button object.
2. In the **General** tab, complete the following fields:

Field	Description
Label	Type the button name that displays in the power pad.
Bitmap Button	Select to include an optional bitmap image on the button. Click **Browse** to select the bitmap image. If you are creating buttons which are mapped to BlueZone menu bar functions, you can choose to auto-load the corresponding standard BlueZone toolbar icon on the Power Pad button. Refer to Adding toolbar icons to button objects, on page 320 for more information.
Accelerator	Select an optional accelerator key. An accelerator key is a single key or key combination invokes the action assigned to this button.
ToolTip	Type optional information that is displayed as a Windows tooltip when the cursor is positioned over the button. This feature is useful when you want to describe the function of the button in more detail, or when you are using bitmap images on the buttons instead of a label.
XPos	Defines the position of the button, in pixels, from the left side of the power pad. You can also reposition the button in the power pad, and this value is updated.
YPos	Defines the position of the button, in pixels, from the top of the power pad. You can also reposition the button in the power pad, and this value is updated.
Width	Defines the width of the button. You can also resize the button in the power pad, and this value is updated.
Height	Defines the height of the button. You can also resize the button in the power pad, and this value is updated.

3. In the **Font** tab, complete the following fields:

Field	Description
Selection	Displays the currently selected font, font style, and font size. Click **Change** to edit these settings.
Sample	Displays a sample of the current font settings.

4. In the **Action** tab, complete the following fields. Some of the labels in this tab change depending on the Emulation Type and Action Type selected.

Field	Description
Emulation Type	Select an emulator type.
Action Type	▪ ***emulator type* Function**: The host functions that are specific to the particular type of host that you are connected to. ▪ ***emulator type* Character**: The special characters like the cent sign and some others. ▪ **Menu Hotkey**: These are all the menu functions that are available from the BlueZone menu bar. This feature also supports the ability to auto-load the corresponding BlueZone toolbar image. ▪ **Power Key**: These are the 24 available Host PF Keys and the 24 available Command keys. ▪ **PC Data Key**: These are special data keys like degree sign and the Euro currency symbol. ▪ **APL Characters**: (3270 Only) These are all the special 3270 APL characters that are available. ▪ **Play Macro**: A list of available macro files is displayed if any. ▪ **Play Script**: A list of available script files is displayed if any. ▪ **Send Keys**: Used to send specific text characters or API Keys. See exception rules below. ▪ **Run Program**: Used to call a specific program to run. **Toggle Power Keys**: Used to toggle back and forth between two or more power pads. ▪ **Toggle Power Keys**: Used to toggle back and forth between two or more power pads. To use this feature, you must have at least two power pads defined. This feature allows you to create a button on the first power pad that toggles on and off a second power pad. Be sure not to configure the first power pad to toggle itself. It is possible to create a button on the second power pad to toggle the first power pad. Also, this feature can be useful if users have a large number of power pads. You can create a master power pad that has individual buttons that toggle each power pad.
Available Item list	The name of this window changes depending on the selected Action Type. The list of host functions are based on the selected Emulation Type.
Action	Displays the result of the selected **Action Type**. You can also type any additional text here.

5. Click **OK**.

Action type exceptions

When an action type is selected, the first item in the Available Items list is displayed in the **Action** field. To select a different item, highlight the option in the Available Items list.

There are two exceptions to this rule: the **Send Keys** and **Run Program** action types.

Send Keys

If you select **Send Keys** in the **Action Type** list, the **Action** field is blank. To enter an item in the **Action** field, double-click an option in the **API Keys** list. Each time you double-click an item, it is added in order in the **Action** field. The Send Keys action type supports the sending of multiple text characters and API Keys. You can also type additional text characters that you want to send with the action; for example, you can type `logon` *`username`*, and add the **<Enter>** API key.

Run Program

If you select **Run Program** in the **Action Type** list, the **Available Item** list disappears, and the **Action** field is blank. In the **Action** field, type the path to the program that you want to run, or **Browse** to locate the program.

Adding toolbar icons to button objects

If a power pad contains buttons that are mapped to BlueZone menu bar commands, the corresponding BlueZone toolbar icon can be automatically added to the power pad button.

BlueZone supports four sizes of toolbar icons: 16 x 16, 24 x 24, 32 x 32, and 48 x 48 pixels. The current size of the BlueZone toolbar icons determines the size of the icon that displays on the power pad button. Refer to BlueZone Mainframe and iSeries toolbars, on page 269 for more information about setting the size of the toolbar icons.

1. Create or edit an existing power pad that contains at least one button.
2. Double-click the button.
3. Select the **Bitmap Button** check box.

   The **Label** field changes to the **Image Filename** field.
4. Leave the **Image Filename** field blank, and do not browse to an image file.
5. In the **Action** tab, complete the following fields:

Field	Description
Emulation Type	Select the emulator type.
Action Type	Select **Menu Hotkey**.
Menu Commands	Select a menu command to associate to the button.

6. Click **OK**.

   The corresponding BlueZone toolbar icon is added to the power pad button.
7. Adjust the size of the button to fit the image.
8. Save the power pad.

Configuring group box object properties

After a group box object is created, you can configure its appearance.

1. In the power pad canvas, double-click a group box object.
2. In the **General** tab, complete the following fields:

Field	Description
Label	Type the group box name that displays on the power pad.
Justification	Defines the alignment of the group box label.
Foreground Color	Displays the current label color. Click **Change** to edit the foreground color.
XPos	Defines the position of the group box, in pixels, from the left side of the power pad. You can also reposition the group box in the power pad, and this value is updated.
YPos	Defines the position of the group box, in pixels, from the top of the power pad. You can also reposition the group box in the power pad, and this value is updated.
Width	Defines the width of the group box. You can also resize the group box in the power pad, and this value is updated.
Height	Defines the height of the group box. You can also resize the group box in the power pad, and this value is updated.

3. In the **Font** tab, complete the following fields:

Field	Description
Selection	Displays the currently selected font, font style, and font size. Click **Change** to edit these settings.
Sample	Displays a sample of the current font settings.

4. Click **OK**.

Configuring text object properties

After a text object is created, you can configure the text appearance.

1. In the power pad canvas, double-click a text object.
2. In the **General** tab, complete the following fields:

Field	Description
Text	Type the text to display in the text object.
Justification	Defines the alignment of the text within the text object.
Foreground Color	Displays the current text color. Click **Change** to edit the foreground color.
XPos	Defines the position of the text object, in pixels, from the left side of the power pad. You can also reposition the text object in the power pad, and this value is updated.
YPos	Defines the position of the text object, in pixels, from the top of the power pad. You can also reposition the text object in the power pad, and this value is updated.
Width	Defines the width of the text object. You can also resize the text object in the power pad, and this value is updated.
Height	Defines the height of the group box. You can also resize the text object in the power pad, and this value is updated.

3. In the **Font** tab, complete the following fields:

Field	Description
Selection	Displays the currently selected font, font style, and font size. Click **Change** to edit these settings.
Sample	Displays a sample of the current font settings.

4. Click **OK**.

Configuring picture object properties

After a picture object is created, you can configure its appearance.

1. In the power pad canvas, double-click a picture object, and complete the following fields:

Field	Description
Filename	Defines the location of a bitmap file. Click **Browse** to select a `.bmp` file.
XPos	Defines the position of the picture, in pixels, from the left side of the power pad. You can also reposition the picture in the power pad, and this value is updated.
YPos	Defines the position of the picture, in pixels, from the top of the power pad. You can also reposition the picture in the power pad, and this value is updated.
Width	Defines the width of the picture. You can also resize the picture in the power pad, and this value is updated.
Height	Defines the height of the picture. You can also resize the picture in the power pad, and this value is updated.

2. Click **OK**.

Editing the layout of the objects

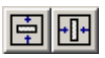
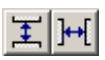
Use the editing toolbar to align, center, space, and size the power pad objects. The editing toolbar is located at the bottom of the Power Pad Editor window.

1. Select one or more objects.

   Note

   Press the Shift key to select multiple objects. The Ctrl key does not select multiple objects.

2. Use the editing toolbar icons to modify the layout of the power pad objects as needed. The alignment, centering, spacing, and sizing is matched to the last object that you selected.

Group	Icons	Function
Alignment		Aligns two or more objects.
Centering		Centers one or more objects.
Spacing		Equalizes the space between three or more objects.
Make Same Size		Makes objects the same size.

3. Save the power pad.

Setting tab order

After a power pad has been created, you can press the Tab key to move the focus from button to button. The order in which the focus moves is very important. If the tabbing order is not correct, the user can experience an unusual jumping around of the tab key focus.

1. Open or create a power pad that contains two or more objects.
2. In the editing toolbar, click the **Set Tab Order** icon.

   Each object contains a number in the upper left corner.
3. Click the objects in the order that you want the tabbing to operate. The numbers change as you click each object. When you click the last object, the numbers are no longer displayed.
4. To verify the tab order, click the **Set Tab Order** icon again. If the order is correct, click anywhere in the power pad canvas. If the order is not correct, repeat step 3.
5. Save the power pad.

Previewing power pads

In the Power Pad Editor, you can preview how a power pad will be displayed in the display session.

1. In the editing toolbar, click the **Test Pad** icon.

   A preview of the power pad opens.
2. Close the preview window.

Docking and stacking power pads

Power pads can be docked to the BlueZone display session window so they are in a fixed location. If you want to dock multiple power pads, you can stack eight power pads in the same location. Stacking power pads allows you to have access to multiple power pads, without taking up too much screen space.

1. In a BlueZone display session, click **View** ® **Properties**, and click the **Power Pads** tab.
2. Select the following check boxes:
   - **Show Power Pads**
   - **Enable Docking**
3. In the **Available Power Pads** list, select a power pad that you want to show, and click **Add**. Repeat this process for all of the power pads that you want to show.
4. Click **OK**.

   The power pads that you added to the **Active Power Pads** list open as separate windows.
5. Perform one or more of the following procedures:

Procedure	Description
Dock a power pad	Drag the power pad to the top, bottom, left, or right of the display session window. When the power pad is in a valid space, a plus sign is added to the cursor.
Stack multiple power pads in the same location	Drag another power pad to the same location in the display session window. The new power pad covers the previous power pad. You can stack eight power pads in the same location.
Toggle stacked power pads	Click **View** ® **Next Power Pad**.

6. Save the BlueZone display session.

Chapter 8: Printer emulation interface

Printer setup overview

BlueZone Mainframe and iSeries Printer Emulators connect to their respective hosts and emulate IBM printers, converting the IBM printer data stream into an ASCII printer data stream. This enables any printer connected to a Windows workstation to print IBM host generated print jobs.

BlueZone supports LU1 SCS, and LU3 DSC/DSE data streams for 3270 and LU4 SCS for 5250.

The SCS data stream contains formatting commands that are interpreted by the print emulator and converted to Windows Print commands.

The formatting commands sent by the host may be viewed in a BlueZone spool file using the `SPOOLINF.EXE` utility.

The LU3 printer data stream does not contain any formatting commands other than form feeds and line feeds. Host control of the print job is very limited, so the advanced formatting features of the printer emulator may be used to greatly improve the output.

Customizing the BlueZone print emulator settings

All of the settings that control how the print job is interpreted as it is sent from the host, and how it is formatted when sent the to the printer are located in the Print Setup property sheet. From the BlueZone menu bar, click **File** ® **Print Setup**.

The Print Setup property sheet displays the **Printer**, **Page**, **Layout**, **Fonts**, **Options**, and **Print to File** tabs depending on which **Method of Printing** is selected on the **Printer** tab.

Printer settings

The **Printer** tab contains the following options:

Printer

Displays and sets information about the Windows printer on which the host print jobs are printed:

- **Device Name**: Displays the name of the currently defined Windows printer. (display only field)
- **Output Port**: Displays the port that is being used by the above printer. (display only field)
- **Always use Windows Default Printer on Startup**: If checked, BlueZone automatically uses the Windows default printer upon startup.

  Tip

  When using the **Always Use Default Windows Printer on Startup** feature, edit printer names in the Printer Definition File for the known target printers to automatically match the printer definition file to the printer.

- **Change Printer**: Click to change the current printer shown in the Device Name window above.
- **Printer Info**: Click to display detailed information about the currently selected printer.

Method of Printing

- **Windows API (Application Program Interface)**: When this option is selected, the settings on the Page tab, Layout tab, Fonts tab and Options tab are the settings that control print output. In other words, the BlueZone application interfaces with the Windows print driver to control the print output. This option gives you complete control over print output.

- **Passthrough - Send All Data Directly to the Printer**: If checked, BlueZone bypasses the Windows print driver and sends the data directly to the printer. Note that selecting this option causes the Page tab, Layout tab, Fonts tab and Options tab to disappear, reason being that all printer controls are contained in the data steam of the print job.
- **Passthrough using Printer Definition - Convert Host Commands to Escapes**: Selecting this option, allows direct control of the printer by the printer emulator. Host SCS printer control information is converted to ASCII printer escape sequences contained in the supplied Printer Definition File. Note that selecting this option causes the Fonts tab to disappear.
  - **Printer Definition List Box**: Displays the currently selected printer definition. This is automatically selected using the closest match to the name of the selected Windows printer. If necessary, select a printer or printer family that is close to the target printer. A small subset of ASCII escape sequences are supported because only a limited set of functions are available in the SCS data stream.
- **Print to File - Redirect Print output to File**: Check to enable the print to file feature. Note that selecting this option causes only the Print to File tab to appear.
- **Suppress Form Feed at End of Job**: If checked, BlueZone eliminates the form feed sent by the host to prevent the printing of an extra blank page at the end of the print job.

Tip

When printing preprinted forms or specially formatted print jobs, use pass-through printing and a printer definition file. This ensures that font selections which are not scaled, but are exactly the proper pitch and line density.

Page settings

The **Page** tab contains the following options:

Page Settings

Sets and displays the page size and margins:

- **Paper Size**: This box displays the currently selected paper size. (display only field)
- **Page Setup**: Click to change the paper size, margins, orientation and source.
- **Specify Custom Paper Size**: If checked, a dialog launches which allows you to specify the exact width, length and preferred unit of measure (inches or millimeters). Use this to set a paper size not available in the standard Windows dialogs. This is useful when printing custom forms like checks and invoices.
- **Orientation**: Indicates the currently selected page orientation. (display only field) This value can be overridden by the **Auto-Switch to Portrait/Landscape Based on CPL** check box.
- **Auto-Switch to Portrait/Landscape Based on CPL**: If checked, BlueZone switches the page orientation to landscape if the characters per line exceeds 100 characters.
- **Margins**: These radio buttons set the margin command sent to the printer. Minimum is the default and contains the values returned to the printer emulator by the printer driver.
- **Override Host Page Settings**: If checked, BlueZone ignores page settings sent by the host and use those set in this Page dialog.

Note

If the host does not send a value that corresponds with a setting in this dialog, the dialog value is used.

Layout settings

The **Layout** tab contains the following options:

Spacing

Spacing settings are used for two purposes: during LU1 print jobs to tell the emulation when to insert form feeds and during font auto-sizing to instruct the printer emulator how to scale the font to fit the page.

- **Lines Per Page**: Tells the emulation or font auto-sizing how long the page is in lines.
- **Lines Per Inch**: Sets the number of lines per inch to set for the printed output if not specified by the host or overridden by the user.
- **Characters Per Line**: Sets the maximum characters printed on a line before the emulator inserts a carriage return/line feed.
- **Characters Per Inch**: Sets font size based on characters per inch.

  Note

  Characters per inch combined with lines per inch determines how many characters fit on a line and how many lines to a printed page.

- **Double Space Lines**: If checked, BlueZone double spaces between lines when printing.
- **Override Host Spacing Settings**: If checked, BlueZone is forced to ignore spacing settings sent from the host and use these spacing settings.

Presentation

- **Print Quality**: Select Draft mode or Near Letter Quality mode when in Pass Through Mode using a printer definition file that supports draft or NLQ modes.
- **Duplex Mode**: Select to control single or double-sided printing. Only works in Windows API mode.
- **Override Host Presentation Settings**: If checked, BlueZone is forced to ignore presentation settings sent from the host and use these presentation settings.

Print Scaling

Scale Factor: This edit box allows enlarging or reducing the printed output by the selected percentage. Only works in Windows API mode.

Auto-Size Fonts to fit the Paper Size: If checked, BlueZone fits the font to the page based on the spacing settings set by the host or set by the emulator.

Scale Fonts to Closest Point Size: This feature is useful when auto-sizing fonts yields different font sizes for normal and bold text.

Note

In Windows API mode, the auto-size font option scales to fit the page exactly. In pass-through mode, a printer definition file is required, and scales to the nearest fixed font size supported by the printer.

Font settings

The **Fonts** tab is used to set the default font and map the font specified by the host to a font available to Windows. This function only works in Windows API mode.

Font Mappings

The Font mappings dialog allows one to one mapping of the Global Font Identifier (GFID), used by IBM printing applications, to fonts available in Windows.

The global font identifier sent by the host may be viewed in a spool file using the SPOOLINF application (`Spoolinf.exe`) provided by BlueZone Software, which can be found in the BlueZone root folder.

- **Default**: This button resets the highlighted font mapping to the default font.
- **Change**: This button launches the Windows Font dialog used to select a new Windows Font.
- **Default All** : Click to reset all of the fonts to their default values.
- **Choose from Fixed Width Fonts Only**: If checked, all proportional fonts in the Windows Font dialog are hidden from view.

Option settings

The **Options** tab contains the following options:

Printer Line/Page Wrap

- **Wrap Text at Right Margin**: Check box prints any text exceeding the page width on the next line.
- **Wrap Text at Bottom Margin**: Check box prints any text exceeding the page length on the next page.

Form Feed

- **Soft - Form Feed by Sending Multiple Line Feeds**: If selected, sends form feeds by sending multiple line feeds to reach the end of the page.
- **Standard - Form Feed by Instructing Driver to End Page**: If selected, instructs the printer or Window print driver to end the page.

Text Styles

Use Upper and Lower Case Characters: If checked, allows dual case printing. When disabled, upper case characters only are printed.

Page Options

- **Page Header**: Enter text here to print a custom header on each printed page.
- **Append Date and Time to Header**: If checked, BlueZone enters the current date and time to the custom header.
- **Number of Copies**: Overrides the number of copies setting in the Windows Print driver.

Print to File settings

Printer output can be redirected to a file. This can be useful when sending print jobs to shared directories to be viewed in a text editor rather than using paper to print multiple copies.

The **Print to File** tab is only available if you select the **Print to File - Redirect Print Output to File** check box on the **Printer** tab.

The **Print to File** tab contains the following options:

Output Filename

If selected, allows the user to enter a target file name in the adjacent field.

Prompt for Filename

If selected, prompts the user for a target file name when the job is printed.

Base Output Filename

If selected, BlueZone automatically creates target file names based on the base name entered in the adjacent field.

Starting in version 6.1, the base name field supports eight characters, a period, and a configurable number of incrementing digits that are defined with question marks. This field also supports asterisks (*) wildcard characters.

A question mark specifies a wrapping increment and can be placed anywhere, in any order, in the base name. When a question mark is used, the next Print to File job number is stored in the session's profile on shutdown so it is affected by the **File ® Properties Save on Exit** options. The number of question marks used determines the wrapping limit. For example ? is 9, ?? is 99, and so on.

This new feature is backwards compatible with earlier base name functionality, which behaves as <basename>*.

An asterisk defines a non-wrapping job number increment and can be placed anywhere in the base name. When an asterisk is used, the next Print to File job number is auto-generated so the output files are guaranteed to be unique.

Output Directory

Displays the destination name for print output. Click **Browse** to specify the directory and path where the print files are to be written.

Append Data to File

If selected, BlueZone appends new print data to the end of the specified file rather than overwriting it.

Clear Print File Daily

Clears the data from the text file daily.

This option is only available if the **Output Filename** and **Append Data to File** check boxes are selected.

Print queue settings

The Print Queue Properties property sheet is used to configure Print Queue operating parameters. Options include Auto-Pause, Show/Hide Status dialog, Submit to Log, and Spool settings.

From the BlueZone menu bar, click **Options ® Print Queue** or click the **Print Queue** icon on the BlueZone toolbar. The Print Queue Properties property sheet opens. The **Options** tab displays:

Options tab

Job Options

- **Auto-Pause Jobs Arriving in the Job Queue**: If checked, jobs automatically pause after spooling from the host. To print a paused job, select the desired entry and press the Resume button located on the toolbar.
- **Start Printing while Job is Spooling from Host**: This option is disabled.
- **Show Print Status / Abort dialog when Printing Jobs**: If checked, the Print Status dialog is displayed while a job is being sent to the printer. The Print Status dialog includes a Cancel button to terminate printing. A progress indicator displays how much of the print job has completed.
- **Submit Completed Jobs to the Print Log**: If checked, the print job details are submitted to the Print Log after the job has been sent to the printer.

Spool Settings

- **Base Filename**: Used to set the base name that is used when creating a unique file name for host print job spool files.
- **Spool Directory**: Displays the directory currently configured to accept host print job spool files.
- **Maximum Pint Log Entries**: Used to specify the maximum number of Print Log entries to be kept and displayed in the print log. Whenever the maximum number is exceeded, the oldest entry is removed and the spool file automatically deleted from the disk.

Adding files to the print queue

BlueZone has the ability to open text files from disk for printing. Perform the following steps to add a file to the Print Queue.

1. On the BlueZone menu bar, click **Action** ® **Add File to Queue** or click the **Add File to Queue** icon on the BlueZone toolbar.

   The Create Print Queue Job Entry dialog opens.
2. Select the text file that you want to print and click **Open**.

   BlueZone creates a print job entry in the Print Queue for the file. The initial name of the print job is the file name of the selected file.

   The print job created takes on the print settings configured in BlueZone Print Setup.

Submitting print log jobs to the print queue

Print Log jobs can be manually submitted to the Print Queue.

1. Highlight the desired job(s) in the Print Log window.
2. Click **Action** ® **Add Job(s) to Queue** from the menu bar or click the **Add Job(s) to Queue** icon on the toolbar.

Another method for submitting Print Log jobs to the Print Queue is to drag and drop the desired job(s) into the Print Queue window.

Submitting print queue jobs to the print log

Print Queue jobs that are not “Spooling” or “Printing” can be manually submitted to the Print Log.

1. Highlight the desired job(s) in the Print Queue window.
2. Click **Action** ® **Submit Job(s) to Log** from the menu bar or click the **Submit Job(s) to Log** icon on the toolbar.

Another method for submitting Print Queue jobs to the Print Log is to drag and drop the desired job(s) into the Print Log window.

The application desktop

The BlueZone Printer Emulator is split into three windows. The top window is the Printer Profile window, the center window is the Print Queue window, and the bottom window is the Print Log window.

Both the Print Queue and the Print Log are used to manage print jobs sent from the host system.

- **Printer profiles**
  Printer profiles are unique configurations containing the target printer and the settings applied to print job when printing to the printer. Multiple printer profiles can share the same target printer or have unique target printers. Changing the active printer profile only requires clicking the adjacent check box.
  The printer profile name is only a label that can be changed at any time.

- **Print queue**
  The print queue is used to display and manage print jobs. Print jobs are first created and then added to the print queue when print data is received from the host machine. The initial status of a print job is "Spooling..." and is displayed under the Status column, when the Details view is enabled. As the print job spools from the host, the amount of data being received is displayed under the Size column. When the host is finished sending print data, the Status of the print job becomes "Waiting to Print." When there are no other jobs spooling in the Print Queue the status becomes "Printing..." and the data is then sent to the printer.

  Jobs can be Paused, Resumed, Deleted, Renamed and have their configuration changed while residing in the print queue. Also, text files can be opened from disk and added to the print queue.
- **Print log**
  After a print job has been sent to the printer, the job is then submitted to the print log where it can be renamed, reprinted, or be deleted by the user. Print jobs residing in the print log display the time and date of submission under the Date Time column when the Details view is enabled.

File properties

The File Properties property sheet controls BlueZone's operating parameters. From the BlueZone menu bar, click **File** ® **Properties**. The File Properties property sheet opens displaying the **Program** and **Options** tabs.

Program tab

Settings

Enables customization of the Session Description. The text displays right justified on the caption bar of the session main window.

- **Session Description**: A unique session description can be entered that displays right justified on the session window's caption bar. The Session Description can help to quickly identify a session when multiple sessions are active.
- **Minimize Main Window on Startup**: If enabled, the BlueZone main window is minimized on the task bar when the program starts.
- **Run in Tray when Minimized / Closed**: If enabled, when the BlueZone Printer application is minimized, or if the end user attempts to close down the application by clicking the red X, the BlueZone Printer main window is hidden, and a notification icon created in the Windows task bar tray.

  Note

  When this feature is enabled, the end user can only close down the application by selecting **File** ® **Exit** from the BlueZone menu bar.

- **Command Line Switches**: Displays any command line parameters used when launching the session.
- **Program Group**: Displays the BlueZone program group.
- **Installation Directory**: Displays the BlueZone installation directory.

- **Working Directory**: Displays the BlueZone working directory.
- **Preferred Connection Type**: Displays the BlueZone preferred connection type. The preferred connection type is used to determine how BlueZone connects to the host system the first time a session is launched.
- **Global Configuration Lock**: If enabled, the global configuration lock option is active.
- **Session Configuration Lock**: If enabled, the session configuration lock option is active.

Options tab

Save

- **Ask to save configuration settings on exit**: If enabled, the user is prompted whether or not to save the configuration settings on program shutdown.
- **Always save configuration settings on exit**: If enabled, the configuration settings are always saved on program shutdown.
- **Do not save configuration settings on exit**: If enabled, the configuration settings are not saved on program shutdown.
- **Auto-Backup settings in Profile Mode**: If enabled, BlueZone automatically creates a back up of any profile (configuration file) that is changed. "Backup of" is appended to the beginning of the profile name. For example, if you change the profile named `mainframe.zmp`, the back up name is `Backup of mainframe.zmp`.

  The purpose of the feature is to provide the end user a way to go back to the settings contained in the previous configuration.

Open / Save As

- **File Description**: This edit box configures the text that displays in the Common File dialog, describing the type of files to list.
- **Default Extension**: Limits the initial list for the Common File dialog, the extension is limited to three characters.

Customizing the toolbar colors

The colors for BlueZone's toolbar, print queue, print log and status bar can be set by the end user. To customize the application's desktop colors:

1. From the menu bar, click **View** ® **Properties**.

   The View Properties sheet opens.
2. Click the **Options** tab.
3. Under the **Desktop Colors** heading, select a view object to change.

   The color can be modified in one of two ways:

   - From the Desktop Colors list or by clicking **Customize**.
   - Right-click on view object. The Common Color dialog displays.

Customizing the toolbar

The BlueZone toolbar is completely configurable. Buttons can be removed, added and rearranged on the toolbar.

1. From the menu bar, click **View** ® **Properties**.

   The View Properties property sheet opens.

2. From the View Properties property sheet, click the **Options** tab.
3. Click **ToolBar** or double-click anywhere on the toolbar.

   The Customize ToolBar dialog opens:

   - **Available Toolbar Buttons**: This list box displays the buttons that are currently unavailable on the toolbar. To make a button available on the toolbar select a button and click **Add**.
   - **Current ToolBar Buttons**: This list box displays a list of currently available buttons on the toolbar. To remove a button from the toolbar, highlight the button and click **Remove**. To reposition a button, select it and drag it to a new position or select a button and click **Move Up** or **Move Down**.
   - **Close Button**: To exit the Customize ToolBar dialog, any changes made are saved in memory but are not saved to the registry until **File** ® **Save** is selected.
   - **Reset Button**: Click to restore the toolbar settings to the currently saved BlueZone registry entry.

Customizing the toolbar colors

The colors for BlueZone's toolbar, print queue, print log and status bar can be set by the end user. To customize the application's desktop colors:

1. From the menu bar, click **View** ® **Properties**.

   The View Properties sheet opens.
2. Click the **Options** tab.
3. Under the **Desktop Colors** heading, select a view object to change.

   The color can be modified in one of two ways:

   - From the Desktop Colors list or by clicking **Customize**.
   - Right-click on view object. The Common Color dialog displays.

Editing the translate tables

Translate tables are used to translate data between the EBCDIC character set and the ASCII character set. EBCDIC is used on IBM mainframe and iSeries systems for character formatting whereas ASCII is used in the PC environment for character formation. When a character arrives from the host it is translated from EBCDIC to ASCII. When a character is sent to the host it is translated from ASCII to EBCDIC.

Important

Translate table modifications must only be made when problems occur running a host application.

To access the translate tables:

1. From the BlueZone menu bar, click **Session** ® **Configure**.
2. Click the **3270 Emulation** tab.

   The 3270 Emulation property sheet displays **Translation**, **LU1 Print Options**, **LU3 Print Options** and **LU1 / LU3 Print Options**.
3. In the **Translation** section, click **Translate Tables**.

   The **Translate Tables** menu displays two tabs: **EBCDIC to ASCII** and **ASCII to EBCDIC**.
4. Select the desired translation table.

How the tables work

To demonstrate how the tables work we will use the character 'A'. Please note that all ASCII and EBCDIC values shown below are hexadecimal values.

In the ASCII Code table the character 'A' is represented by the value '41' (in hex). In the EBCDIC Code table the character 'A' is represented by the value 'C1'.

1. Starting on the ASCII to EBCDIC page, look at Column 4x Row x1 and you will see the character 'A'. Click the Edit button to switch to the values mode and will see the EBCDIC value 'C1'. This is the value that will be sent to the host when the 'A' key is pressed on the keyboard.
2. Now to verify that this is the correct value, let's follow the same sequence in reverse. Look at the EBCDIC to BUFFER page and examine the Column Cx Row x1, you should see the character 'A'. Click the Edit button, to switch to the values mode and you will see the ASCII value '41'. This is the value that will be sent from the host when an 'A' is requested.

This explanation shows the standard sequence of events when translating characters. This sequence looks the same in both directions, only reversed. For example:
ASCII to EBCDIC
  41 -> C1

EBCDIC to ASCII
  C1 -> 41

Status bar indicators

Important session information can be gathered from BlueZone's status bar. The status bar indicators are as follows, from left to right:

- **BlueZone Session Identifier**: P1, P2, P3, and so on
- **Session Status Indicator**: Possible status values are:
  - **Initializing...**: Displays at startup.
  - **Connecting...**: Displays when attempting to establish a connection.
  - **Connected**: Displays when the session is connected to the host.
  - **Host Address**: Displays when the session is bound on the host.
  - **Disconnecting...**: Displays when attempting to disconnect.
  - **Disconnected**: Displays when the session is disconnected.
- **Host Address**: Displays the host TCP/IP address when connected.
- **Session State**: Possible status values include:
  - **Ready**: Session is ready.
  - **Off-line**: Session is offline.
- **System Time**: Displays the system time in military format.
- **Bound Time**: Displays the elapsed time since the session was bound on the host.

Printing types

iSeries printing using host print transform

Host Print Transform, also known as the transform feature in iSeries printer files and device descriptions, is similar to SCS ASCII Transparent Printing in that the target ASCII printer is controlled directly by the host print job. The data and the control characters are on the host in

ASCII or are converted to ASCII prior to sending the them to the printer. Therefore, no EBCDIC to ASCII conversion is required.

Settings required in the Print Setup property sheet necessary to properly configure the BlueZone Printer emulator for this feature.

1. Click **File** ® **Print Setup** from the menu bar
2. Click the **Passthrough** tab and define the following:
   a. Check the **Send all Data Directly to the Printer** check box.
   b. Clear the **Use Printer Definition to Convert Formatting Commands to Printer Escapes** check box. Checking this results in unpredictable behavior.
   c. Select a target printer: either **Use default Windows Printer** or **Print to File**.
3. If you are auto creating the device or toggling Host Print Transform from the emulator, click **TN5250E** (located at the bottom of the property sheet) to open the TN5250E Properties dialog:
   a. Check the **Host Print Transform** check box
   b. Specify a printer **Manufacturer Type** and **Model** as specified by the iSeries. (for example *HP4).

      Important

      You must include the asterisk in the name of the printer (*HP4).

4. Set the **Custom Name**, **Custom Library**, **Formfeed** and **Paper** options as needed.

Ignored emulator settings

Settings that are have no effect once the Mandatory Emulator Settings are made.

- All settings are ignored except those specified because the emulation is completely bypassed.

Pass-through printing using ASCII transparent printing

ASCII transparent printing is used to print directly to an ASCII printer by sending ASCII data in the SCS printer data stream. IBM printing applications like Advanced Function Printing (AFP) have the capability to produce Hewlett Packard Printer Control Language (PCL) printer data streams and Post Script printer data streams as well as several others. When printing through the BlueZone Printer emulators, the printer data is passed directly to the printer without any data conversion.

When to use:

- When you want information contained in the print job to control the ASCII printer directly.
- Use with LU1 and LU4 SCS printer data streams containing ASCII data and ASCII printer control codes.
- Use with LU4 SCS printer data streams where Host Print Transform (Transform) is enabled on the iSeries.

When not to use:

- When the print jobs must be formatted using information sent by the host.
- When the font must be auto-sized by the emulator to fit the page.

Settings required in the Print Setup property sheet are necessary to properly configure the BlueZone Printer emulator for this feature.

1. Click **File** ® **Print Setup** from the menu bar.
2. Click the **Passthrough** tab and define the following:

a. Check the **Send all Data Directly to the Printer** check box.

b. Clear the **Use Printer Definition to Convert Formatting Commands to Printer Escapes** check box. Checking this results in unpredictable behavior.

c. Select a target printer: **Use default Windows Printer** or **Print to File**.

Note

The target printer must be compatible with the control codes embedded in the print job.

Ignored emulator settings

Settings that are have no effect once the Mandatory Settings are made.

- All settings are ignored except those specified because the emulation is completely bypassed.

Pass-through printing using the printer definition file

The printer definition file contains ASCII control codes used to control several different ASCII printers directly, bypassing the Windows print driver. The BlueZone Printer emulators convert SCS printer control commands to the selected ASCII printer control codes. This may be desirable when printing on preprinted forms where the font size and style used is embedded in the printer.

If fast, draft mode printing on dot matrix printers is required, the fonts embedded in the target dot matrix printers must be used. Dot matrix printers cannot print True Type fonts in draft mode.

If your printer is not listed in the Printer Definition File, select a model that is close. Many printers emulate other printers, therefore, selecting an emulated model instead will work.

The existing Printer Definition File may be modified to add a new printer or edit an existing printer. Refer to the documentation for your printer for the appropriate ASCII escape sequences.

When to use:

- Use with EBCDIC LU1 and LU4 SCS printer data streams where printer control commands sent by the host are converted to ASCII printer escape sequences.
- Standard SCS printing to a 3812 or 3287 type printer emulator.
- Draft mode printing on dot matrix printers.
- Printing using the fonts built into the printer.

When not to use:

- Do not use with LU3 print jobs. The lack of SCS printer control codes in the data stream will produce unpredictable results. Use the Windows API mode or pass-through without a printer definition file for LU3 printing.
- Do not use with Host Print Transform or ASCII Transparent Printing.
- When auto-sizing the font to fit the page must scale the font exactly. This method will only choose the nearest resident printer font, usually 10, 12, 17, or 20 characters per inch (CPI).
- When the printed output must be printed using a Windows font rather than a printer resident font.

Settings required in the Print Setup property sheet are necessary to properly configure the emulator for this feature.

1. Click **File** ® **Print Setup** from the menu bar.
2. Click the **Passthrough** tab and define the following:

   a. Check the **Send all Data Directly to the Printer** check box.

   b. Check the **Use Printer Definition to Convert Formatting Commands to Printer Escapes** check box.

c. Select a printer from the list box. Choose one that is close or create a custom printer definition.

d. Select a target printer: **Use default Windows Printer** or **Print to File**.

Ignored emulator settings

Settings that are have no effect once the Mandatory Settings are made.

- All settings are ignored except those specified because the emulation is completely bypassed.

Pass-through printing without a printer definition file

The printer definition file contains ASCII control codes used to control several different ASCII printers directly, bypassing the Windows print driver. The BlueZone Printer emulators convert SCS printer control commands to the selected ASCII printer control codes. This is not desirable if the printer data stream coming from the host is not SCS or does not contain SCS printer control commands, like ASCII Transparent Printing or iSeries Host Print Transform.

When to use:

- Use with LU3 DSC/DSE printer data streams where print data and embedded page control characters (LF, FF, CR) are converted from EBCDIC to ASCII then sent to the printer.
- When using ASCII Transparent Printing
- When using iSeries Host Print Transform

When not to use:

- Printing EBCDIC LU1 and LU4 SCS printer data streams where printer control commands sent by the host are converted to ASCII printer escape sequences.
- Standard SCS printing to a 3812 or 3287 type printer emulator.

Settings required in the Print Setup property sheet are necessary to properly configure the emulator for this feature.

1. Click **File** ® **Print Setup** from the menu bar.
2. Click the **Passthrough** tab and define the following:
   a. Check the **Send all Data Directly to the Printer** check box.
   b. Clear the **Use Printer Definition to Convert Formatting Commands to Printer Escapes** check box. Checking this results in unpredictable behavior.
   c. Select a target printer: **Use default Windows Printer** or **Print to File**.

Ignored emulator settings

Settings that are have no effect once the Mandatory Settings are made.

- All ignored settings are disabled.

Printing using the Windows API print driver

The Windows API print driver is used by most Windows programs when printing documents and graphics. It provides extensive formatting, graphics, and printer control capabilities. This is the default setting for BlueZone Printer Emulators.

When to use:

- Use with any EBCDIC printer data stream when auto-sizing the font and a nearly perfect fit is required.
- Use when printing a Windows True Type Font.

- Use by default when the target printer is unknown. Check the **Use Default Windows Printer on Startup** check box.

When not to use:

- When exact font size is necessary to print on preprinted forms. Windows scales True Type fonts to the nearest pixel resulting in slight misalignments when compared to fixed CPI fonts resident in the printers.
- Draft mode printing on dot matrix printers.
- ASCII Transparent Printing
- iSeries Host Print Transform

Settings required in the Print Setup property sheet are necessary to properly configure the emulator for this feature.

1. Click **File** ® **Print Setup** from the menu bar.
2. Click the **Passthrough** tab and define the following:
   a. Clear the **Send all Data Directly to the Printer** check box.

Ignored emulator settings

All ignored settings are disabled when the Mandatory Settings are set properly.

Work with printer profiles

Adding printer profiles

1. Right-click in the Printer Profile (top) section of the printer emulator interface.
2. Select **Add Printer Profile** from the pop-up menu.
3. Select the desired printer from the list box and click **OK**.
4. Configure the printer settings as required.
5. Click **OK** to save the settings.

Deleting printer profiles

1. Highlight an existing Printer Profile in the Printer Profile (top) section of the printer emulator interface.
2. Right-click and select **Delete** from the menu.

Editing printer profiles

1. Double-click an existing printer profile or click **File** ® **Print Setup** to launch the setup dialogs.
2. Change the configuration as required.
3. Click **OK** to save and exit.

Renaming printer profiles

Printer Profiles are assigned the name of the target printer by default. The profile name can be changed at any time to one that is unique or more descriptive.

1. Right-click the desired printer profile and select **Rename** from the menu.
2. Type the new name.
3. Click away to save the new name.

Work with print job entries

Job properties

The Job Info property page displays information about the Print Job that is currently being viewed or configured.

To display the Job Info property page:

1. In the Print Queue window, highlight the desired Print Job to view or configure.
2. From the BlueZone menu bar, click **Options** ® **Job Properties** or click the **Job Properties** icon from the BlueZone toolbar.

   The Print Setup property sheet displays with the heading: Job Properties for *filename*.dat.
3. Click the **Job Info** tab. The Job Info property page opens.

Job Info tab

Job Name
Displays the print job name. The print job name is also displayed in the caption of the Print Setup property sheet.

Type
Displays the Job Type. “Host Print Job” refers to a LU1 or LU3 Print Job received from the host; while “Externally Loaded File” refers to a file opened from disk.

Status
Displays the Print Job status.

File
Displays the name of the Print File associated with the Print Job. The Print File contains data that will be sent to the printer.

Size
Displays the Print File size in bytes.

Delete Flag
Used to determine whether or not BlueZone may delete the Print File when the Print Job no longer exists. BlueZone is permitted to delete host spooled Print Files but cannot delete Print Files opened from disk.

Pausing print jobs

Jobs residing in the Print Queue can be paused.

Jobs spooling from the host system can be held before being sent to the printer. To pause a print job residing in the Print Queue:

1. Highlight the desired job
2. Click **Action** ® **Pause Job(s)** from the BlueZone menu bar or click the **Pause Job** icon on the BlueZone toolbar.
   Print jobs that have the status of "Waiting to Print" can be paused. Once a print job's status becomes "Printing..." it can no longer be paused.

Resuming print jobs

1. Highlight the desired job.
2. Click **Action** ® **Resume Job(s)** from the BlueZone menu bar or click the **Resume Jobs** icon on the BlueZone toolbar.
   When a file is resumed its status changes to "Waiting to Print" and is sent to the printer when no other print jobs above it are printing.

Deleting print jobs

Print jobs residing in the Print Queue and Print log can be deleted.

1. Highlight the desired job.
2. Click **Action** ® **Delete Job(s)** from the BlueZone menu bar or click the **Delete Jobs** icon on the BlueZone toolbar.

   The Del key on the PC keyboard can also be used to delete the job(s).

Work with print log entries

Adding print log jobs to the print queue

Print Jobs residing in the Print Log can be added to the Print Queue for printing. To add a Print Log job to the Print Queue:

1. In the Print Log window, highlight the desired Print Job(s).
2. Click **Action** ® **Add Jobs to Queue** from the BlueZone menu bar or click the **Add Jobs to Queue** icon on the BlueZone toolbar.

Or, you can also:

1. In the Print Log window, highlight the desired Print Job(s).
2. Drag and drop the print job icon into the Print Queue window.

Note

Print Log Jobs added to the Print Queue are not resubmitted to the Print Log when the job has completed printing.

Renaming print jobs

Jobs residing in the Print Queue and the Print Log can be given user-defined names that better describe the job. Print jobs are initially given the name of "DocumentX" where X is a unique job number.

1. Highlight the desired Print Job.
2. Click **Action** ® **Rename Job** from the BlueZone menu bar.

Or, you can also:

1. Highlight the desired Print Job.
2. Place your cursor over the label area and click.
3. Type in the new name and press the Enter key.

Chapter 9: BlueZone PasswordVault

BlueZone PasswordVault is designed exclusively to work with the BlueZone family of terminal emulation products. BlueZone PasswordVault provides a convenient, easy-to-use means of storing, managing and accessing your host account logon information. BlueZone PasswordVault stores all of your passwords in a single encrypted repository, unlocked by your Windows account, fingerprint, smart card or password of your choosing.

BlueZone PasswordVault not only provides secure storage of account data but also automatically detects host logon screens and prompts. Upon detecting a prompt, BlueZone PasswordVault displays a floating pop-up window, preset to the appropriate stored account, allowing you to 'auto-fill' the account information. If this is the first time you are accessing a particular host, and an account has not yet been recorded, you can automatically create a new entry via the same pop-up window.

BlueZone PasswordVault has its own help file that can be launched from within the application.

BlueZone PasswordVault installation

BlueZone PasswordVault is installed as a stand-alone application through an MSI. Refer to the *BlueZone PasswordVault User's Guide* for more information on the installation process.

Enabling BlueZone PasswordVault

When BlueZone PasswordVault is installed, it is not automatically enabled.

To enable BlueZone PasswordVault:

1. Click **File** ® **Properties** from the BlueZone menu bar.
2. Select the **Enable Password Vault** check box located at the bottom of the window.
3. Click **OK**.

Chapter 10: BlueZone TCP/IP print server

BlueZone TCP/IP Print Server is a Windows application that supports the LPD protocol enabling end users to receive and customize print jobs from an LPR client on any AS/400, Mainframe, UNIX, or Windows-based system, to any Windows defined printer, whether locally attached or remote.

BlueZone TCP/IP Print Server is known as a Line Printer Daemon, or LPD for short. A daemon is a server or sometimes referred to as an agent. BlueZone TCP/IP Print Server is an LPD Server.

TCP/IP Print Server installation

The BlueZone TCP/IP Print Server is installed using the standard BlueZone Desktop setup program. BlueZone TCP/IP Print Server is one of the components that can be selected during installation. BlueZone TCP/IP Print Server is not automatically selected by default, during BlueZone installation.

If you already have BlueZone installed, and you want to add the BlueZone TCP/IP Print Server component to your installation, use the modifying BlueZone procedure to perform this task.

Refer to Modifying BlueZone, on page 19 for more information.

However, if BlueZone is not installed on the target machine, use the installing BlueZone procedure to perform the installation.

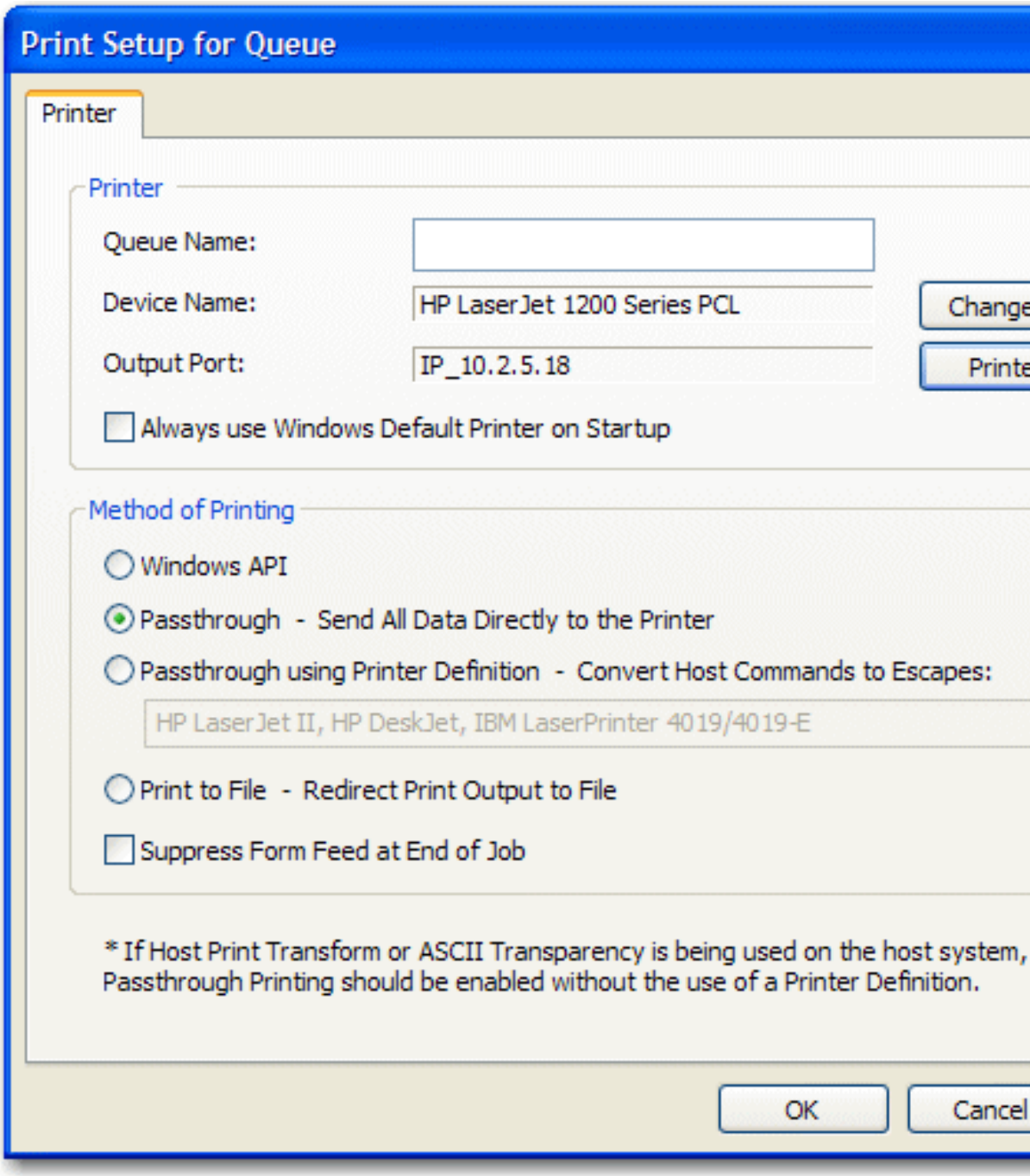
Refer to Installing BlueZone 6.1, on page 18 for more information.

Launching sessions

1. Click **Start** ® **All Programs** ® **BlueZone** ® **BlueZone TCP/IP Print Server**.

   The first time you launch TCP/IP Print Server, the Print Setup for Queue dialog opens:

Figure 14: Print Setup for Queue dialog



2. You must type a **Queue Name** before you can start a BlueZone TCP/IP Print Server session.
3. Also, take a moment to select a different printer if necessary, and decide if you always want to use your Windows default printer when the BlueZone TCP/IP Print Server application starts.

Note

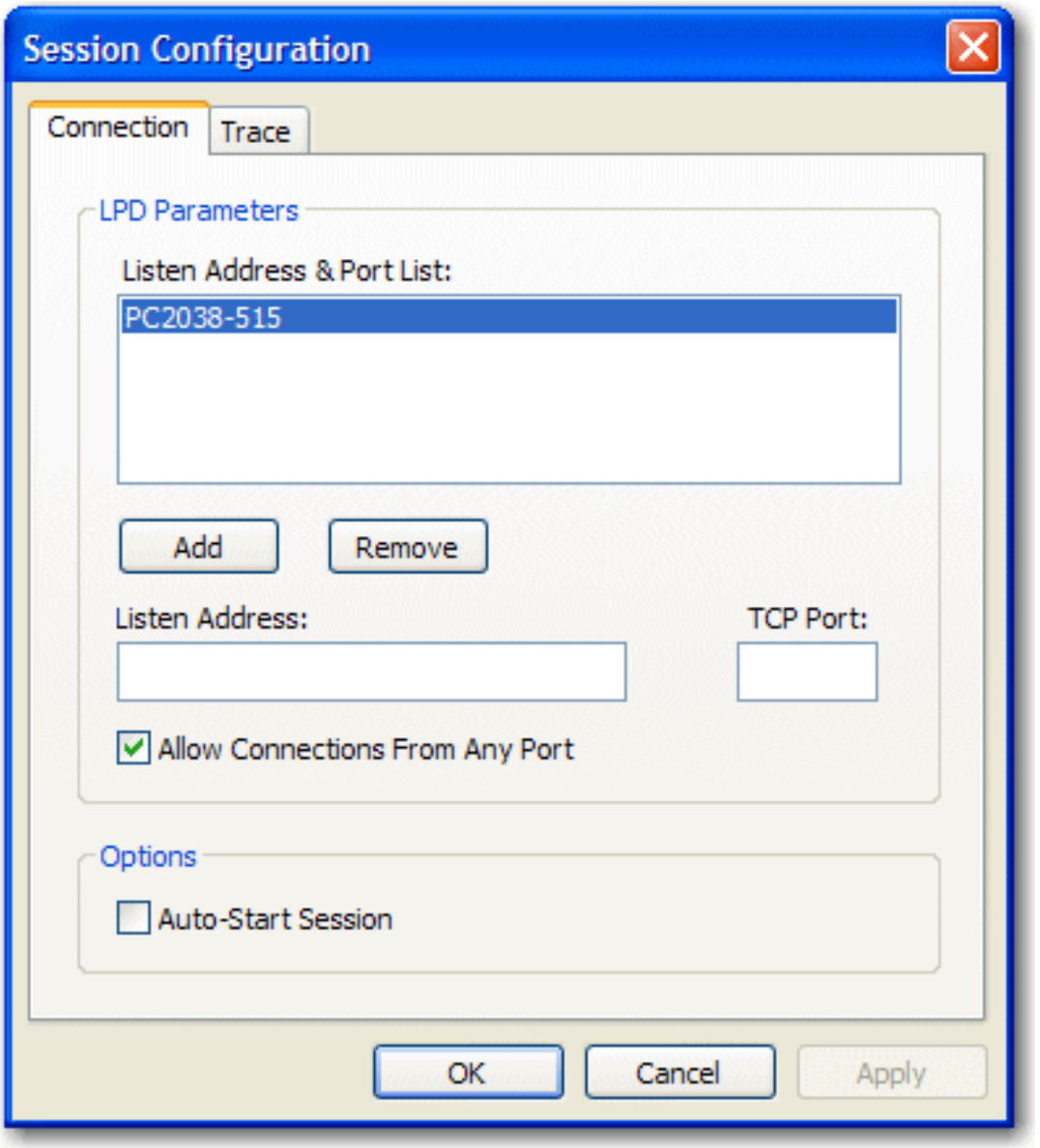
Once BlueZone TCP/IP Print Server is configured, launching the BlueZone TCP/IP Print Server application causes the application to automatically launch in the Windows System Tray without appearing on the Windows desktop.

4. Type a Queue Name and click **OK**.

   The Print Setup for Queue dialog closes. Before you start the BlueZone TCP/IP Print Server, you should configure a session.

Configuring sessions

1. To configure the BlueZone TCP/IP Print Server , click **Session** ® **Configure** from the menu bar. The Session Configuration dialog displays as shown here:



2. By default, BlueZone TCP/IP Print Server automatically creates an entry using your Windows machine name as the Listen Address and Port 515 as the Listen Port. You can, of course, remove this entry, and enter your Listen Addresses exactly as desired.

Tip

The reason why we use the Windows machine name is because your machine's network adapter can have multiple IP addresses assigned. For example, if you machine supports IPv4 and IPv6, your network adapter has at least two addresses: one IPv4 and one IPv6 address. By using your Windows machine name, you are automatically listening on all your IPv4 and IPv6 address, without having to specifically configure them.

3. To add a Listen Address and Port, place the address in the Listen Address field and the port number in the TCP port field and click **Add**. BlueZone TCP/IP Print Server can listen on multiple addresses and ports.

Starting sessions

From the BlueZone TCP/IP Print Server menu bar, click **Session** ® **Start**.

Or click the **Start Session** icon from the BlueZone TCP/IP Print Server toolbar.

When the BlueZone TCP/IP Print Server is started, `Listening...` displays in the status bar.

Stopping sessions

From the BlueZone TCP/IP Print Server menu bar, click **Session** ® **Stop**.

Or click the **Stop Session** icon from the BlueZone TCP/IP Print Server toolbar.

When the BlueZone TCP/IP Print Server is stopped, `Stopped` displays in the status bar.

Ending sessions

To minimize the BlueZone TCP/IP Print Server session to the Windows System Tray, click the X located in the upper right hand corner of the BlueZone TCP/IP Print Server desktop.

To end the BlueZone TCP/IP Print Server desktop session, right-click the BlueZone TCP/IP Print Server icon located in the Windows System Tray and select **Exit**.

Print setup

All of the settings that control how the print job is interpreted as it is sent from the host, and how it is formatted when sent the to the printer are located in the Print Setup property sheet. To access the Print Setup click **File** ® **Print Setup** from the menu bar.

The Print Setup property sheet displays the **Printer**, **Page**, **Layout**, **Fonts**, **Options**, and **Print to File** tabs depending on which **Method of Printing** is selected on the **Printer** tab.

Printer settings

The **Printer** tab contains the following options:

Printer

Displays and sets information about the Windows printer on which the host print jobs are printed:

- **Device Name**: Displays the name of the currently defined Windows printer. (display only field)
- **Output Port**: Displays the port that is being used by the above printer. (display only field)
- **Always use Windows Default Printer on Startup**: If checked, BlueZone automatically uses the Windows default printer upon startup.

  Tip

  When using the **Always Use Default Windows Printer on Startup** feature, edit printer names in the Printer Definition File for the known target printers to automatically match the printer definition file to the printer.

- **Change Printer**: Click to change the current printer shown in the Device Name window above.
- **Printer Info**: Click to display detailed information about the currently selected printer.

Method of Printing

- **Windows API (Application Program Interface)**: When this option is selected, the settings on the Page tab, Layout tab, Fonts tab and Options tab are the settings that control print output. In other words, the BlueZone application interfaces with the Windows print driver to control the print output. This option gives you complete control over print output.
- **Passthrough - Send All Data Directly to the Printer**: If checked, BlueZone bypasses the Windows print driver and sends the data directly to the printer. Note that selecting this option causes the Page tab, Layout tab, Fonts tab and Options tab to disappear, reason being that all printer controls are contained in the data steam of the print job.
- **Passthrough using Printer Definition - Convert Host Commands to Escapes**: Selecting this option, allows direct control of the printer by the printer emulator. Host SCS printer control information is converted to ASCII printer escape sequences contained in the supplied Printer Definition File. Note that selecting this option causes the Fonts tab to disappear.
  - **Printer Definition List Box**: Displays the currently selected printer definition. This is automatically selected using the closest match to the name of the selected Windows printer. If necessary, select a printer or printer family that is close to the target printer. A small subset of ASCII escape sequences are supported because only a limited set of functions are available in the SCS data stream.
- **Print to File - Redirect Print output to File**: Check to enable the print to file feature. Note that selecting this option causes only the Print to File tab to appear.
- **Suppress Form Feed at End of Job**: If checked, BlueZone eliminates the form feed sent by the host to prevent the printing of an extra blank page at the end of the print job.

  Tip

  When printing preprinted forms or specially formatted print jobs, use pass-through printing and a printer definition file. This ensures that font selections which are not scaled, but are exactly the proper pitch and line density.

Page settings

The **Page** tab contains the following options:

Page Settings

Sets and displays the page size and margins:

- **Paper Size**: This box displays the currently selected paper size. (display only field)

- **Page Setup**: Click to change the paper size, margins, orientation and source.
- **Specify Custom Paper Size**: If checked, a dialog launches which allows you to specify the exact width, length and preferred unit of measure (inches or millimeters). Use this to set a paper size not available in the standard Windows dialogs. This is useful when printing custom forms like checks and invoices.
- **Orientation**: Indicates the currently selected page orientation. (display only field) This value can be overridden by the **Auto-Switch to Portrait/Landscape Based on CPL** check box.
- **Auto-Switch to Portrait/Landscape Based on CPL**: If checked, BlueZone switches the page orientation to landscape if the characters per line exceeds 100 characters.
- **Margins**: These radio buttons set the margin command sent to the printer. Minimum is the default and contains the values returned to the printer emulator by the printer driver.
- **Override Host Page Settings**: If checked, BlueZone ignores page settings sent by the host and use those set in this Page dialog.

Note

If the host does not send a value that corresponds with a setting in this dialog, the dialog value is used.

Layout settings

The **Layout** tab contains the following options:

Spacing

Spacing settings are used for two purposes: during LU1 print jobs to tell the emulation when to insert form feeds and during font auto-sizing to instruct the printer emulator how to scale the font to fit the page.

- **Lines Per Page**: Tells the emulation or font auto-sizing how long the page is in lines.
- **Lines Per Inch**: Sets the number of lines per inch to set for the printed output if not specified by the host or overridden by the user.
- **Characters Per Line**: Sets the maximum characters printed on a line before the emulator inserts a carriage return/line feed.
- **Characters Per Inch**: Sets font size based on characters per inch.

  Note

  Characters per inch combined with lines per inch determines how many characters fit on a line and how many lines to a printed page.

- **Double Space Lines**: If checked, BlueZone double spaces between lines when printing.
- **Override Host Spacing Settings**: If checked, BlueZone is forced to ignore spacing settings sent from the host and use these spacing settings.

Presentation

- **Print Quality**: Select Draft mode or Near Letter Quality mode when in Pass Through Mode using a printer definition file that supports draft or NLQ modes.
- **Duplex Mode**: Select to control single or double-sided printing. Only works in Windows API mode.
- **Override Host Presentation Settings**: If checked, BlueZone is forced to ignore presentation settings sent from the host and use these presentation settings.

Print Scaling

Scale Factor: This edit box allows enlarging or reducing the printed output by the selected percentage. Only works in Windows API mode.

Auto-Size Fonts to fit the Paper Size: If checked, BlueZone fits the font to the page based on the spacing settings set by the host or set by the emulator.

Scale Fonts to Closest Point Size: This feature is useful when auto-sizing fonts yields different font sizes for normal and bold text.

Note

In Windows API mode, the auto-size font option scales to fit the page exactly. In pass-through mode, a printer definition file is required, and scales to the nearest fixed font size supported by the printer.

Font settings

The **Fonts** tab is used to set the default font and map the font specified by the host to a font available to Windows. This function only works in Windows API mode.

Font Mappings

The Font mappings dialog allows one to one mapping of the Global Font Identifier (GFID), used by IBM printing applications, to fonts available in Windows.

The global font identifier sent by the host may be viewed in a spool file using the SPOOLINF application (`Spoolinf.exe`) provided by BlueZone Software, which can be found in the BlueZone root folder.

- **Default**: This button resets the highlighted font mapping to the default font.
- **Change**: This button launches the Windows Font dialog used to select a new Windows Font.
- **Default All** : Click to reset all of the fonts to their default values.
- **Choose from Fixed Width Fonts Only**: If checked, all proportional fonts in the Windows Font dialog are hidden from view.

Option settings

The **Options** tab contains the following options:

Printer Line/Page Wrap

- **Wrap Text at Right Margin**: Check box prints any text exceeding the page width on the next line.
- **Wrap Text at Bottom Margin**: Check box prints any text exceeding the page length on the next page.

Form Feed

- **Soft - Form Feed by Sending Multiple Line Feeds**: If selected, sends form feeds by sending multiple line feeds to reach the end of the page.
- **Standard - Form Feed by Instructing Driver to End Page**: If selected, instructs the printer or Window print driver to end the page.

Text Styles

Use Upper and Lower Case Characters: If checked, allows dual case printing. When disabled, upper case characters only are printed.

Page Options

- **Page Header**: Enter text here to print a custom header on each printed page.
- **Append Date and Time to Header**: If checked, BlueZone enters the current date and time to the custom header.
- **Number of Copies**: Overrides the number of copies setting in the Windows Print driver.

Print to File settings

Printer output can be redirected to a file. This can be useful when sending print jobs to shared directories to be viewed in a text editor rather than using paper to print multiple copies.

The **Print to File** tab is only available if you select the **Print to File - Redirect Print Output to File** check box on the **Printer** tab.

The **Print to File** tab contains the following options:

Output Filename
If selected, allows the user to enter a target file name in the adjacent field.

Prompt for Filename
If selected, prompts the user for a target file name when the job is printed.

Base Output Filename
If selected, BlueZone automatically creates target file names based on the base name entered in the adjacent field.

Starting in version 6.1, the base name field supports eight characters, a period, and a configurable number of incrementing digits that are defined with question marks. This field also supports asterisks (*) wildcard characters.

A question mark specifies a wrapping increment and can be placed anywhere, in any order, in the base name. When a question mark is used, the next Print to File job number is stored in the session's profile on shutdown so it is affected by the **File ® Properties Save on Exit** options. The number of question marks used determines the wrapping limit. For example ? is 9, ?? is 99, and so on.

This new feature is backwards compatible with earlier base name functionality, which behaves as <basename>*.

An asterisk defines a non-wrapping job number increment and can be placed anywhere in the base name. When an asterisk is used, the next Print to File job number is auto-generated so the output files are guaranteed to be unique.

Output Directory
Displays the destination name for print output. Click **Browse** to specify the directory and path where the print files are to be written.

Append Data to File
If selected, BlueZone appends new print data to the end of the specified file rather than overwriting it.

Clear Print File Daily
Clears the data from the text file daily.

This option is only available if the **Output Filename** and **Append Data to File** check boxes are selected.

Job queue settings

The Job Queue Properties property sheet is used to configure Job Queue operating parameters. Options include Auto-Pause, Show/Hide Status dialog, Submit to Log, and Spool settings.

From the menu bar, click **Options ® Job Queue** or click the Queue Properties icon on the toolbar. The Job Queue Properties property sheet opens.

The Job Queue Properties dialog contains the following options:

Job Options

- **Auto-Pause Jobs Arriving in the Job Queue**: If checked, jobs automatically pause after spooling from the host. To print a paused job, select the desired entry and click the Resume icon located on the toolbar.
- **Start Printing while Job is Spooling from Host**: This option is disabled.
- **Show Print Status / Abort dialog when Printing Jobs**: If checked, the Print Status dialog is displayed while a job is being sent to the printer. The Print Status dialog includes a Cancel button to terminate printing. A progress indicator displays how much of the print job has completed.
- **Submit Completed Jobs to the Print Log**: If checked, the print job details are submitted to the Print Log after the job has been sent to the printer.

Spool Settings

- **Base Filename**: Used to set the base name that is used when creating a unique file name for host print job spool files.
- **Spool Directory**: Displays the directory currently configured to accept host print job spool files.
- **Maximum Pint Log Entries**: Used to specify the maximum number of Print Log entries to be kept and displayed in the print log. Whenever the maximum number is exceeded, the oldest entry is removed and the spool file automatically deleted from the disk.

Adding files to the print job queue

BlueZone has the ability to open text files from disk for printing. Perform the following steps to add a file to the Print Job Queue.

1. From the menu bar, click **Action** ® **Add File to Queue** or click the **Add File to Queue** icon on the toolbar.

   The Create Print Queue Job Entry dialog opens.
2. Select the text file that you want to add to the queue and click **Open**.

   A print job entry is created in the Print Job Queue for the file. The initial name of the print job is the file name of the selected file.

   The print job created takes on the print settings configured in Print Setup.

Submitting print queue jobs to the print log

Print Queue jobs that are not “Spooling” or “Printing” can be manually submitted to the Print Log.

1. Highlight the desired job(s) in the Print Job Queue window.
2. Click **Action** ® **Submit Job(s) to Log** from the menu bar or click the **Submit Job(s) to Log** icon on the toolbar.

Another method for submitting Print Job Queue jobs to the Print Log is to drag and drop the desired job(s) into the Print Log window.

Submitting print log jobs to the print queue

Print Log jobs can be manually submitted to the Print Queue for printing.

1. Highlight the desired job(s) in the Print Log window.
2. From the menu bar, click **Action** ® **Select Add Job(s) to Queue** or click the **Add Job(s) to Queue** icon on the toolbar.

Another method for submitting Print Log jobs to the Print Queue is to drag and drop the desired job(s) into the Print Queue window.

The application desktop

The BlueZone TCP/IP Print Server is split into three windows. The top window is the Printer Queue window, the center window is the Print Job Queue window, and the bottom window is the Print Log window.

- **Printer Queue Window**
  Printer Queues are unique configurations containing the target printer and the settings applied to print job when printing to that particular printer. Multiple Printer Profiles may share the same target printer or have unique target printers. Checking the check box makes that particular Printer Queue active.

  Note

  The Printer Queue name is label that must match the Printer Queue Name that the LPR client is configured to print to.

- **Print Job Queue**
  The Print Job Queue is used to display and manage print jobs. Print jobs are first created and then added to the Print Job Queue when print data is received from the host machine. The initial status of a print job is "Spooling..." and is displayed under the Status column, when the Details view is enabled. As the print job spools from the host, the amount of data being received is displayed under the Size column. When the host is finished sending print data, the Status of the print job becomes "Waiting to Print." When there are no other jobs spooling in the Print Job Queue the status becomes "Printing..." and the data is then sent to the printer. Jobs can be Paused, Resumed, Deleted, Renamed and have their configuration changed while residing in the Print Job Window. Also, text files can be opened from disk and added to the Print Job Window. See related topics below for additional information.
- **Print Log Window**
  After a print job has been sent to the printer, the job is then submitted to the Print Log where it can be renamed, reprinted, or deleted by the end user. Print jobs residing in the Print Log display the time and date of submission under the Date Time column when the Details view is enabled.

File properties

The File Properties property sheet controls the BlueZone TCP/IP Print Server's operating parameters. From the menu bar, click **File** ® **Properties**. The File Properties property sheet displays the **Program** and **Options** tabs.

Program tab

Settings

Enables customization of the Session Description. The text displays left justified on the caption bar of the session main window.

- **Session Description**: A unique session description can be entered that will display left justified on the session window's caption bar.
- **Command Line Switches**: Displays any command line parameters used when launching the session.
- **Program Group**: Displays the name of the program group where this program is installed.
- **Installation Directory**: Displays the installation directory where this program is installed.

- **Working Directory**: Displays this programs working directory.
- **Global Configuration Lock**: If enabled, the global configuration lock option is active.
- **Session Configuration Lock**: If enabled, the session configuration lock option is active.

Options tab

Save

- **Ask to save configuration settings on exit**: If enabled then the user is prompted whether or not to save the configuration settings on program shutdown.
- **Always save configuration settings on exit**: If enabled then the configuration settings are always saved on program shutdown.
- **Do not save configuration settings on exit**: If enabled then the configuration settings are not saved on program shutdown.

Open / Save As

- **File Description**: This edit box configures the text that displays in the Common File dialog, describing the type of files to list.
- **Default Extension**: Limits the initial list for the Common File dialog. The extension is limited to three characters.

View properties

The View Properties property sheet is used to set the view states of the toolbar, Print Queue, Print Log and status bar view objects. From the BlueZone menu bar, click **View** ® **Properties**. The View Properties property sheet displays the Options and Watermark tabs.

Options tab

View Settings

Select a view object for customization:

- **ToolBar**: This check box denotes whether or not the toolbar is displayed.
- **Print Log**: This check box denotes whether or not the print log is displayed.
- **StatusBar**: This check box denotes whether or not the status bar is displayed.
  - **ToolBar**: Click to customize the toolbar. Refer to Customizing the toolbar, on page 368 for more information.

Desktop Colors

Select a view object for changing the color: toolbar, profiles foreground, profiles background, queue foreground, queue background, log foreground, log background, or status bar.

- **Color Squares**: To change the background color of the selected view object press the left mouse button while holding the mouse pointer over the color square on the left containing the desired color.
- **Customize**: Click to select a color not available in the Color Squares; the Common Color dialog will display.

Watermark tab

Options

- **Profiles List**: When selected, the options below pertain to this selection.
- **Print Queue**: When selected, the options below pertain to this selection.
- **Print Log**: When selected, the options below pertain to this selection.
  - **Display Watermark Picture in Background**: If checked, BlueZone displays:

- **Tile Image**: If checked, the image is tiled over the entire background.
- **Opaque List Items**: If checked, the list items are no longer transparent.
- **Browse**: Click to browse to the image file that you want to display.

Customizing the toolbar

The BlueZone TCP/IP Print Server's toolbar is completely configurable. Buttons can be removed, added, and rearranged on the toolbar.

1. From the menu bar, click **View** ® **Properties**.

   The View Properties property sheet opens.
2. From the View Properties property sheet, click the **Options** tab.
3. Click **ToolBar** or double-click anywhere on the toolbar.
   The Customize ToolBar dialog opens:
   - **Available Toolbar Buttons**: This list box displays the buttons that are currently unavailable on the toolbar. To make a button available on the toolbar, select a button and click **Add**.
   - **Current ToolBar Buttons**: This list box displays a list of currently available buttons on the toolbar. To remove a button from the toolbar, highlight the button and click **Remove**. To reposition a button, select it and drag it to a new position or select a button and click **Move Up** or **Move Down**.
   - **Close Button**: To exit the Customize ToolBar dialog, any changes made are saved in memory but are not saved to the registry until **File** ® **Save** is selected.
   - **Reset Button**: Click to restore the toolbar settings to the currently saved BlueZone registry entry.

Customizing desktop colors

The colors for the BlueZone TCP/IP Print Server's toolbar, print queue, print log and status bar can be set by the end user. To customize the application's desktop colors:

1. Click **View** ® **Properties** from the menu bar.

   The View Properties sheet opens.
2. In the **Options** tab, under the **Desktop Colors** section, select a view object to change.

   The color can be modified in one of two ways: from the **Desktop Colors** list or by clicking **Customize**. Another way to change desktop colors, on an individual basis, is to press the right mouse button while holding the mouse pointer over the view object; the Common Color dialog will then display.

Status bar indicators

The BlueZone TCP/IP Print Server's status bar indicators are as follows, from left to right:

- **Product Identifier**: Always set to LPD
- **Status Indicator**: Possible status values are:
  - **Stopped...** : Displays Stopped at startup unless Auto-Start Session is selected.
  - **Listening...**: Displays Listening when listening for a connection.
- **Protocol**: Always set to TCP/IP.
- **Job Status**: Always set to Off-line.

- **System Time**: Displays the current time in military format.
- **Elapsed Time**: Always displays 00:00:00 - Not used at this time.

Work with printer queues

Adding a printer queue

The BlueZone TCP/IP Print Server has the ability to support multiple print queues.

1. Right-click in the Printer Queues window.
2. Select **Add Printer Queue** from the pop-up menu.

   A standard Windows Printer Selection dialog opens.
3. Select the desired printer from the drop-down list box.
4. Click **OK**.

   The Print Setup for Queue dialog opens.
5. Type a name in the **Queue Name** field.
6. Make any desired changes and click **OK**.

Deleting a printer queue

1. Highlight an existing Printer Queue in the Printer Queue (top) section of the Print Server interface.
2. Right-click and select **Delete** from the pop-up menu.

Editing a printer queue

1. Highlight an existing printer profile in the Printer Queue section of the Print Server interface.
2. Double-click a printer queue or click **File** ® **Print Setup** to launch the setup dialogs.
3. Change the configuration as required.
4. Click **OK** to save and exit.

Renaming a printer queue

Printer Queues are assigned the name of the target printer by default. The queue name may be changed at any time to one that is unique or more descriptive.

1. Right-click the Printer Queue you want to change and select **Rename**.
2. Type the new name.
3. Click away to save the new name.

Printing types

Pass-through printing

The printer definition file contains ASCII control codes used to control several different ASCII printers directly, bypassing the Windows print driver. The BlueZone Printer emulators convert SCS printer control commands to the selected ASCII printer control codes. This is not desirable if the printer data stream coming from the host is not SCS or does not contain SCS printer control commands, like ASCII Transparent Printing or iSeries Host Print Transform.

When to use

- Use with LU3 DSC/DSE printer data streams where print data and embedded page control characters (LF, FF, CR) are converted from EBCDIC to ASCII then sent to the printer.
- When using ASCII Transparent Printing
- When using iSeries Host Print Transform

When not to use

- Printing EBCDIC LU1 and LU4 SCS printer data streams where printer control commands sent by the host are converted to ASCII printer escape sequences.
- Standard SCS printing to a 3812 or 3287 type printer emulator.

Required emulator settings

Settings required in the File:Print Setup property sheet necessary to properly configure the emulator for this feature.

1. Click the **Passthrough** tab.
2. Check the **Send all Data Directly to the Printer** check box.
3. Clear the **Use Printer Definition to Convert Formatting Commands to Printer Escapes** check box. Checking this results in unpredictable behavior.
4. Select a target printer, the Use default Windows Printer check box, or Print to File.

Ignored emulator settings

Settings that have no affect when the required settings are made are disabled.

Pass-through printing using the printer definition file

The printer definition file contains ASCII control codes used to control several different ASCII printers directly, bypassing the Windows print driver. The BlueZone Printer emulators convert SCS printer control commands to the selected ASCII printer control codes. This may be desirable when printing on preprinted forms where the font size and style used is embedded in the printer.

If fast, draft mode printing on dot matrix printers is required, the fonts embedded in the target dot matrix printers must be used. Dot matrix printers cannot print True Type fonts in draft mode.

If your printer is not listed in the Printer Definition File, select a model that is close. Many printers emulate other printers, therefore, selecting an emulated model instead will work.

The existing Printer Definition File may be modified to add a new printer or edit an existing printer. Refer to the documentation for your printer for the appropriate ASCII escape sequences.

When to use

- Use with EBCDIC LU1 and LU4 SCS printer data streams where printer control commands sent by the host are converted to ASCII printer escape sequences.
- Standard SCS printing to a 3812 or 3287 type printer emulator.
- Draft mode printing on dot matrix printers.
- Printing using the fonts built into the printer.

When not to use

- Do not use with LU3 print jobs. The lack of SCS printer control codes in the data stream will produce unpredictable results. Use the Windows API mode or pass-through without a printer definition file for LU3 printing.
- Do not use with Host Print Transform or ASCII transparent printing.
- When auto-sizing the font to fit the page must scale the font exactly. This method will only choose the nearest resident printer font, usually 10, 12, 17, or 20 characters per inch (CPI).
- When the printed output must be printed using a Windows font rather than a printer resident font.

Required emulator settings

Settings required in the Print Setup property sheet (click **File** ® **Print Setup** from the menu bar) necessary to properly configure the emulator for this feature.

1. Click the **Passthrough** tab and check the following check boxes:
   - **Send all Data Directly to the Printer**
   - **Use Printer Definition to Convert Formatting Commands to Printer Escapes**
2. Select a printer from the list box. Select one that is close or create a custom printer definition.
3. Select a target printer, the Use default Windows Printer check box, or Print to File.

Ignored emulator settings

Settings that are have no affect once the required settings are made. All settings are ignored except those specified because the emulation is completely bypassed.

Windows API print driver

The Windows API print driver is used by most Windows programs when printing documents and graphics. It provides extensive formatting, graphics, and printer control capabilities. This is the default setting for BlueZone Printer Emulators.

When to use

- Use with any EBCDIC printer data stream when auto-sizing the font and a nearly perfect fit is required.
- Use when printing a Windows True Type Font.
- Use by default when the target printer is unknown. Check the Use Default Windows Printer on Startup check box.

When not to use

- When exact font size is necessary to print on preprinted forms. Windows scales True Type fonts to the nearest pixel resulting in slight misalignments when compared to fixed CPI fonts resident in the printers.
- Draft mode printing on dot matrix printers.
- ASCII Transparent Printing
- iSeries Host Print Transform

Required emulator settings

Settings required in the Print Setup property sheet (choose **File** ® **Print Setup** from the menu bar) necessary to properly configure the emulator for this feature.

Click the **Passthrough** tab, clear the **Send all Data Directly to the Printer** check box.

Ignored emulator settings

All ignored settings are disabled when the required settings are set properly.

Work with print job entries

Job properties

The Job Info property page displays information about the Print Job that is currently being viewed or configured.

To display the Job Info property page:

1. In the Print Queue window, highlight the desired Print Job to view or configure.
2. From the BlueZone menu bar, click **Options** ® **Job Properties** or click the **Job Properties** icon from the BlueZone toolbar.

   The Print Setup property sheet displays with the heading: Job Properties for *filename*.dat.
3. Click the **Job Info** tab. The Job Info property page opens.

Job Info tab

Job Name
Displays the print job name. The print job name is also displayed in the caption of the Print Setup property sheet.

Type
Displays the Job Type. “Host Print Job” refers to a LU1 or LU3 Print Job received from the host; while “Externally Loaded File” refers to a file opened from disk.

Status
Displays the Print Job status.

File
Displays the name of the Print File associated with the Print Job. The Print File contains data that will be sent to the printer.

Size
Displays the Print File size in bytes.

Delete Flag
Used to determine whether or not BlueZone may delete the Print File when the Print Job no longer exists. BlueZone is permitted to delete host spooled Print Files but cannot delete Print Files opened from disk.

Pausing print jobs

Jobs residing in the Print Queue can be paused.

Jobs spooling from the host system can be held before being sent to the printer. To pause a print job residing in the Print Queue:

1. Highlight the desired job
2. Click **Action** ® **Pause Job(s)** from the BlueZone menu bar or click the **Pause Job** icon on the BlueZone toolbar.
   Print jobs that have the status of "Waiting to Print" can be paused. Once a print job's status becomes "Printing..." it can no longer be paused.

Resuming print jobs

1. Highlight the desired job.
2. Click **Action** ® **Resume Job(s)** from the BlueZone menu bar or click the **Resume Jobs** icon on the BlueZone toolbar.
   When a file is resumed its status changes to "Waiting to Print" and is sent to the printer when no other print jobs above it are printing.

Deleting print jobs

Print jobs residing in the Print Queue and Print log can be deleted.

1. Highlight the desired job.
2. Click **Action** ® **Delete Job(s)** from the BlueZone menu bar or click the **Delete Jobs** icon on the BlueZone toolbar.

   The Del key on the PC keyboard can also be used to delete the job(s).

Work with print log entries

Adding print log jobs to the print queue

Print Jobs residing in the Print Log can be added to the Print Queue for printing. To add a Print Log job to the Print Queue:

1. In the Print Log window, highlight the desired Print Job(s).
2. Click **Action** ® **Add Jobs to Queue** from the BlueZone menu bar or click the **Add Jobs to Queue** icon on the BlueZone toolbar.

Or, you can also:

1. In the Print Log window, highlight the desired Print Job(s).
2. Drag and drop the print job icon into the Print Queue window.

Note

Print Log Jobs added to the Print Queue are not resubmitted to the Print Log when the job has completed printing.

Renaming print jobs

Jobs residing in the Print Queue and the Print Log can be given user-defined names that better describe the job. Print jobs are initially given the name of "DocumentX" where X is a unique job number.

1. Highlight the desired Print Job.
2. Click **Action** ® **Rename Job** from the BlueZone menu bar.

Or, you can also:

1. Highlight the desired Print Job.
2. Place your cursor over the label area and click.
3. Type in the new name and press the Enter key.

Chapter 11: BlueZone scripting

BlueZone and BlueZone Web-to-Host offer several powerful tools for automating repetitive tasks, streamlining the user interface, and communicating with external applications. Each tool has its strengths and weaknesses and must be used appropriately. The following topics describe each tool and how to determine its appropriate use.

BlueZone recorded scripts

BlueZone recorded scripts can be recorded in either BlueZone proprietary format, BlueZone Basic, VBScript, or JavaScript.

BlueZone proprietary scripts are targeted at users with a basic understanding of scripting and logic but without skill sets required to write and edit BlueZone Basic scripts, VBScripts or JavaScripts.

BlueZone text-based scripts are targeted at users who wish to leverage their proficiency with either BlueZone Basic, VBScript or JavaScript and want to take advantage of being able to write and edit scripts in a scripting language that they already know.

The type of script desired is selected at the time when the script is created by selecting the desired file extension.

Table 5: BlueZone recorded script file extensions

File extension	Script type
.BZS	BlueZone Proprietary Script
.VBS	VBScript
.JS	JavaScript
.BBS	BlueZone Basic Script

The pros and cons of BlueZone proprietary formatted compared to BlueZone Basic text formatted scripts are discussed at the end of each topic below.

BlueZone proprietary script format

BlueZone Proprietary Scripts are recorded and played back using a proprietary method. Scripts are typically created by recording keystrokes and can be used as is, or can be edited later to change the desired playback. Scripts are edited using the BlueZone Script Editor (bzse.exe) application which is launched from the BlueZone menu bar by clicking **Script** ® **Edit** and selecting the desired script. Selecting a script that ends in .bzs will result in the launching of the BlueZone Script Editor application with the requested script displayed in the editing window.

Refer to BlueZone Script Editor, on page 291 for an overview of the BlueZone Script Editor.

BlueZone Script Editor is a GUI tool allowing users to drag Script Events into the Script flow, change the order of events, and delete previously recorded events. BlueZone Scripts support a proprietary mechanism called Wait_Ready that ensures the host is ready to accept input, even when using TN3270 or TN3270E .

Advantages

- Easy to record.
- Easy to edit with BlueZone Script Editor.
- Keyboard lock state aware.
- Support for advanced functions like wait for, watch for, text input, and so on.
- Can execute other programs using the Run command.
- Can run BlueZone Menu commands, ex; Copy, Paste, Print Screen.
- Can accept variables passed from a BlueZone Web to Host Object Tag. ex: Login ID and Password generated dynamically by the web application and used to sign the user into the mainframe.

Disadvantages

- Do not support file I/O.
- No external application integration.

BlueZone text-based scripts

BlueZone Text Based Scripts can be written or recorded in either VBScript or JavaScript. Scripts are typically created by recording keystrokes, but can be edited later to change the desired playback. Scripts are edited using the BlueZone Script Host and Debugger (bsh.exe) application which is launched from the BlueZone menu bar by clicking **Script** ® **Edit** and selecting the desired script. Selecting a script that ends in either `.vbs` or `.js` script will result in the launching of the BlueZone Script Host and Debugger application with the requested script displayed in the editing region.

BlueZone Script Host and Debugger is discussed in more detail in the BlueZone Script Host section below.

Advantages

- Easy to record or can be written from scratch.
- Can be written in VBScript or JavaScript
- Easy to edit with BlueZone Script Host and Debugger.
- Support unique BlueZone methods which control the behavior of BlueZone.

Disadvantages

- Require a working knowledge of VBScript or JavaScript.

Refer to BlueZone scripts, on page 290 for more information.

BlueZone Script Host

BlueZone Script Host is a language-independent host for ActiveX scripting engines on 32-bit Windows platforms. This tool will allow you to run Visual Basic Scripting Edition (VBScript) and JScript natively within the base operating system, either on Windows XP SP3, Windows Vista, Windows 7, Windows Server 2003, or Windows Server 2008, and will act as a host for other ActiveX-supported scripting languages such as Perl, Rexx, and Python. In addition, BlueZone Scripting Host allows scripts to communicate with BlueZone Display emulation software products. Using the scripting languages you already know, you can write scripts to execute common tasks on a variety of host systems, automate user input, obtain data from host systems, initiate file transfers, and more.

Using the BlueZone Script Host and Debugger, BlueZone can record and playback scripts using VBScript or JScript. Once recorded, these scripts may be played back as-is, or edited using the

Script Host and Debugger. The record and playback feature makes using VBScript and JScript available to the non-technical user.

BlueZone Script Host and Debugger is also a general purpose VBScript and JScript debugger that supports break points, stepping, and color-coding of scripts providing a powerful interface for script development.

Advantages

- Very powerful.
- Can control multiple host sessions simultaneously.
- Use of industry standard scripting languages.
- Direct access to read from and write to the host screen.
- File I/O support.
- Support of scripted Variables.
- COM compliance allows any other COM complaint component to be loaded by the script to extend its functionality.
- Powerful editing and debugging features.
- Ability to view the value of script variables while executing/debugging the script.
- Dialog support to create Windows dialogs for user interaction.
- Attachmate Extra! Basic and NetManage Chameleon macro compatibility to provide easy migration from those emulators to BlueZone.

Disadvantages

- Complex, text based scripting language.
- Requires a relatively high degree of scripting ability.

Refer to the *BlueZone Advanced Automation Developer's Guide* for help with the BlueZone Script Host, the BlueZone Script Host and Debugger, and the BlueZone Dialog Editor.

BlueZone Basic

BlueZone Basic is a Visual Basic for Applications VBA and VBScript compatible Basic Scripting Language which can be used to add functionality to the BlueZone family of terminal emulation clients or Web pages to automate complex tasks. Users can also create scripts for launching and manipulating other applications via OLE Automation or external DLLs. BlueZone Basic is a complete programming language.

BlueZone Basic also supports the VBScript interface so that customers who are using VBScript can upgrade with no source code changes. BlueZone Basic is the complete solution for your scripting language needs.

BlueZone Basic supports a substantial subset of Visual Basic for Applications. In addition, BlueZone Basic supports Microsoft Word Dynamic Dialogs, offers full OLE support, fully interacts with Dynamic HTML forms, and has a powerful API, that's easy to learn and easy to integrate. Through the BlueZone Basic API you can share variables, objects, and functions with your application. BlueZone Basic scripts can get and set properties and call methods or objects in your application. Callbacks can be registered so that your application can respond to compile and runtime events such as undefined variables, functions and data types. In addition, BlueZone Basic has the ability to save and load compiled scripts, supports UNICODE, and can handle huge scripts (all with a footprint of about 400k).

End users can call functions that are embedded in DLLs or in the calling EXE. These functions must first be declared using the hidden but standard Declare Statement syntax. By building a string containing the declare statements and appending it prior to executing the user's script,

these functions will appear to be built into the BlueZone Basic language and can be used on demand by your end users. New functions and subroutines can be added or redirected at runtime though BlueZone Basic's powerful API.

BlueZone Basic Features

- Adds functionality to the BlueZone family of Terminal Emulation products
- Uses the VBA standard for scripting
- Includes a powerful well designed API
- Easy to learn -- easy to use
- Scripts can even be written in VB first, then run with BlueZone Basic
- Supports a substantial subset of Microsoft Visual Basic for Applications
- Completely syntax compatible
- Complete Automation and ActiveX Support
- Feature rich
- Works with BlueZone Script Host and Debugger

For more information on BlueZone Basic, refer to the *BlueZone Advanced Automation Developer's Guide*.

Chapter 12: OLE automation

OLE (Object Linking and Embedding) is a Microsoft Windows standard for communications between applications. BlueZone can be linked to Windows applications like Microsoft Word and Microsoft Excel that support OLE.

In addition, BlueZone Host Automation Object can be used as a language-independent programmatic interface to BlueZone.

Using OLE, it is possible to use link Word to BlueZone in support of a "mail merge" application where the names and addresses are stored on a Mainframe and the text of the form letters are stored and formatted in Word. You could link Word to BlueZone and "pull" the names and addresses into Word from the Mainframe via the OLE interface.

BlueZone Host Automation Object

The BlueZone Host Automation Object is a Component Object Model (COM) software component for 32-bit Windows platforms. BlueZone Host Automation Object is essentially a programmatic interface to BlueZone.

BlueZone Host Automation Object can be utilized by any COM container application like Visual Basic, Microsoft Excel, and Microsoft Word to enable communications between PCs running BlueZone Display emulation software products and IBM mainframe and iSeries systems as well as other ASCII hosts. With BlueZone Host Automation Object, applications can execute common tasks on various host systems, automate user input, obtain data from host systems, initiate file transfers, and more.

The BlueZone Host Automation Object is a language-independent software component. Programs written in Visual Basic, Pascal, C, C++, and so on, can invoke the BlueZone Host Automation Object to communicate with the host system. In addition, the BlueZone Host Automation Object can be incorporated into many popular word processing, database and spreadsheet macros, and run by any ActiveX scripting engine, including the BlueZone Scripting Host.

The BlueZone Host Automation Object utilizes capabilities of the BlueZone File Mapping (Shared Memory), DDE (Dynamic Data Exchange), and HLLAPI (High-Level Language API) interfaces. In addition to the container's properties and methods, the BlueZone Host Automation Object adds objects, properties and methods that enable interaction with the BlueZone session and the host system.

Using OLE/DDE to link BlueZone to other applications

BlueZone supports OLE/DDE links to other applications, which can be used to automate copy and paste operations.

When enabled, BlueZone establishes a "Link" with the other application. Possible uses include; automatically copying Customer information from a BlueZone emulation screen to a Microsoft Word document to perform mail merges or automatically copying data from a host screen via BlueZone, to a Microsoft Excel spreadsheet. Each time the host screen changes, the data are dynamically updated in the linked application.

1. Enable linking in BlueZone:
    a. From the BlueZone menu bar, click **Options** ® **API**.

b. Select the **Enable DDE Server Interface** check box.

c. Set the **HLLAPI Short Name Session Identifier** to a unique value. The default is **A**. If links to multiple BlueZone sessions are required, then each session must have a unique identifier.

d. Set the **Auto-assign HLLAPI Names** check box to eliminate having to configure each session separately.

e. Select the desired data in your BlueZone emulation session to be sent to the linked application by selecting it and copying it to the Windows clipboard.

Tip

Once you have the area highlighted, right-click and select **Copy to Clipboard**.

2. Establish the link in the "Linked" application:

a. Position the cursor in the document where the BlueZone data must appear.

b. From the "Linked" application's menu, click **Edit** ® **Paste Special**.

c. In the Paste Special dialog, select the **Paste link** radio button and **Unformatted Text** from the **As** list.

d. Click **OK**. The "Link" is now established. Each time the BlueZone screen changes, the data is automatically updated in the "Linked" application.

Chapter 13: BlueZone Plus VBA

Microsoft Visual Basic for Applications (VBA) is a powerful development technology for rapidly customizing Windows applications like BlueZone, and integrating them with existing data and systems. BlueZone Plus VBA is a separately licensed product.

VBA provides a complete Integrated Development Environment (IDE) that features the same elements familiar to developers using Microsoft Visual Basic, including a Project Window, a Properties Window, and debugging tools. VBA also includes support for Microsoft Forms, for creating custom dialog boxes, and ActiveX Controls, for rapidly building user interfaces. Integrated directly into BlueZone, VBA offers the advantages of fast, in-process performance, tight integration with the host application, and the ability to build solutions without the use of additional tools.

BlueZone is available with the Microsoft VBA development environment and runtime license as BlueZone Plus VBA. BlueZone Plus VBA is required for everyone who to develops and/or runs BlueZone Plus VBA applications. BlueZone Plus VBA offers a sophisticated set of programming tools based on the Microsoft Visual Basic development system.

Note

Existing BlueZone customers can upgrade their existing BlueZone license to BlueZone Plus VBA. Please contact your BlueZone Account Executive for more information about upgrading to BlueZone Plus VBA.

VBA is a shared component, which means you have one copy of VBA for all applications on your system that use it. Although each application uses the same Visual Basic files, the Visual Basic Editor configuration is stored separately for each product. This means that when you open the Visual Basic Editor from BlueZone, it will show your BlueZone project as you last used it, even if you have used the Visual Basic Editor for other applications.

Visual Basic is a stand-alone tool for creating separate software components, such as executable programs, COM components and ActiveX Controls, and is useful when you must build a specialized solution from scratch.

VBA offers the same powerful tools as Visual Basic in the context of an existing application, and is the best option for customizing software that already meets most of your needs.

VBScript is a lightweight version of the Visual Basic language, and is designed specifically for use on Web pages. While scripting can sometimes be used for simple automation, VBA is the premier technology designed specifically for application automation. Unlike VBA, VBScript does not have an IDE.

BlueZone Plus VBA installation

BlueZone Plus VBA is typically installed by an administrator. For information on installing BlueZone Plus VBA, refer to the *BlueZone Administrator's Guide*.

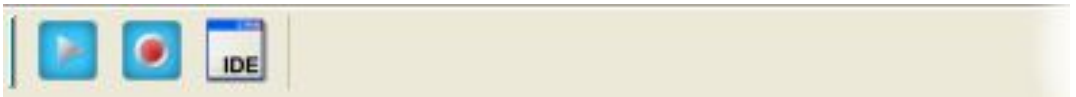
BlueZone Plus VBA toolbar

The BlueZone Macro toolbar is optional and can be turned on or off through the **Macro** menu.

Note

The BlueZone Plus VBA Macro toolbar can be moved around the BlueZone application window just like any Windows application by dragging the vertical bar on the left hand side of the toolbar with your mouse.

By default, the BlueZone Plus VBA Macro toolbar has three items. From left to right they are Play Macro, Record Macro and Launch VBA IDE as shown here:

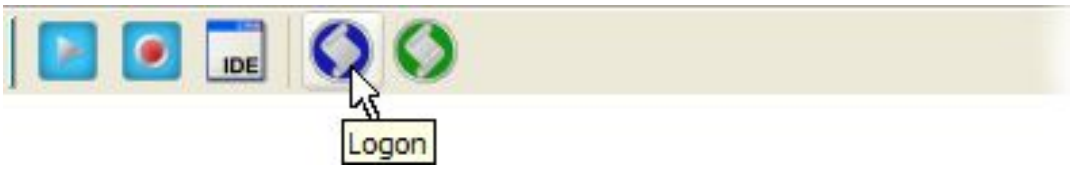


Playing macros from the toolbar

When recording macros, you have the option of creating a toolbar button. If you choose yes, buttons will automatically be created on the toolbar.

Note

If you hover over the macro buttons with your mouse pointer, a text balloon displays the name of the macro.



Click the desired macro on the toolbar.

The macro plays.

Customizing the toolbar

The BlueZone Plus VBA toolbar can be customized to suit your needs.

You can customize the following features:

- **Text Labels**: Text labels located next to the toolbar items can be turned on or off.
- **Adding and Removing Macro Buttons**: Macro buttons can be added or removed from the toolbar.

To toggle text labels on or off:

1. Click **Macro** ® **Properties** from the BlueZone toolbar.
2. Either check or clear the **Show Button Labels on ToolBar** check box.

To add or remove macro buttons:

1. Click **Macro** ® **Properties** from the BlueZone toolbar.
2. Click **Customize**.
3. Select the buttons you want to appear on the toolbar by checking or clearing the corresponding items.
   You can also **Add**, **Rename** or **Delete** macro buttons from the toolbar in this window.

Use BlueZone Plus VBA

In order to run BlueZone Plus VBA, you must install BlueZone Plus VBA using the BlueZone installation wizard.

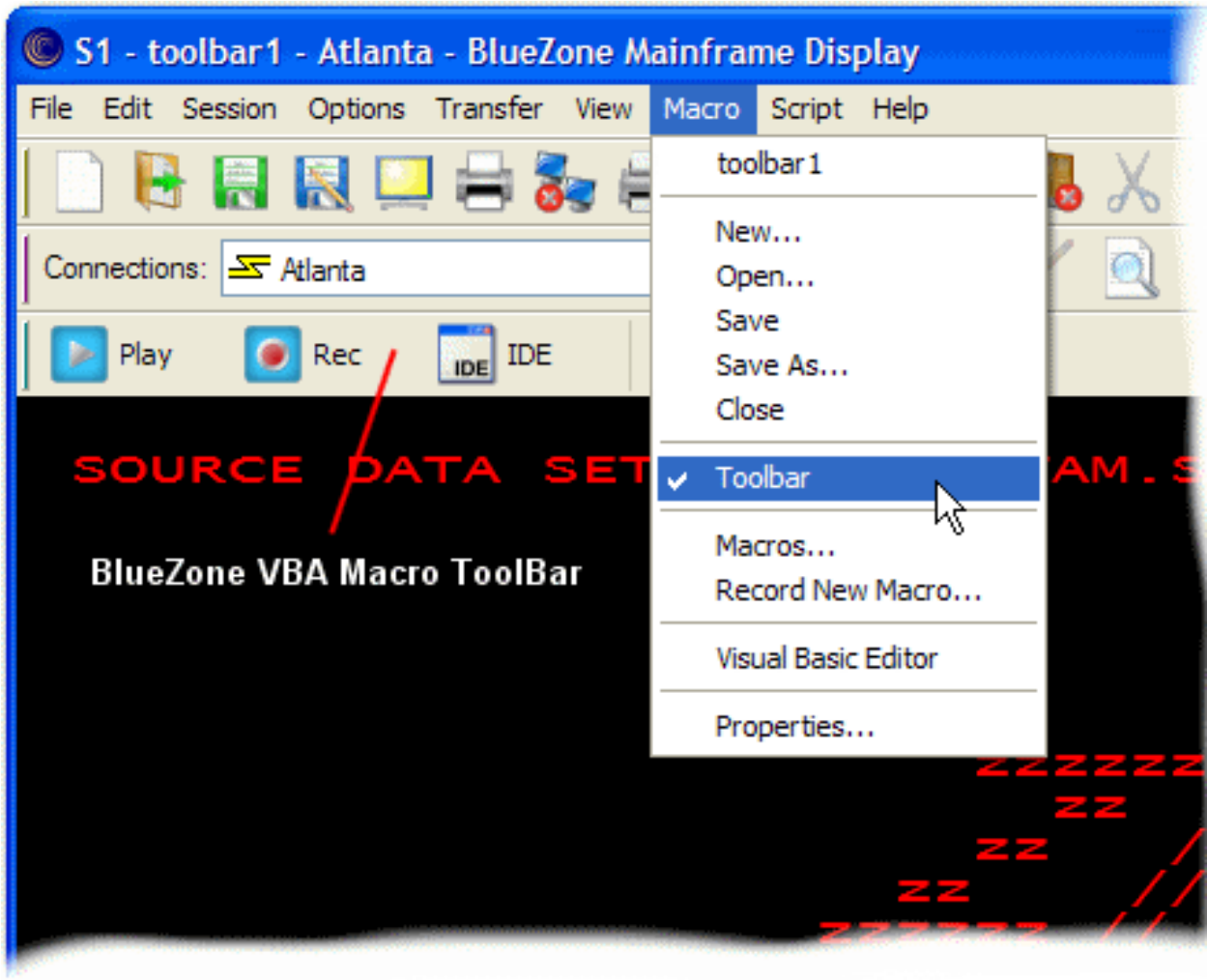
Refer to BlueZone Plus VBA installation, on page 367 for more information.

Once BlueZone Plus VBA have been successfully installed, BlueZone Plus VBA is accessed by selecting Macro from the BlueZone menu bar.

Note

Once BlueZone Plus VBA is installed, the native BlueZone Macro feature is disabled and replaced with BlueZone Plus VBA.

The first time you launch a BlueZone session, a VBA project (.bvp) is automatically created using the same name as the configuration file that launched the BlueZone session. A BlueZone Macro toolbar displays and the BlueZone Plus VBA menu looks similar to the one shown here:



Menu items

New

New is used to create a new BlueZone Plus VBA project. You can create a project with any name you wish by selecting New from the BlueZone Plus VBA Macro menu.

A standard Windows file dialog will be presented. Choose any name you wish and click the Open button. A BlueZone Plus VBA project with that name will be created. The new project name will now appear at the top of the BlueZone Plus VBA menu.

Open
Open is used to open an existing BlueZone Plus VBA project. Only one BlueZone Plus VBA project can be active at a time.

Save
Save is used to save the currently active BlueZone Plus VBA project.

Save As
Save As is used to save the currently active BlueZone Plus VBA project under a different name.

Close
Close is used to "close down" BlueZone Plus VBA. If you are not going to be using BlueZone Plus VBA for a while you may want to close it down so it is not active.

ToolBar
ToolBar is a toggle used to either turn on or off the BlueZone Plus VBA Macro toolbar.

Macros
Macros is used to display the BlueZone Plus VBA Macro dialog which will display all of the existing macros in the currently active BlueZone Plus VBA project.

Record New Macro
Record New Macro is used to start the recording of a new BlueZone Plus VBA macro.

Visual Basic Editor
Visual Basic Editor is used to launch the Visual Basic Editor or sometimes called the IDE.

Properties
Properties is used to access the configurable properties of BlueZone Plus VBA. The configurable properties of BlueZone Plus VBA are:

Auto Play

- **Play Macro on Startup**: If you want a macro to automatically play when the BlueZone session is launched, check the check box and enter the name of the macro you wish to play. The "path" is not necessary, just the name of the macro.
- **Play Macro on Connect**: If you want a macro to automatically play upon connection to the host, check the check box and enter the name of the macro you wish to play.
- **Play Macro on Disconnect**: If you want a macro to automatically play upon disconnection from the host, check the check box and enter the name of the macro you wish to play.

ToolBar

- **Show Button Labels on Toolbar**: This option toggles the text labels on the toolbar on or off.
- **Customize**: Use the Customize button to access the following options that are used to customize the way the VBA toolbar is presented.

  Menu buttons
  Use the following three options to control what features show on the VBA toolbar:
  - Show Play Macro Button
  - Show Record Macro Button
  - Show VBA IDE Button

  Macro buttons
  The Add, Rename and Delete buttons are used to add macros to the VBA Toolbar. When you add a macro, a button will also be assigned to that macro.
  - Add
  - Rename
  - Delete

Creating new macro projects

1. Click **Macro** ® **New** from the menu bar.
2. Give the project a name and click **Open**.
   BlueZone Plus VBA project names can contain spaces.
3. You are prompted to the create the file. Click **Yes**.

The name of the project is displayed at the top of the **Macro** menu. You can now start recording macros which are part of the newly created project.

Macros window

The BlueZone Plus VBA Macros window is used to run, debug, edit, and delete BlueZone Plus VBA macros.

To open the BlueZone Plus VBA Macros window, click **Macro** ® **Macros** from the menu bar.

Note

Only macros that are part of the active BlueZone Plus VBA project are displayed.

The Macros dialog contains the following buttons:

Run

The Run button is used to run BlueZone Plus VBA macros.

To run a BlueZone Plus VBA macro:

1. Highlight a macro in the list.
2. Click **Run**.

Cancel

The Cancel button is used to close the BlueZone Plus VBA Macro window.

Step Into

The Step Into button is used for debugging purposes and will start the Visual Basic Editor in the debug mode.

To step into a BlueZone Plus VBA macro:

1. Highlight a macro in the list.
2. Click **Step Into**. The Visual Basic Editor opens in the debug mode.
3. Debug the macro.

Edit

The Edit button is used for editing purposes and will launch the Visual Basic Editor in the edit mode.

To edit a BlueZone Plus VBA macro:

1. Highlight a macro from the list.
2. Click **Edit** . The Visual Basic Editor opens in the edit mode.
3. Edit the macro.

Create

The Create button is used if you want to create a macro from scratch inside the Visual Basic Editor.

To create a macro from scratch:

1. Type the name of the macro you want to create in the **Macro name** field.
2. Click **Create**. The Visual Basic Editor opens.
3. Create the macro.

Delete

The Delete button is used to delete a macro.

To delete a macro:

1. Highlight a macro in the list.
2. Click **Delete**.

Recording macros

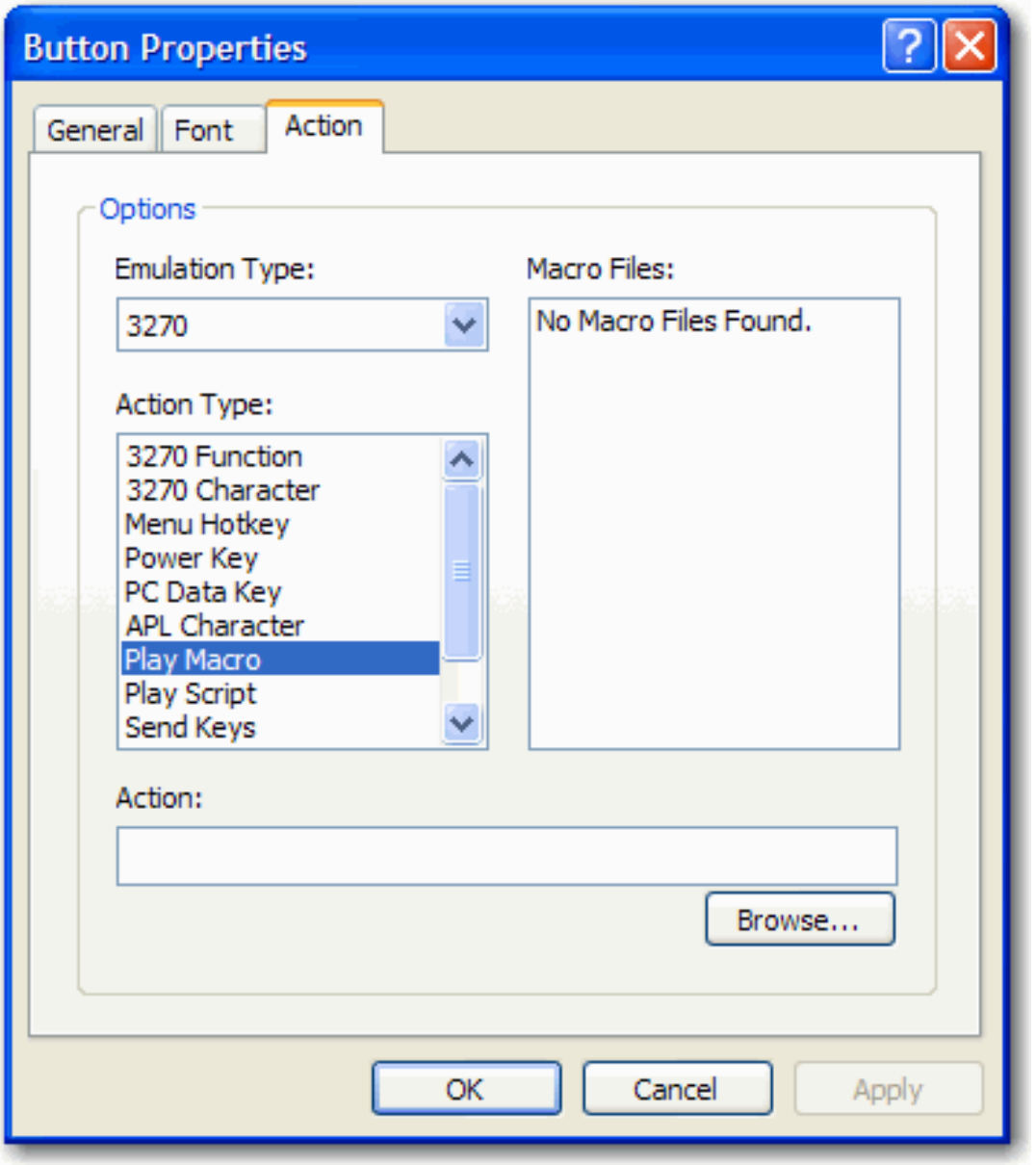
1. Click **Macro** ® **Record New Macro** from the menu bar or click the **Record Macro** button on the BlueZone Plus VBA Macro toolbar.
2. In the **Macro Name** field, type a name for the macro.
   Macro names cannot contain spaces.
3. **Optional**: In the **Description** field, type a description.
4. Select the options that you want applied to this macro:
   - **Create a Toolbar Button**
   - **Auto-Play on Connect**
   - **Edit Macro when Done Recording**
5. Click **OK**.
6. Start entering the keystrokes that compose the macro.
7. When you are finished recording, click **Macro** ® **Stop Macro Recording** from the menu bar or click the **Stop Recording macro** icon on the BlueZone Plus VBA Macro toolbar.

Assign macros to power pad buttons

In addition to being able place your VBA Macros on the VBA Macro toolbar, it is also possible to create power pad buttons and assign your VBA Macros to these buttons.

The process of assigning a VBA Macro to a power pad button is almost the same as assigning a BlueZone script to a power pad button.

The difference is that when you are at the point where you assign the macro to the power pad button, the list of available VBA Macros is not displayed in the available Macro Files window. You see a message that there are "No Macro files Found" as shown here:

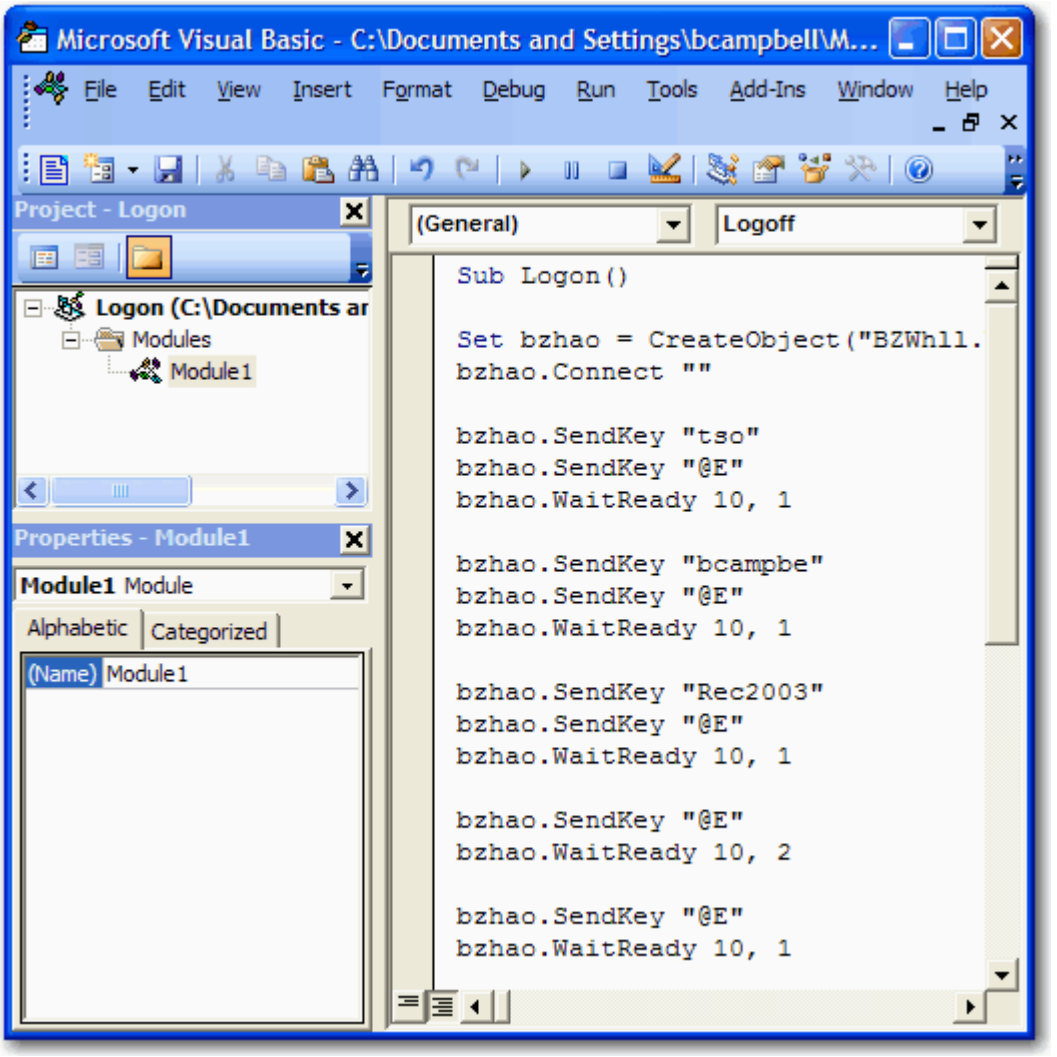


Instead, you must type the name of the VBA macro, with no file extension, that you want to assign to this button in the **Action** field.

Then click **OK**. The VBA macro "Logon" is assigned to this power pad button.

Visual Basic Editor

The Visual Basic Editor or sometimes referred to as the VBA IDE, can be launched from the Macro menu. Click **Macro** ® **Visual Basic Editor** from the menu bar or it can be launched by clicking the **VBA IDE** toolbar icon . The standard Microsoft Visual Basic Editor launches:



Microsoft Visual Basic Help can be launched from within the Visual Basic Editor. Click **Help ® Microsoft Visual Basic Help** from the Visual Basic menu bar. Microsoft Visual Basic Help launches.

Appendix A: Reference tables

3270 overstrike sequences

Table 6: 3270 overstrike sequences

BUFFER	CHAR	ANSI SEQUENCE
00	NUL	n u
01	´	/ \
02	RSP	SP SP
03	SHY	- -
04	¼	1 4
05	¾	3 4
06	®	r o
07	©	c o
0A	[	[SP
0B	]	] SP
0E	}	} SP
0F	{	{ SP
15	\	\ SP
16	³	| |
17	|	| SP
19	!	! SP
1A	$	$ SP
1B	¢	c /
1C	£	L -
1D	¥	Y =
1E	·	. .
1F	¤	o *
2A	ß	s s
2B	§	o s
2C	#	# SP
2D	@	@ SP
36	¬	- |
37	—	_ _
38	°	o o
39	µ	m u
3A	^	^ SP
3B	~	~ SP
3C	¨	" SP

Table 6: 3270 overstrike sequences (continued)

BUFFER	CHAR	ANSI SEQUENCE
3D	`	` SP
3E	´	' SP
3F	¸	, SP
40	à	a `
41	è	e `
42	ì	i `
43	ò	o `
44	ù	u `
45	ã	a ~
46	õ	o ~
47	ÿ	y "
48	þ	b -
49	ð	d -
4A	«	< <
4B	¹	1 1
4C	»	> >
4D	¶	p i
4E	ý	y '
4F	¸	- :
50	ä	a "
51	ë	e "
52	ï	i "
53	ö	o "
54	ü	u "
55	â	a ^
56	ê	e ^
57	î	i ^
58	ô	o ^
59	û	u ^
5A	á	a '
5B	é	e '
5C	í	i '
5D	ó	o '
5E	ú	u '
5F	ñ	n ~
60	À	A `
61	È	E `

Table 6: 3270 overstrike sequences (continued)

BUFFER	CHAR	ANSI SEQUENCE
62	Ì	I `
63	Ò	O `
64	Ù	U `
65	Ã	A ~
66	Õ	O ~
67	±	+ -
68	Þ	B -
69	Ð	D -
6A	½	1 2
6B	¿	? ?
6C	¡	! !
6D	ª	a _
6E	Ý	Y '
6F	º	o _
70	Ä	A "
71	Ë	E "
72	Ï	I "
73	Ö	O "
74	Ü	U "
75	Â	A ^
76	Ê	E ^
77	Î	I ^
78	Ô	O ^
79	Û	U ^
7A	Á	A '
7B	É	E '
7C	Í	I '
7D	Ó	O '
7E	Ú	U '
7F	Ñ	N ~
9A	æ	a e
9B	ø	o /
9C	å	a .
9D	ç	c ,
BA	Æ	A E

Table 6: 3270 overstrike sequences (continued)

BUFFER	CHAR	ANSI SEQUENCE
BB	Ø	O /
BC	Å	A .
BD	Ç	C ,

ASCII character set

Table 7: ASCII device control codes

CTRL	DEC	HEX	CHAR	DESC
Ctrl-@	0	00	NUL	Null Prompt
Ctrl-A	1	01	SOH	Start of Header
Ctrl-B	2	02	STX	Start of Text
Ctrl-C	3	03	ETX	End of Text
Ctrl-D	4	04	EOT	End of Transmit
Ctrl-E	5	05	ENQ	Enquiry
Ctrl-F	6	06	ACK	Acknowledge
Ctrl-G	7	07	BEL	Audible Bell (Beep)
Ctrl-H	8	08	BS	Backspace
Ctrl-I	9	09	HT	Horizontal Tab
Ctrl-J	10	0A	LF	Line Feed
Ctrl-K	11	0B	VT	Vertical Tab
Ctrl-L	12	0C	FF	Form Feed
Ctrl-M	13	0D	CR	Carriage Return
Ctrl-N	14	0E	SO	Shift Out
Ctrl-O	15	0F	SI	Shift In
Ctrl-P	16	10	DLE	Data Link Escape
Ctrl-Q	17	11	DC1	Device Control1 (X-ON)
Ctrl-R	18	12	DC2	Device Control2
Ctrl-S	19	13	DC3	Device Control3 (X-OFF)
Ctrl-T	20	14	DC4	Device Control4
Ctrl-U	21	15	NAK	Negative Acknowledgement
Ctrl-V	22	16	SYN	Synchronous Idle
Ctrl-W	23	17	ETB	End Transmission Block
Ctrl-X	24	18	CAN	Cancel
Ctrl-Y	25	19	EM	End of Medium
Ctrl-Z	26	1A	SUB	Substitution
Ctrl-[	27	1B	ESC	Escape
Ctrl-\	28	1C	FS	File Separator (Right Arrow)
Ctrl-]	29	1D	GS	Group Separator (Left Arrow)
Ctrl-^	30	1E	RS	Record Separator (Up Arrow)
Ctrl-_	31	1F	US	Unit Separator (Down Arrow)

Table 8: ASCII character set

DEC	HEX	CHAR	DESC
32	20	<SP>	Space
33	21	!	Exclamation Point
34	22	"	Double Quote
35	23	#	Number Sign
36	24	$	Dollar Sign
37	25	%	Percent Sign
38	26		Ampersand
39	27	'	Single Quote
40	28	(	Left Parenthesis
41	29	)	Right Parenthesis
42	2A	*	Asterisk
43	2B	+	Plus Sign (Addition)
44	2C	,	Comma
45	2D	-	Hyphen (Minus Sign)
46	2E	.	Period (Dot)
47	2F	/	Forward Slash (Divide)
48	30	0	
49	31	1	
50	32	2	
51	33	3	
52	34	4	
53	35	5	
54	36	6	
55	37	7	
56	38	8	
57	39	9	
58	3A	:	Colon
59	3B	;	Semi-colon
60	3C	<	Less-than Sign
61	3D	=	Equals Sign
62	3E	>	Greater-than Sign
63	3F	?	Question Mark

DEC	HEX	CHAR	DESC
64	40	@	At Sign
65	41	A	
66	42	B	
67	43	C	
68	44	D	
69	45	E	
70	46	F	
71	47	G	
72	48	H	
73	49	I	
74	4A	J	
75	4B	K	
76	4C	L	
77	4D	M	
78	4E	N	
79	4F	O	
80	50	P	
81	51	Q	
82	52	R	
83	53	S	
84	54	T	
85	55	U	
86	56	V	
87	57	W	
88	58	X	
89	59	Y	
90	5A	Z	
91	5B	[	Left Square Bracket
92	5C	\	Back Slash
93	5D	]	Right Square Bracket
94	5E	^	Caret (Circumflex)
95	5F	_	Underscore

DEC	HEX	CHAR	DESC
96	60	`	Grave Accent
97	61	a	
98	62	b	
99	63	c	
100	64	d	
101	65	e	
102	66	f	
103	67	g	
104	68	h	
105	69	i	
106	6A	j	
107	6B	k	
108	6C	l	
109	6D	m	
110	6E	n	
111	6F	o	
112	70	p	
113	71	q	
114	72	r	
115	73	s	
116	74	t	
117	75	u	
118	76	v	
119	77	w	
120	78	x	
121	79	y	
122	7A	z	
123	7B	{	Left Curly Brace
124	7C	|	Vertical Bar
125	7D	}	Right Curly Brace
126	7E	~	Tilde (Equivalency Sign)
127	7F	DEL	Delete

Table 9: Extended ASCII character set

DEC	HEX	CHAR	DESC
128	80	Ç	Latin capital letter C with cedilla
129	81	ü	Latin small letter u with diaeresis
130	82	é	Latin small letter e with acute
131	83	â	Latin small letter a with circumflex
132	84	ä	Latin small letter a with diaeresis
133	85	à	Latin small letter a with grave
134	86	å	Latin small letter a with ring above
135	87	ç	Latin small letter c with cedilla
136	88	ê	Latin small letter e with circumflex
137	89	ë	Latin small letter e with diaeresis
138	8A	è	Latin small letter e with grave
139	8B	ï	Latin small letter i with diaeresis
140	8C	î	Latin small letter i with circumflex
141	8D	ì	Latin small letter i with grave
142	8E	Ä	Latin capital letter A with diaeresis
143	8F	Å	Latin capital letter A with ring above
144	90	É	Latin capital letter E with acute
145	91	æ	Latin small letter ae
146	92	Æ	Latin capital letter AE
147	93	ô	Latin small letter o with circumflex
148	94	ö	Latin small letter o with diaeresis
149	95	ò	Latin small letter o with grave
150	96	û	Latin small letter u with circumflex
151	97	ù	Latin small letter u with grave
152	98	ÿ	Latin small letter y with diaeresis
153	99	Ö	Latin capital letter O with diaeresis
154	9A	Ü	Latin capital letter U with diaeresis
155	9B	¢	Cent Sign
156	9C	£	Pound Sign
157	9D	¥	Yen Sign
158	9E	ž	
159	9F	ƒ	Latin small letter f with hook

CODE	HEX	CHAR	DESC
160	A0		Non-Breaking Space
161	A1	¡	Inverted Exclamation Mark
162	A2	¢	Cent Sign
163	A3	£	Pound Sign
164	A4	¤	Currency Sign
165	A5	¥	Yen Sign
166	A6	¦	Pipe, Broken Vertical Bar
167	A7	§	Section Sign
168	A8	¨	Diaeresis (Umlaut)
169	A9	©	Copyright Sign
170	AA	ª	Feminine Ordinal Indicator
171	AB	«	Left Double Angle Quotes
172	AC	¬	Logical Not Sign
173	AD		Soft Hyphen
174	AE	®	Registered Trade Mark Sign
175	AF	¯	Spacing Macron - Overline
176	B0	°	Degree Sign
177	B1	±	Plus-or-minus Sign
178	B2	²	Superscript Two, Squared
179	B3	³	Superscript Three, Cubed
180	B4	´	Acute Accent - Spacing Acute
181	B5	µ	Micro Sign
182	B6	¶	Pilcrow Sign - Paragraph Sign
183	B7	·	Middle Dot - Georgian Comma
184	B8	¸	Spacing Cedilla
185	B9	¹	Superscript, One
186	BA	º	Masculine Ordinal Indicator
187	BB	»	Right Double Angle Quotes
188	BC	¼	Fraction, One Quarter
189	BD	½	Fraction, One Half
190	BE	¾	Fraction, Three Quarters
191	BF	¿	Inverted Question Mark

DEC	HEX	CHAR	DESC
192	C0	À	Latin Capital Letter A with Grave
193	C1	Á	Latin Capital Letter A with Acute
194	C2	Â	Latin Capital Letter A with Circumflex
195	C3	Ã	Latin Capital Letter A with Tilde
196	C4	Ä	Latin Capital Letter A with Diaeresis
197	C5	Å	Latin Capital Letter A with Ring Above
198	C6	Æ	Latin Capital Letter AE
199	C7	Ç	Latin Capital Letter C with Cedilla
200	C8	È	Latin Capital Letter E with Grave
201	C9	É	Latin Capital Letter E with Acute
202	CA	Ê	Latin Capital Letter E with Circumflex
203	CB	Ë	Latin Capital Letter E with Diaeresis
204	CC	Ì	Latin Capital Letter I with Grave
205	CD	Í	Latin Capital Letter I with Acute
206	CE	Î	Latin Capital Letter I with Circumflex
207	CF	Ï	Latin Capital Letter I with Diaeresis
208	D0	Ð	Latin Capital Letter ETH
209	D1	Ñ	Latin Capital Letter N with Tilde
210	D2	Ò	Latin Capital Letter O with Grave
211	D3	Ó	Latin Capital Letter O with Acute
212	D4	Ô	Latin Capital Letter O with Circumflex
213	D5	Õ	Latin Capital Letter O with Tilde
214	D6	Ö	Latin Capital Letter O with Diaeresis
215	D7	×	Multiplication Sign
216	D8	Ø	Latin Capital Letter O with Slash
217	D9	Ù	Latin Capital Letter U with Grave
218	DA	Ú	Latin Capital Letter U with Acute
219	DB	Û	Latin Capital Letter U with Circumflex
220	DC	Ü	Latin Capital Letter U with Diaeresis
221	DD	Ý	Latin Capital Letter Y with Acute
222	DE	Þ	Latin Capital Letter THORN
223	DF	ß	Latin Small Letter Sharp S - Ess-zed

CODE		CHAR	DESC
224	E0	à	Latin Small Letter a with Grave
225	E1	á	Latin Small Letter a with Acute
226	E2	â	Latin Small Letter a with Circumflex
227	E3	ã	Latin Small Letter a with Tilde
228	E4	ä	Latin Small Letter a with Diaeresis
229	E5	å	Latin Small Letter a with Ring Above
230	E6	æ	Latin Small Letter ae
231	E7	ç	Latin Small Letter c with Cedilla
232	E8	è	Latin Small Letter e with Grave
233	E9	é	Latin Small Letter e with Acute
234	EA	ê	Latin Small Letter e with Circumflex
235	EB	ë	Latin Small Letter e with Diaeresis
236	EC	ì	Latin Small Letter i with Grave
237	ED	í	Latin Small Letter i with Acute
238	EE	î	Latin Small Letter i with Circumflex
239	EF	ï	Latin Small Letter i with Diaeresis
240	F0	ð	Latin Small Letter eth
241	F1	ñ	Latin Small Letter n with Tilde
242	F2	ò	Latin Small Letter o with Grave
243	F3	ó	Latin Small Letter o with Acute
244	F4	ô	Latin Small Letter o with Circumflex
245	F5	õ	Latin Small Letter o with Tilde
246	F6	ö	Latin Small Letter o with Diaeresis
247	F7	÷	Division sign
248	F8	ø	Latin Small Letter o with Slash
249	F9	ù	Latin Small Letter u with Grave
250	FA	ú	Latin Small Letter u with Acute
251	FB	û	Latin Small Letter u with Circumflex
252	FC	ü	Latin Small Letter u with Diaeresis
253	FD	ý	Latin Small Letter y with Acute
254	FE	þ	Latin Small Letter Thorn
255	FF	ÿ	Latin Small Letter y with Diaeresis

EBCDIC character set

Table 10: EBCDIC device control codes

CTRL	DEC	HEX	EBCDIC	DESC
Ctrl-@	0	00	NUL	Null
Ctrl-A	1	01	SOH	Start of Heading
Ctrl-B	2	02	STX	Start of Text
Ctrl-C	3	03	ETX	End of Text
Ctrl-D	4	04	SEL/PF	Select / Punch Off
Ctrl-E	5	05	HT	Horizontal Tab
Ctrl-F	6	06	RNL	Required New-line
Ctrl-G	7	07	DEL	Delete
Ctrl-H	8	08	GE	Graphic Escape
Ctrl-I	9	09	SPS	Superscript
Ctrl-J	10	0A	RPT	Repeat
Ctrl-K	11	0B	VT	Vertical Tab
Ctrl-L	12	0C	FF	Form Feed
Ctrl-M	13	0D	CR	Carriage Return
Ctrl-N	14	0E	SO	Shift Out
Ctrl-O	15	0F	SI	Shift In
Ctrl-P	16	10	DLE	Data Link Escape
Ctrl-Q	17	11	DC1	Device Control 1
Ctrl-R	18	12	DC2	Device Control 2
Ctrl-S	19	13	TM	Tape Mark
Ctrl-T	20	14	RES/ENP	Restore / Enable Presentation
Ctrl-U	21	15	NL	New-line
Ctrl-V	22	16	BS	Backspace
Ctrl-W	23	17	POC	Program-Operator Communications
Ctrl-X	24	18	CAN	Cancel
Ctrl-Y	25	19	EM	End of Medium
Ctrl-Z	26	1A	UBS	Unit Backspace
Ctrl-[	27	1B	CU1	Customer Use 1
Ctrl-\	28	1C	IFS	Interchange File Separator
Ctrl-]	29	1D	IGS	Interchange Group Separator
Ctrl-^	30	1E	IRS	Interchange Record Separator
Ctrl-_	31	1F	IUS/ITB	Interchange Unit Separator /
	32	20	DS	Digit Select
	33	21	SOS	Start of Significance
	34	22	FS	Field Separator

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	35	23	WUS	Word Underscore
	36	24	BYP/INP	Bypass/Inhibit Presentation
	37	25	LF	Line Feed
	38	26	ETB	End of Transmission Block
	39	27	ESC	Escape
	40	28	SA	Set Attribute
	41	29		
	42	2A	SM/SW	Set Model Switch
	43	2B	CSP	Control Sequence Prefix
	44	2C	MFA	Modify Field Attribute
	45	2D	ENQ	Enquiry
	46	2E	ACK	Acknowledge
	47	2F	BEL	Bell
	48	30		
	49	31		
	50	32	SYN	Synchronous Idle
	51	33	IR	Index Return
	52	34	PP/PN	Presentation Position / Punch On
	53	35	TRN	
	54	36	NBS	Numeric Backspace
	55	37	EOT	End of Transmission
	56	38	SBS	Subscript
	57	39	IT	Indent Tab
	58	3A	RFF	Required Form Feed
	59	3B	CU3	Customer Use 3
	60	3C	DC4	Device Control 4
	61	3D	NAK	Negative Acknowledge
	62	3E		
	63	3F	SUB	Substitute
	64	40	SP	Space
	65	41		
	66	42		
	67	43		
	68	44		
	69	45		
	70	46		
	71	47		

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	72	48		
	73	49		
	74	4A	¢	Cent Sign
	75	4B	.	Period (Decimal Point)
	76	4C	<	Less-than Sign
	77	4D	(	Left Parenthesis
	78	4E	+	Plus Sign
	79	4F	|	Logical OR
	80	50		Ampersand
	81	51		
	82	52		
	83	53		
	84	54		
	85	55		
	86	56		
	87	57		
	88	58		
	89	59		
	90	5A	!	Exclamation Point
	91	5B	$	Dollar Sign
	92	5C	*	Asterisk
	93	5D	)	Right Parenthesis
	94	5E	;	Semicolon
	95	5F	¬	Logical NOT
	96	60	-	Subtraction Sign
	97	61	/	Forward Slash (Virgule)
	98	62		
	99	63		
	100	64		
	101	65		
	102	66		
	103	67		
	104	68		
	105	69		
	106	6A	¦	Pipe, Broken Vertical Bar
	107	6B	,	Comma
	108	6C	%	Percent Sign

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	109	6D	_	Underscore
	110	6E	>	Greater-than Sign
	111	6F	?	Question Mark
	112	70		
	113	71		
	114	72		
	115	73		
	116	74		
	117	75		
	118	76		
	119	77		
	120	78		
	121	79	`	Grave Accent
	122	7A	:	Colon
	123	7B	#	Number Sign
	124	7C	@	At Sign
	125	7D	'	Apostrophe
	126	7E	=	Equal Sign
	127	7F	"	Straight Double Quotation Mark
	128	80		
	129	81	a	
	130	82	b	
	131	83	c	
	132	84	d	
	133	85	e	
	134	86	f	
	135	87	g	
	136	88	h	
	137	89	I	
	138	8A		
	139	8B		
	140	8C		
	141	8D		
	142	8E		
	143	8F		
	144	90		
	145	91	j	

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	146	92	k	
	147	93	l	
	148	94	m	
	149	95	n	
	150	96	o	
	151	97	p	
	152	98	q	
	153	99	r	
	154	9A		
	155	9B		
	156	9C		
	157	9D		
	158	9E		
	159	9F		
	160	A0		
	161	A1	~	Tilde (Equivalency Sign)
	162	A2	s	
	163	A3	t	
	164	A4	u	
	165	A5	v	
	166	A6	w	
	167	A7	x	
	168	A8	y	
	169	A9	z	
	170	AA		
	171	AB		
	172	AC		
	173	AD		
	174	AE		
	175	AF		
	176	B0		
	177	B1		
	178	B2		
	179	B3		
	180	B4		
	181	B5		
	182	B6		

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	183	B7		
	184	B8		
	185	B9		
	186	BA		
	187	BB		
	188	BC		
	189	BD		
	190	BE		
	191	BF		
	192	C0	{	Left Curly Brace
	193	C1	A	
	194	C2	B	
	195	C3	C	
	196	C4	D	
	197	C5	E	
	198	C6	F	
	199	C7	G	
	200	C8	H	
	201	C9	I	
	202	CA		
	203	CB		
	204	CC		
	205	CD		
	206	CE		
	207	CF		
	208	D0	}	Right Curly Brace
	209	D1	J	
	210	D2	K	
	211	D3	L	
	212	D4	M	
	213	D5	N	
	214	D6	O	
	215	D7	P	
	216	D8	Q	
	217	D9	R	
	218	DA		
	219	DB		

Table 10: EBCDIC device control codes (continued)

CTRL	DEC	HEX	EBCDIC	DESC
	220	DC		
	221	DD		
	222	DE		
	223	DF		
	224	E0	\	Back Slash
	225	E1		
	226	E2	S	
	227	E3	T	
	228	E4	U	
	229	E5	V	
	230	E6	W	
	231	E7	X	
	232	E8	Y	
	233	E9	Z	
	234	EA		
	235	EB		
	236	EC		
	237	ED		
	238	EE		
	239	EF		
	240	F0	0	
	241	F1	1	
	242	F2	2	
	243	F3	3	
	244	F4	4	
	245	F5	5	
	246	F6	6	
	247	F7	7	
	248	F8	8	
	249	F9	9	
	250	FA	|	Vertical Line
	251	FB		
	252	FC		
	253	FD		
	254	FE		
	255	FF	EO	Eight Ones

Top level configuration profile

Table 11: Top level configuration profiles

Emulator type	Display	Printer	Screen	Port	Character
BlueZone Mainframe	.ZMD	.ZMP	-	-	-
BlueZone iSeries	.ZAD	.ZAP	-	-	-
BlueZone VT	.ZVT	-	-	-	-
BlueZone ICL	.Z7D	-	-	-	-
BlueZone T27**	.ZTD	-	BZT27.INI *	T27QPORT.INI *	T27CHAR.INI *
BlueZone UTS**	.ZUD	BZUTSPTR.INI *	BZUTS.INI*	UTSQPORT.INI *	UTSCHAR.INI *
BlueZone Secure FTP	.ZFT	-	-	-	-
TCP/IP Print Server	-	.ZTP	-	-	-

* These names are assigned automatically

** BlueZone T27 and UTS require multiple files for a complete top level configuration

Dialog level configuration profiles

The following table contains a list of menu bar commands with their associated configuration profile file extensions. Each menu bar command opens a unique window from each display type.

Table 12: Dialog level configuration profiles

Toolbar command	3270	5250	VT	ICL	UTS	T27
Session ® Configure	.MDS	.ADS	.VDS	.IDS	.UDS	.TDS
Session ® Configure ® Properties	.TN3	.TN5	-	.IDC	UTSQPOR-T.INI	T27QPOR-T.INI
Options ® Display	.MDD	.ADD	.VDD	.IDD	.UDD	.TDD
Options ® Keyboard	.MDK	.ADK	.VDK	.IDK	.UDK	.TDK
Transfer ® Configure	.MDF	*	.VDF	.IDF	.UDF	.TDF
View ® Properties ® ToolBars	.MDB	.ADB	.VDB	.IDB	.UDB	.TDB
View ® Properties ® PowerPads	.MDP	.ADP	.VDP	.IDP	.UDP	.TDP
View ® Properties ® Statusbar	.MDR	.ADR	.VDR	.IDR	.UDR	.TDR
File ® Print Setup	-	-	.VDI	.IDI	-	-

* Mainframe and iSeries File Transfer is supported in BlueZone Host File Transfer. To see the BlueZone Host File Transfer Configuration Profile Table, refer to Host file transfer configuration profile, on page 395.

Host file transfer configuration profile

The following table details the Host File Transfer menu bar options with their associated configuration profiles.

Table 13: Host file transfer configuration profiles

Toolbar command	3270	5250
File ® Save As	.MDF	.ADF
List ® Save As	.MDL	.ADL

Command line switches

BlueZone supports many command lines switches that are used to control BlueZone during startup. Command line switches are added to the command line after the file name that loads a BlueZone application.

Table 14: BlueZone Mainframe Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/R	Dialog Configuration File
/L	LU Name
/H	Host IP Address or DNS Name
/O	TCP Port Number
/T	Device Type (used in Display Session only)
/Q	Set Registry without Launch
/I	Blockade user ID
/J	Blockade Password
/K	Blockade Message
/	Auto-lock Keyboard on Launch
/~0	Turns off SSL /TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption
/1../9	Var1 through Var9

Table 15: BlueZone Mainframe Printer command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/L	LU Name
/L!	Associates a Mainframe Display session LU name to the Printer session
/H	Host IP Address or DNS Name
/O	TCP Port Number
/Q	Set Registry without Launch
/~0	Turns off SSL/TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption

Table 16: BlueZone iSeries Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/R	Dialog Configuration File
/L	Device Name
/H	Host IP Address or DNS Name
/O	TCP Port Number
/T	Device Type (used in Display Session only)
/N	User Name
/P	Password
/G	Initial Program to Call
/M	Initial Menu Name
/B	Initial Library Name
/Q	Set Registry without Launch
/I	Blockade user ID
/J	Blockade Password
/K	Blockade Message
/	Auto-lock Keyboard on Launch
/~0	Turns off SSL/TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption
/1../9	Var1 through Var9

Table 17: BlueZone iSeries Printer command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/L	Device Name
/H	Host IP Address or DNS Name
/O	TCP Port Number
/A	Queue Name
/V	Queue Library
/W	Font
/X	Formfeed
/Y	Host Print Transform
/Z	Printer Model
/Q	Set Registry without Launch
/~0	Turns off SSL/TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption

Table 18: BlueZone VT Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Number
/F	Configuration File Name
/R	Dialog Configuration File
/H	Host IP Address or DNS Name
/O	TCP Port
/T	Terminal ID
/L	Answerback
/A	Number of Columns
/R	Number of Rows
/Q	Set Registry without Launch
/I	Blockade user ID
/J	Blockade Password
/K	Blockade Message
/	Auto-lock Keyboard on Launch
/~0	Turns off SSL/TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption
/1../9	Var 1 through Var 9
/[0	Sets auto-connect to False
/[1	Sets auto-connect to True

Table 19: BlueZone ICL 7561 Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/R	Dialog Configuration File
/H	Host IP Address or DNS Name
/O	TCP Port Number
/Q	Set Registry without Launch
/~0	Turns off SSL/TLS Encryption
/~1	Enables Explicit SSL/TLS Encryption
/~2	Enables Implicit SSL/TLS Encryption
/1../9	Var1 through Var9

Table 20: BlueZone T27 Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/H	Host IP Address or DNS Name
/L	Station Name
/O	TCP Port Number
/Q	Set Registry without Launch
/1../9	Var1 through Var9

Table 21: BlueZone UTS Display command line switches

Switch	Function
/C	Connection Name
/D	Session Description
/S	Session Identifier
/F	Configuration File
/H	Host IP Address or DNS Name
/L	Station Name
/O	TCP Port Number
/Q	Set Registry without Launch
/1../9	Var1 through Var9

Table 22: BlueZone Session Manager command line switches

Switch	Function
/F	Configuration File Name
/T	Launch Directly Into the Windows System Tray

Table 23: BlueZone TCP/IP Print Server command line switches

Switch	Function
/F	Configuration File Name
/T	Launch Directly Into the Windows System Tray

Help options

BlueZone products offer two ways to access help information: a locally installed `.chm` file or Web-based HTML help.

By default, BlueZone Desktop is configured to use the locally installed `.chm` file. If you want to use the Web-based help, you must edit the `global.ini` file:

1. Open `global.ini` in a text editor.
2. In the `[Help]` section, change `UseWebHelp=No` to `UseWebHelp=Yes`.
3. Save and close the file.
4. Run `setup.exe` to reinstall BlueZone.

Note

BlueZone will continue to use the locally installed help file until you run `setup.exe`.

Related information

You might need to refer to other sources of information when you are using BlueZone products. This section lists the documentation that supports BlueZone.

Version 6 Release 1 product information:

- *BlueZone Advanced Automation Developer's Guide*, BZAA-0601-DG-02
- *BlueZone Desktop Administrator's Guide*, BZD-0601-AG-03
- *BlueZone Display and Printer User's Guide*, BZDP-0601-UG-03
- *BlueZone Integration Server Administrator's Guide*, BZIS-0601-AG-01
- *BlueZone License Manager Administrator's Guide*, BZLM-0601-AG-01
- *BlueZone PasswordVault User's Guide*, BZPV-0601-UG-01
- *BlueZone Secure FTP User's Guide*, BZSF-0601-UG-01
- *BlueZone Security Sever Administrator's Guide*, BZSS-0601-AG-01
- *BlueZone Session Manager User's Guide*, BZSM-0601-UG-01
- *BlueZone Web-to-Host Administrator's Guide*, BZWH-0601-AG-01

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