

Installation and Setup Guide



Version 1.4



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Overview

The intended user of this Installation and Setup Guide is the Network Administrator. The Installation and Setup of the Namescape rDirectory™ website requires knowledge of the terminology and functions associated with:

- Configuring websites on Microsoft Internet Information Services (IIS)
- Microsoft Active Directory and/or Microsoft Active Directory Application Mode (ADAM)
- Windows 2003 Server, Windows 2000 Server and Windows XP

The Installation and Setup process consists of two steps:

- **Website Installation**

The installer will create a Website or Virtual Directory on IIS, copy the files to that location, and launch the Site Manager Wizard.

- **Website Configuration**

The Site Manager Wizard will walk you through the steps to license and configure the rDirectory website. When finished, the Site Manager will launch Internet Explorer and open the rDirectory website.



Note: At any time you may re-run Site Manager and change the Site Configuration

Once the website is installed and configured the applications at the rDirectory website can be completely customized. For more information about customizing rDirectory, see the additional documentation provided (Getting Started Guide, Designing Solutions Guide, and Designers Reference Manual)



Note: If you are new to rDirectory, be sure to step through Getting Started Guide. It only takes about 45 minutes and provides a step-by-step tutorial on using and customizing rDirectory.

Supported Platforms, Directories, and Browser

rDirectory can be installed with IIS hosted on the following platforms:

- Windows 2003
- Windows 2000 *
- Windows XP Professional *



Note: Windows 2003 is the preferred platform. Installation on Windows 2000 or XP (IIS5) will require additional manual steps and time.

rDirectory can be run against the following versions of Active Directory:

- Active Directory (Windows 2000 or Windows 2003)
- Active Directory / Application Mode (ADAM) running on Windows 2003 or Windows XP

rDirectory only supports Microsoft Internet Explorer (5.5 and above).

Tips for a Simple Install

Installing web applications is inherently more challenging than installing normal windows software. Your installation experience will vary depending on the following:

- The install server / environment
- Your experience with the required technologies
- The configuration choices you make
- The care you take in following the instructions in this guide

While this Installation and Setup Guide covers a wide range of conditions and configuration choices, you can greatly simplify the installation process if you adhere to the following guidelines.

To assure the simplest install process we recommend the following:

- Install on Windows 2003, not Windows 2000 or XP
- Install as a new Website, not a Virtual Directory under an existing Website
- Use Forms Authentication, not Windows Integrated Authentication
- Use Active Directory, not ADAM

Windows Integrated Authentication, ADAM, Windows 2000/XP, and installing as a Virtual Directory under an existing Website are all supported, however these conditions may complicate the install process and require additional skills and time.

Under the recommended conditions above, rDirectory will install in less than 10 minutes and require no advanced skills.

Using this Installation Guide

Simple or Detailed Install

Each step in the Installation and Setup process lists a **Simple Install** procedure, and where needed a **Detailed Install** section.

Following the Simple Install steps will install rDirectory as the Default Website on the server using Forms Authentication.

Active Directory Specific Setup and ADAM Specific Setup

The Site Manager configuration for Active Directory differs from the Site Manager configuration for ADAM. Where these steps differ, there will be a section for the **Active Directory Specific Setup** and/or **ADAM Specific Setup**

Upgrading from rDirectory 1.3

If you are upgrading from rDirectory 1.3, first follow the backup and un-install procedure described in the 'Upgrading from rDirectory 1.3.htm' document. Then return to this document after rDirectory 1.3 is un-installed and you are ready to install rDirectory 1.4.

1) Requirements

Active Directory Requirements

When installing for use with Active Directory the rDirectory host server requirements are:

- rDirectory must be installed on Windows 2003, Windows 2000, or Windows XP Professional. Additionally, the host server must:
 - Be a member of the forest to be searched (can be a DC/GC but not required)
 - Have the .NET 2.0 Framework installed (see Server Preparation Procedure #1 below)
 - Have IIS installed with support for ASP.NET (see Server Preparation Procedure #2 below)
- For Windows 2003 (IIS 6), IIS must be running in the Native Mode (this is the default, unless the server was upgraded from Windows 2000) (see Server Preparation Procedure #3 below)
- For Windows 2000 and XP (IIS5) the default IIS Process Model identity must be changed manually to "SYSTEM". (see Server Preparation Procedure #4 below). The Site Manager will warn you if the IIS Process Model identity is not "SYSTEM".

To run rDirectory.msi and the Site Manager Wizard you must logon:

- As a member of the forest to be searched
- With Administrator privileges to the computer rDirectory is being installed on

ADAM Requirements

When installing for use with ADAM the rDirectory host server requirements are:

- rDirectory must be installed on Windows 2003, Windows 2000, or Windows XP Professional. Additionally, the rDirectory host server must:
 - Have the .NET 2.0 Framework installed (see Server Preparation Procedure #1 below)
 - Have IIS installed, with support for ASP.NET (see Server Preparation Procedure #2 below)
- For Windows 2003 (IIS 6), IIS must be running in the Native Mode (this is the default, unless the server was upgraded from Windows 2000) (see Server Preparation Procedure #3 below)
- For Windows 2000 and Windows XP (IIS 5), the ASPNET account must be given modify permissions to and below the \Framework\Config\Store folder. (see note 3 below)

The ADAM requirements are:

- ADAM must be installed on Windows 2003 or Windows XP Professional
- The ADAM instance must:
 - Have the user class added to its schema
 - Have at least one Application Partition
 - Have users already added, and have a user in the Readers role you can logon as

To run the rDirectory.msi installer and the Site Manager Wizard you must logon:

- With Administrative privileges to the computer rDirectory is being installed on

ADAM Specific Issues

ADAM on XP - Password issue

With the current release of ADAM running on Windows XP, passwords cannot be set for ADAM accounts. See Microsoft KB article 817583 for more information.

myPassword on ADAM

Although a myPassword License Key can be applied in the Site Manager with ADAM, myPassword 1.4 does not support ADAM.

Server Preparation Procedures

1) Install .NET Framework 2.0

You can download the .NET Framework 2.0 install package at:

<http://www.microsoft.com/downloads/details.aspx?familyid=0856eacb-4362-4b0d-8edd-aab15c5e04f5&displaylang=en>

2) Install IIS with ASP.NET support

- a. To install IIS on Windows 2003, configure the server with the Application Role (be careful to select ASP.NET support) using the 'Configure Your Server Wizard'.
- b. To install IIS on Windows 2000 or Windows XP, use Add/Remove Windows Components to add ASP.NET (under Application Server).
- c. If .NET is installed prior to IIS, or the Application Role is installed without selecting ASP.NET, you can also run 'aspnet_regiis.exe -i' to correct the setup (see MS KB article Q306005).

3) Verify IIS6 is in native mode (for Win2003)

- a. To verify that IIS 6 is in native mode, run the IIS Manager, expand the current server, and right click on 'Web Sites'. Select 'Properties', then select the Service tab. Make sure that 'Run WWW service in IIS 5.0 isolation mode' is NOT checked.

4) Set IIS5 Process Model identity to SYSTEM (for Win2000 or WinXP)

- a. Locate the 'machine.config' file for .NET 2.0. By default this will be located under the directory 'C:\Windows\Microsoft.NET\Framework\V2.0.50727\CONFIG' (unless there is a later version of the .NET Framework 2.0 available)
- b. For recovery purposes, make a backup copy of the 'machine.config' file, call it 'machine.config.backup'
- c. Open the 'machine.config' file using Notepad and search for the phrase 'processModel'.
- d. In the <system.web> section you will find the entry:

<processModel autoConfig="true"/>

- e. Carefully, change this entry to read exactly as follows (use the case exactly as presented here, i.e.: "processModel", "userName", "SYSTEM", "password", and "AutoGenerate")

<processModel userName="SYSTEM" password="AutoGenerate" />

- f. Save the 'machine.config' file
- g. Reboot the machine

2) Website Installation

Overview

rDirectory can be installed to IIS either as a new Website or as a Virtual Directory under an existing Website. You can choose the physical directory where the rDirectory files are copied, and when installing rDirectory as a new Website you can specify the port, host header, and IP address.

The installer will create the Website or Virtual Directory in IIS, and copy the files to the physical directory specified. When finished the installer will launch the Site Manager Wizard that will guide you through the steps to complete the setup of rDirectory.

Websites vs. Virtual Directories



Note: This section is intended to be a primer for those not familiar with the basics of installing web applications on IIS. It is not intended to be all-inclusive, nor does it cover advanced topics such as how to configure IIS and DNS to use host headers. For more information on using host headers, see the following Microsoft article:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;308163>

A web application such as rDirectory can be installed either as a Website or as a Virtual Directory under a Website. Each Website on a server must have a unique combination of IP address, port, or host header. For example, www.namescape.com is a website at 68.98.192.25 with a host header of “www.namescape.com” and a port of 80 (80 is the default port).

Multiple websites can exist on the same server as long as either the IP address, port or host headers are different. (Using Host Headers requires advanced skills and permissions to configure DNS to pass the host header to the website and is not covered in this documentation). Windows XP does not allow multiple websites.

A website that has no host header can simply be addressed with a URL containing its server name and port, for example <http://ServerName:80/>. IIS has a default website on each server that uses the default port of 80. Since the default port 80 is optional in the URL, the default website on a server can more simply be accessed as <http://ServerName/>. Another web site installed at port 8080 would be accessed as <http://ServerName:8080/>.

IIS also supports the concept of ‘virtual directories’ under websites which are logical directories from a URL perspective but which can have a physical directory separate from the website they are logically under. For example, if you install rDirectory as a virtual directory named ‘rDirectory’ under the default website, then the rDirectory application URL would be addressed as <http://ServerName/rDirectory>

Installing rDirectory on a server hosting SharePoint

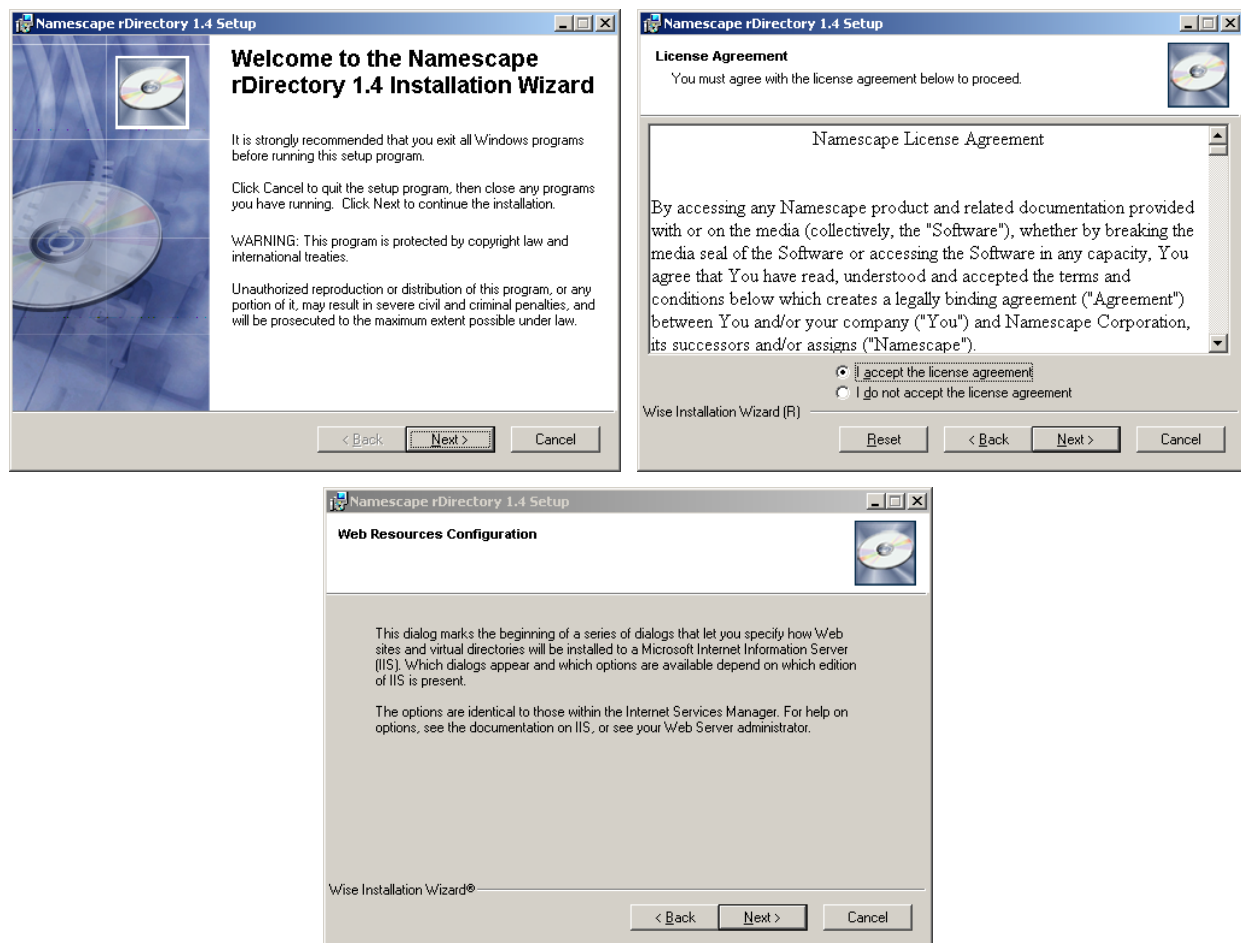
SharePoint takes over the default website of a server and redirects all traffic to this default website to a custom SharePoint ISAPI filter. This makes SharePoint an unsuitable parent for a virtual directory. While rDirectory can be installed as a virtual directory under SharePoint, you will get a 404 error when you try to access rDirectory.

To install rDirectory on a server hosting SharePoint you must install rDirectory as a new website with a unique port number (and/or IP or host header).

Installing rDirectory

Once the requirements in section one have been met, install rDirectory by launching the 'Setup – rDirectory 1.4'.msi installer.

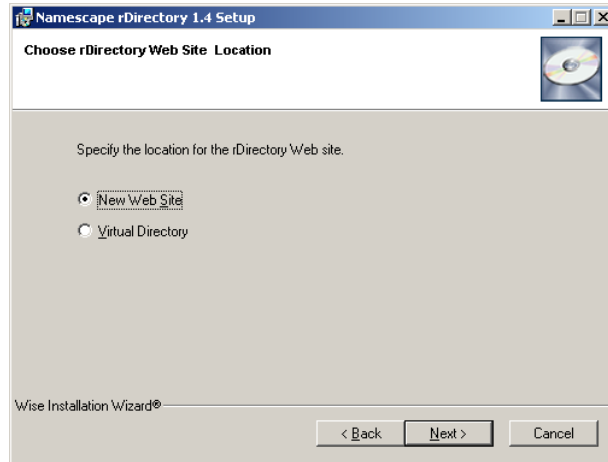
Opening Screens & License Agreement



Simple Install

- ✓ Click **Next** on the welcome screen
- ✓ To accept the License Agreement, select '**I accept the license agreement**' and click **Next**
- ✓ Click **Next** on the Web Resources Configuration screen

Select New Web Site or Virtual Directory



Note: This screen will not appear when installing on Windows XP. Windows XP does not allow more than one website, so the only option for Windows XP is to install as a Virtual Directory.

Simple Install

- ✓ Click **Next** to install as a **New Web Site**

Detailed Install

New Web Site

Select 'New Web Site' to install rDirectory as a new Web Site.

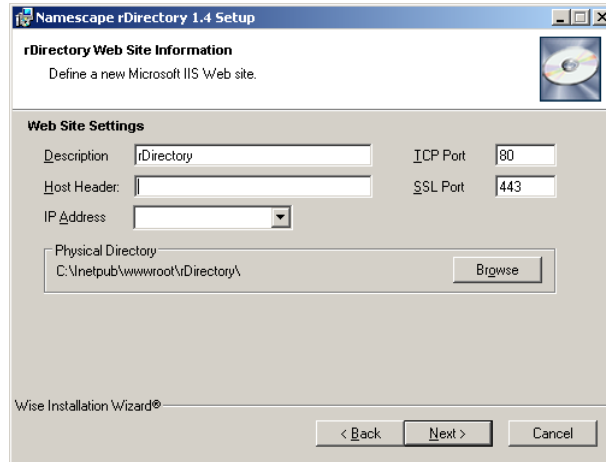
Virtual Directory

Select 'Virtual Directory' to install rDirectory as a Virtual Directory under an existing Web Site.



Note: For more information about the difference between a Web Site and a Virtual Directory, see the section *Websites vs. Virtual Directories* above.

New Web Site



 **Note:** This screen will only appear if you selected to install rDirectory as a new Website

Simple Install

- ✓ Click **Next** to install rDirectory as the Default Web Site on this server

Detailed Install

Web Site Settings

Description

The Description entered will appear as the name of the new Web Site under IIS Manager. It will not be part of the URL to access rDirectory.

TCP Port / SSL Port

Enter both a TCP and SSL port. The default web values are 80 & 443 respectively. If you enter other port numbers, you should be sure that the ports entered used are not already used on this server.

 **Note:** If either the TCP or SSL port numbers entered are in use by another website on the server, that website will be stopped when rDirectory is installed. For example, entering 8080 for the TCP Port, but leaving the SSL Port at 443 will still stop the default website on the server when rDirectory is installed.

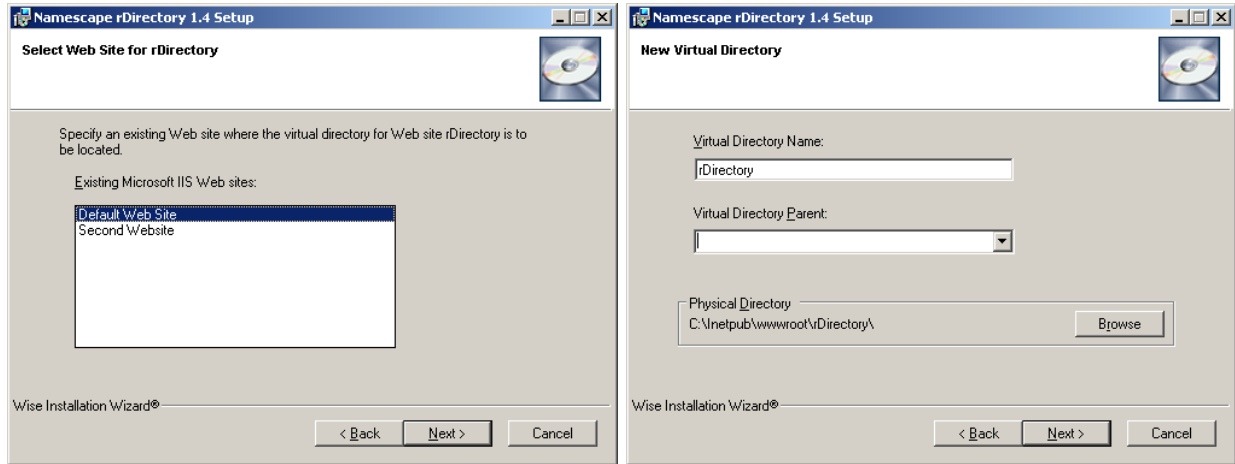
Host Header & IP Address

Use of Host Header and IP Addresses is an advanced topic not covered in this installation guide. See the section '*Websites vs. Virtual Directories*' above for more information.

Physical Directory

To change the default Physical Directory where the files will be installed, click **Browse** and enter a new Physical Directory where the files are to be installed.

Virtual Directory



Note: These screens will only appear if you selected to install rDirectory as a Virtual Directory. The 'Select Web Site for rDirectory' screen will only appear if there is more than one existing Web Site to choose from.

Simple Install

- ✓ If the "Select Web Site for rDirectory" screen appears, select the web site to install the Virtual Directory under, and click **Next**.
- ✓ Click **Next** on the 'New Virtual Directory' screen to accept 'rDirectory' as the Virtual Directory Name.

Detailed Install

"Select Web Site for Directory" Screen

If this screen does not appear, it is because only one Web Site exists on the server. In this case, that Web Site will be used as the parent to the Virtual Directory.

Existing Microsoft IIS Web sites

Select a Web Site from the available list to install the rDirectory Virtual Directory under, and click **Next**.



Note: Some web sites, such as SharePoint, are not suitable parents for the rDirectory Virtual Directory to be installed under. If SharePoint is the only web site on the server, then you will need to install rDirectory as a New Web Site,

“New Virtual Directory” Screen

New Virtual Directory Name

Accept ‘rDirectory’ or enter a new name for the Virtual Directory name. The Virtual Directory name will be part of the URL that is used to access rDirectory.

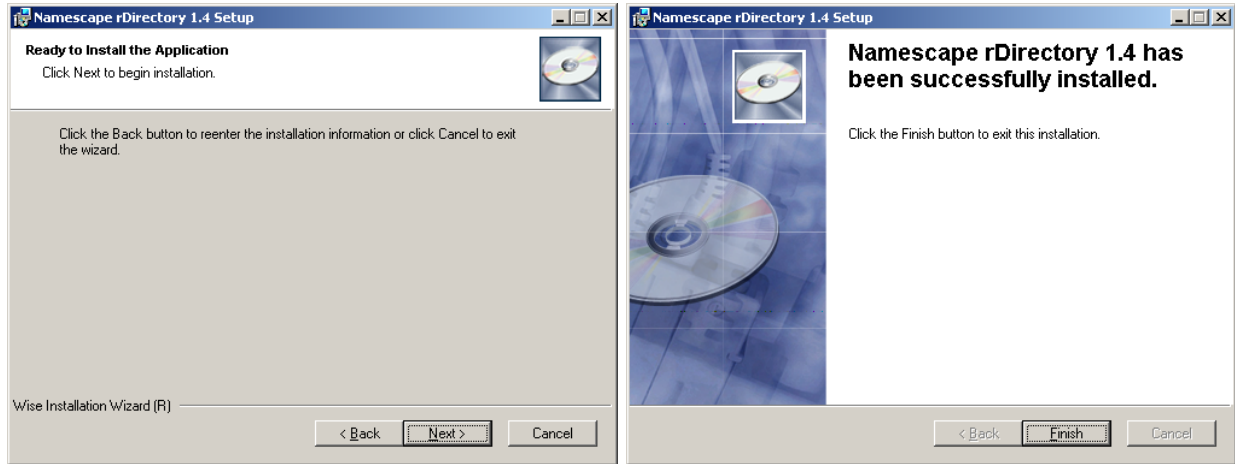
Virtual Directory Parent

If the selected Web Site already has an existing Virtual Directory, then you may choose to nest the new Virtual Directory under an existing Virtual Directory.

Physical Directory

To change the default Physical Directory where the files will be installed, click **Browse** and enter a new Physical Directory where the files are to be installed.

Finish



Simple Install

- ✓ Click **Next** on the “Ready to Install the Application” screen
- ✓ Click **Finish** on the final screen. The Site Manager wizard will automatically launch to complete the Setup process.

3) Website Setup

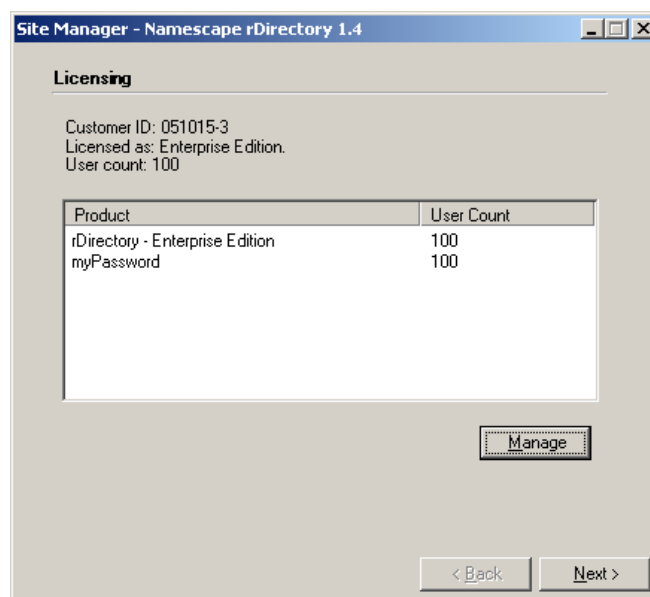
Site Manager

After the installer completes the installation it will automatically launch the Site Manager that will walk you through the steps to complete the setup of the rDirectory website. You can re-run the Site Manager at any time via the Start menu on the rDirectory host computer.

The Site Manager screens and the choices on those screens will vary based on the Edition of rDirectory licensed, the type of host server, and the Directory type you choose on the second screen. The complete list of possible screens is listed below:

- License Configuration
- Directory Configuration
- Authentication Configuration
- Proxy Account Configuration
- SMTP Configuration (only for Enterprise Edition)
- ADAM Logon Configuration (only when Directory Type is ADAM)
- IIS Application Pool Configuration (only on Windows 2003 server)
- Audit Logging Configuration (only for Enterprise Edition)
- Designer Roles Configuration
- Finish

License Configuration



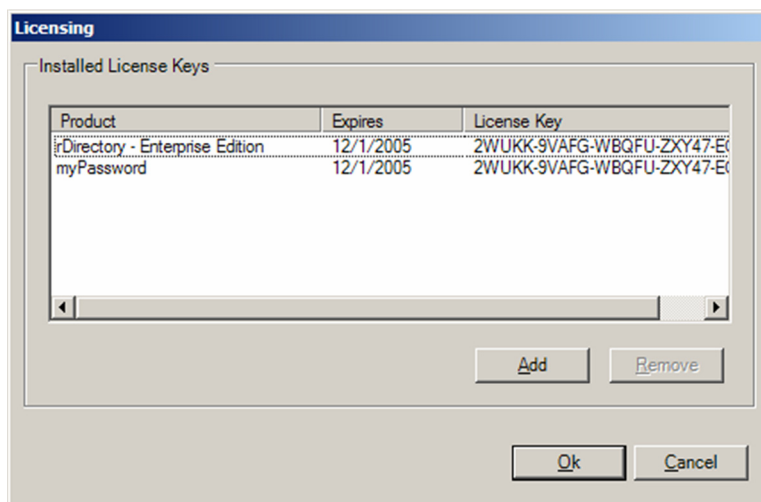
 **Note:** With the Community Edition, the Initial Licensing dialog will not appear and the Licensing page will pre-configured to run as a 45 day trial. A free Community Edition License key will be provided when the product is registered at www.namescape.com.

Simple Install

- ✓ In the Initial Licensing dialog, enter the **License Key** provided by Namescape and click **Continue**. On the Site Manager Licensing dialog, click **Next**.

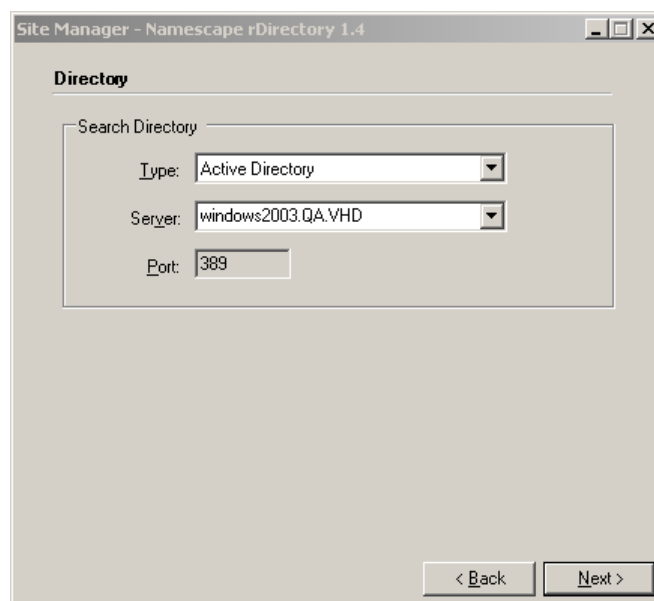
Detailed Install

To change the License Key after the Initial Licensing, click **Manage**.



To change a License key, click **Add** and enter the new License Key. Adding a new License Key will remove any existing License Key. Click **OK** when done.

Directory Configuration



Simple Install

- ✓ Accept '**Active Directory**' as the directory type
- ✓ Select a **Global Catalog** server from the list of server names. (This will be the GC that searches are executed against)
- ✓ Click **Next**

Detailed Install

Type

This determines whether rDirectory will use Active Directory or an ADAM instance as the data source.

Server

When 'Active Directory' is selected as the Type of directory, the Server control will be populated with a list of the available Global Catalog servers.



Note: The Global Catalog server is used for all searches. When reading or writing specific objects, rDirectory will access the appropriate domain controllers directly.

When ADAM is selected as the Type of directory, the Server control will be a textbox where you can enter the name of the server containing the ADAM instance. If the ADAM instance is located on the same machine where rDirectory is installed, you can enter 'localhost'.

Port

For ADAM, enter the port number where the instance of ADAM can be found.

Authentication Configuration

The screenshot shows the 'Authentication' configuration window in the Site Manager for Namescape rDirectory 1.4. The window has a title bar with the text 'Site Manager - Namescape rDirectory 1.4'. Inside, there are three main sections: 'Authentication', 'Cookies', and 'Default Identity'. The 'Authentication' section has a 'Mode' dropdown menu set to 'Forms'. The 'Cookies' section has a 'Mode' dropdown menu set to 'Optional' and a 'Time Out' section with three input fields: '1' for 'Wks.', '0' for 'Days', and '0' for 'Mins.'. The 'Default Identity' section has three input fields for 'User Name:', 'Password:', and 'Domain:', with a 'Browse' button next to the 'User Name' field. At the bottom right, there are two buttons: '< Back' and 'Next >'. The 'Next >' button is highlighted with a dashed border.

Simple Install

- ✓ Click **Next** to accept '**Forms**' for the Authentication Mode, and '**Optional**' for the Cookie Mode

Detailed Install

You can run the rDirectory website with various authentication modes and security configurations. Configure the website Authentication Mode, Cookie Mode, and Default Identity as required by your business needs.

Authentication Mode

The settings for Authentication Mode with Active Directory include:

- Windows Integrated (Not available with ADAM)
- Windows Integrated & Forms (Not available with ADAM)
- Forms
- Anonymous
- Anonymous & Forms

Windows Integrated / Windows Integrated & Forms

The *Windows Integrated* Authentication Mode relies on the built-in Windows authentication and does not require users to logon to rDirectory. The *Windows Integrated & Forms* Authentication Mode is the same as the *Windows Integrated Authentication Mode* except that it adds a Logon button that allows the user to temporarily provide different credentials that supersede their Windows identity until they close their browser.

See Appendix A – Using Windows Integrated Authentication for more information.

Forms

The *Forms* Authentication Mode requires the user to provide their Active Directory logon credentials to gain access to rDirectory. If you enable cookies, user credentials can persist for more than a single session.

Anonymous / Anonymous & Forms

The *Anonymous* Authentication Mode allows users to access rDirectory and search the Active Directory without supplying logon credentials. This mode requires Default Identity logon credentials. When users access rDirectory under *Anonymous* Authentication Mode, the Default Identity credentials are used to read directory data, and editing is disabled. The roles associated with the Default Identity will also be used for any role-based features when *Anonymous* Authentication is in effect.

The *Anonymous & Forms* Authentication Mode adds a Logon button allowing users to upgrade their permissions by supplying their logon credentials. Once logged on, editing is enabled and the roles and permissions of the users logon account determine what rDirectory features becomes available.

Cookie Mode

Cookies are used to save user credentials for more than a single session when a Forms logon is used. Setting the Cookie Mode is enabled when using either the *Forms* or *Anonymous & Forms* Authentication Mode



Note: In this release, the user's logon name and password are encrypted into the cookie.

Cookie Mode choices include:

- Optional -- Allows users to save credentials by checking the 'Remember Logon' checkbox during a logon.
- Automatic -- When users logon the 'Remember Logon' checkbox does not appear and cookies are automatically used.
- Not Allowed -- Cookies are never used

Cookie Timeout

If cookies are enabled, you can set the cookie timeout or lifetime.

Default Identity

A Default Identity is required when using *Anonymous* or *Anonymous & Forms* Authentication Modes. rDirectory uses the Default Identity to access the directory on behalf of the anonymous user.

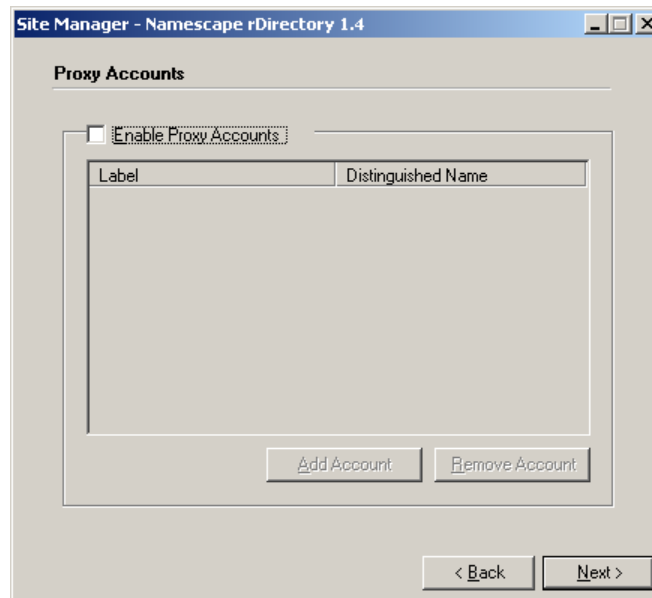
Active Directory Specific Setup

For Active Directory, the Default Identity must be an Active Directory user name that can logon.

ADAM Specific Setup

For ADAM, the Default Identity must be entered in the fully distinguished format (i.e., CN=Mary Baker,OU=ADAM Users,O=Microsoft,C=us).

Proxy Accounts Configuration



 **Note:** This screen will not appear with the Community Edition.

Simple Install

- ✓ To install without configuring Proxy Accounts, click **Next**

 **Note:** You will need to configure a Proxy Account only if you plan on using the Edit Delegation capabilities of rDirectory, setting up myPassword, or using the Help Desk Password Reset feature in rDirectory.

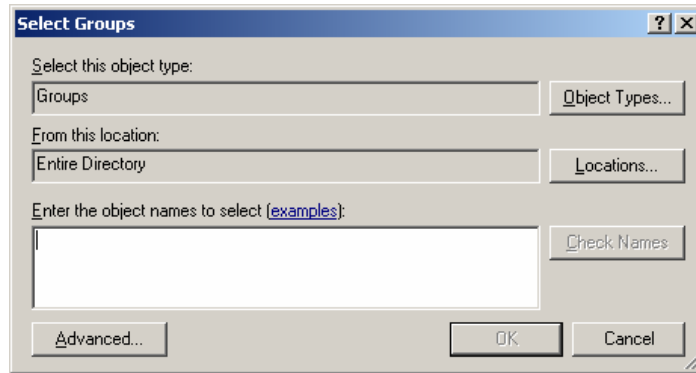
Detailed Install

Proxy Accounts are used to delegate Edit and Password Reset operations to an account with a permission level that the normal Active Directory user may not have. Roles can then be used to limit who has access to these capabilities. You can configure multiple Proxy Accounts for use in different places, or you can use a single Proxy Account everywhere it's needed. If you will be creating multiple Proxy Accounts, be sure and give them descriptive labels.

To add a Proxy Account, check '**Enable Proxy Accounts**', then click **Add Account**. The dialog you see next will depend on whether the directory type is Active Directory or ADAM:

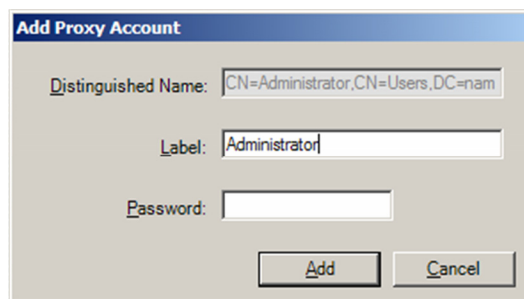
Active Directory Specific Setup

For Active Directory you see the following dialog that will allow you to search for user accounts to be used as Proxy Accounts.



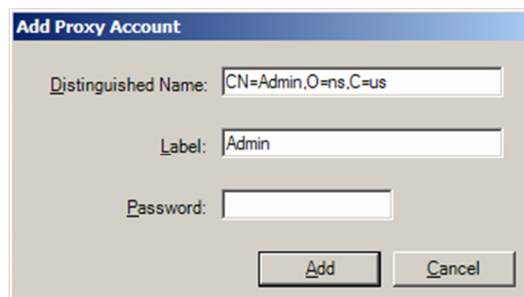
Search for an account to add such as the Administrator account, and click **OK**. The Add Proxy Account dialog shown below will appear containing the selected account.

In the Add Proxy Account dialog, you may enter a new Label for the Proxy account if you wish. The Label is used when you assign the Proxy Account to an Edit or Password Reset function in the Designer Menu. If you will be creating multiple Proxy Accounts, be sure and create distinctive names so you will know which ones to choose.



ADAM Specific Setup

For ADAM you will see the Add Proxy Account dialog shown below. Enter the full DN of the Proxy Account, a Label to use when you assign the Proxy Account to an Edit or Password Reset function, and the password of the account.

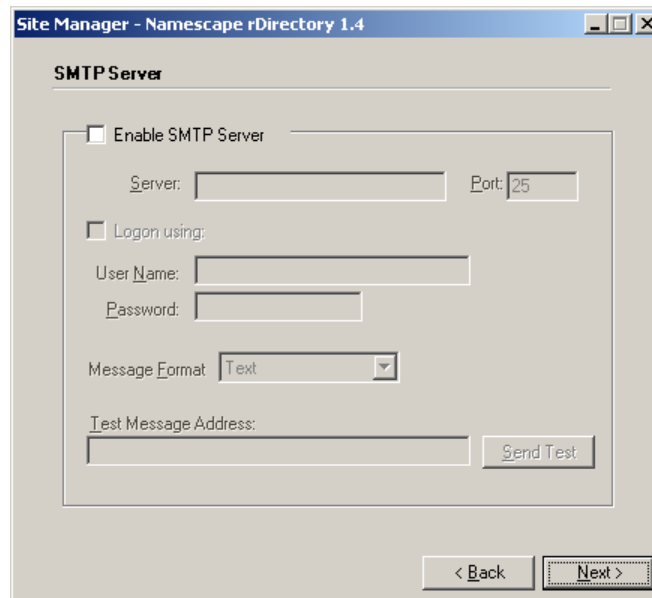


Enter the password for the Proxy Account and click **Add** to see the screen below:



Note: Both the name and password of the Proxy Account are stored as encrypted values in the Site.config XML file. If the password of the account should change, you will need to remove and re-add the Proxy Account with the new password. You will not need to change any assignments in the Designer Menu as long as the same account is re-added.

SMTP Configuration



The screenshot shows the 'SMTP Server' configuration window in the 'Site Manager - Namescape rDirectory 1.4' application. The window has a title bar with standard Windows window controls. Inside, there's a section titled 'SMTP Server'. It contains a checkbox labeled 'Enable SMTP Server'. Below this, there are input fields for 'Server:' and 'Port:' (with '25' entered). There's another checkbox labeled 'Logon using:' followed by 'User Name:' and 'Password:' input fields. A 'Message Format' dropdown menu is set to 'Text'. At the bottom, there's a 'Test Message Address:' input field and a 'Send Test' button. Navigation buttons '< Back' and 'Next >' are at the bottom right.

 **Note:** This screen only appears if you are installing the Enterprise Edition of rDirectory.

Simple Install

- ✓ Click **Next** to install without configuring an SMTP Server

Detailed Install

A SMTP Server configuration is only required for the Email Notification feature. Email Notifications are available for the Password Reset and/or Edit operations. To configure a SMTP server, check Enable SMTP Server and provide the following:

SMTP Server and Port

The name and port where an SMTP server can be found. (The default SMTP port is 25)

Logon Account Requirements

If the SMTP server requires a logon, enter the logon name and password. (see note below if using Exchange)

Message Format

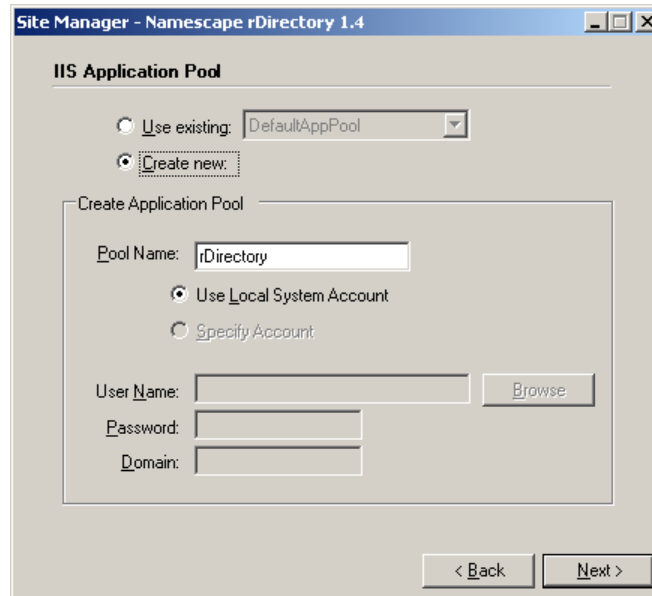
If the SMTP server supports HTML, select HTML to use the HTML Message Templates.

Test Message

To send a message to test the above settings, enter an e-mail address and click Send Test. This e-mail address is not saved.

 **Note:** When using Exchange, you should always specify a Logon Account even if the Test Message succeeds without a Logon Account. This is because Exchange uses Windows Integrated Authentication if no Logon Account is specified, so the Test Message will be sent with the Installers credentials in Site Manager. However, on deployment, the credentials of the Operator may not be available, or accepted, and e-mail notices may fail.

IIS Application Pool Configuration



 **Note:** This screen only appears if you are installing on Windows 2003.

Simple Install

- ✓ Accept all defaults to create a new IIS Application Pool called 'rDirectory' which uses the Local System account.
- ✓ Click the Next button.

Detailed Install

IIS 6 (Windows 2003) incorporates Application Pools that determine the privileges that each web application runs with. rDirectory requires permissions to read the Active Directory schema and write configuration files in and below the following directories:

...\\rDirectory\\Framework\\Config\\Store\\Design
...\\rDirectory\\Framework\\Config\\Store\\Site

The Windows default application pool is DefaultAppPool, which does not meet these criteria. The Site Manager will default to create a new pool, *rDirectory*, using the identity of Local System, or you may specify an Active Directory user account that meets these requirements.

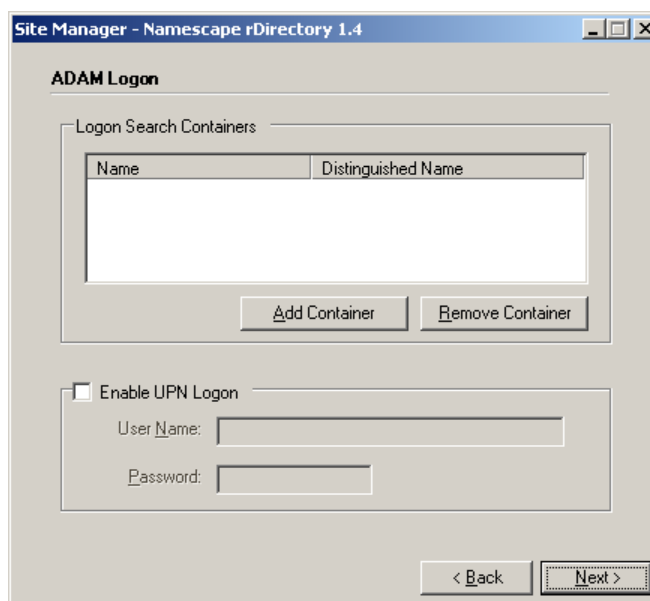
Use Existing Pool

Select this option to continue using an existing Application Pool. If the 'rDirectory' pool already exists, the Site Manager will default to using this pool.

Create New Pool

Select this option to create a new Application Pool. You may either specify Local System privileges, or enter a directory user's credentials that meet the requirements noted above. If you choose to use a directory user account for privileges, you must also make that user name a member of IIS_WPG group.

ADAM Logon Configuration



Note: This screen only appears if the Directory Type is ADAM.

Simple Install

- ✓ If you are evaluating the product or installing in a lab, you can leave the Logon Search Containers empty and UPN Logon disabled. However, you will be required to logon using the fully distinguished form of your ADAM account. If you are deploying rDirectory in a production environment, or you wish to add a Logon Search Container to simplify logon or enable UPN Logon, see the *Detailed Installation* notes below.
- ✓ Click the **Next** button.

Detailed Install

Both the Logon Search Containers and the UPN Logon support allow a simplified logon for users when using ADAM. Without either of these features, logon to ADAM requires a fully distinguished ADAM name (i.e., CN=Mary Baker,OU=ADAM Users,O=Microsoft,C=us).

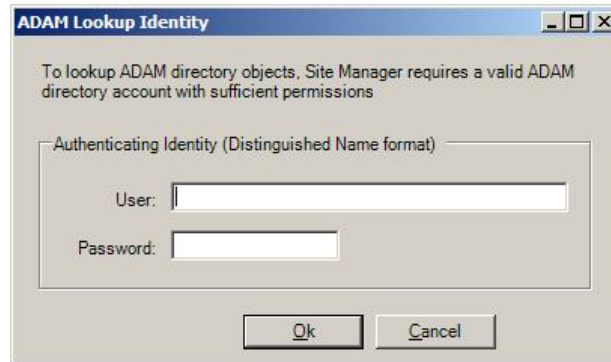
Logon Search Containers allow users to logon with their Common Name and a selected search container from a drop-down list. This presents the user with logon method similar to the Domain logon method they are familiar with under Active Directory.

UPN Logon allows users to logon with the value in their UPN (User Principal Name) attribute, if populated.

Logon Search Containers

Add a Logon Search Container for each container that contains logon names, and assign each Logon Search Container a unique 'domain' name. At the Logon screen, users will be able to select a 'domain' and logon using only their Common Name and password.

To add a Logon Search Container, click **Add Container**. The first time you do this, you will be prompted for an ADAM Lookup Identity; enter a fully distinguished ADAM identity with browse rights. This identity is used only to verify the Container name entered for Logon Search Containers; it is not saved.



Once the valid ADAM Lookup Identity is entered, you will see the ADAM Logon Search Containers Dialog below.



Enter a Name for the Logon Container, and a fully distinguished name of a container and click **Add**. The Name will appear the user upon logon as a 'domain' choice, allowing them to logon with only their Common Name.

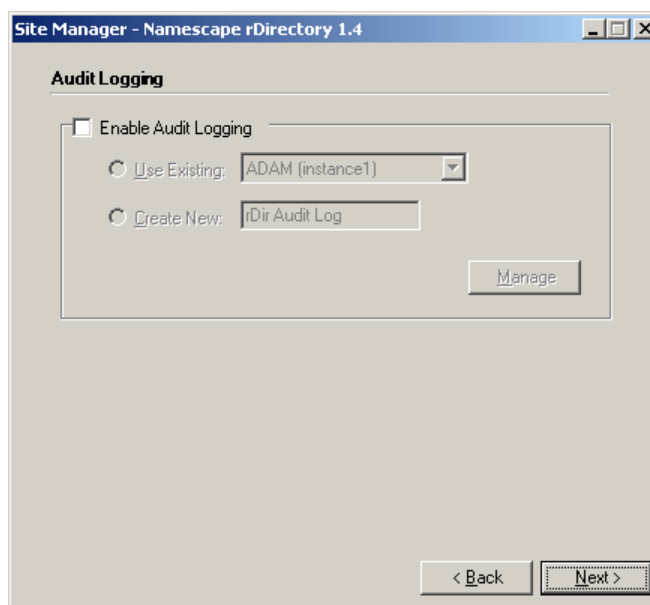
Enable UPN Logon

Enabling UPN Logon will allow users to logon with their UPN Name, and requires a UPN Search Identity to be configured.

UPN Search Identity

The UPN Search Identity is a fully distinguished ADAM identity that is used upon logon to search for the UPN name entered by the end user.

Audit Logging Configuration



 **Note:** This screen only appears if you are installing the Enterprise Edition of rDirectory.

Simple Install

- ✓ Click **Next** to install without enabling Audit Logs

Detailed Install

Enabling Audit Logging will log all changes to Active Directory made through rDirectory. Audit Logs are written to a selectable Event Log in a form that is both human and machine readable. Each log entry will record who made the change, when it was made, what object was changed, and the old and new values.

On this screen, you may choose to enable Audit Logging, and the event log to use for this purpose. The default Event Log name used by rDirectory is 'rDir Audit Log'.

Enable Audit Logging

Checking this checkbox will enable Audit Logging to the Event Log file set below.

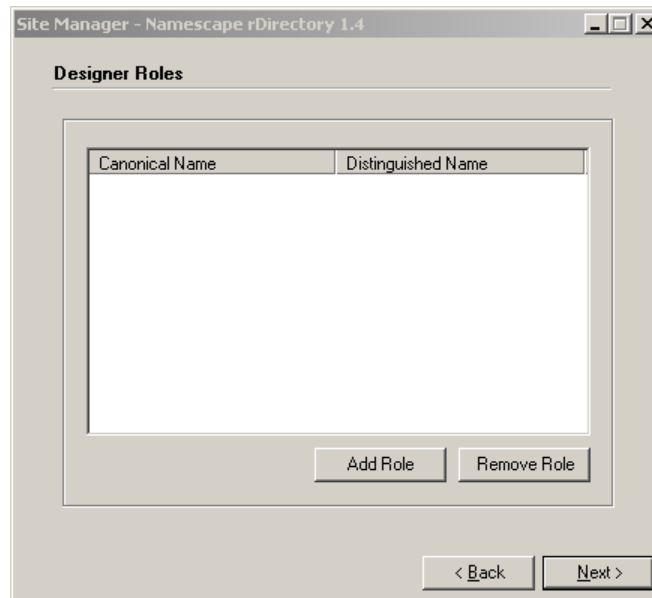
Use Existing

Select 'Use Existing' to save the Audit Event to be into an existing Event Log. If the default Event Log 'rDir Audit Log' already exists, the Site Manager will default to using this Event Log

Create New

Select 'Create New' to create a new Event Log. If the default Event Log 'rDir Audit Log' does not already exist, the Site Manager will default to creating a new log of this name.

Designer Roles Configuration



Simple Install

- ✓ If you are evaluating the product or installing in a lab, leave the Designer Roles empty. When you are deploying the product in a production mode, add a Designer Role to restrict access to the Designer Menu.
- ✓ Click the **Next** button.

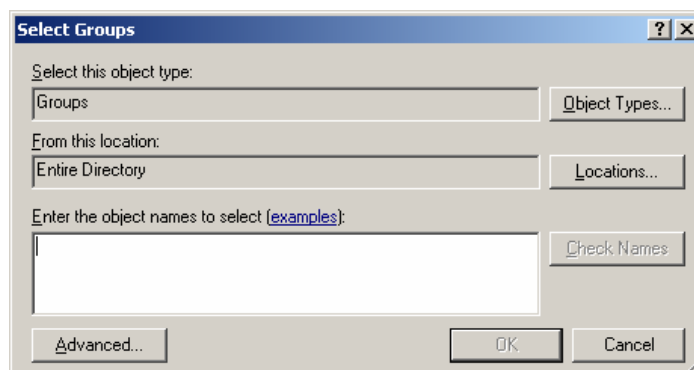
Detailed Install

Use Designer Roles to determine which users have access to the Designer Menu. A Designer Role can be any group in Active Directory. Multiple Designer Roles may be used. If no Designer Roles are set, all users have access to the Designer Menu.

Active Directory Specific Setup

Designer Roles

To assign Designer Roles click the 'Add Role' button and select one or more groups from the object selector.



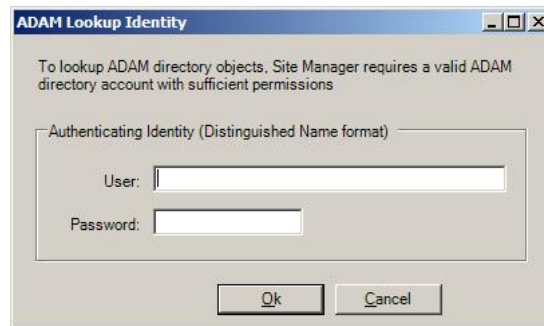
ADAM Specific Setup

Designer Roles

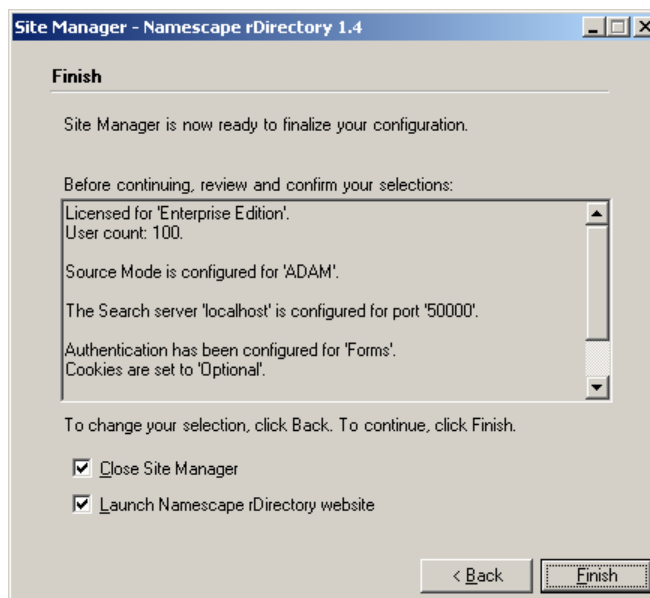
To add a Designer Role, click Add Role and enter the name of the group in its DN format.

ADAM Lookup Identity

When you click Add Role, and if you have not already supplied an ADAM Lookup Identity in the ADAM Logon Configuration page, you will be prompted to do provide an ADAM Lookup Identity. The ADAM Lookup Identity is used to verify that Designer Roles are valid groups and must be a DN of a member of ADAM directory that is in the 'Readers' role.



Finish



Simple Install

- ✓ To save the configuration options, click **Finish**

By default, the Site Manager will close upon completion, and launch the rDirectory website.



Note: The default browser settings on the server may prevent local web browsing.

Next Steps

Once you have rDirectory installed, follow the steps in the *Getting Started Guide* to learn the basics of using and customizing rDirectory. It takes approximately 45 minutes to step through the *Getting Started Guide*. After you have completed the Getting Started Guide, the Designing Solutions Guide offers a more complete introduction to customizing rDirectory and using its advanced features.

Appendix A – Using Integrated Windows Authentication

This appendix describes how to configure and troubleshoot rDirectory with Integrated Windows Authentication (IWA).

Overview

Many applications use IWA to pick up the users logon and provide a single-sign-on experience for users. However, when rDirectory uses IWA it also ‘impersonates’ the user when talking to Active Directory, assuring that their native Active Directory permissions are in control of what they can see and edit. This ‘impersonation’ model can be more sensitive to Kerberos issues in your network than other IWA applications you may be familiar with.

Once the basic requirements listed below are all satisfied, rDirectory will work as expected with IWA as long as Kerberos and Delegation are working as they should. However, IWA with rDirectory can also uncover Kerberos and Delegation issues in your network that may not generally be apparent.

Internet Explorer 6

For IWA to work it must be enabled in each IE browser that accesses rDirectory. By default, IWA is not enabled in IE 6. You may automate the configuration of IWA, or use the manual process:

1. In Internet Explorer, click **Internet Options** on the Tools menu.
2. Click the **‘Advanced tab’**, check **‘Enable Integrated Windows Authentication (requires restart)’** in the Security section, then click **OK**.
3. Restart Internet Explorer.

For additional information about how to make sure that this option is set correctly, click the following article number to view the article in the Microsoft Knowledge Base:

<http://support.microsoft.com/kb/299838/EN-US/>

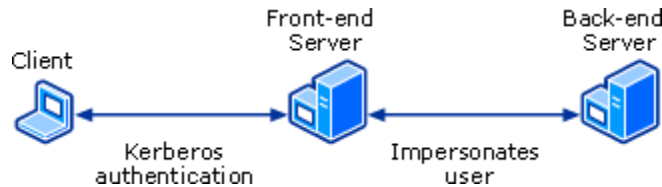
Delegation

IWA requires that the server that rDirectory is installed on be ‘Trusted For Delegation’. Domain controllers are automatically ‘trusted for delegation’, however if you install rDirectory on a non-domain controller you may need to enable delegation.



Note: Enabling delegation is not always immediately available. You may need to wait up to 24 hours for the delegation setting to be effective.

Delegation is required in a double-hop scenario, where a client connects to a front-end server (web server/rDirectory) that requests services from a back-end server (global catalog/domain controller) using impersonation.



When using IWA rDirectory impersonates the requesting user for directory access, preserving their inherent permissions. Delegation is required to allow the web server to impersonate the requesting user.

To allow a computer to be trusted for delegation:

1. Open Active Directory Users and Computers.
2. In the console tree, click '**Computers**'
3. In the details pane, right-click the computer you want to be trusted for delegation, and click **Properties**.
4. Do one of the following:
 - On a Windows Server 2003 domain, open the '**Delegation tab**', click '**Trust this computer for delegation to any service (Kerberos only)**', and then click **OK**.
 - If in a Windows 2000 native domain, click the '**General tab**', click '**Trust this computer for delegation**', and then click **OK**.

Service Principle Name

Service Principal Names (SPNs) are unique identifiers for services running on servers. Every service that will use Kerberos authentication needs to have an SPN set for it so that clients can identify the service on the network. If an SPN is not set for a service, then clients will have no way of locating that service. Without properly set SPNs, Kerberos authentication is not possible.

If you are accessing rDirectory using an Active Directory fully qualified domain name (FQDN) or a NetBIOS name no changes should be necessary. If you have mapped your rDirectory installation to a DNS alias (CNAME) then an additional SPN is required.

You can view the current SPN entries using the SetSPN.exe from the command line. To view the current entries enter the following at a command prompt:

```
C:\>setspn -l [netbiosname]
Registered ServicePrincipalNames for CN=[netbiosname],CN=Computers,DC=division,DC=company,DC=com:
HOST/[netbiosname]
HOST/[netbiosname].division.company.com
```

These are the only two entries necessary for using AD FQDN / NetBIOS. If you are using a DNS Alias, add the following entry:

```
C:\>setspn -a http/rdirectory.company.com [netbiosname]
Registering ServicePrincipalNames for CN=[netbiosname],CN=Computers,DC=division,DC=company,DC=com
http/rdirectory.namescape.com
Updated object
```

For additional information about SetSPN.exe:

<http://www.microsoft.com/windows2000/techinfo/reskit/tools/existing/setspn-o.asp>

Appendix B – Changing the Licensed Domain

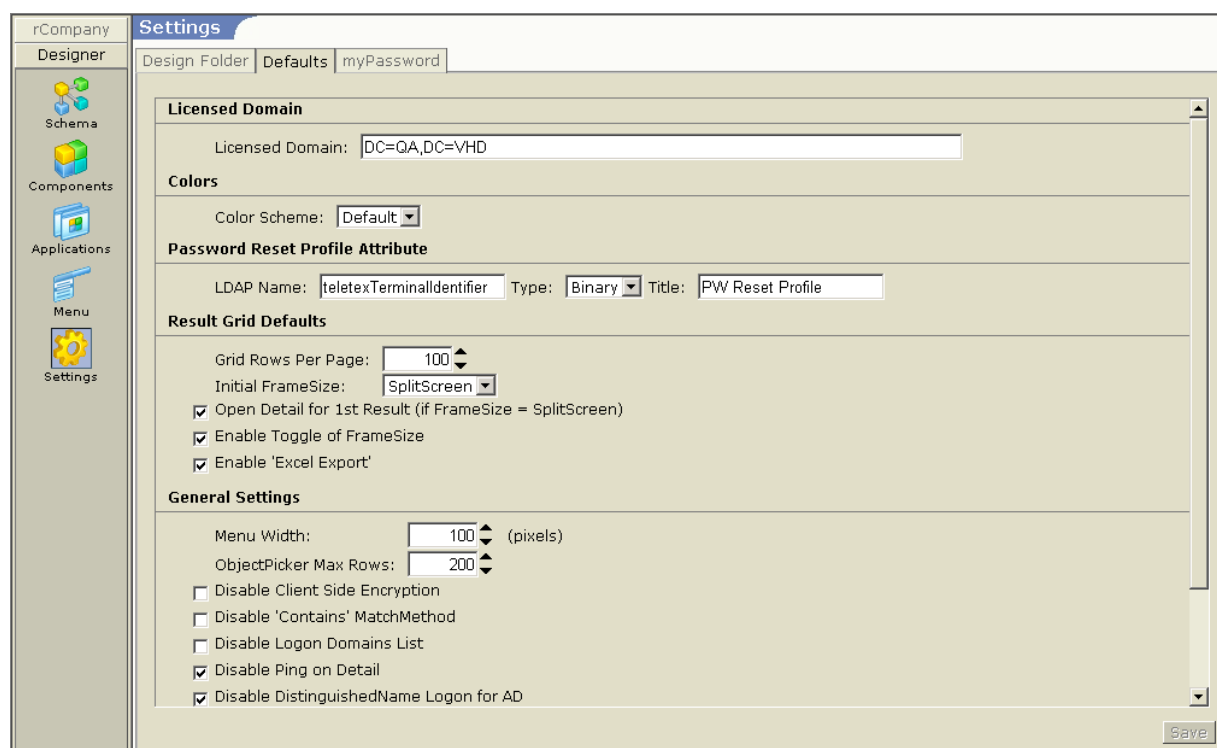
 **Note:** This section does not apply to the Community Edition

The Standard and Enterprise editions can be licensed for all users in a forest, or for all users in a named domain called the Licensed Domain. If a Domain License is purchased rather than a Forest License, then all searching and editing is limited to users and objects of the Licensed Domain.

When rDirectory is installed using a Domain License, the default Licensed Domain that is set to the Default Naming Context of the Global Catalog selected as the Search Server in the Site Manager. If this is not the same as the named domain that the license was purchased for then you can change the Licensed Domain as follows:

To change the Licensed Domain:

- 1) Open the Settings Page on the Designer Menu, and click the Defaults tab as shown below



The screenshot shows the 'Settings' window in the 'rCompany Designer' application. The 'Defaults' tab is selected. The 'Licensed Domain' field is set to 'DC=QA,DC=VHD'. Below this, the 'Colors' section shows 'Color Scheme' set to 'Default'. The 'Password Reset Profile Attribute' section shows 'LDAP Name' as 'teletextTerminalIdentifier', 'Type' as 'Binary', and 'Title' as 'PW Reset Profile'. The 'Result Grid Defaults' section includes 'Grid Rows Per Page' set to 100, 'Initial FrameSize' set to 'SplitScreen', and three checked options: 'Open Detail for 1st Result (if FrameSize = SplitScreen)', 'Enable Toggle of FrameSize', and 'Enable 'Excel Export''. The 'General Settings' section includes 'Menu Width' set to 100 (pixels), 'ObjectPicker Max Rows' set to 200, and several unchecked options: 'Disable Client Side Encryption', 'Disable 'Contains' MatchMethod', 'Disable Logon Domains List', 'Disable Ping on Detail', and 'Disable DistinguishedName Logon for AD'. A 'Save' button is located at the bottom right.

- 2) In the section titled 'Licensed Domain', enter the full-distinguished name of the named domain that was licensed. The distinguished name of a domain will have the form 'DC=Domain,DC=myCompany,DC=com'. If you are not sure of the distinguished name of your domain, you can use a tool such as ADSI Edit to find and copy the distinguished name, then paste the value into the Licensed Domain

Appendix C – Moving rDirectory to another machine

Moving rDirectory to another machine is a simple process. After installing and licensing rDirectory on the new machine, all of the necessary files can simply be copied to the corresponding location on the new machine. Generally, all you will need to copy is the Design Folder you have customized, however in some cases there may be more files you wish to copy.

Copying Design Folders to a new machine

A Design Folder is simply a subdirectory or folder containing a set of XML configuration files. All custom Design Folders that you have created can be found under the `.\rDirectory\Framework\Config\Store\Design` path. For example, if you have created and customized a Design Folder called 'myFolder', you would simply copy the entire folder `.\rDirectory\Framework\Config\Store\Design\myFolder` to the corresponding `.\rDirectory\Framework\Config\Store\Design` path on the new machine.

Once a Design Folder has been copied to the new machine, it will be available for selection as the Current Design Folder on the Designer Menu > Settings > Design Folder tab.

Copying the Site.config file to a new machine

The Site.config file contains the various settings that have been configured using the Site Manager. If you have made extensive configuration using the Site Manager or you simply want to duplicate the configuration, you can copy the `...\rDirectory\Framework\Config\Store\Site\Site.config` file to the new machine.

After the Site.config is copied, you can run Site Manager on the new machine to change any settings that you want to be different on that machine.

Copying the Defaults.config file to a new machine

If the Defaults.config file has been changed after install, either manually or by using the Designer Menu > Settings > Defaults tab, you may want to copy the `...\rDirectory\Framework\Config\Store\Site\Defaults.config` file to the new machine.

Other files that you may want to copy file to a new machine

If you have manually changed any of the following files, you may want to copy them to the new machine as well.

`...\rDirectory\Framework\Config\Store\Site\SchemaRules.config`

`...\rDirectory\Framework\Config\Store\Site>PasswordDictionary.txt`

`...\rDirectory\Logon.htm`

Any of the .ColorScheme files located in `...\rDirectory\Framework\Config\Store\Design\`

Any of the email Message Template files located in

`...\rDirectory\Framework\MessageTemplates\email\en-us\`

Appendix D – Uninstalling rDirectory

When rDirectory is uninstalled, some files and items defined in IIS are not removed.

To completely remove rDirectory from a machine, perform the following steps:

- ✓ Using Add/Remove Programs, uninstall rDirectory
- ✓ Using IIS Manager, delete the Website or Virtual Directory defined for rDirectory.
- ✓ Using IIS Manager, delete the 'rDirectory' Application Pool
- ✓ Delete the files from the physical path where they were installed. By default these will be located at C:\inetpub\wwwroot\rDirectory.

Appendix E - Troubleshooting Common Errors

‘Access to the path <path> is denied’

Symptoms

When accessing the rDirectory website for the first time or attempting to save changes in the designer you may receive the following message:

“Access to the path <path> is denied”

Cause

This error message occurs when the process running ASP.NET lacks permission to write to the rDirectory config file store under the directory ...\\rDirectory\\Framework\\Config\\Store.

Resolution

The resolution differs depending on the version of IIS you are using

For IIS5 (Win2000 and WinXP)

- 1) Verify that the IIS5 Process Model identity is set SYSTEM
See Server Preparation Procedure # 4 in the Requirements section of this Guide.
- 2) If you still experience the same error message, verify that the local user ASPNET has write access to the rDirectory Config Store path (...\\rDirectory\\Framework\\Config\\Store) and all files and subdirectories below this path.

For IIS6 (Win2003)

With Windows 2003 and IIS6, the ASP.NET process permissions are defined by the Application Pool associated with the Web Site or Virtual Directory.

The default install options are to install rDirectory with an Application Pool called ‘rDirectory’, which uses ‘System’ permissions.

- 1) Verify the current Application Pool has System permissions

Open the IIS Snap-in and browse the Web Sites tree for the Website or Virtual Directory where rDirectory was installed. Right click and select properties. The current Application Pool is displayed on the Virtual Directory tab.

If the current Application Pool is ‘Default App Pool’, change the current Application Pool to be the default ‘rDirectory’ Application Pool created at install.

To verify the current application pool has sufficient permissions, browse the Application Pools tree and locate the application pool used by rDirectory. Right click

the application pool and select properties. The identity tab indicates the windows identity that the process is running as.

Select the “Predefined” radio button and then “System” from the drop down list. This is the default rDirectory installation.



Note: If you wish to use a custom account identity for the Application Pool rather than ‘SYSTEM’, the identity must be a member of the Directory, must be a member of the Local IIS_WPG group, and must have read/write permissions to the rDirectory Config Store (...rDirectory\Framework\Config\Store)

Process Model not set to SYSTEM

Symptoms

When installing on Windows 2000 or Windows XP you receive an error message indicating that the Process Model is not set to SYSTEM after the installer finishes and Site Manager is first launched.

Cause

Site Manager checks for this required modification to the machine.config when installing under IIS5 (Windows 2000 or Windows XP).

Resolution

See Server Preparation Procedure # 4 in the Requirements section of this Guide.

Self Edit button does not appear for some users

Symptoms

When using operator permissions to edit, rDirectory does not display the Edit button for some users when they are looking at their own details.

Cause

Assuming that no rDirectory Edit Roles (not available in the Community Edition) have been set to block editing and that Operator Edit Permissions are in effect (always set in the Community Edition), the likely cause is the target account has been removed from a protected group and has lost their default inherited permissions.

Once per hour the PDC (Primary Domain Control) FSMO (Flexible Single Master Operations) controller compares the ACLs for domain security principles (users, groups, machine accounts) against the AdminSDHolder – this only applies to principles that are members of a protected group. If the ACL’s for an object do not match, inheritance for that object is removed and its ACL’s are overwritten to reflect those in the AdminSDHolder.

This behavior is by design and is intended to protect administrative accounts from being modified by unauthorized users in the event that an administrative account is moved into a container where a user has been delegated administrative privileges.

When an object is removed from a protected group, inheritance must be manually restored.

The following list describes the protected groups in Windows 2000:

- Enterprise Admins
- Schema Admins
- Domain Admins
- Administrators

The following list describes the protected groups in Windows Server 2003 and in Windows 2000 after you apply the 327825 hot fix or you install Windows 2000 Service Pack 4:

- Administrators
- Account Operators
- Server Operators
- Print Operators
- Backup Operators
- Domain Admins
- Schema Admins
- Enterprise Admins
- Cert Publishers

Additionally the following users are also considered protected:

- Administrator
- Krbtgt

Resolution

For more information including how to restore inheritance, see the following links:

- Delegated permissions are not available and inheritance is automatically disabled:
<http://support.microsoft.com/?id=817433>
- Description and Update of the Active Directory AdminSDHolder Object:
<http://support.microsoft.com/?id=232199>

404 Error – File Not Found

Symptoms

When you access the rDirectory website with a url such as <http://server-name/rDirectory>, you receive a 404 Error – File Not Found

Cause

The most likely cause of this error is that rDirectory has been installed as a Virtual Directory under another Website, such as SharePoint, that uses custom ISAPI filters. Custom ISAPI filters will not allow IIS to find the ASP.NET .aspx pages therefore the File Not Found error is returned.

Resolution

Uninstall rDirectory and re-install as a New Web site so that the custom ISAPI filters of the prior website do not affect rDirectory.

Another Website is stopped after rDirectory is installed

Symptoms

After you install rDirectory, another website on the server is listed as 'stopped' and is not accessible.

Cause

rDirectory was installed as a website using a port, IP address, or host header that was already in use by another website. In this case, the rDirectory installer will stop the website that has conflicting configuration before installing rDirectory.

Resolution

Using IIS Manager, resolve the conflict between the rDirectory website and the website that was stopped, then restart the stopped website. Alternatively, you can uninstall rDirectory from this server and move it to another server; however, you will still need to manually restart the website that was stopped.

Cannot access rDirectory from another machine

Symptoms

Windows Integrated Authentication is configured and you can access rDirectory locally from the server where it is installed, but you receive an error when you access it remotely from a browser on another machine.

Cause

Server delegation is not set, or has not taken effect yet. It can take up to 24 hours for the 'Trust Server for Delegation' setting to be effective.

Resolution

If you have not set the host server for delegation, then do so (See Appendix A). If you have recently enabled delegation, it may not be effective yet. In this case, wait 24 hours and try again. In the mean time switch to using Forms Authentication using the Site Manager. Alternatively, you can install rDirectory on a server that is already trusted for delegation such as a domain controller.

Some cases have been reported where even after several days delegation has not taken effect. Sometimes in these cases, removing the server from the forest and re-adding it has cleared up the issue. Another alternative is to install rDirectory on a Domain Controller which must have delegation working for Active Directory to work properly. In any case, the problem is that delegation is taking effect.

Site Manager Error Codes

Error Code	Error Message	Possible cause
AS01	Windows 2000 or later is required to run Site Manager	Namescape only supports Windows 2000, Windows XP, and Windows 2003.
AS02, IE01	Registry access failed.	The current user does not have administrative privileges for this machine, or the product did not install properly.
AS03	ASP.NET is not enabled.	Windows 2003: .NET may be installed, but ASP.NET is not installed or enabled. This can be caused by configuring IIS after installing the .NET framework, by using the "Server Role" management utility and not selecting ASP.NET, by disabling the ASP.NET extension with the IIS manager. This can be repaired by running 'aspnet_regiis.exe -I' (see MS KB article: Q306005 for more information).
AS05	ASP.NET could not be found.	Windows 2000 and XP: .NET may be installed, but the ASP.NET extension is not installed. This can be caused by configuring IIS after installing the .NET framework. This can be repaired by running 'aspnet_regiis.exe -I' (see MS KB article: Q306005 for more information).
AS08	IIS 5 Isolation Mode is not supported with Windows 2003.	Windows 2003: IIS is configured to use "Isolation mode". This can be caused by upgrading from Windows 2000 to Windows 2003. To set IIS 6 to native mode, open the IIS manager, expand the current server, right click on the 'Websites' folder, select properties. On the 'Service' tab remove check mark next to 'Run WWW service in IIS5.0 isolation mode' and save.
FL03, LE01	Invalid license key.	The license key entered is not a valid. Check the key and retry.
FM01	The object was not of a group type.	ADAM: A valid DN was specified, but the object was not of type group. Please check the object and insure it is a group.
FM06	Error Authenticating User.	ADAM: The authenticating identity failed. Please check the DN and password. Also insure that the identity is a member of the 'Readers' group and that the account is not disabled.
IE01	Could not access the registry.	Administrative privileges for the local machine are required for application configuration. Logon with the correct privileges.
TA01	The default identity credentials failed to authenticate.	The identity has invalid credentials or is not a member of the search directory. Please check the credentials and try again.
TD01	The Search Directory is not a Global Catalog.	The Active Directory server entered does not contain a Global Catalog. Ensure the selected source mode matches the target directory and the port is correct.
TD02	The Search Directory is not an ADAM Directory.	The directory server entered does not contain a ADAM instance. Ensure the selected source mode matches the target directory and the port is correct.
TD04	The current user must be a member of the directory.	Windows 2003: The current user must be a member of the directory. Ensure a local account is not being used.
TP02	Authenticating the application pool identity failed.	The identity entered for the application pool has invalid credentials or is not a member of the search directory. Please check the credentials and try again.