Workshare Compare Server 7

Administrator's Guide

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Company Information

Workshare Compare Server Administrator's Guide

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Chapter 1. Product Overview

This chapter provides an overview of Workshare Compare Server as well as a list of system requirements. It includes the following sections:

- **What is Workshare Compare Server?**, below, introduces Workshare Compare Server and its key functionality.
- **System Requirements**, page 6, describes the system attributes required to run Workshare Compare Server.

What is Workshare Compare Server?

Workshare Compare Server is a web service that performs server-side document comparison and exposes an API (Application Programming Interface) to allow a range of client applications to exploit this functionality. This API enables software developers to write custom software that compares two Microsoft Word, RTF, PDF or HTML documents and produces a Redline document that describes the differences between the two documents. Workshare Compare Server is installed on a server.

> ***Note:*** *PDF comparison is supported for PDF version 1.4 and above (Acrobat 5.0 and above). HTML comparison is supported for all HTML except for HTML documents created in Microsoft Word.*

Workshare Compare Server exposes a simple API that allows for integration into a range of client applications and server-based solutions. For example, it can be used by custom solutions that run on your Internet site, intranet site, internal network or your email system. Clients can be developed in Java, C#, Borland Delphi, C++ and other languages to integrate Workshare Compare Server into your desktop, DMS or document applications. This product includes sample applications which can be used to demonstrate the functionality and potential use of Workshare Compare Server. Refer to the *Workshare Compare Server Developers Guide* for more information concerning using the Workshare Compare Server API and sample applications.

System Requirements

Workshare Compare Server is designed to run on both entry level and enterprise scale servers. Recommended specifications are given below:

Hardware

CPU	64-bit architecture-based computer with Intel or AMD processor with 4 cores
Memory	4GB RAM – More memory may be needed if you intend multiple users to regularly compare long and complex documents.
Storage	1GB free disk space for installation

Supported Operating Systems

- Microsoft Windows Server 2008 R2 Standard x64 Edition (with SP1)

> ***Note**: Workshare Compare Server can be installed on Microsoft Windows 7 SP1 for demonstration and evaluation purposes only.*

Prerequisites

The following software must be installed prior to the installation of Workshare Compare Server:

- Microsoft .NET Framework 4.0

> ***Note**: Microsoft .NET Framework 4.0 MUST be installed. The installer will not check for Microsoft .NET Framework 4.0 but will fail if it has not been pre-installed.*

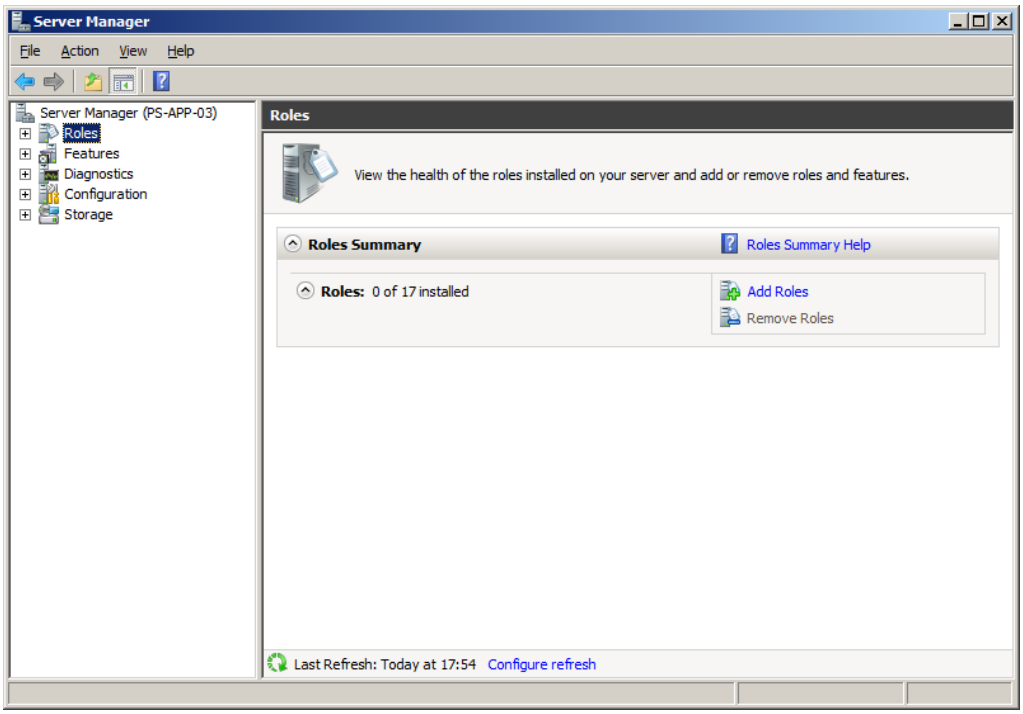
- Microsoft Message Queue (MSMQ) (Optional)

Installing Windows Components

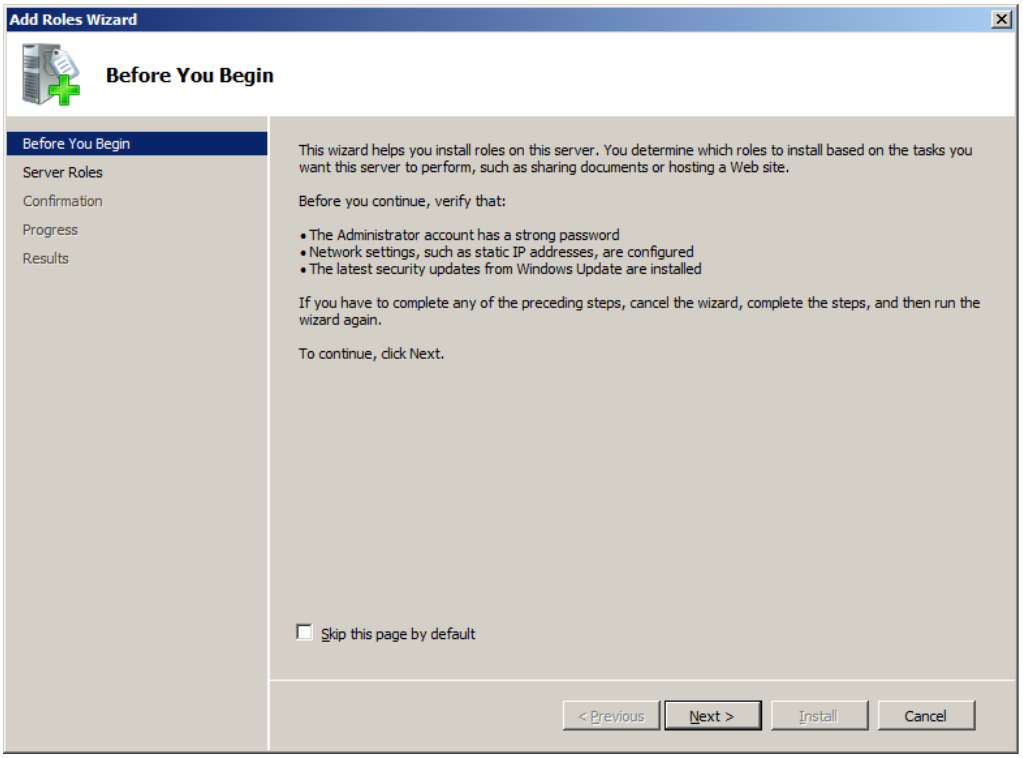
The following procedure describes how to install the required Windows components on Microsoft Windows 2008 Server.

To install Windows components:

1. Open the Server Manager application.

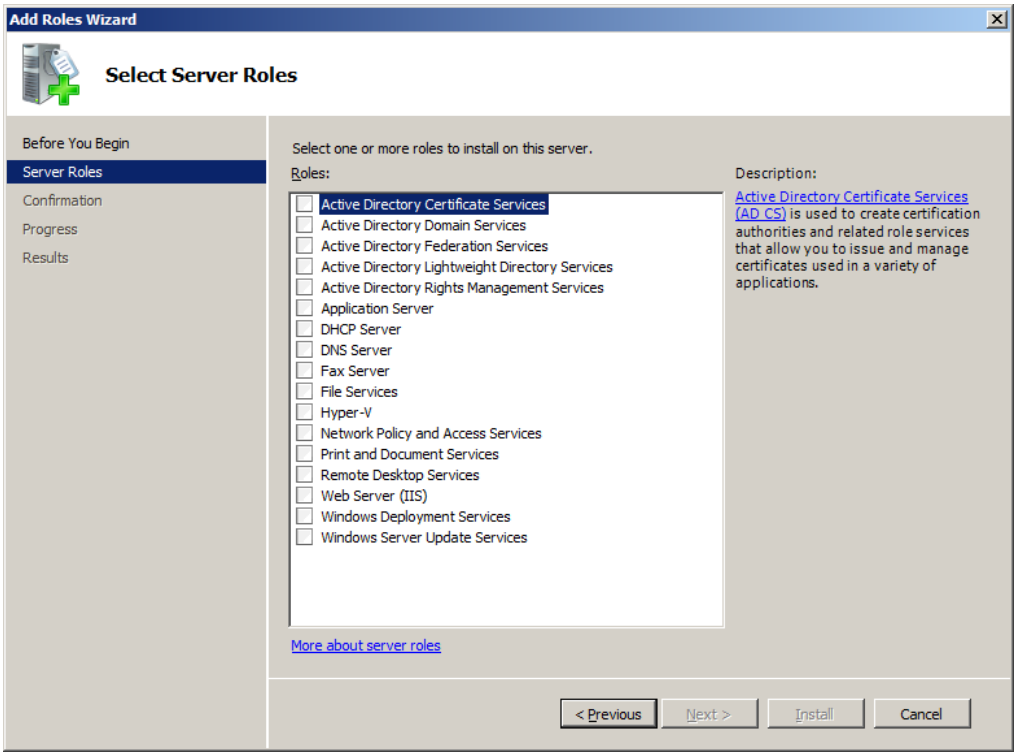


2. Click **Add Roles**. The Add Roles Wizard is displayed.

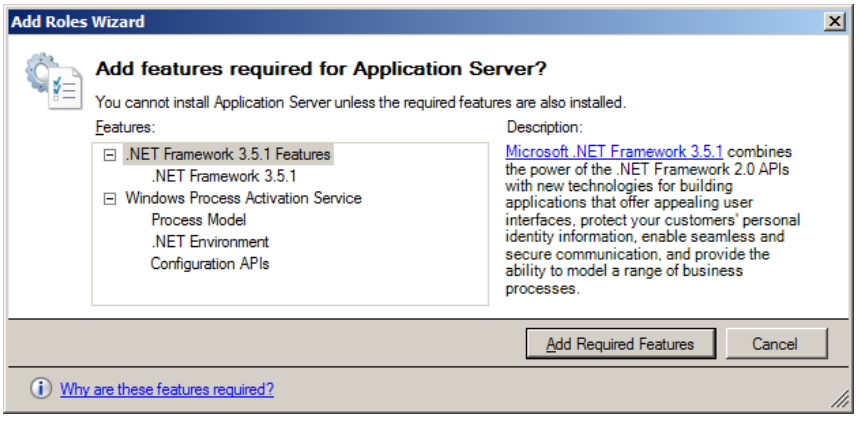


The first page of the wizard is a summary of what you need before you begin.

3. Click **Next** to select the available server roles.



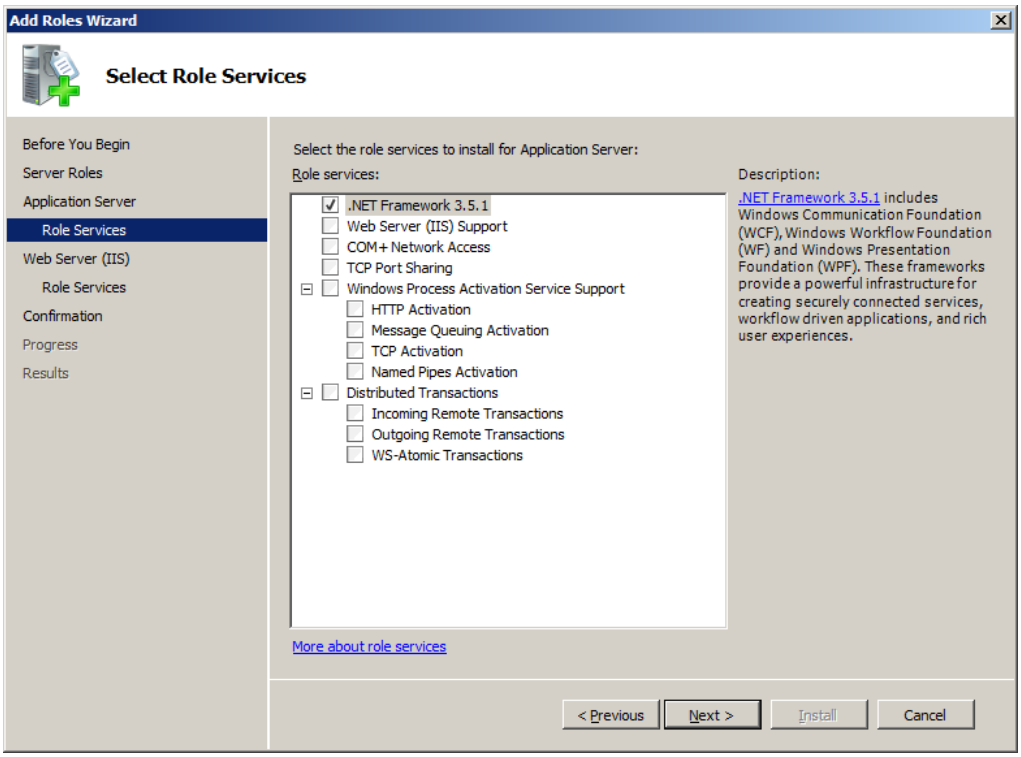
4. Select **Application Server** and the wizard will automatically ask whether to install required features, including .NET Framework 3.5.1 Features.



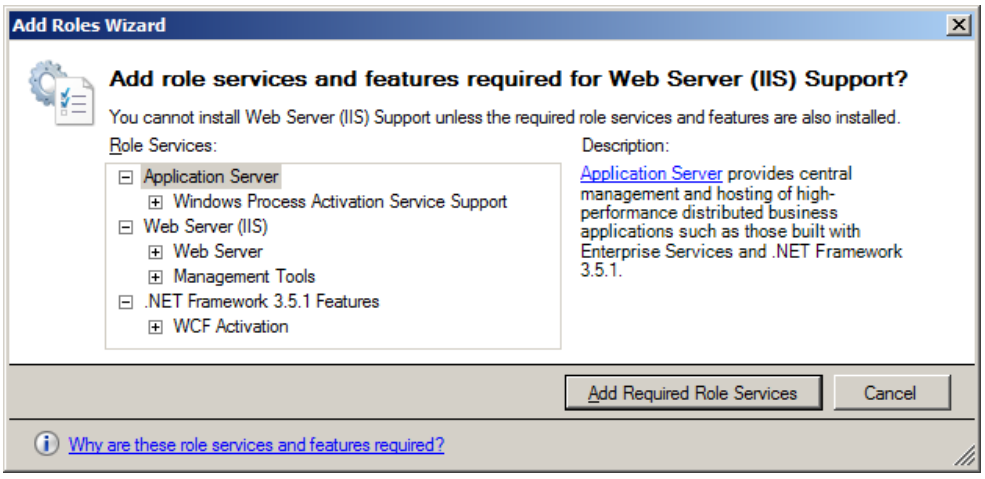
5. Click **Add Required Features**.

6. In the Select Server Roles page of the wizard, select **Web Server (IIS)**. You will not be asked to install any additional roles.

7. Click **Next** and then click **Next** again. The Select Role Services (for the Application Server) page is displayed.



8. Select **Web Server (IIS) Support** and the wizard will automatically ask whether to install required role services and features.

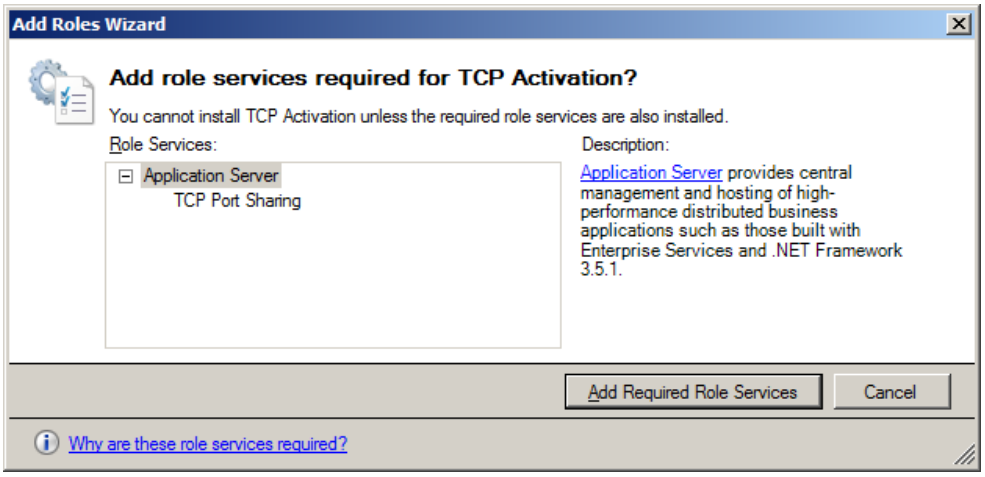


9. Click **Add Required Role Services**.

10. In the Select Role Services page of the wizard, select **Message Queuing Activation** and the wizard will automatically ask whether to install required features.

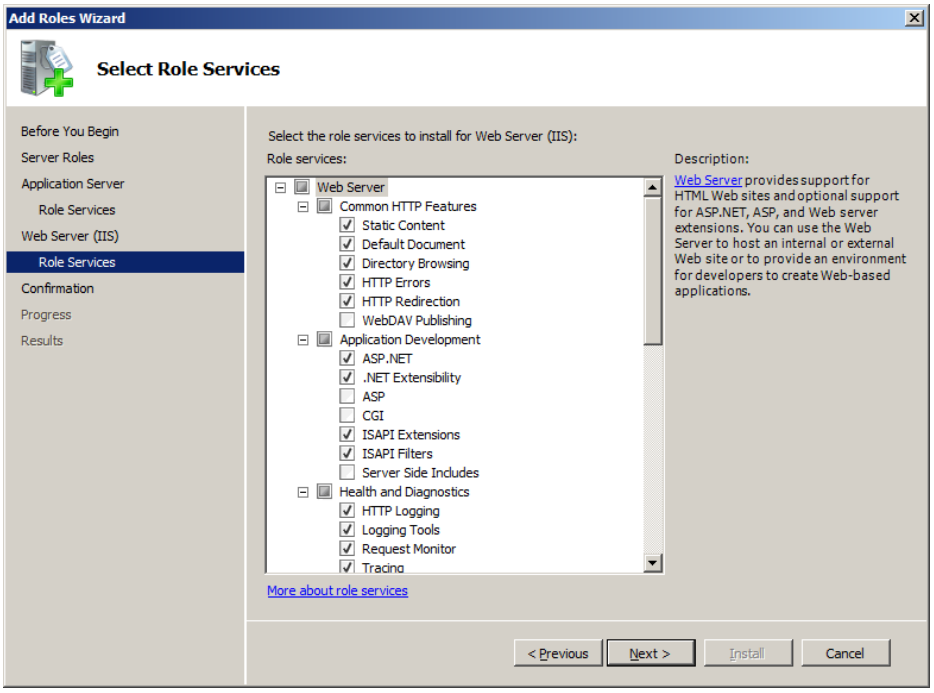
11. Click **Add Required Features**.

12. In the Select Role Services page of the wizard, select **TCP Activation** and the wizard will automatically ask whether to install required role services.

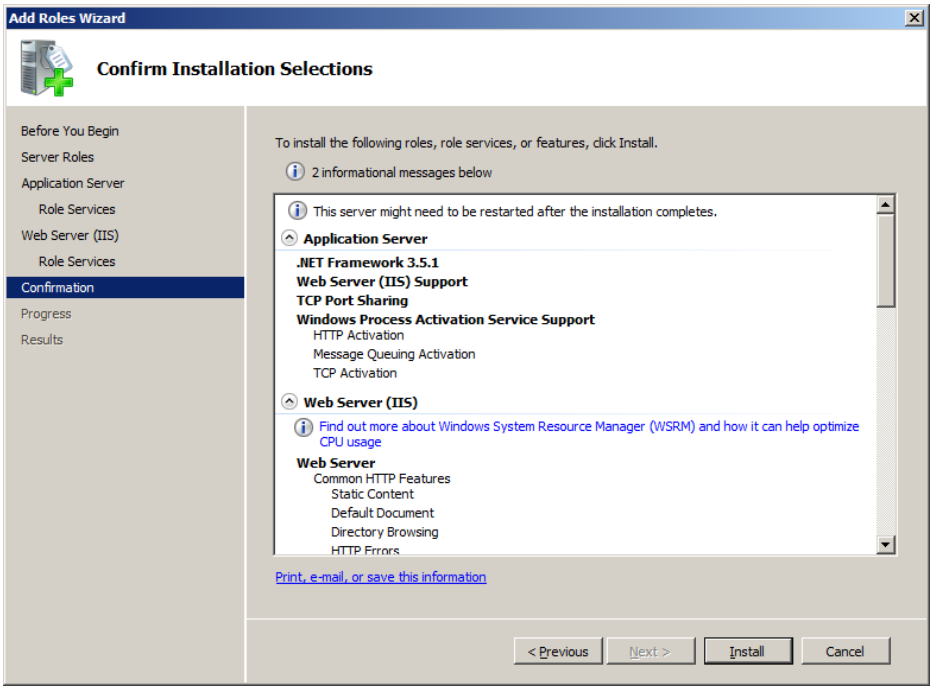


13. Click **Add Required Role Services**.

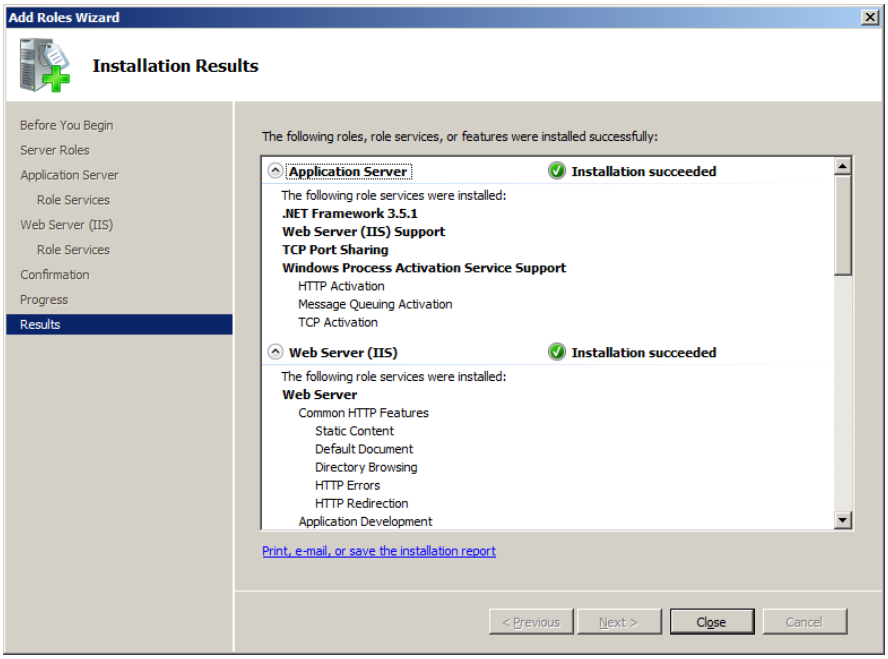
14. Click **Next** and then click **Next** again. The Select Role Services (for the Web Server IIS) page is displayed.



15. Click **Next**. The Confirm Installation Selections page is displayed.



16. Click **Install** to install all the required server roles.



17. Click **Close**.

Chapter 2. Installation

This chapter describes the installation procedure for Workshare Compare Server. It includes the following sections:

- **Installation Overview**, below, introduces the Workshare Compare Server installation process.
- **Interactive Installation**, below, describes the step-by-step procedure required to install Workshare Compare Server on a server.
- **Verifying Installation**, page 24, describes how to verify the installation of Workshare Compare Server.
- **Uninstalling**, page 25, provides important information about uninstalling Workshare Compare Server.

Installation Overview

The Workshare Compare Server is provided as a standard installation file, with an additional company-specific file for licensing purposes:

WorkshareCompareService.exe	The executable file used to install Workshare Compare Server.
Product.lic	The license file that contains the Workshare Compare Server license.

Note: *Both installation files (the EXE and the LIC file) must be on a local drive of the server machine and not on a mapped network drive or UNC path.*

During install or uninstall of Workshare Compare Server, information and error entries are written to a log file called **WorkshareCompareServiceInstallEventLog.log**. This is a plain text file saved in the current user's temporary folder (for example, C:\Documents and Settings\Admin\Local Settings\Temp).

Interactive Installation

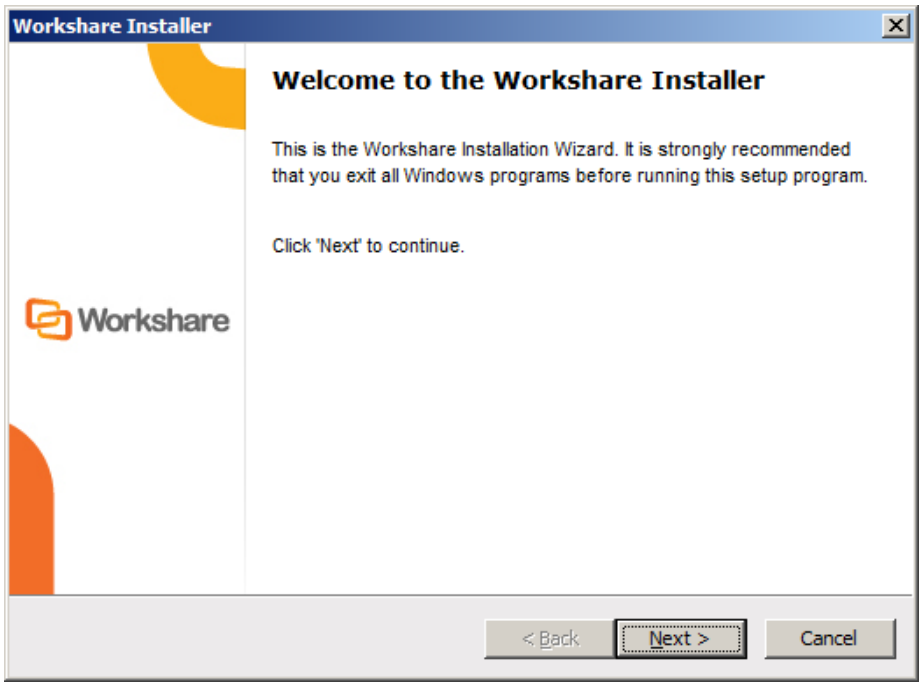
The following procedure explains how to install Workshare Compare Server on your server using the executable installer. Before beginning the installation procedure, make sure that all other programs are closed and disable any anti-virus software.

Note*: For deployments of Workshare Compare Serve where domain accounts are to be used to access the web client, verify the server is correctly joined to the domain before starting the installation.*

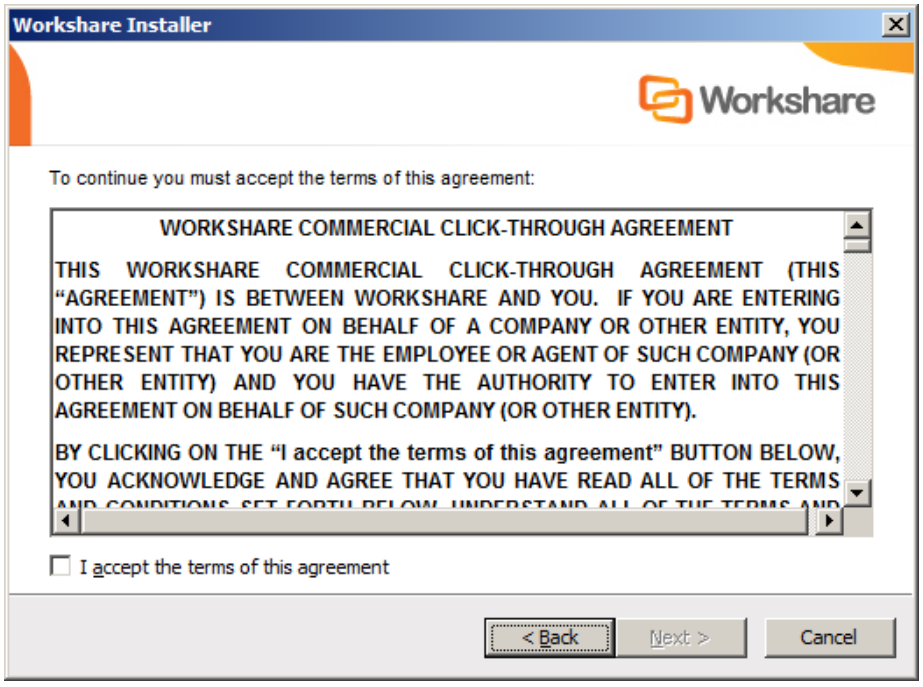
To install Workshare Compare Server:

1. Launch Windows Explorer and browse to the Workshare Compare Server download location.

2. Double-click the **WorkshareCompareService-XXX.exe** file. This file verifies that your system has the correct components on the server and then displays the Workshare Installation Wizard.

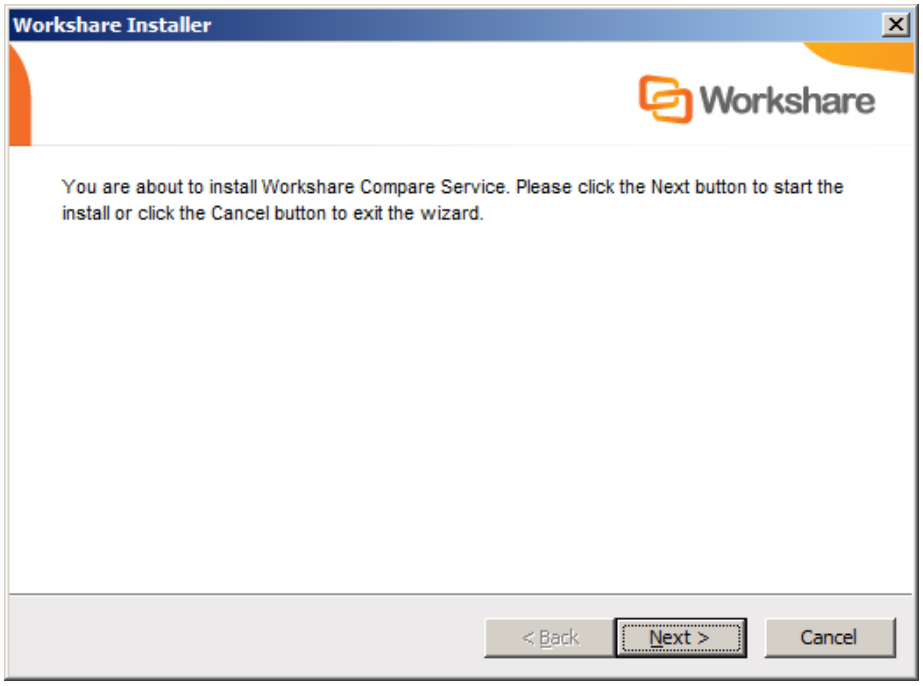


3. Click **Next**. The License Agreement screen is displayed.

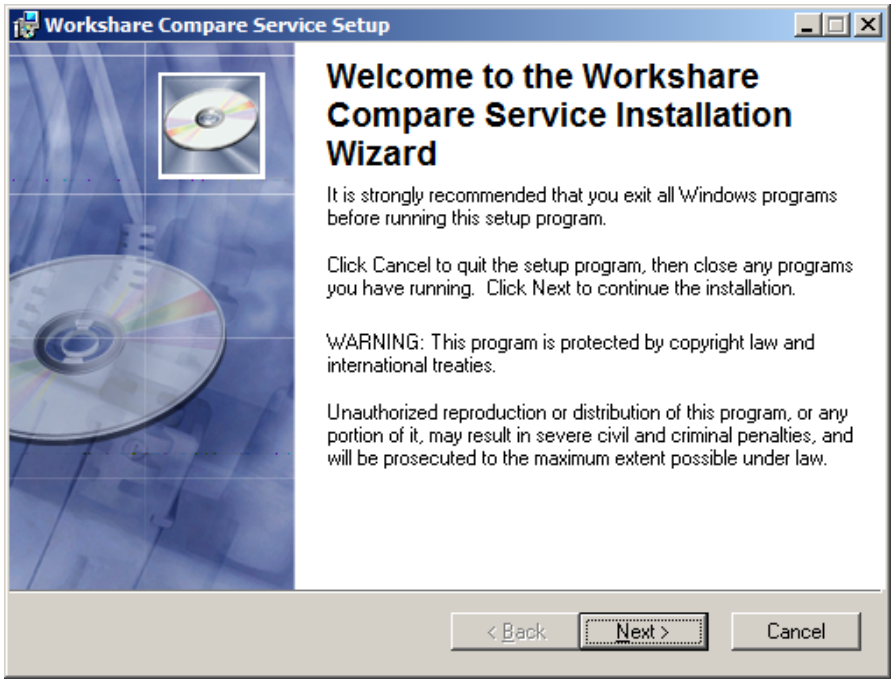


4. Read the agreement and select the **I accept the license agreement** radio button.

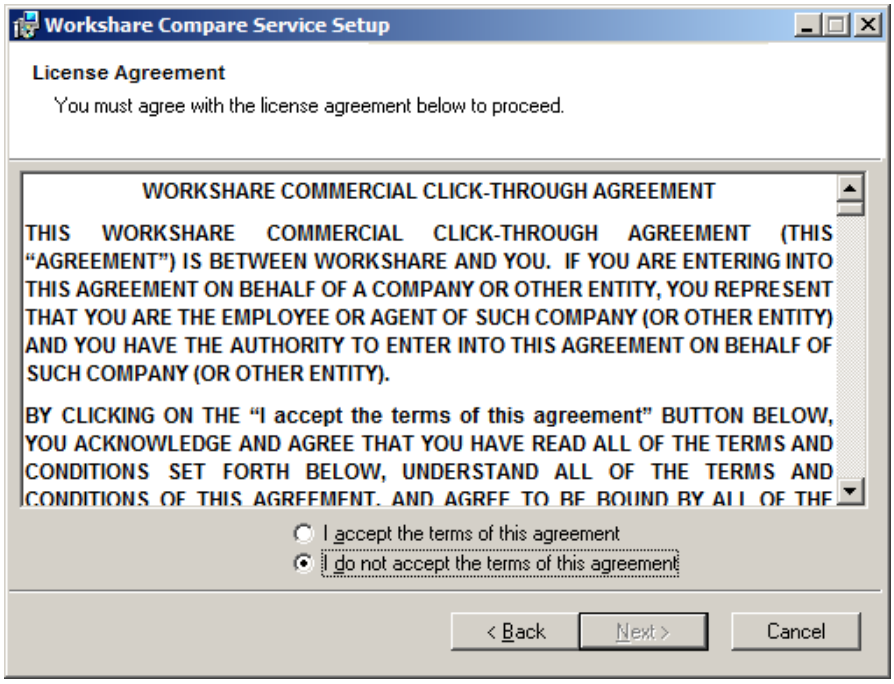
5. Click **Next**. The Ready to Install the Application screen is displayed.



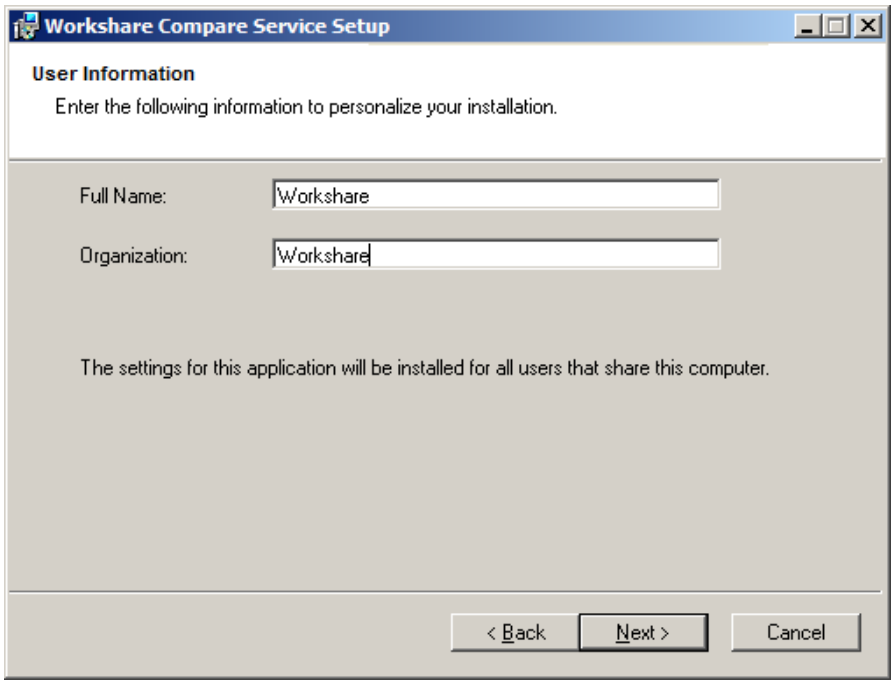
6. Click **Next**. The Workshare Installer begins the installation of the selected components and the Workshare Compare Server Installation Wizard is displayed.



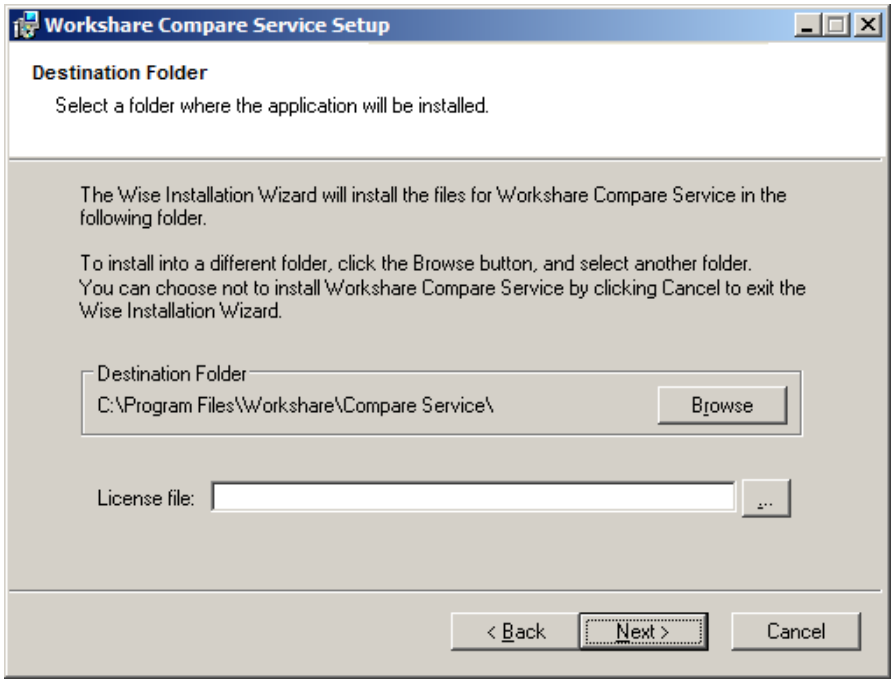
7. Click **Next**. The License Agreement screen is displayed.



8. Read the agreement and select the **I accept the license agreement** radio button.
9. Click **Next**. The User Information screen is displayed.



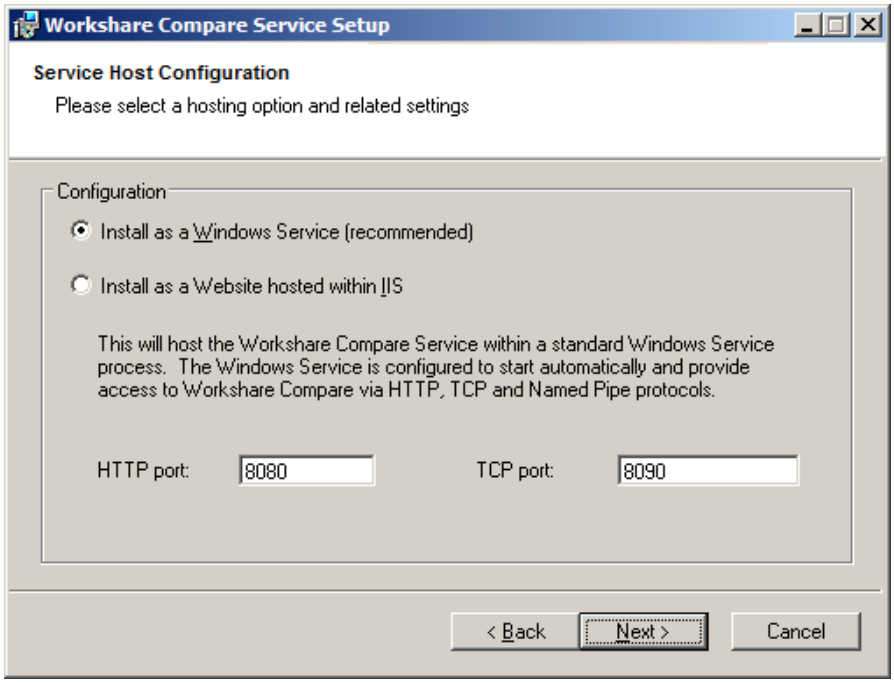
10. Enter user details as required and click **Next**. The Destination Folder screen is displayed.



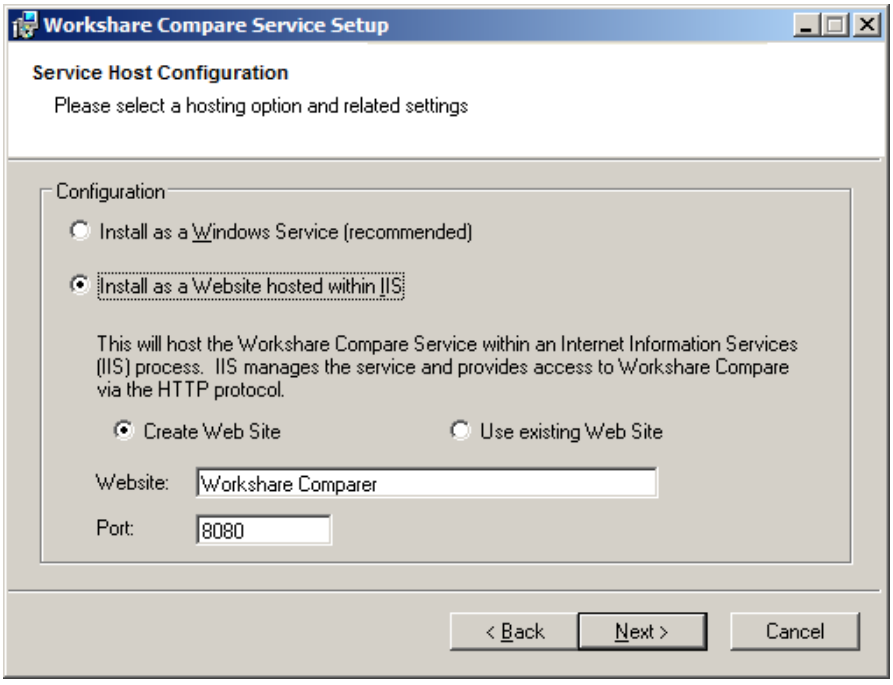
11. By default the Workshare Compare Server destination folder is set to **C:\Program Files\Workshare\Compare Service**. To change this location, click **Browse** and select an alternative location.

12. In the **License file** field, specify the location of the product license (.lic) file. This location MUST be on the local machine.

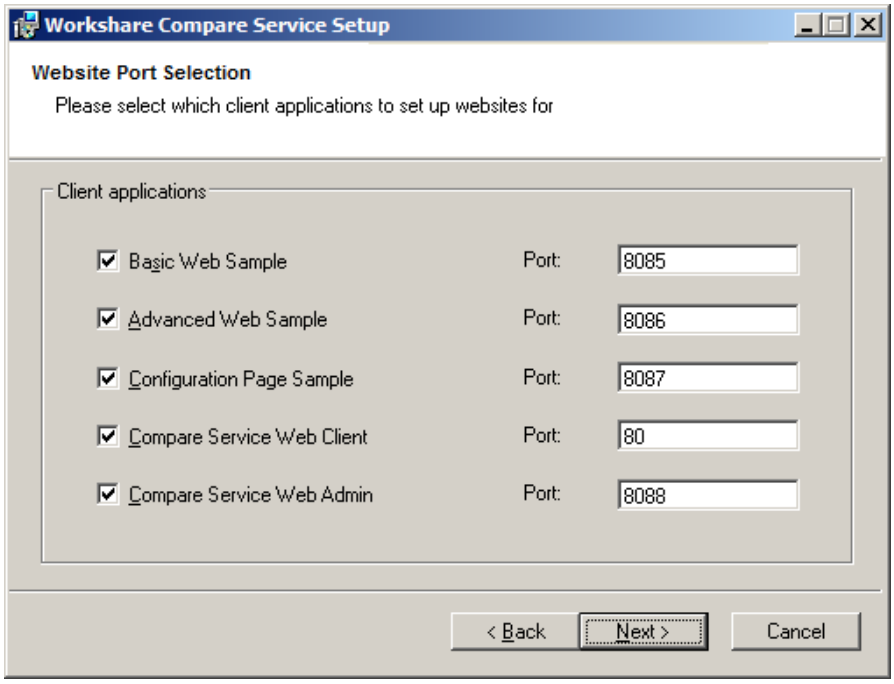
13. Click **Next**. The Service Host Configuration screen is displayed.



14. Select the configuration for Workshare Compare Server:
    - **Install as a Windows Service**: This provides access to Workshare Compare via the HTTP, TCP and Named Pipe protocols.
    - **Install as a Website hosted within IIS**: This provides access to Workshare Compare via the HTTP and HTTPS protocols. If you want to configure the website further, use IIS Manager.



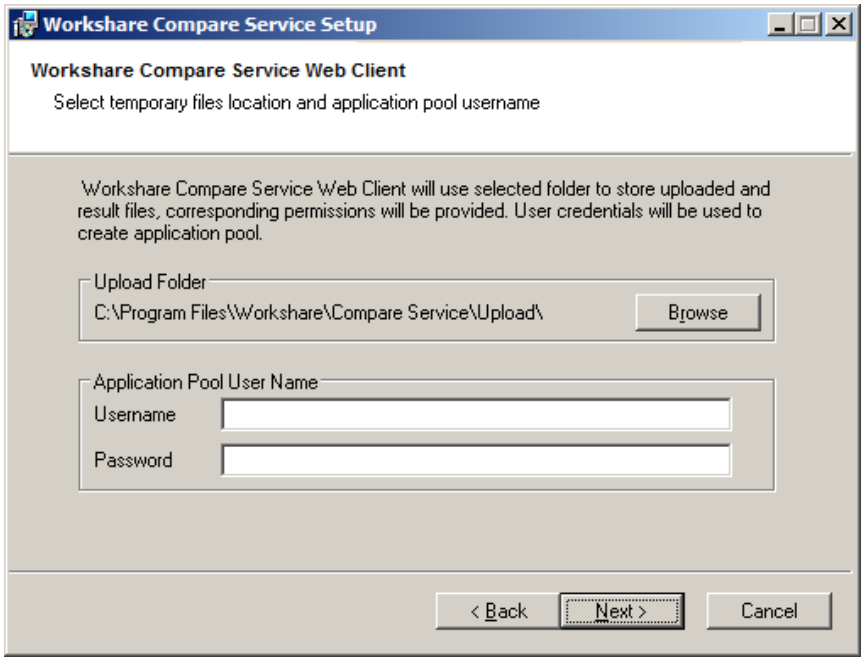
15. When selecting to install as a Windows service, specify the HTTP and TCT ports. When selecting to install as a website, specify the website and port.
16. Click **Next**. The Website Port Selection screen is displayed.



17. Select which sample applications you want to install. This page will not be enabled when IIS is not installed on the machine. When IIS is installed, you can install any (or all) of these sample applications. Each of these applications will appear as a separate website on your IIS. You can choose which port numbers to use, and you should be careful in choosing port numbers to not collide with any other website on the same server.

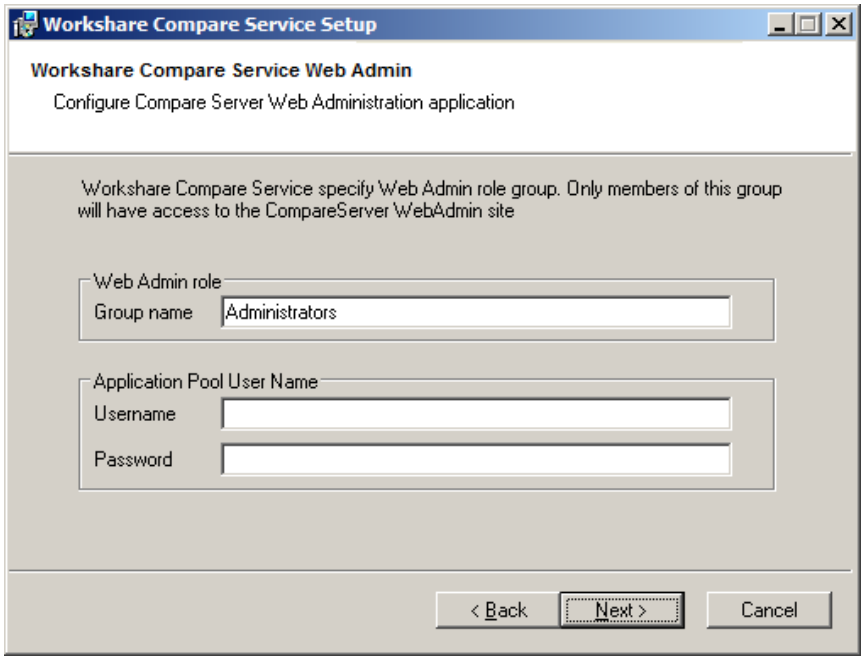
> ***Notes***:
> *You must have at least one sample application selected. Do NOT use the same port number for more than one application.*
>
> *The **Compare Service Web Client** application defaults to using port 80. If you are leaving this default setting, the "Default Web Site" (and any other sites on port 80) must be reconfigured or removed before starting the deployment of Workshare Compare Server. The exception to this is where Workshare Compare Server is to be hosted in IIS as a web service and run under the default web site on port 80. In this scenario, select an alternative free port number for **Compare Server Web Client**.*
>
> *When you have selected to install Workshare Compare Server as a Website hosted within IIS, you can select to install the **Configuration Page Sample** (Administration Dashboard) but parts of the Dashboard will not be fully functional because it is only a sample and it is designed to work with the recommended configuration (Workshare Compare Server installed as a Windows service).*

18. Click **Next**. If you selected **Compare Service Web Client** in the Website Port Selection screen, the Workshare Compare Service Web Client screen is displayed.

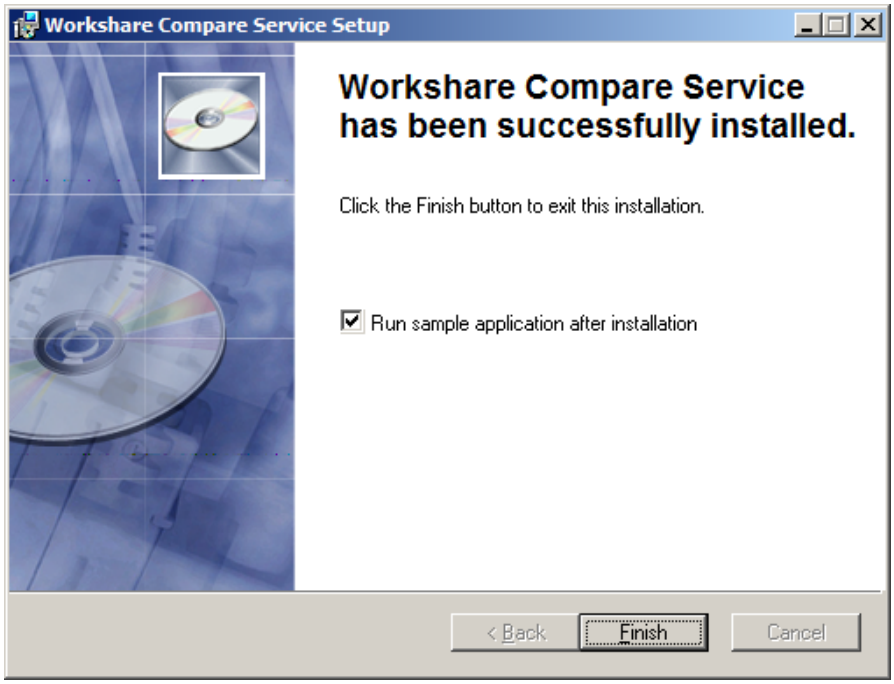


19. Enter the Application Pool user name and password. This is the user identity used to run the actual comparisons so it is usually a good idea to give that user the minimum permissions possible to make the system work.

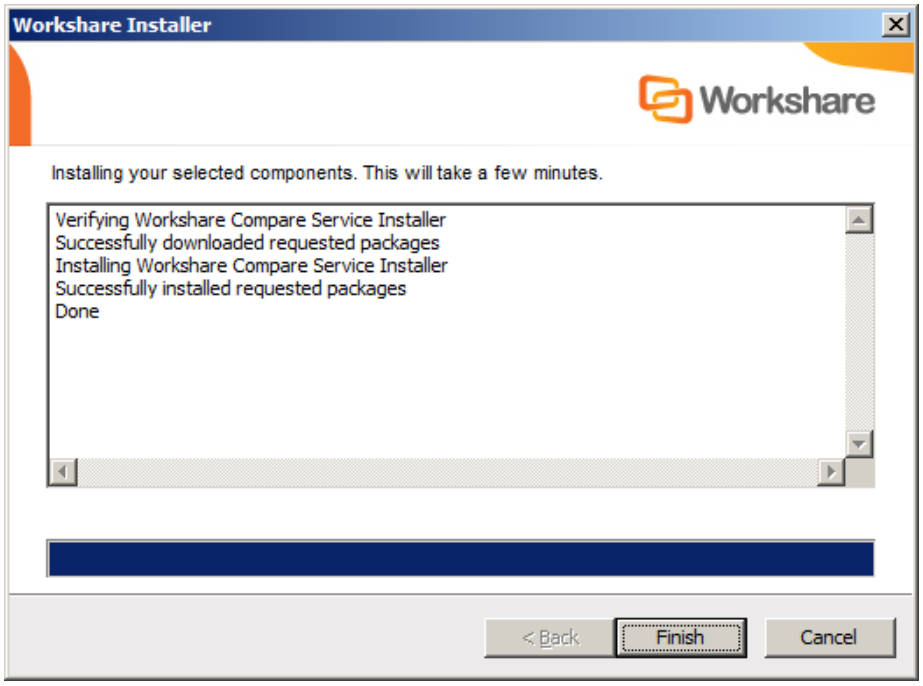
20. Click **Next**. If you selected **Compare Service Web Admin** in the Website Port Selection screen, the Workshare Compare Service Web Admin screen is displayed.



21. Enter the name of the group who will have access to the Compare Server Web Admin site. This can be an Active Directory or local group and members of the group will be allowed to perform admin tasks, such as stopping and starting the Workshare Compare service.
22. Enter the Application Pool user name and password. This is the user identity used to run the actual comparisons so it is usually a good idea to give that user the minimum permissions possible to make the system work.
23. Click **Next**. Workshare Compare Server is ready to install.
24. Click **Next**. Workshare Compare Server is installed. The installation process may take a few minutes. A progress bar indicates the progress of the installation. When the installation is completed, the following screen is displayed.



25. Click **Finish**.



26. Click **Finish** in the Workshare Installer.

> ***Note:*** *If you want to compare PDFs, you must reboot the server after installation has completed or expand the tree in DCOM Config (Administrative Tools/Component Services/Computers/My Computer). This will update DCOM permissions.*

Verifying Installation

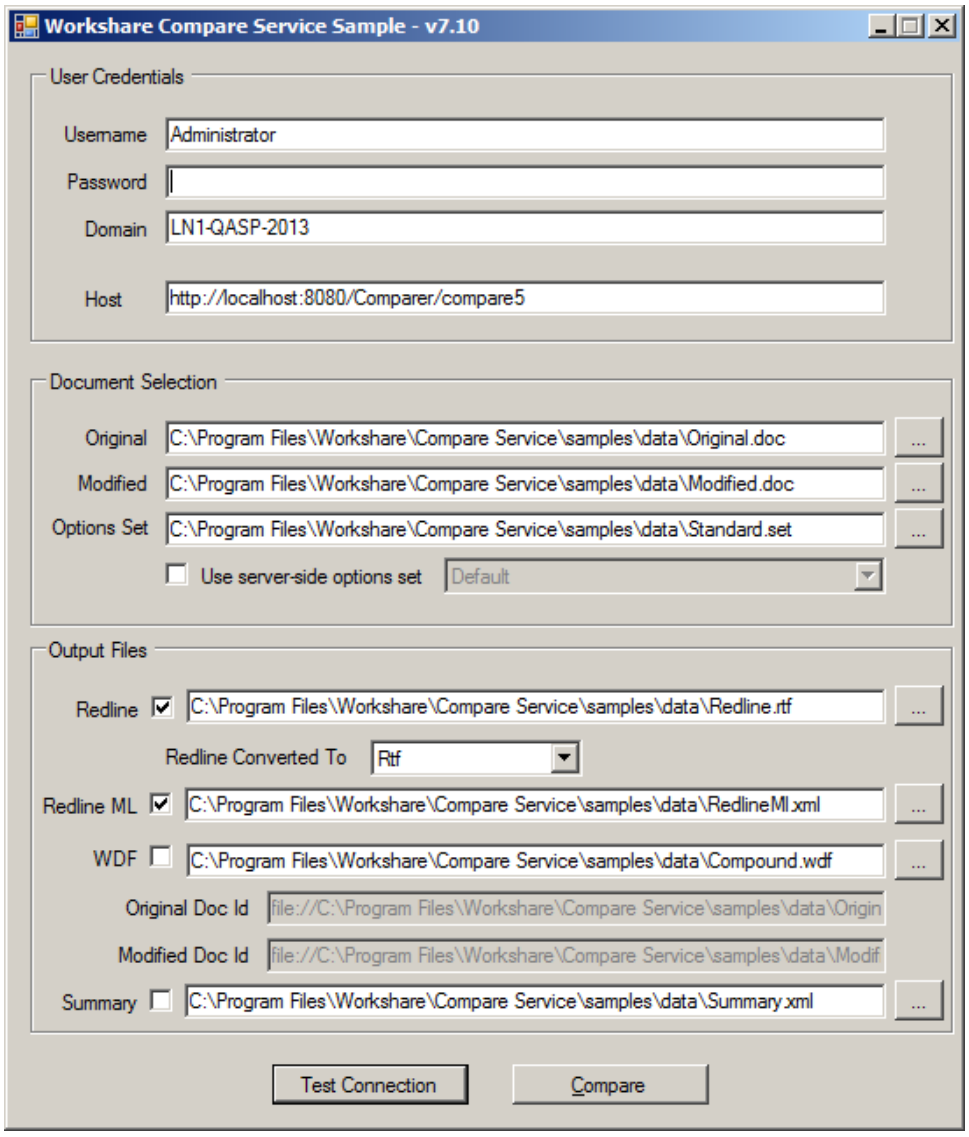
Once installation is complete, there are several ways of verifying the installation.

Test Connection

Installation is verified by testing the connection to IIS or the Windows service.

To test the connection:

1. Open a sample application dialog. For example, Start > Programs > Workshare > Samples > C# Sample.



2. In the **Password** field, enter your user password.
3. In the **Host** field, enter **http://localhost/wcs/compareWebService.svc/Compare5** to test connection to IIS or **http://local host:8080/Comparer/Compare5** to test connection to the Windows service. The field should be automatically populated with these values.
4. Click **Test Connection**. A message is displayed saying that the connection is successful.

Run a Comparison

Installation is verified by running a comparison.

To run a comparison:

1. Open a sample application dialog.
2. Enter your user password in the **Password** field.
3. Select the test documents to compare in the **Original** and **Modified** fields.
4. Click **Compare**. A comparison of the selected documents should be performed and the resulting Redline document displayed.

> ***Notes***:
> *When working with the sample applications, if you select to display the Redline as an RTF, the Windows Rich Text Viewer is used to display the Redline. This component may not be able to correctly display all complex document features. To see the correct display of the Redline, please open in Microsoft Word. Workshare doesn't support rendering issues in Rich Text Viewer.*
>
> *If you choose another format, such as doc or pdf, you may find the Redline is not displayed if there is no application associated with that format installed on your server.*

Uninstalling

When uninstalling Workshare Compare Server, the MSI file that is placed in the MsiCache folder is not removed from the machine even after completely uninstalling the product. If you want this MSI file removed, you must do so manually.

Chapter 3. Configuration

This chapter describes how to configure Workshare Compare Server. It includes the following sections:

- **Overview**, below, provides an overview of the configuration of Workshare Compare Server.
- **Licensing**, below, describes how to license Workshare Compare Server.
- **Event Logging**, page 27, describes the server-side logging performed by Workshare Compare Server that can be helpful to diagnose runtime issues.
- **Rendering Sets**, page 27, describes the use of rendering sets in Workshare Compare Server.

Overview

This chapter outlines the various configuration changes that can be applied to Workshare Compare Server. As an API, Workshare Compare Server is a highly customizable tool and it is not the purpose of this chapter to describe the full potential of this API. However, this chapter does describe how to configure the Workshare-specific functionality.

> ***Note:*** *Workshare Support is available to assist you with any queries directly related to the Workshare Compare Server API. However, we do not provide support on issues related to third-party applications or customized add-ins.*

Licensing

Licensing for the Compare Service is based on a service expiry date. The product.lic file, specified at the time of install, determines how the service license is configured and when the license expires. The product.lic file is automatically copied into the service installation folder during setup and is required at runtime in order to authorize each comparison. The Compare Service references this file via a path variable stored within the *web.config* file (where Compare Service is hosted in IIS) or within the *Workshare.CompareService.Service Host.Exe.config* file (where Compare Service is hosted as a Windows service). If you experience licensing errors please check that the product.lic file is correctly installed in the Compare Service's web folder on the server and that the *web.config* or *Workshare.CompareService. ServiceHost.Exe.config* **LicenseFileName** key correctly specifies the full path to the file.

For example:

```
<appSettings>
 <add key="LicenseFileName" value="C:\program files\workshare\wcs\product.lic"
/>
</appSettings>
```

Event Logging

On installation of Workshare Compare Server, the following three log files are created:

- **compare_service_audit.log**: This log file contains information about the comparison requests sent to Workshare Compare Server, such as the size of the original and modified files, time taken to perform the comparison and so on.
- **compare_service_host.log**: This log file contains information such as when Workshare Compare Server started, when it was shut down, what protocols are available and so on.
- **compare_service_system.log**: This log records everything happening in Workshare Compare Server and includes information and error log entries.

The information from all log files can be accessed through the Administration Dashboard (described in *Chapter 4: Administration Dashboard*). For example, the information in the compare_service_audit.log file is used by the Administration Dashboard to report statistics about comparisons performed by Workshare Compare Server.

Rendering Sets

Rendering sets contain a set of parameters that define how changes are displayed in the Redline (compared) document. Colors and different formats are used in the Redline document to enable you to see the changes that have been made to the documents.

Workshare Compare Server provides a number of preconfigured server-side rendering sets including a default set, called **No Images.set**, located in the Rendering Sets folder of the virtual directory. When a comparison is performed, this default rendering set is applied unless the client call specifies rendering parameters.

The default rendering set used during comparisons when no rendering set options are specified in the compare request is listed within the <appSettings> sections of the *web.config* or *Workshare.CompareService.Service Host.Exe.config* file, as shown below. This is a required setting within Workshare Compare Server.

```
<appSettings>
  <add key="DefaultSet" value="c:\program files\workshare\compare service\
Rendering Sets\No Images.set" />
</appSettings>
```

Optionally, additional rendering sets can be installed on the Workshare Compare Server allowing the compare request to simply identify the name [*key*] of these server-based rendering sets. By default, Workshare Compare Server installs with several alternate rendering sets that are defined in the <renderingSets> section within the *web.config* or *Workshare.CompareService.ServiceHost.Exe.config* file.

```
<renderingSets>
  <add key="NoImages" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\No Images.set" />
  <add key="Standard" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\Standard.set" />
  <add key="NoColourSet" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\Standard no color.set" />
  <add key="NoMovesSet" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\Standard no moves.set" />
```

```
  <add key="CaretForDeletesSet" value="c:\Program Files\Workshare\Compare
Service\Rendering Sets\Standard with caret for deletes.set" />

  <add key="ChangeNumbersSet" value="c:\Program Files\Workshare\Compare
Service\Rendering Sets\Standard with change numbers.set" />

  <add key="FontChangesSet" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\Standard with font changes.set" />

  <add key="ShadingSet" value="c:\Program Files\Workshare\Compare Service\
Rendering Sets\Standard with shading.set" />

</renderingSets>
```

Notes:
For more information about client defined rendering sets that can be submitted along with comparison requests, please refer to the Workshare Compare Server Developers Guide.

For more information about rendering set parameters and their associated options, please refer to the Workshare Compare Server Rendering Set Guide.

If you have Workshare Compare installed, you can also create rendering sets in the Rendering Set Manager and copy them across.

Chapter 4. Administration Dashboards

This chapter describes the Workshare Compare Server Administration Dashboards. It includes the following sections:

- **Introducing the Administration Dashboards**, below, introduces the Workshare Compare Server administration dashboards.
- **Quick Tour of the Administration Dashboards**, page 31, describes the information and functionality provided by the administration dashboards.

***Note**: The administration dashboards will only be fully functional when Workshare Compare Server is installed as a Windows service. This is because they are only samples and they have been designed for the recommended installation configuration.*

Introducing the Administration Dashboards

There are two sample administration web-based dashboards available with Workshare Compare Server – the "Configuration Page Sample" and the "Compare Service Web Admin".

These example web-based dashboards enable you to measure the performance of your networking structure and your Workshare Compare Server as well as view logs from Workshare Compare Server based on the comparison data. The administration dashboards also provide the settings needed to communicate with Workshare Compare Server.

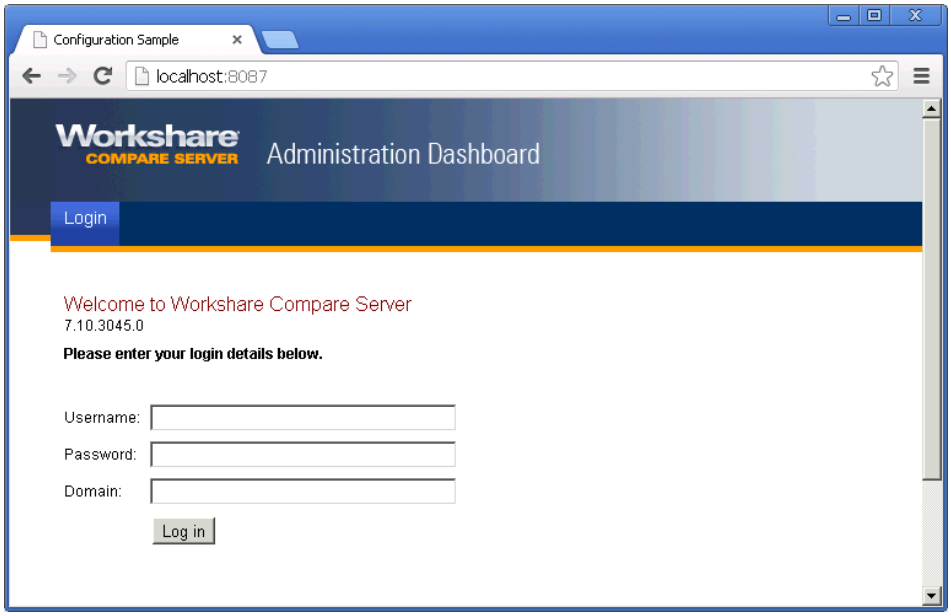
The administration dashboards are built using the .NET assembly provided by Workshare to build client applications for Workshare Compare Server.

Accessing the Administration Dashboards

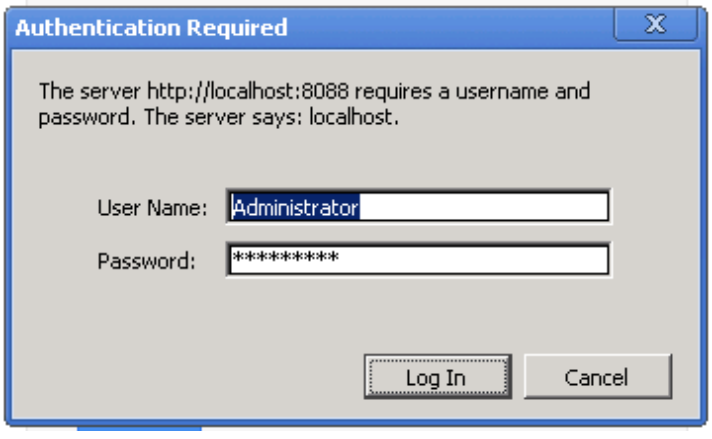
The administration dashboards are web-based user interfaces that provide information and statistics about Workshare Compare Server.

To access the Administration Dashboard:

Open a web browser and enter http://hostname:[port number] where hostname is the name of the machine where Workshare Compare Server is installed and the port number is according to what port you configured for "Configuration Page Sample" and the "Compare Service Web Admin" during installation. The login screen is displayed.



Login screen for Configuration Page Sample



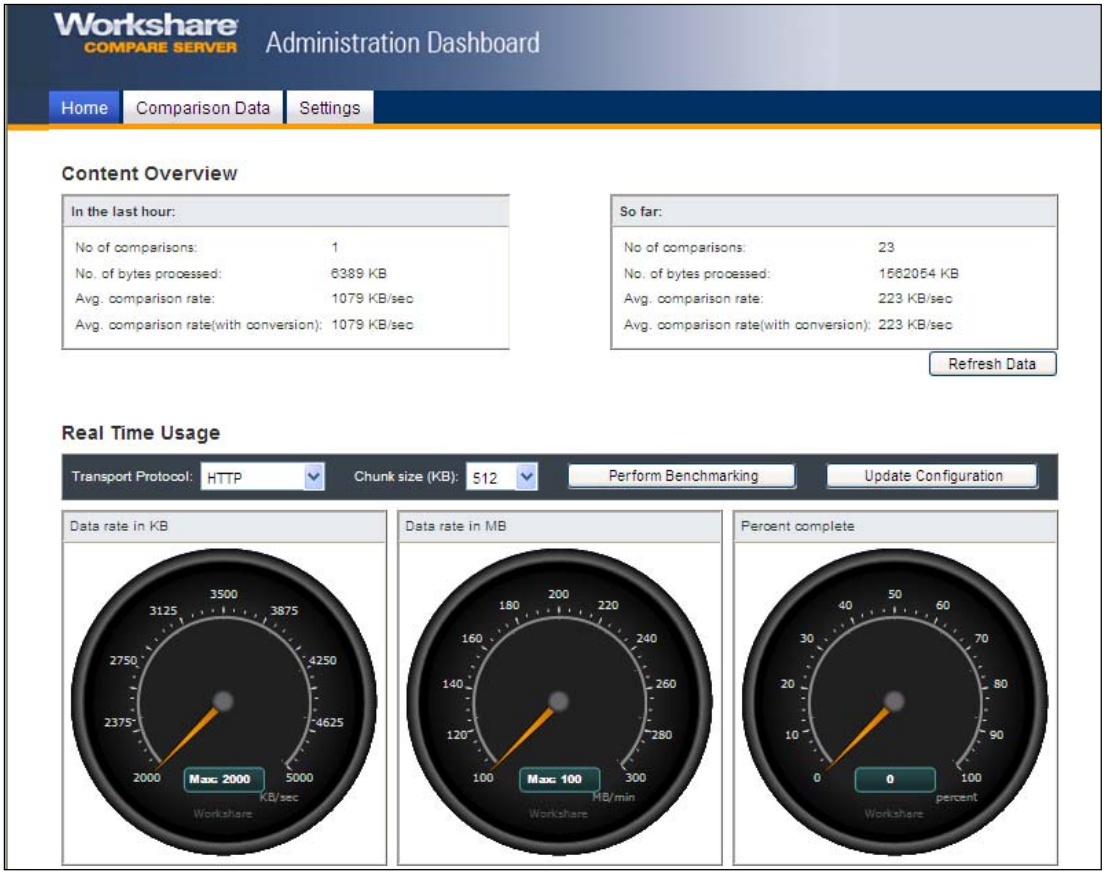
Login screen for Compare Service Web Admin

Enter your login credentials and click **Log in**. The Home screen of the Administration Dashboard is displayed.

Quick Tour of the Configuration Page Sample

This section describes the information and functionality provided by the Configuration Page Sample dashboard.

Home Tab



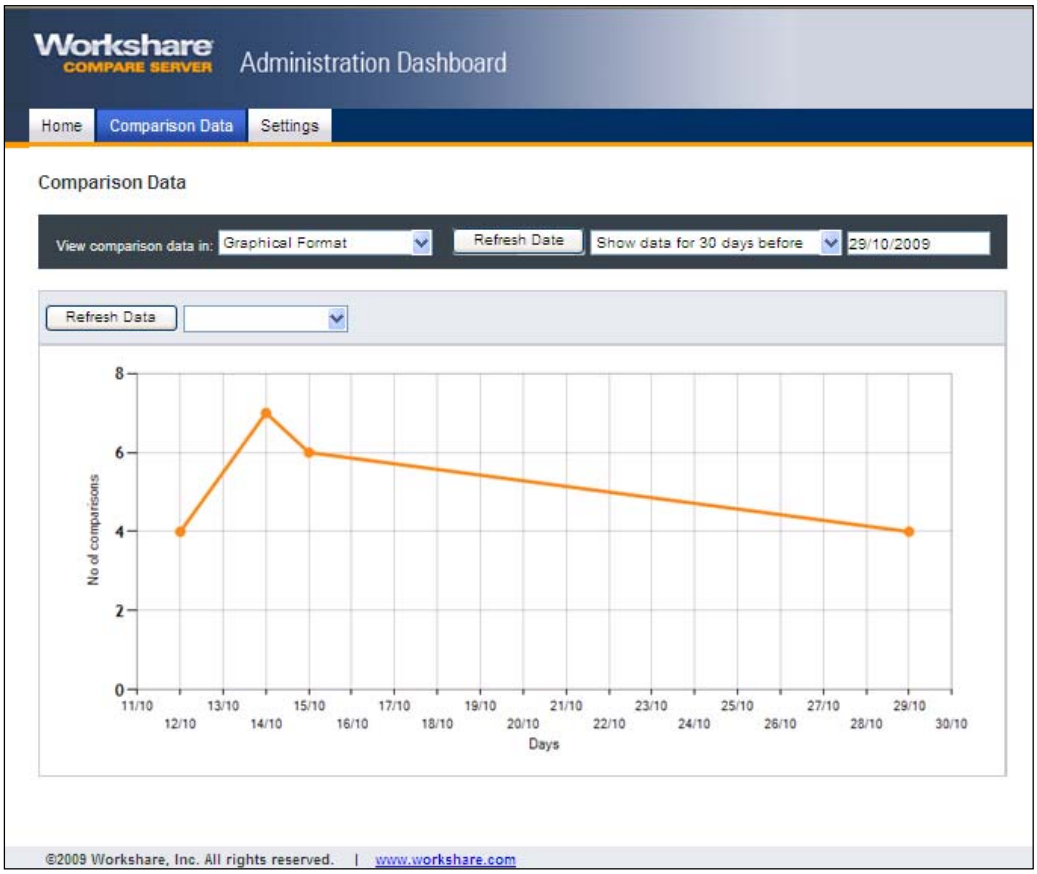
The **Content Overview** area provides statistics about comparisons performed in the last hour and also since Workshare Compare Server was installed.

The **Real Time Usage** area provides a means for testing the speed at which data is passed to Workshare Compare Server using a sample packet. You can test the speed over three different transport protocols – HTTP, TCP and NamedPipe – and also using four different chunk sizes – 256. 512, 1024, 2048 KB. In this way, you can find the optimum configuration for a protocol by seeing what chunk size performs better.

Clicking **Perform Benchmarking** tests the speed over the selected protocol using the selected chunk size. The dial on the left shows the speed in KB per second and the centre dial shows the speed in MB per minute. The dial on the right shows the percentage of the packet currently transferred.

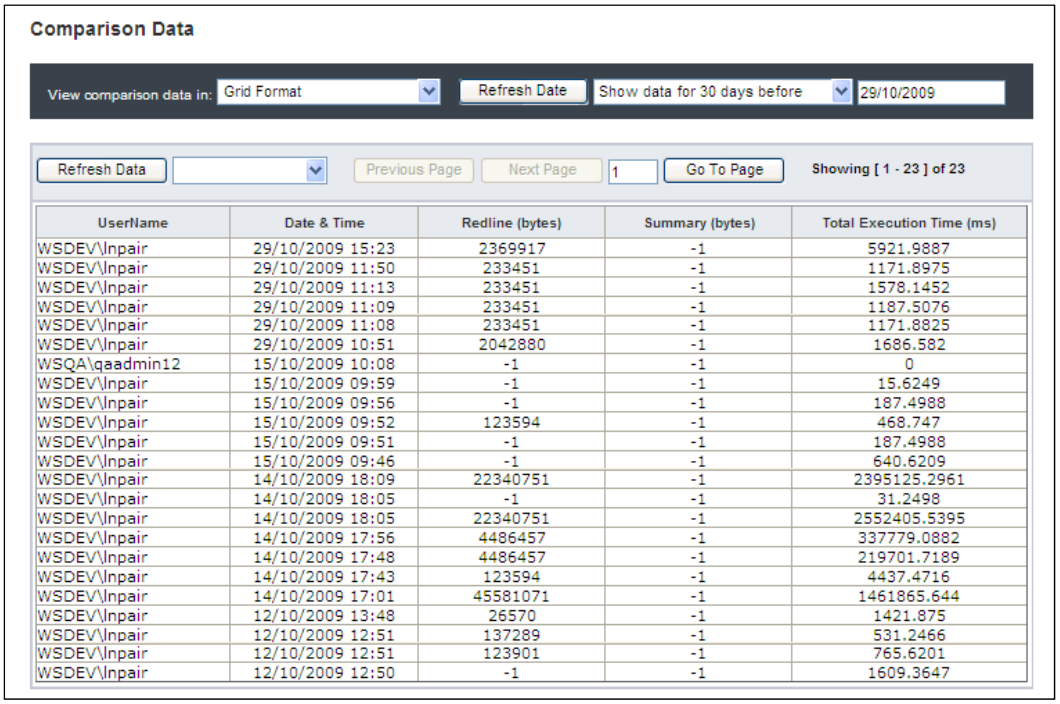
Clicking **Update Configuration** updates the selected configuration (protocol and chunk size) for the advanced web sample.

Comparison Data Tab



The **Comparison Data** tab provides information about the number of comparisons performed by Workshare Compare Server on a daily basis in a graphical or grid format. You can show data for an individual user by selecting a user from the dropdown list. You can also show data for a selected monthly period or on a selected yearly basis.

When in grid format, by default 50 records are shown per page (this default is configurable) and you can navigate through the pages as required.



Comparison Data

View comparison data in: Grid Format | Refresh Date | Show data for 30 days before | 29/10/2009

Refresh Data | Previous Page | Next Page | 1 | Go To Page | Showing [1 - 23] of 23

UserName	Date & Time	Redline (bytes)	Summary (bytes)	Total Execution Time (ms)
WSDEV\lnpair	29/10/2009 15:23	2369917	-1	5921.9887
WSDEV\lnpair	29/10/2009 11:50	233451	-1	1171.8975
WSDEV\lnpair	29/10/2009 11:13	233451	-1	1578.1452
WSDEV\lnpair	29/10/2009 11:09	233451	-1	1187.5076
WSDEV\lnpair	29/10/2009 11:08	233451	-1	1171.8825
WSDEV\lnpair	29/10/2009 10:51	2042880	-1	1686.582
WSQA\qaadmin12	15/10/2009 10:08	-1	-1	0
WSDEV\lnpair	15/10/2009 09:59	-1	-1	15.6249
WSDEV\lnpair	15/10/2009 09:56	-1	-1	187.4988
WSDEV\lnpair	15/10/2009 09:52	123594	-1	468.747
WSDEV\lnpair	15/10/2009 09:51	-1	-1	187.4988
WSDEV\lnpair	15/10/2009 09:46	-1	-1	640.6209
WSDEV\lnpair	14/10/2009 18:09	22340751	-1	2395125.2961
WSDEV\lnpair	14/10/2009 18:05	-1	-1	31.2498
WSDEV\lnpair	14/10/2009 18:05	22340751	-1	2552405.5395
WSDEV\lnpair	14/10/2009 17:56	4486457	-1	337779.0882
WSDEV\lnpair	14/10/2009 17:48	4486457	-1	219701.7189
WSDEV\lnpair	14/10/2009 17:43	123594	-1	4437.4716
WSDEV\lnpair	14/10/2009 17:01	45581071	-1	1461865.644
WSDEV\lnpair	12/10/2009 13:48	26570	-1	1421.875
WSDEV\lnpair	12/10/2009 12:51	137289	-1	531.2466
WSDEV\lnpair	12/10/2009 12:51	123901	-1	765.6201
WSDEV\lnpair	12/10/2009 12:50	-1	-1	1609.3647

Settings Tab

The **Compare Server Settings** area shows the ports on Workshare Compare Server used for TCP and HTTP traffic. This information is read only. By clicking **Download System Log**, you can download a log file from Workshare Compare Server that provides information such as when Workshare Compare Server started, when it was shut down, what protocols are available and so on.

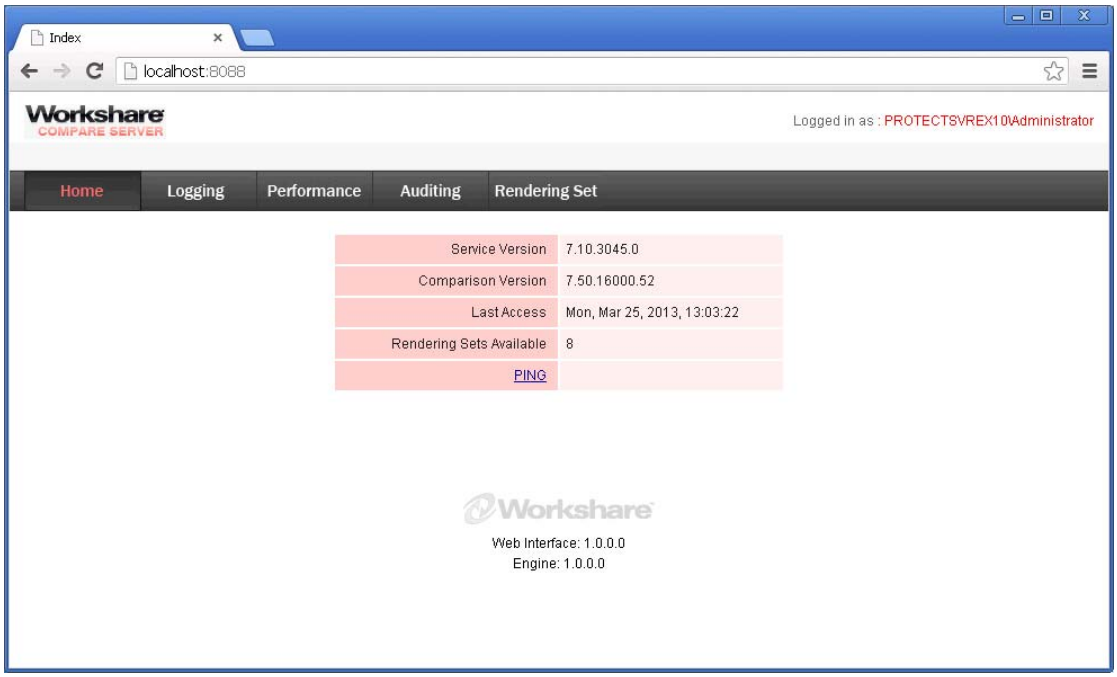
The **Service Status** area indicates whether Workshare Compare Server is running or not. If Workshare Compare Server is installed as a Windows service, you can stop and restart it from here. If Workshare Compare Server is hosted in IIS, these buttons are disabled.

> ***Note:*** *When you stop the service and close the Administration Dashboard, the next time when you log in the* ***Perform Benchmarking*** *button on the* ***Home*** *tab will be disabled, as the service is no longer running. Once the service has been started again, you will need to log in again to perform benchmarking.*

The **Binding Settings** area shows the specific settings required to connect to Workshare Compare Server. These settings are shown for each of the protocol bindings exposed by Workshare Compare Server.

Quick Tour of the Compare Service Web Admin

This section describes the information and functionality provided by the Compare Service Web Admin dashboard.



The tabs provide the following information:

- **Home Tab**: Provides overview information, such as the Workshare Compare Service version, last access details and the number of rendering sets available.
- **Logging Tab**: You can view audit host and system logs for specified periods. The logs provide the following details:
  - **audit**: Information about the comparison requests sent to Workshare Compare Server, such as the size of the original and modified files, time taken to perform the comparison and so on.
  - **host**: Information such as when Workshare Compare Server started, when it was shut down, what protocols are available and so on.
  - **system**: Everything happening in Workshare Compare Server, including error log entries.
- **Performance Tab**: You can view bar or line graphs for specified periods showing the number of comparisons performed each day, the average length of comparisons per day, the average length of processing time per day and the average length of documents compared per day.
- **Auditing Tab**: Provides information on the number of comparisons performed and the total bytes compared per user.
- **Rendering Set Tab**: Provides a list of rendering sets available. You can delete a rendering set or add a new one by importing a rendering set file created in Workshare Compare.

Chapter 5. Troubleshooting

This chapter describes how to troubleshoot Workshare Compare Server. It includes the following sections:

- **General Checks**, below, describes some general checks to perform when troubleshooting Workshare Compare Server.
- **Comparing Large Files**, page 36, describes how to deal with issues that might arise when comparing large files.
- **Security Configuration Settings**, page 39, describes how to deal with issues that might arise when trying to create a client session with incorrect credentials.
- **System.ServiceModel.Security.MessageSecurityException**, page 39, describes how to deal with issues that might arise if the system time on the client and server differs by more than 5 minutes.
- **User Accounts with Blank Passwords**, page 39, describes how to deal with issues that might arise when user accounts have blank passwords.
- **PDF Comparison Functionality**, page 40, describes how to enable PDF comparison functionality.

General Checks

This section describes some basic checks to carry out in some general situations.

The Installer fails:

- Are IIS, ASP.NET and MSMQ installed?
- Ensure any previous Workshare Compare Server installs are uninstalled.
- Is IIS started?
- Check the install log (WorkshareCompareServiceInstallEventLog.log) in the current user's Temp folder, for example, C:\Documents and Settings\Administrator\Local Settings\Temp.

The Compare Service page (http://localhost/wcs/comparewebservice.svc) does not display:

- Is IIS started?
- Is the default website started? If the default website will not start, try changing the TCP Port. If this is successful there is a port conflict with another server.
- Check Anonymous access is enabled for the service (WCS > Properties > Directory Security > Edit).
- Check that the WCS > Properties > ASP.NET version is 2.0.50727 or later.
- Check WCS > Properties > Virtual Directory > Configuration > Mappings contains an entry for .svc (GET,HEAD,POST,DEBUG).

The C# sample does not work:

- Check that the service address is correct and (for C#) is appended with /compare5.
- If **Test Connection** returns an error, the issue may be security related.
  - Does the Java sample work? (The basic HTTP endpoint does not use client credentials.)
  - Are the user credentials valid on the server machine? Try setting up a new, temporary user account and using those credentials.
  - Is there a firewall enabled on the server?
- If **Test Connection** works but **Compare** returns an error, the issue may be document related.
  - Do the default documents shipped in the samples\data folder compare correctly?
  - Are the compared documents very large? (try smaller)
- In all instances check the Event Logs (all keys) for error info.

Comparing Large Files

Client-side Issues

The default maximum message size quota, generated by the Visual Studio Service Reference Wizard, is 64k. This means that, although the server is configured to allow for large files, failures may occur if the client-side app.config file is not updated.

When the client-side buffers are too small the transport channel may throw one of the following exceptions:

`System.ServiceModel.CommunicationException` - "The maximum message size quota for incoming messages has been exceeded."

`System.ServiceModel.FaultException` - "The maximum string content length quota has been exceeded."

`System.ServiceModel.FaultException` - "The maximum array length quota has been exceeded."

To resolve this issue you should edit the app.config file, within your client project, and increase the binding's `maxReceivedMessageSize`, `maxStringContentLength` and `maxArrayLength` values. (See the sample application's app.config file for an example of these binding values.)

Server-side Issues

Timeout Due to Document Size/Complexity

When comparing large documents or documents that are complex in nature over TCP/HTTP protocol, it can take longer than five minutes (default timeout window in WCF bindings). It is recommended to host your website/service on the same server on which Workshare Compare Service is running and use the NamedPipe protocol when sending compare requests. This will reduce the amount of memory consumed by WCF binding when transferring documents across this protocol, which in turn will speed up the start of processing in the Compare Service. You can change the default behavior of the advanced web sample to use the NamedPipe protocol in the **Home** tab of the Administration Dashboard (see page 31). This should prove if this is a possible solution to any timeout issues.

Also it has been observed that if the server has a single processor and 1GB of memory this will really slow down the processing of the comparison. The recommended server resources are advisable if you normally have large documents processed.

Maximum File Size

When comparing large documents it is possible to exceed the maximum file upload size supported by ASP.NET on the server. (The default maximum size is 4096k).

If the upload limit is exceeded, the Compare Service will not receive the transaction and a `System.ServiceModel.CommunicationException` will be thrown on the client-side.

A WCF (Windows Communication Foundation) trace file is also generated, within the Compare Service virtual directory, containing details of the exception and the exact cause of the communication failure.

For example,

```
<Exception>
   <ExceptionType>System.ServiceModel.CommunicationException, …
      <Message>Maximum request length exceeded.</Message>
```

To increase the maximum file upload size, edit the web.config file (within the Compare Service virtual directory) and increase the size of the `httpRuntime maxRequestLength` value.

For example,

```
<system.web>
    <httpRuntime maxRequestLength="40690"/>
  </system.web>
```

> ***Note:*** *Even though an individual file may be smaller than the supported maximum, the total packaged transaction (original file + modified file + message details) may exceed this limit.*

Session Time Out (Client and Server Side)

Sometimes large files may fail to compare because the session has timed out. To extend the session, perform the following configuration:

1. Update the bindings section in the *web.config* file (where Compare Service is hosted in IIS) or in the *Workshare.CompareService.ServiceHost.Exe.config* file (where Compare Service is hosted as a Windows service) with the following. (The important part is the addition of receiveTimeout to "00:10:00" to both bindings.)

```
    <bindings>
      <basicHttpBinding>
        <binding name="UnsecureBinding" closeTimeout="00:10:00"
openTimeout="00:10:00" sendTimeout="00:10:00" maxBufferSize="67000000"
maxBufferPoolSize="67000000" maxReceivedMessageSize="67000000"
messageEncoding="Text" transferMode="Buffered">
          <readerQuotas maxStringContentLength="67000000"
maxArrayLength="67000000" maxBytesPerRead="67000000" />
        </binding>
      </basicHttpBinding>
      <wsHttpBinding>
        <binding name="SecureBinding" closeTimeout="00:10:00"
openTimeout=
"00:10:00" sendTimeout="00:10:00" receiveTimeout="00:10:00"
maxBufferPoolSize="67000000" maxReceivedMessageSize="67000000"
messageEncoding="Mtom">
          <readerQuotas maxDepth="67000000" maxStringContentLength=
"67000000" maxArrayLength="67000000" maxBytesPerRead="67000000"
maxNameTableCharCount="67000000" />
          <reliableSession ordered="true" enabled="true" />
        </binding>
      </wsHttpBinding>
    </bindings>
```

2. Update the host section inside the *web.config* or *Workshare.CompareService.ServiceHost.Exe .config* file and increase the timeouts.

```
        <host>
          <timeouts closeTimeout="00:10:00" openTimeout="00:10:00" />
        </host>
```

3. Change the request execution in the IIS Configuration.
   - In IIS go to the ASP.Net Tab and select **Edit Configuration**.
   - Select the Application tab.
   - Change the **Request execution timeout(seconds)** to 600.

Security Configuration Settings

The default server configuration is designed to use Anonymous access for IIS Directory Security and Windows mode ASP.NET Authentication. This allows users to establish an anonymous connection (for compatibility with HTTP legacy clients) and the server logs on to the client using a specified guest account.

Attempting to create a client session with incorrect credentials may generate the following exception:

`System.ServiceModel.CommunicationException` - "SOAP security negotiation failed."

To resolve this issue, ensure that you have correctly set the ClientCredential property for the service before attempting to call any service methods.

For example,

```
serviceCompare.ClientCredentials.Windows.ClientCredential = new
System.Net.NetworkCredential(sUsername, sPassword, sDomain);
```

(See the sample application's `butTestConnection_Click` method for an example of using client credentials.)

System.ServiceModel.Security.MessageSecurityException

If the system time on the client and server differs by more than 5 minutes then a System.ServiceModel.Security.MessageSecurityException is thrown. This is due to security negotiation failing at the message level and is part of Win2003 security.

If this issue appears it is recommended that the client and server hardware is synchronized to the same clock server.

For more information, search Microsoft documentation for: TimeStampHasCreationTimeInFuture, TimeStampHasExpiryTimeInPast, TimeStampWasCreatedTooLongAgo.

User Accounts with Blank Passwords

Depending on policy settings, it is possible to create a user account with a blank password. However, for security purposes, by default Windows 2008 does not allow blank passwords to be used for authentication through API calls. This means that, although the user may be able to log on to a Windows 2008 machine with a blank password, accounts must have a password set in order to be authenticated through the Workshare Compare Server.

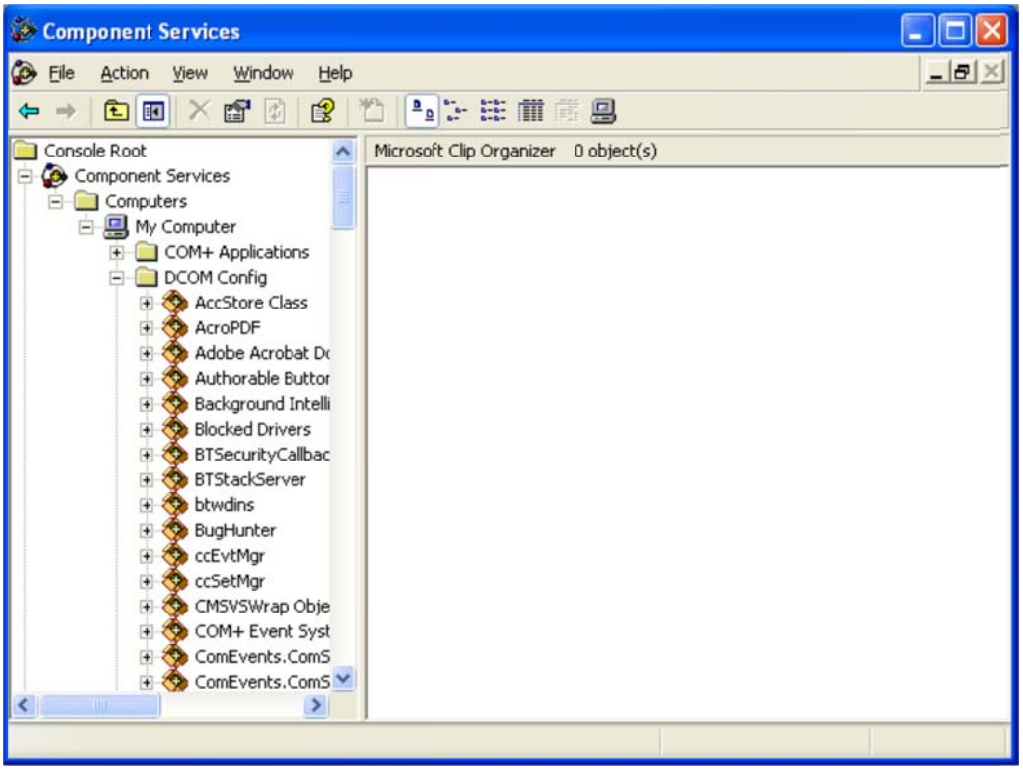
You can override this behavior, and allow blank passwords to be used, by setting the HKLM\SYSTEM\currentcontrolset\control\lsa\limitblankpassworduse value to 0, but this is NOT recommended. Instead, it is advised to enforce a 'no blank password' policy on the server to ensure that user accounts cannot be created without a valid password.

PDF Comparison Functionality

If the PDF comparison functionality is not enabled, performing the following steps will enable it.

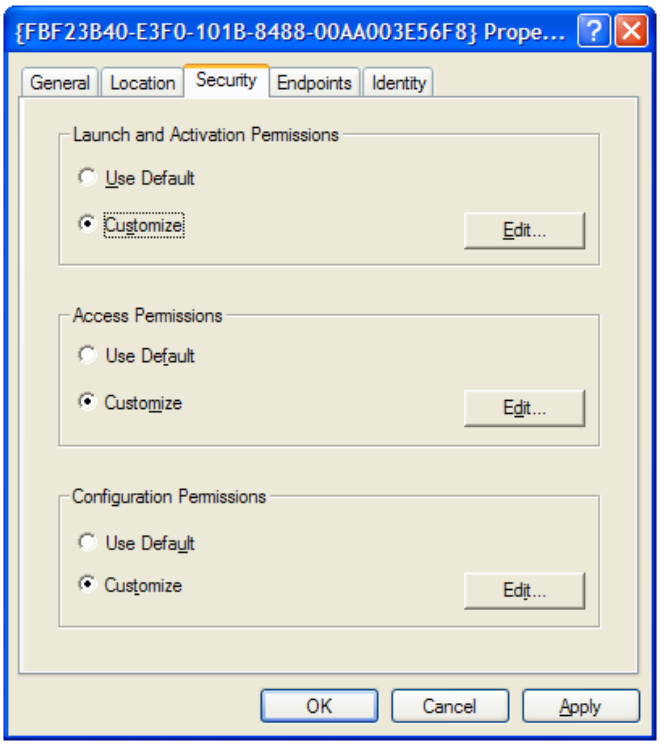
To enable PDF comparison functionality:

1. Install Workshare Compare Server and then reboot the machine.
2. From the Start menu, select **Run**, enter **dccomcnfg** and click **OK**.
3. Expand **Component Services**, **Computers**, **My Computer** and **DCOM Config**.

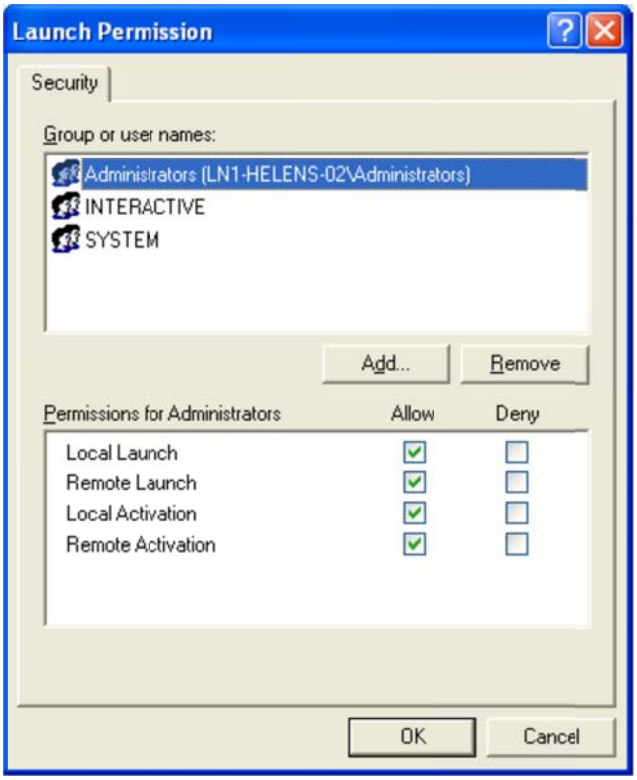


4. Locate either **VSConverterObj Class** or **{F6A94CC5-067C-41C0-BFBE-CD303402DA09}**.
5. Right-click the item and select **Properties**.

6. Select the **Security** tab.



7. In each area, select **Customize** and then click **Edit**.



8. Add the following user **<machine name>\ASP.Net** and select all of the **Allow** checkboxes.
9. Add the following user **NETWORK SERVICE** and select all of the **Allow** checkboxes.
10. Close the Component Services Console.
11. Go to the command prompt and run the following command: **iisreset.exe**.

Appendix A. Using HTTPS Secured Transport

This appendix explains how to configure Workshare Compare Server to use secured transport via HTTPS. It requires you to have previously installed Workshare Compare Server onto a Windows 2008 server and successfully tested both server-side and client-side comparisons.

The necessary steps to configure both the client and server components and sample applications are as follows:

- Create and Install a Test Certificate on the Server, below.
- Update web.config, page 46.
- Update app.config for C# Sample, page 47.
- Install Test Certificate on Client (required when sample is not run on the server), page 48.

Create and Install a Test Certificate on the Server

Install Certificate Services

> ***Note**: This process requires IIS to be restarted. This process may require components from your Windows Server 2003 install CD-ROM*

1. In the Control Panel, double-click **Add or Remove Programs** and then click **Add/Remove Windows Components**.
2. Select **Certificate Services** and select **Yes** when the 'machine name and domain membership' warning dialog is displayed.
3. Click **Next**. The *CA Type Selection* dialog is displayed.
4. Leave the default values and click **Next**. The *CA Identifying Information* dialog is displayed.
5. Enter the following information:
   - Common name for this CA: WCS5
   - Distinguished name suffix: c=Workshare
6. Click **Next**. The *Certificate Database Settings* dialog is displayed.
7. Leave default values and click **Yes** when the 'To complete the installation' warning dialog is displayed.
8. Click **Finish** to close the Completing the Windows Components Wizard dialog.

Create a Certificate Request

1. From the Start menu, select Programs>Administrative Tools>Internet Information Services Manager.
2. Expand the server tree and Web Sites to display the Default Web Site node.

3. Right-click the Default Web Site node and select **Properties**. The *Default Web Site Properties* dialog is displayed.
4. Select the **Directory Security** tab and click **Server Certificate** under **Secure Communications** to start the Web Server Certificate Wizard.
5. Click **Next**. The *Server Certificate* dialog is displayed.
6. Select **Create a new certificate**.
7. Click **Next**. The *Delayed or Immediate Request* dialog is displayed.
8. Select **Prepare the request now, but send it later**.
9. Click **Next**. The *Name and Security Settings* dialog is displayed.
10. Enter the following information:
    - Name: WCS
    - Bit Length: 1024

    Note: *Do not select CSP for this certificate.*
11. Click **Next**. The *Organization Information* dialog is displayed.
12. Enter the following information:
    - Organization: Workshare
    - Organizational Unit: Document Services
13. Click **Next**. The *Your Site's Common Name* dialog is displayed.
14. Enter the following information: Common Name: *HostName* (the name of the specific server you are installing on).
15. Click **Next**. The *Geographical Information* dialog is displayed.
16. Enter the following information:
    - Country/Region: GB (United Kingdom)
    - State/province: London
    - City/locality: London
17. Click **Next**. The *Certificate Request File Name* dialog is displayed.
18. Click **Browse** and select a location where you wish to save the certificate request.
19. Click **Next**. The *Request File Summary* dialog is displayed.
20. Click **Next**. The Completing the Web Server Certification Wizard is displayed.
21. Click **Finish** to complete the process and create the request.

Submit the Certificate Request

1. Open a web browser and navigate to the following URL to display the Microsoft Certificate Services -- WCS5 page: **http://HostName/CertSrv**, where **HostName** is the name of the specific server you are installing on.
2. Select **Request a certificate**.
3. Select **advanced certificate request**.
4. Select **Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file**.
5. Select **Browse for file to insert** to display the Browse control.
6. Click **Browse** and select the certreq.txt file saved during the Create a certificate request process. (If your browser does not have the necessary permissions to browse for files you can copy the contents of the certreq.txt file into the certificate window manually and skip step 7.)
7. Click **Read** to import the certificate request.
8. Click **Submit** to complete the request and display the Certificate Pending page.

Issue and Download the Certificate

1. From the Start menu, select Programs>Administrative Tools>Certification Authority.
2. Expand the **WCS5** node and select **Pending Requests.** The requested certificate is displayed.
3. Right-click the requested certificate and select **All Tasks** and then **Issue**.
4. Open a web browser and navigate to the following URL to display the Microsoft Certificate Services -- WCS5 page: **http://HostName/CertSrv**, where **HostName** is the name of the specific server you are installing on.
5. Select **View the status of a pending certificate request**.
6. Select the Saved-Request Certificate with the relevant timestamp to display the Certificate Issued page.
7. Select **Download certificate** and click **Save** to select a location where you wish to save the certificate file (certnew.cer).
8. Click **Close** to complete the download process.

Install the Certificate and Update IIS to Host Workshare Compare Server Using SSL

1. From the Start menu, select Programs>Administrative Tools>Internet Information Services Manager.
2. Expand the server tree and Web Sites to display the Default Web Site node.
3. Right-click the Default Web Site node and select **Properties** to display the *Default Web Site Properties* dialog.
4. Select the **Directory Security** tab and click **Server Certificate** under **Secure Communications** to start the Web Server Certificate Wizard.

5. Click **Next**. The *Pending Certificate Request* dialog is displayed.
6. Select **Process the pending request and install the certificate**.
7. Click **Browse** and select the certificate file which was previously downloaded.
8. Click **Next**. The *SSL Port* dialog is displayed. The SSL port this web site should use is **443**.
9. Click **Next**. The Certificate Summary is displayed.
10. Click **Next** and **Finish** to complete the installation process.

Configure the Certificate

1. From the Start menu, select Programs>Administrative Tools>Internet Information Services Manager.
2. Expand the server tree and Web Sites to display the Default Web Site node.
3. Right-click the Default Web Site node and select **Properties** to display the *Default Web Site Properties* dialog.
4. Select the **Directory Security** tab and click **Edit** under **Secure Communications**. The *Secure Communications* dialog is displayed.
5. Select **Require secure channel (SSL)** and click **OK**.
6. Click **OK**. The *Inheritance Overrides* dialog is displayed.

> ***Note:*** *Depending on your IIS configuration you may not be required to set Inheritance Overrides. If this dialog does not appear then clicking* ***OK*** *will complete the configuration process.*

7. Click **WCS** and **OK** to complete the configuration process.

For more information see: http://support.microsoft.com/kb/299875/en-us

Update web.config

1. Open **My Computer** and browse to the Workshare Compare Server installation folder. For example, C:\Program Files\Workshare\Compare Service.
2. Make a backup copy of the web.config file and save it as web.configbak within the installation folder.
3. Open the web.config file in a text editor such as Notepad.
4. Within the <serviceBehaviors> node, change **httpGetEnabled="true"** to **httpsGetEnabled="true"**.
5. Within the <service> node, change the mex endpoint binding from **binding="mexHttpBinding"** to **binding="mexHttpsBinding"**.
6. Within the <basicHttpBinding><binding> node add <security mode="Transport" />.
7. Within the <wsHttpBinding><binding> node add <security mode="TransportWithMessage Credential" />.
8. Save the file and close the editor.

Update app.config for C# Sample

1. Open **My Computer** and browse to the Workshare Compare Server installation folder.
2. Search for the file "Workshare.Document.Services.Compare.Sample.exe.config". (By default this is installed in "C:\Program Files\Workshare\Compare Service\samples\C#\ Document.Services.Compare.Sample\bin\Release".)
3. Make a backup copy of the config file and save it as configbak within the same folder.
4. Open the config file in a text editor such as Notepad.
5. Update all **http** references to **https**.
6. Ensure that all instances of **localhost** are replaced with ***HostName***.
7. Within the <basicHttpBinding><binding> node change **<security mode="None" />** to **<security mode="Transport" />**.
8. Within the <wsHttpBinding><binding> node, add **<security mode="Message" />** to **<security mode="TransportWithMessageCredential" />**.
9. Save the file and close the editor.

The following are example client config changes:

```
<appSettings>
  <add key="DefaultHost"
value="https://host/wcs/comparewebservice.svc/compare5" />
</appSettings>


      <basicHttpBinding>
        <binding name="CompareWebServiceSoap" …
          <security mode="Transport">
          </security>
        </binding>
      </basicHttpBinding>

      <wsHttpBinding>
        <binding name="CompareWebServiceWCF" …
          <security mode="TransportWithMessageCredential">
          </security>
        </binding>
      </wsHttpBinding>

    <client>
      <endpoint address="https://host/wcs/comparewebservice.svc/Compare5" …
```

```
      </endpoint>
      <endpoint address="https://host/wcs/comparewebservice.svc"
</client>
```

Install Test Certificate on Client

This step is required when the sample is not run on the server.

1. Browse to the c:\CAConfig folder on the server and copy the certificate file (*host*_WCS5.crt) onto the client machine and place it into the samples folder.
2. Double-click the .crt file. The *Certificate Information* dialog is displayed.
3. Click **Install Certificate…** to open the Certificate Import Wizard.
4. Click **Next**. The Certificate Store page is displayed.
5. Select **Place all certificates in the following store** and click **Browse**.
6. Select **Trusted Root Certification Authorities** and click **OK**.
7. Click **Next** and **Finish**. A security warning dialog is displayed.
8. Click **Yes** to confirm the certificate and complete the installation process.

Test Connection from Client to Server

Open a web browser and navigate to the following URL to display the secured Workshare Compare Server page: **https://HostName/wcs/comparewebservice.svc** where **HostName** is the name of the specific server you are installing on.

Configure JSSE to Recognize the Server Certificate

This step is only required if you wish to use Java to connect to the secured Workshare Compare Server.

1. Download the InstallCert package.
2. Edit the InstallCert.cmd file and replace *HostName* with the name of the server.
3. Double-click **InstallCert.cmd** to display a command window and start the KeyStore certification application. (This should display a successful connection to the server on port 443 and show the details of the server certificate.)
4. Press **1** and **Enter** to add the certificate to the keystore and create a 'jssecacerts' file.
5. Copy the 'jssecacerts' file into the Java Runtime library security folder (by default C:\Program Files\Java\jre1.5.0_12\lib\security).