

Title: Installing ShoreTel5 Release 1.1 on Windows Server 2003			
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Products Affected:	Hardware:	Software:	
	SG-8: <input type="checkbox"/>	SG-12: <input type="checkbox"/>	ST4, r3: <input type="checkbox"/> ST5, r1.1: <input checked="" type="checkbox"/>
	SG-24: <input type="checkbox"/>	SG-T1: <input type="checkbox"/>	
	SG-E1: <input type="checkbox"/>	ShoreTel Converged Conference Bridge: <input type="checkbox"/>	
	Teleworker: <input type="checkbox"/>	IP Phones: <input type="checkbox"/>	

With the introduction of ShoreTel5 Release 1.1, installation of ShoreWare Server is now supported on the following Windows Server 2003 editions:

- Windows Server 2003 Standard Edition
- Windows Server 2003 Enterprise Edition

This document provides instructions both for new installations that wish to use Windows Server 2003, as well as upgrade instructions for those customers who wish to migrate their ShoreTel server from Windows 2000 Server.

## New Installations – ShoreWare Main Server

The following steps should be followed when preparing a Windows 2003 server for ShoreWare installation.

1. Ensure that the hardware, Bios and drivers on your new server are supported on Windows Server 2003.
2. Install Windows Server 2003 by following the instructions provided in the operating system installer.
3. Once the operating system installation has completed, use the "Windows Update" utility to identify and install critical updates from Microsoft.
4. Verify that Jet 4.0 Service Pack 8 or greater is installed. Go to Microsoft's support site and open Knowledge Base article **239114**. The article provides instructions for determining which release of Jet 4.0 is installed, and also provides links to the latest service pack.
5. Ensure all of the necessary IIS 6.0 sub-components are installed:
  - a. Select **Control Panel -> Add/Remove Programs -> Add/Remove Windows Components**.
  - b. Highlight **Application Server** and click on **Details**.
  - c. Highlight **Internet Information Services** and click on **Details**.

- d. Enable (apply a check mark) to the following IIS sub-components (if not already enabled):
  - i. Common Files
  - ii. File Transfer Protocol (FTP) Services
  - iii. Internet Information Services Manager
  - iv. SMTP Service
  - v. World Wide Web Services (and its sub-components):
    1. Active Server Pages
    2. Server Side Includes
    3. World Wide Web Service
- e. Click **Next** to proceed with the installation.
6. Ensure that your server is configured to run in IIS 6.0 mode:
  - a. Select **Start -> All Programs -> Administrative Tools -> Internet Information Services Manager**.
  - b. Click on the "+" beside the computer name to expand the IIS Service tree. Select **Web Sites**, right click and select **Properties**.
  - c. Select the **Service** tab, and verify that the "Run WWW service in IIS 5.0 isolation mode" option is unchecked.
7. The system is now ready to install ShoreWare Server. Insert the ShoreTel5 Release 1.1 CD into the drive.
8. Select the **ShoreWare Main Server** installation.
9. Follow the prompts, and answer the questions as appropriate for your site.
10. Reboot the server when prompted.

## New Installations - ShoreWare Distributed Voicemail Server:

When adding a new Distributed Voicemail Server to an already existing ShoreTel installation, a customer may choose to install the server on a Windows Server 2003 system to assist in their migration efforts to Windows Server 2003. It is not required that all servers are running Windows Server 2003 in order to interoperate. However all servers must be running ShoreTel5 Release 1.1.

1. Follow steps 1 through 6 from the **New Installations – ShoreWare Main Server** section.
2. The system is now ready to install ShoreWare Distributed Server. Navigate to [http://server\\_name/shorewaredirector/remotinstall](http://server_name/shorewaredirector/remotinstall), where server\_name is the name or IP address of the ShoreWare Main server.
3. Follow the prompts, and answer the questions as appropriate for your site.
4. Reboot the server when prompted.

## Upgrading a ShoreWare Server to Windows Server 2003:

As Windows Server 2003 becomes more prevalent, customers may wish to migrate their ShoreWare Main and Distributed servers from Windows Server 2000. Two methods for performing this migration are presented below:

### Low Risk/Minimal Down Time

The following procedure is highly recommended by ShoreTel to minimize the impact of the server migration on the phone system. This procedure also provides a fallback onto the original Windows 2000 server should problems arise:

1. Upgrade your existing ShoreTel system to ShoreTel5 Release 1.1. Allow appropriate time (several days to a week) to ensure the system is stable prior to migrating to the Windows Server 2003 system.
2. Purchase a new server with appropriate hardware, Bios, and drivers to support Windows Server 2003. This allows you to maintain the existing Windows 2000 server, both as an active server while your new server is being prepared, as well as a backup system to your new server should problems be encountered.
3. Install Windows Server 2003 by following the instructions provided in the operating system installer.
4. Once the operating system installation has completed, use the "Windows Update" utility to identify and install critical updates from Microsoft.
5. Verify that Jet 4.0 Service Pack 8 or greater is installed. Go to Microsoft's support site and open Knowledge Base article **239114**. The article provides instructions for determining which release of Jet 4.0 is installed, and also provides links to the latest service pack.
6. Ensure all of the necessary IIS 6.0 sub-components are installed:
  - a. Select **Control Panel -> Add/Remove Programs -> Add/Remove Windows Components**.
  - b. Highlight **Application Server** and click on **Details**.
  - c. Highlight **Internet Information Services** and click on **Details**.
  - d. Enable (apply a check mark) to the following IIS sub-components (if not already enabled):
    - i. Common Files
    - ii. File Transfer Protocol (FTP) Services
    - iii. Internet Information Services Manager
    - iv. SMTP Service
    - v. World Wide Web Services (and its sub-components):
      1. Active Server Pages
      2. Server Side Includes
      3. World Wide Web Service
  - e. Click **Next** to proceed with the installation.
7. Ensure that your server is configured to run in IIS 6.0 mode:
  - a. Select **Start -> All Programs -> Administrative Tools -> Internet Information Services Manager**.
  - b. Click on the "+" beside the computer name to expand the IIS Service tree. Select **Web Sites**, right click and select **Properties**.
  - c. Select the **Service** tab, and verify that the "Run WWW service in IIS 5.0 isolation mode" option is unchecked.

It is recommended that the remaining steps are performed at a time when interruption of voicemail and workgroup services is permissible.

8. Shut down all **ShoreWare Services** on the active Windows 2000 server.
9. Copy the **Shoreline Data** folder and all sub-folders from the active Windows 2000 server onto the new Windows Server 2003 system.
10. Shut down or remove from the network, the active Windows 2000 server.
11. Assign the name and IP address of the old Windows 2000 server, to the new Windows Server 2003 system and ensure it is connected to the network.
12. Install ShoreTel5 Release 1.1 onto the Windows Server 2003 system using a CD or the self extracting installer available from the ShoreTel FTP site.
13. Follow the prompts, and answer the questions as appropriate for your site. When asked for the path for the Shoreline Data folder, be sure to specify the location of the Shoreline Data folder that was copied from the Windows 2000 server.
14. Reboot the server when prompted. Once the installation is complete, the new Windows Server 2003 system will connect to all other ShoreWare servers, switches, and client PCs.

Maintain the Windows 2000 server as a backup until such time that the new system is considered stable.

#### Moderate Risk/Extended Down Time

The following upgrade procedure may also be used to migrate a system to Windows Server 2003, but presents a moderate amount of risk, and also requires an extended period of time in which the ShoreWare server is unavailable. ShoreTel does not recommend using this migration procedure:

1. Check with your server vendor to determine that your existing Windows 2000 server is Windows Server 2003 compatible. This may require hardware, Bios, and driver updates.
2. Upgrade your existing ShoreTel system to ShoreTel5 Release 1.1. Allow appropriate time (several days to a week) to ensure the system is stable prior to migrating to the Windows Server 2003 system.
3. Shut down all ShoreWare services on the Windows 2000 server.
4. Using appropriate ghosting software, obtain a ghost image of your Windows 2000 server as a fallback should the upgrade procedure fail.
5. Copy the Shoreline Data folder, and all sub-folders onto a safe location (network drive, or a different system).
6. Insert the Windows Server 2003 CD into the CDROM drive and boot the system from the CD (not the hard drive).
7. Allow the Windows Server 2003 installation program to begin and select the option to delete the system partition. This will remove Windows Server 2000.

**Note:** You may want to remove all partitions from the hard drive to create a larger system partition for the Windows Server 2003 installation.

8. Create an NTFS partition on the hard drive and select the new partition for the Windows Server 2003 installation.
9. Once the operating system installation has completed, use the "Windows Update" utility to identify and install critical updates from Microsoft.

10. Verify that Jet 4.0 Service Pack 8 or greater is installed. Go to Microsoft's support site and open Knowledge Base article **239114**. The article provides instructions for determining which release of Jet 4.0 is installed, and also provides links to the latest service pack.
11. Ensure all of the necessary IIS 6.0 sub-components are installed:
  - a. Select **Control Panel -> Add/Remove Programs -> Add/Remove Windows Components**.
  - b. Highlight **Application Server** and click on **Details**.
  - c. Highlight **Internet Information Services** and click on **Details**.
  - d. Enable (apply a check mark) to the following IIS sub-components (if not already enabled):
    - i. Common Files
    - ii. File Transfer Protocol (FTP) Services
    - iii. Internet Information Services Manager
    - iv. SMTP Service
    - v. World Wide Web Services (and its sub-components):
      1. Active Server Pages
      2. Server Side Includes
      3. World Wide Web Service
  - e. Click **Next** to proceed with the installation.
12. Ensure that your server is configured to run in IIS 6.0 mode:
  - a. Select **Start -> All Programs -> Administrative Tools -> Internet Information Services Manager**.
  - b. Click on the "+" beside the computer name to expand the IIS Service tree. Select **Web Sites**, right click and select **Properties**.
  - c. Select the **Service** tab, and verify that the "Run WWW service in IIS 5.0 isolation mode" option is unchecked.
13. Copy the backup copy of **Shoreline Data** and its sub-folders onto the desired drive path on the server.
14. Install ShoreTel5 Release 1.1 onto the Windows Server 2003 system using a CD or the self extracting installer available from the ShoreTel FTP site.
15. Follow the prompts, and answer the questions as appropriate for your site. When asked for the path for the Shoreline Data folder, be sure to specify the location of the Shoreline Data folder that was copied onto the server.
16. Reboot the server when prompted. Once the installation is complete, the new Windows Server 2003 system will connect to all other ShoreWare servers, switches, and client PCs. Maintain the Windows 2000 Server ghost image as a backup until such time that the new system is considered stable.

## Windows Server 2003 Security Considerations:

Windows Server 2003 introduces security improvements to IIS. The following information is provided to explain how ShoreWare Server works in Server 2003, and how changes to the installed settings may impact the ShoreWare Server operation.

In order to support Windows Server 2003, the ShoreWare Server Installation was enhanced to support the following IIS 6.0 features:

- Multiple Application Pools
- Web Service Extensions

In IIS 5.0, applications could be pooled together out of process, but in only one application pool. Web applications process identity was LocalSystem, which enabled access to, and the ability to alter nearly all the resources on a web server. In IIS 6.0, worker process isolation mode supports multiple application pools. Web applications can share application pools or use their own application pool. Each application pool has its own worker process which improves security, performance/scaling and availability.

By default, IIS 6.0 is installed with a "DefaultAppPool". This application pool uses the "Network Service" process identity, which has minimal administrative credentials, which helps reduce the attack surface of your web server. This is fine for ShoreWareDirector, ShoreWareWebClient and ShoreWareSoftPhone web applications. However, the ShoreWare Client-Server Information Service (CSIS) application requires a process identity with more administrative privileges, hence CSIS requires a new Application pool running under the Local System process identity. The ShoreWare server installer creates an Application Pool called "CSISAppPool" which runs under the Local System identity. CSIS will use a separate worker process independent of the worker process used by other ShoreWare web apps. To restart the CSISAppPool worker process, open the IIS manager, navigate to Application Pools->CSISAppPool, then click on stop followed by start button in the tool bar.

In IIS 6.0, CSIS ISAPI extension will not work unless it's explicitly enabled using Web Service Extensions (WSE). The ShoreWare server installer creates a WSE called "CSISWebService" and grant permission to the CSIS ISAPI extension to access system resources.

Baseline Security Analyzer (MBSA1.2) results for a Windows Server 2003 Standard Server with the ShoreWare Server product installed produced the following security warnings:

- ❑ There were users configured in the system with non-expiring passwords
  - By default, IIS configures TWO users IUSR\_<machinename> and IWAM\_<machinename> with non-expiring passwords. It's up to the administrator to decide if security attributes for these accounts should be tightened. By setting the password to expire, the administrator will be required to perform maintenance on all web applications which access resources using these accounts, each time the password is changed.
  - ShoreWare Server creates an account with administrative privileges called IPBX\_<machinename> with also no expiring password. Setting the account password to expire will require the administrator to perform maintenance on the ShoreWare and ShoreBatchUtility COM+ packages each time the password is changed. Also, each time the ShoreWare server is upgraded, the IPBX\_<machinename> account will be created with a non-expiring password.
- ❑ Parent paths are enabled in some web sites/virtual directories.

- By default, IIS 6.0 web applications prohibit web pages to access web resources located on Parent Paths. ShoreWare Director contains many web pages that include scripts and web pages located in Parent Paths. The ShoreWare Server installer modified the security settings of the ShoreWareDirector web application to "enable access to Parent Paths". This loosening of the security attributes is only branched down to child directories of ShoreWareDirector.