

# **Ithicos** Solutions

## Manual Installation

Directory Update 2.5 and later  
Directory Manager 2.2 and later  
Directory Search 2.0 and later  
Directory Password 1.2 and later

6 July 2014

## Table of Contents

Overview .....	4
Manual Overview .....	4
Requirements .....	4
Windows Server .....	4
Browser Requirements .....	5
Installation User Account .....	5
Server Software Prerequisites .....	6
Windows Server 2008 .....	6
Windows Server 2012 .....	6
Windows Server 2003 .....	6
Manual Installation Steps .....	7
1. Download the Manual Installation File .....	7
2. Unzip and Copy Manual Installation Files .....	7
3. Create an IIS application pool .....	8
4. Create a Virtual Application or Virtual Directory .....	10
5. Define Domain, Service Account, and Licensing Information .....	14

# Ithicos Solutions

## **Notice of Copyright**

The Directory Update, Directory Manager, Directory Search, and Directory Password applications are copyrighted and owned by Ithicos Solutions LLC, a Hawaii limited liability corporation. Windows, Active Directory, Exchange Server, and Outlook are trademarks or copyrights of the Microsoft Corporation. Other products and services mentioned in this document may be copyrighted or trademarked by their respective companies.

Usage and licensing of these applications are governed by the Ithicos Solutions software license agreement.

## **Document Revision History**

January 15, 2014 – First draft developed - JWM

March 30, 2014 – Additional sections added – JWM

June 24, 2014 – Manual installation instructions added

## **Support**

Support and software updates are available via our web site at <http://www.ithicos.com>.

## Overview

Ithicos Solutions LLC's Directory Update, Directory Manager, Directory Search, and Directory Password applications are web-server based applications that provide end users and administrators with services capabilities (self-service updates, delegated updates, phone book, and password reset) for Microsoft's Active Directory.

These applications use Microsoft Internet Information Server, Microsoft .NET 4.0 Framework, and ASP.NET components on the IIS server and LDAP to communicate with the Active Directory.

The end user interface is any compatible web browser.

## Manual Overview

We have found a few instances where our software installer will not correctly finish the installation. Most notably this happens on Windows 2008 x86 and Windows Server 2003 operating systems.

This document steps an installer through the process of setting up the application manually. This is a simple process that includes:

1. Ensure the server has the necessary software installed/configured
2. Unzip the manual installation ZIP file in to the correct folder
3. Assign the NetworkService permissions to the .\Logs and .\Photos folders
4. Create a IIS dedicated application pool
5. Create an IIS virtual application / virtual directory
6. Run the Configuration Wizard

## Requirements

Our web applications require the following requirements:

### **Windows Server**

The server operating system must be a minimum of

- Windows Server 2008 SP1 (x64)
  - Standard Edition
  - Enterprise Edition
  - Datacenter Edition
- Windows Server 2008 R2 SP1 and later
  - Standard Edition
  - Enterprise Edition
  - Datacenter Edition
- Windows Server 2012 and later
  - Standard
  - Datacenter

Windows Server 2003 and Windows Server 2008 x86 can be configured if the manual installation process is followed.

Here is some additional information that you must keep I mind.

- The operating system can either be physical or virtualized. We recommend the server operating system have a minimum of 2GB of RAM available.
- The Windows server *\*must\** be a member of the Active Directory forest that contains the user accounts that will use the software. Cross forest updates are not supported.
  - The exception to this is Directory Update in resource domain mode. In that case, Directory Update must be installed in the accounts forest.
- Ithicos Solutions applications can co-exist with other IIS web sites and applications (including running on a domain controller or an Exchange server) with the exception of SharePoint.
- We do not support any edition of Windows running only Server Core nor do we support any edition of desktop operating systems. ASP.NET functions must be supported on the operating system under IIS in order for our software to function.
- We no longer provide installer support for Windows Server 2003 or Windows Server 2008 x86 mode. The below instructions will allow you to install these manually.

Windows Server 2008 *\*must\** have the .NET Framework v4.0 installed *\*before\** IIS installed. You can download the 4.0 Framework from here:  
<http://www.microsoft.com/en-us/download/details.aspx?id=22833>

## **Browser Requirements**

Ithicos Solutions applications use both client-side and server-side functions. The server sends customized HTML and Javascript web-applications to the Web browser clients. As web browsers have evolved, so have our applications and thus we require minimum web-browser version for client compatibility.

- Internet Explorer 9 – 11 (IE compatibility mode turned off)
- Firefox 16 - 28
- Google Chrome 15 - 33

Other web-browsers may work properly but are unsupported by the versions of the software covered by this document.

## **Installation User Account**

When you install Ithicos Solutions software, you must logon as a user that is a domain account but that also has local Administrator permissions on the IIS server.

## Server Software Prerequisites

Due to differences in IIS and the .NET Framework components, the Windows Server 2008 and Windows Server 2012 prerequisites (roles and features) are different.

### Windows Server 2008

On Windows Server 2008, the easiest and simplest way to install all of the IIS components required is to use the PowerShell.

1. Run PowerShell as an administrator
2. Type **Import-Module ServerManager** and press **Enter**
3. **Add-WindowsFeature Web-Server, Web-Basic-Auth, Web-Windows-Auth, Web-ASP-NET, Web-Net-Ext, AS-Web-Support** and press **Enter**
4. Reboot if prompted

If you installed IIS \*before\* you installed the .NET Framework 4.0, you may need to register the .NET Framework properly. Open a command prompt as an Administrator and type this:  
**c:\windows\microsoft.net\framework\v4.0.30319\aspnet\_regiis -iru** and press **Enter**

### Windows Server 2012

On Windows Server 2012, the easiest and simplest way to install all of the IIS components required is to use the PowerShell. Locate the PowerShell icon in amongst all those wretched tiles and choose to run as an administrator.

1. Run the PowerShell as an administrator
2. Type **Import-Module ServerManager** and press **Enter**
3. **Add-WindowsFeature Web-Server, Web-Basic-Auth, Web-Windows-Auth, NET-FRAMEWORK-45-Core, NET-FRAMEWORK-45-ASPNET, Web-HTTP-Logging, Web-NET-Ext45, Web-ASP-Net45** and press **Enter**
4. Reboot if prompted

### Windows Server 2003

Ensure that the .NET Framework is installed as well as all Web server options.

## Manual Installation Steps

The manual installation is a fairly easy. Make sure that the software prerequisites are all installed first. Then use these steps.

In these instructions, we are assuming that you are manually installing “Directory Update”. If you are installing another package, simply **replace** “DirectoryUpdate” with:

- DirectoryManager
- DirectoryPassword
- DirectorySearch

### 1. Download the Manual Installation File

We will provide you a location to a ZIP file that you can download. Download this file from our web site.

### 2. Unzip and Copy Manual Installation Files

Unzip the files in to a temporary location. The files should all be in a folder structure called DirectoryUpdate.

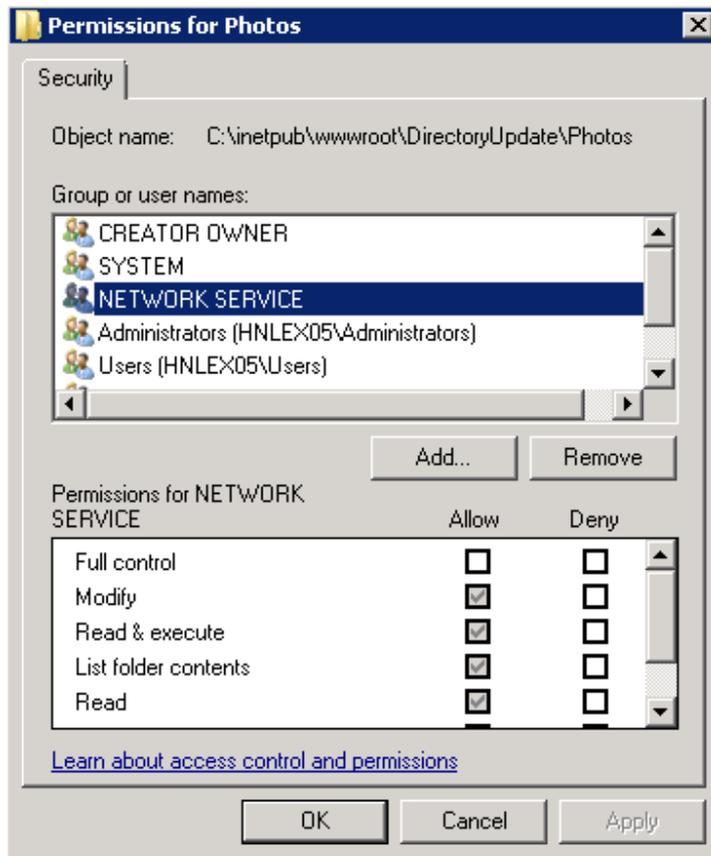
Copy the DirectoryUpdate folder in to your **c:\inetpub\wwwroot** folder. When you finish, you will have a folder called **c:\inetpub\wwwroot\DirectoryUpdate**. All Directory Update files and folders will be under that folder.

### 3. Assign Network Service Folder Permissions

If you plan to enable photo uploading or file-level auditing, you will need to give the Network Service user “Modify” permissions to the following folders:

c:\inetpub\wwwroot\directoryupdate\logs  
c:\inetpub\wwwroot\directoryupdate\photos

Open Windows Explorer, locate each of the above folders, right click, and choose the Security tab. Assign “Modify”, which will include Read & Execute, List Folder Contents, Read, and Write permissions.



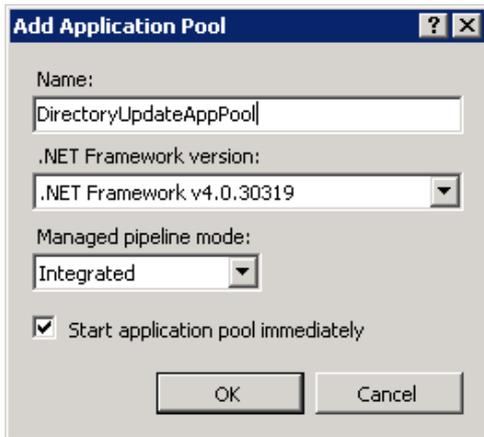
This allows IIS to write photos to the temporary .\photos folder and it allows to write log files for changes that users make to the .\logs folder. You enable file-level auditing in the AppSettings.XML file.

#### 4. Create an IIS application pool

Create an application pool for Directory Update called **DirectoryUpdateAppPool**

- 1) Open IIS Manager
- 2) Right click on Application Pools and choose “Add Application Pool”

- 3) In the Add Application Pool dialog box, type the name “DirectoryUpdateAppPool” and make sure that the .NET Framework v4.0.30319 is selected. Then click OK



**Add Application Pool**

Name: DirectoryUpdateAppPool

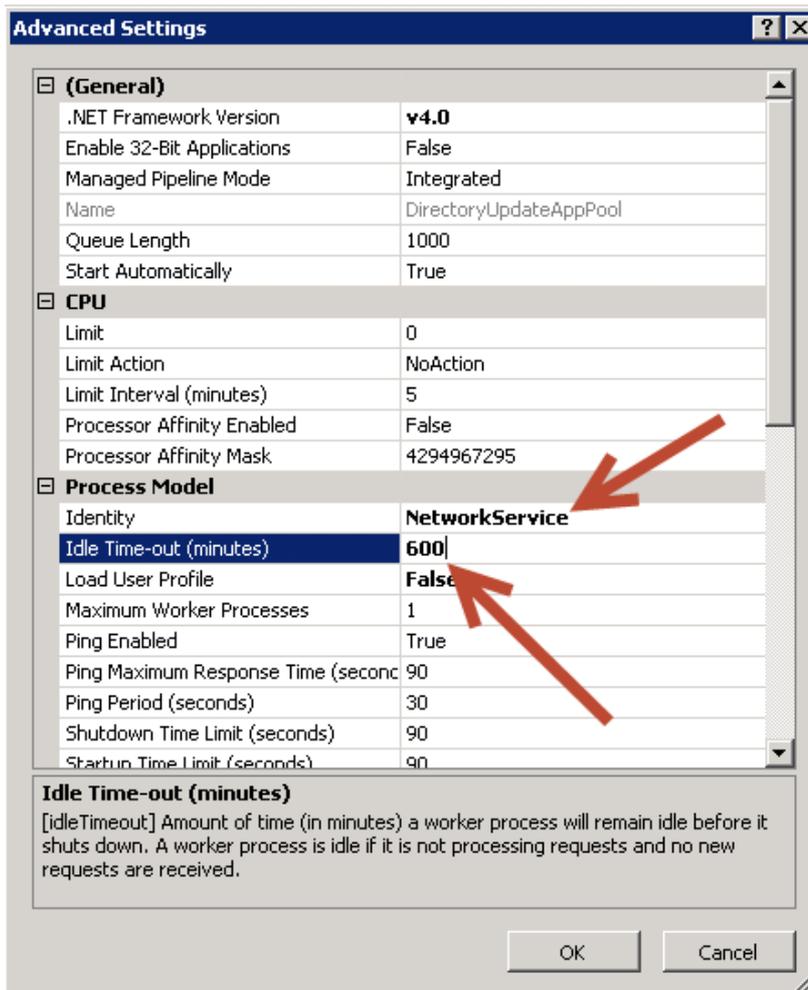
.NET Framework version: .NET Framework v4.0.30319

Managed pipeline mode: Integrated

Start application pool immediately

OK Cancel

- 4) If you are running Windows 2008 or Windows 2012, right click on the DirectoryUpdateAppPool and choose “Advanced Settings.” Set the Identity to **NetworkService** and set the Idle Time-out to **600**.



**Advanced Settings**

**(General)**

.NET Framework Version	v4.0
Enable 32-Bit Applications	False
Managed Pipeline Mode	Integrated
Name	DirectoryUpdateAppPool
Queue Length	1000
Start Automatically	True

**CPU**

Limit	0
Limit Action	NoAction
Limit Interval (minutes)	5
Processor Affinity Enabled	False
Processor Affinity Mask	4294967295

**Process Model**

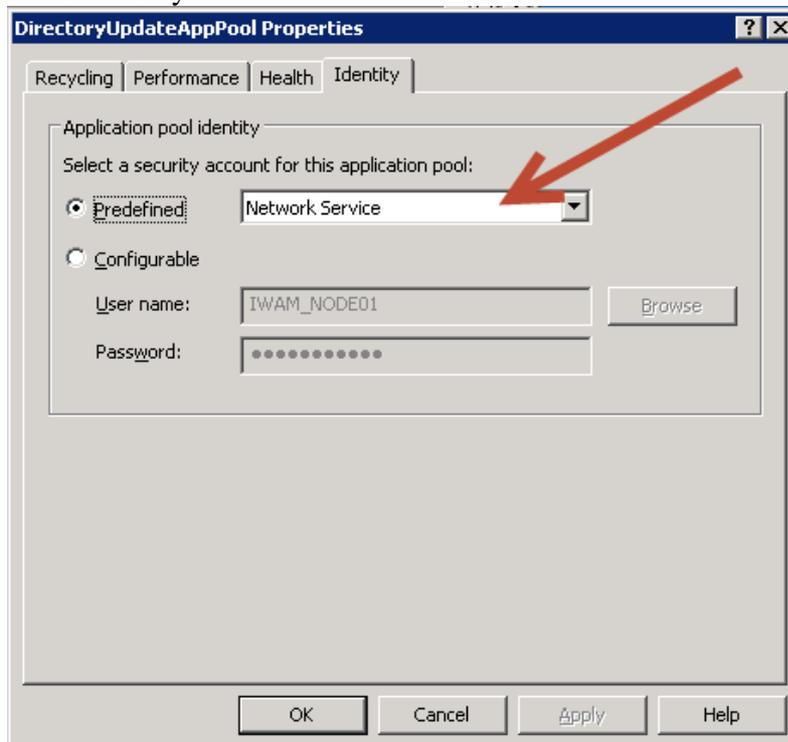
Identity	NetworkService
Idle Time-out (minutes)	600
Load User Profile	False
Maximum Worker Processes	1
Ping Enabled	True
Ping Maximum Response Time (seconds)	90
Ping Period (seconds)	30
Shutdown Time Limit (seconds)	90
Startup Time Limit (seconds)	90

**Idle Time-out (minutes)**

[idleTimeout] Amount of time (in minutes) a worker process will remain idle before it shuts down. A worker process is idle if it is not processing requests and no new requests are received.

OK Cancel

If you are installing Directory Update on a Windows 2003 server, on the properties of the DirectoryUpdateAppPool, go to the Identity tab and ensure that the Network Service is selected as the security account.

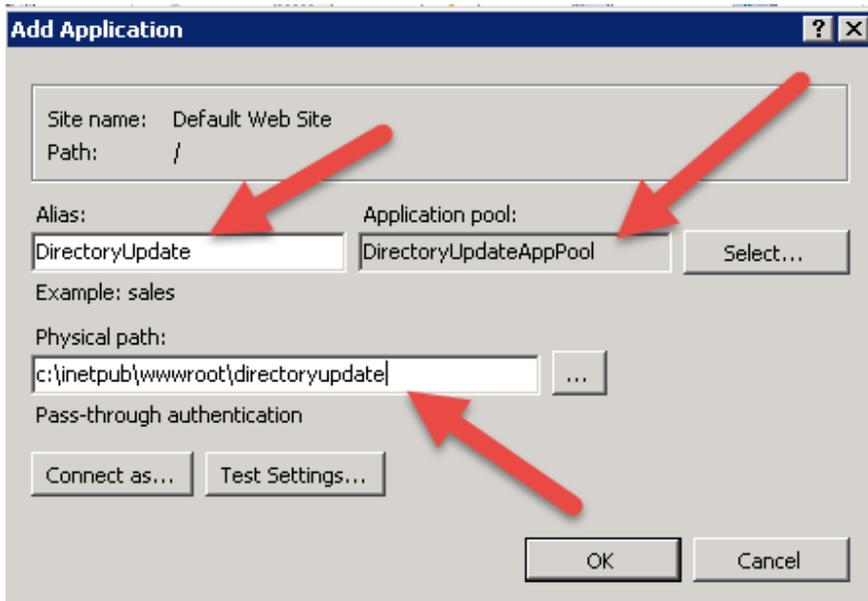


## 5. Create a Virtual Application or Virtual Directory

Use IIS Manager to create a new virtual application (Windows 2003 calls this a virtual directory).

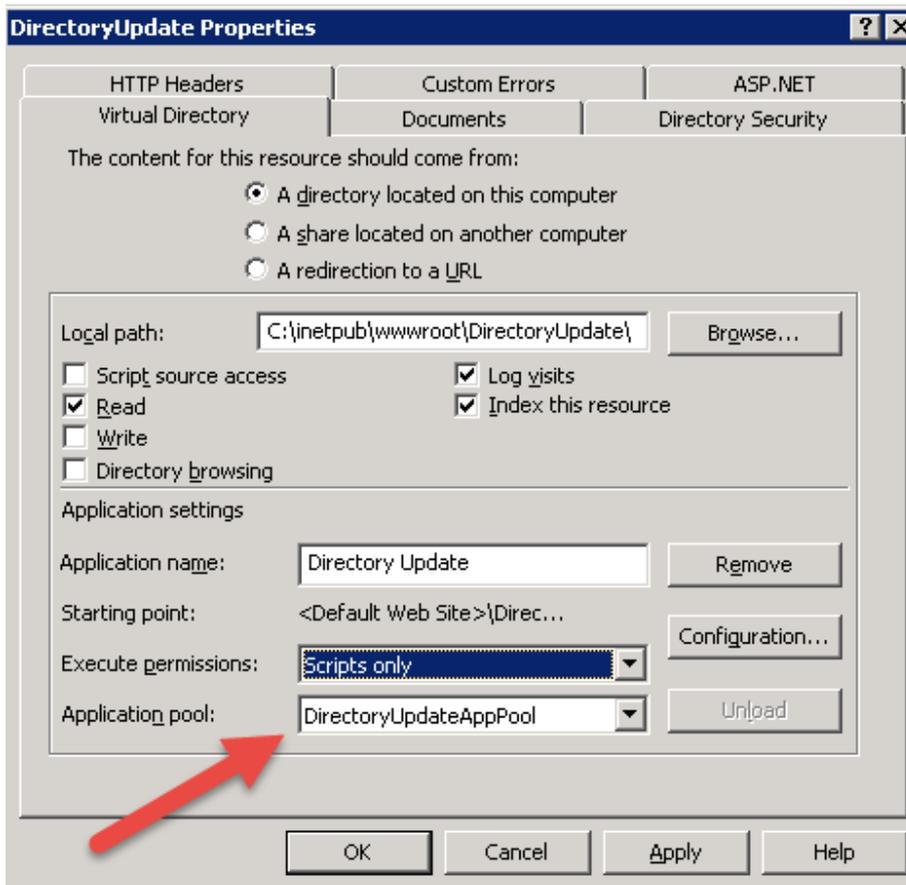
- 1) Open IIS Manager
- 2) Expand the Default Web Site
- 3) Right click on the Default Web Site and choose "Add Application
- 4) In the Add Application dialog box, type DirectoryUpdate as the alias and specify the path to the DirectoryUpdate files (usually c:\inetpub\wwwroot\DirectoryUpdate). In the Application Pool box, make sure that DirectoryUpdateAppPool is selected.

# Ithicos Solutions

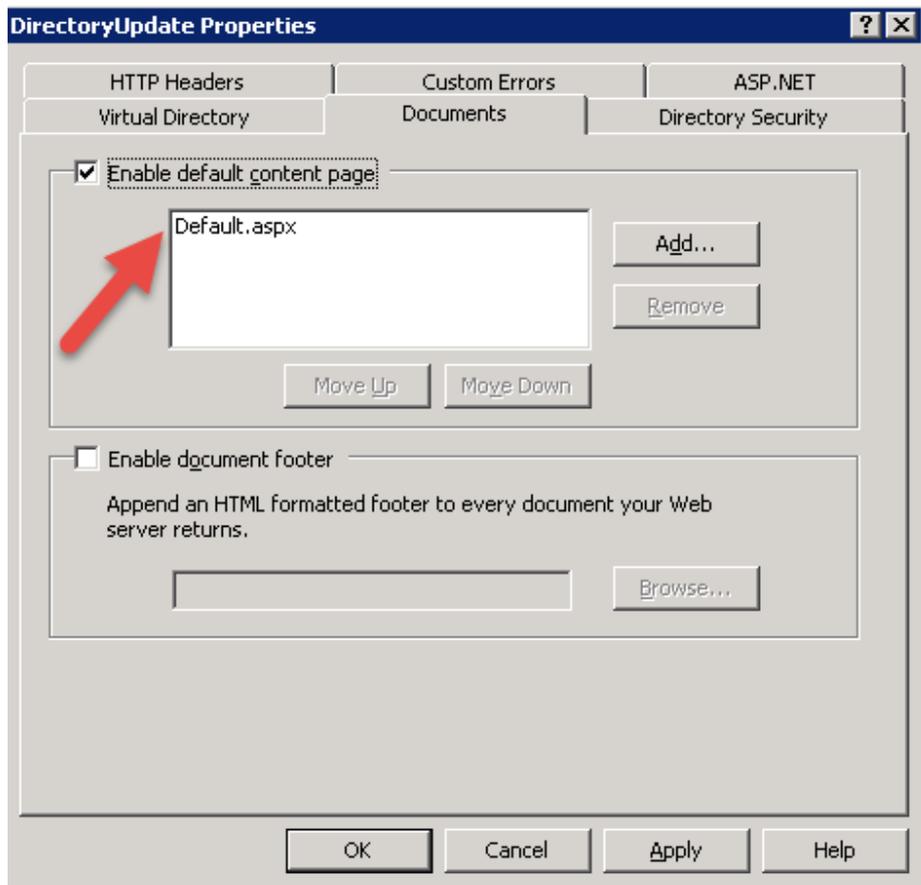


If you are manually installing on Windows 2003, you will need to perform a few additional steps in IIS. Follow these steps only for Windows 2003:

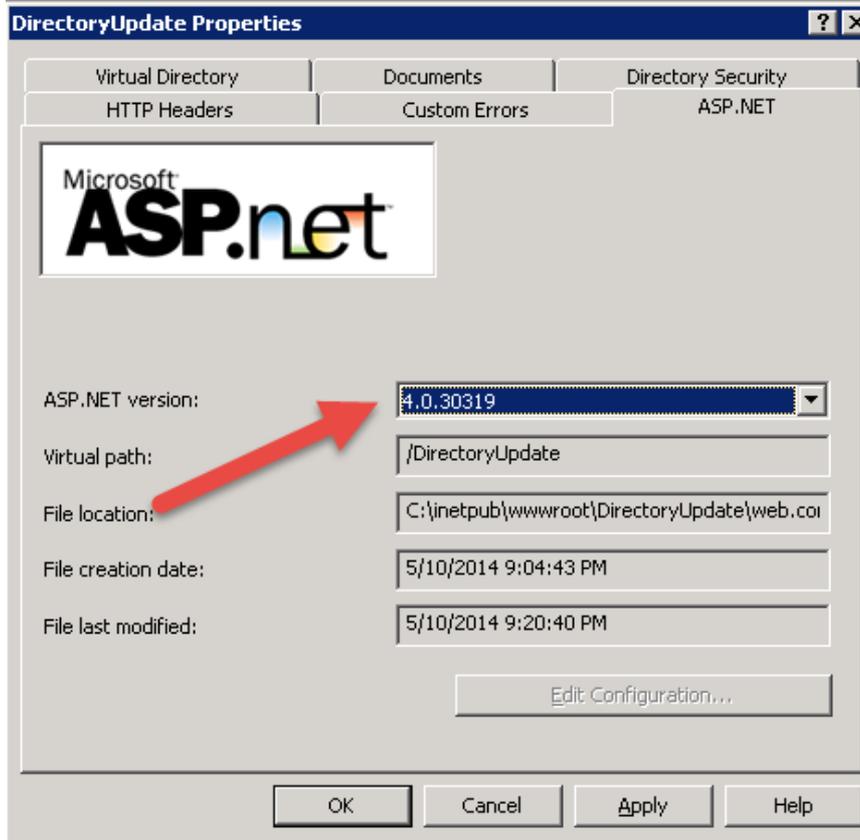
- 1) Right click on the DirectoryUpdate and choose Properties. On the Virtual Directory tab, make sure that the Application Pool is DirectoryUpdateAppPool.



- 2) On the Documents tab, make sure that Default.ASPX is listed under the default content page list.



- 3) On the ASP.NET tab, make sure that the ASP.NET version is set to 4.0.30319.



## 6. Define Domain, Service Account, and Licensing Information

Finally, you need to run the Configuration wizard so that you can enter domain controller, domain, service account, password, and licensing information.

- 1) Open up the **c:\inetpub\wwwroot\DirectoryUpdate\Configuration** folder
- 2) On Windows 2008/2012, right click on the Ithicos.Configuration.exe and choose "Run As Administrator". On Windows 2003, just run the application.
- 3) If this is a new installation, on the Configuration page, select "Add a New Domain Instance" and click Next
- 4) On the Directory Settings page, provide your domain controller name, domain name, the service/proxy account, and the service/proxy account password. When finished, click the Test Directory Settings button, then click Next.

# Ithicos Solutions

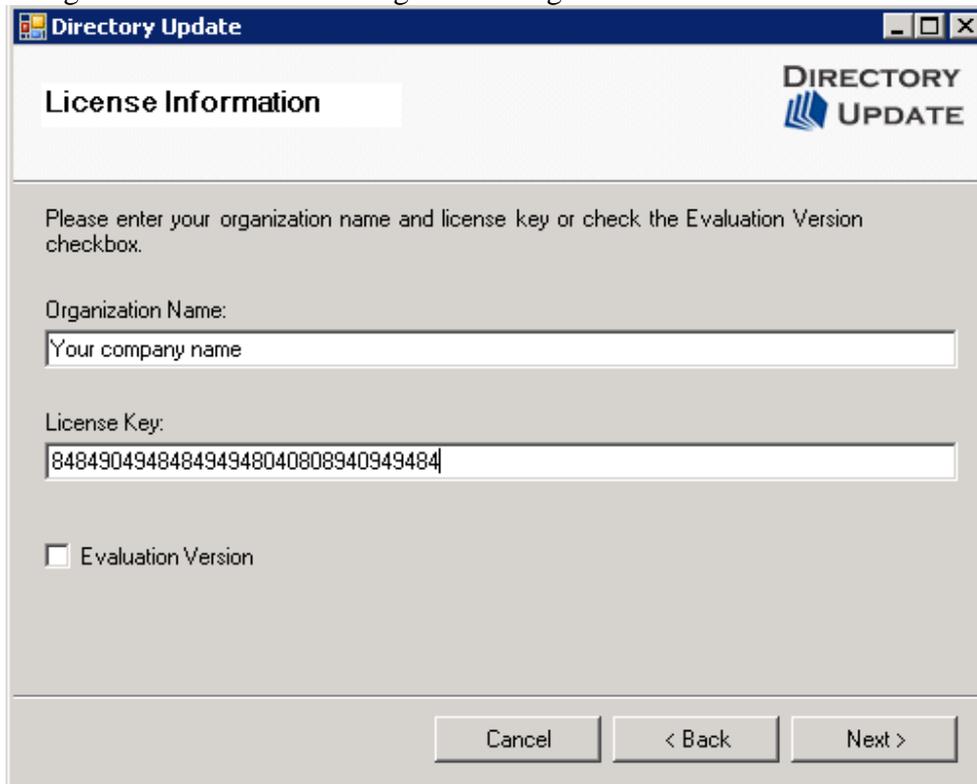
The screenshot shows a window titled "Directory Update" with a sub-header "Directory Settings". The window contains the following fields and controls:

- Instruction: "Please enter the Active Directory information. All fields are required."
- Field: "Domain Controller / Global Catalog Server:" with the value "DC01".
- Field: "Active Directory DNS Domain Name:" with the value "yourdomain.com".
- Field: "Service Account [<domain>\<user>]:" with the value "yourdomain\svc\_DirectoryUpdate".
- Field: "Service Account Password:" with masked characters "xxxxxxxxxxxxxxxxxxxxxxxxxxxx".
- Checkbox: "Resource Domain" (unchecked).
- Button: "Test Directory Settings..."
- Navigation buttons: "Cancel", "< Back", and "Next >".

- 5) On the Licensing Information page, provide your organization name and your license key. It is best to copy-and-paste the license key you received from use when you purchased. You can also check "Evaluation Version." The software is fully functional for 10 days in evaluation mode and you can add the license key later by running the

# Ithicos Solutions

Configuration wizard and editing the existing instance.



The screenshot shows a Windows-style dialog box titled "Directory Update". The window has a blue title bar with standard minimize, maximize, and close buttons. The main content area is titled "License Information" and features the "DIRECTORY UPDATE" logo in the top right corner. Below the title, there is a text prompt: "Please enter your organization name and license key or check the Evaluation Version checkbox." There are two text input fields: "Organization Name:" with the placeholder text "Your company name", and "License Key:" with the text "848490494848494948040808940949484". Below these fields is an unchecked checkbox labeled "Evaluation Version". At the bottom of the dialog, there are three buttons: "Cancel", "< Back", and "Next >".

The installation is now finished. You are now ready to begin testing and customizing the application.

We recommend you start out and test the application on the web server by opening up a Web browser on the server by typing <http://localhost/DirectoryUpdate>

Once you know the application is working, you can then begin editing the configuration files.