InterwiseConnect™

ICS Administration Guide

Version 7.2

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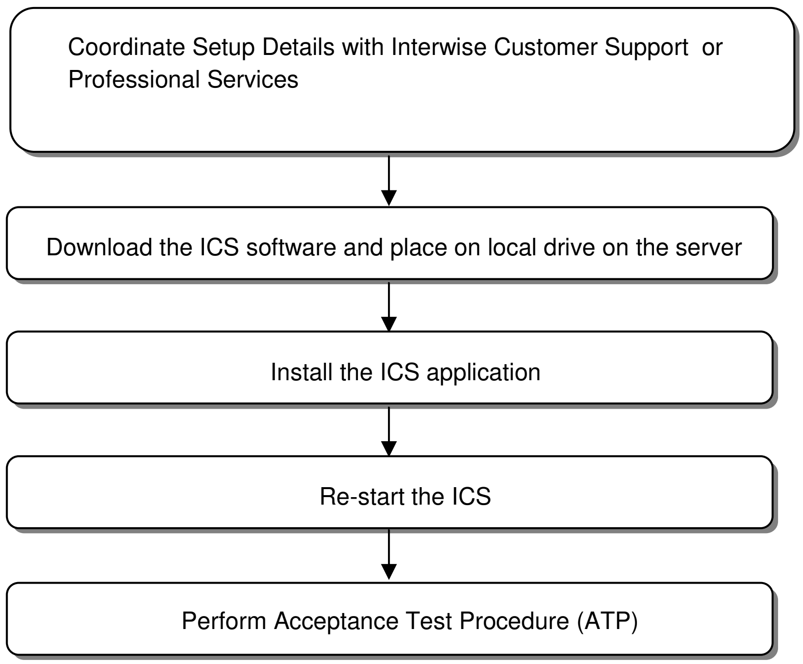
The Interwise Communications Servers (ICS)

About This Document

This document describes how to install and manage the ICS:

- **Workflow**, shows a workflow for installing the Interwise Communication Server
- **Pre-Installation Requirements and considerations** describe preliminary requirements for installing the various servers.
- **Installing the Px/Push Application**, describes how to install the ICS.
- **Testing the PX/Push Application post installation**
- **Monitoring and Maintaining an onsite ICS installation**

Workflow


Coordinate Setup Details with Interwise Customer Support or Professional Services
Download the ICS software and place on local drive on the server
Install the ICS application
Re-start the ICS
Perform Acceptance Test Procedure (ATP)

Pre-Installation Requirements

- Windows 2003 Server SP1
- A single static IP address on the ICS machine.
- Determine which Ports the ICS will listen on (ie.. 443, 7778, etc..)
- Determine if the ICS will listen on one port for all types of data (audio, video and data) or if the ICS will listen on multiple ports.
- Register the Server in the ISM and keep the given server key and name available for the installation

> **Note:** Refer to the System Requirements documents for further details. Typically this is done by Interwise Hosting Services unless there is an onsite ISM installed.

- In addition, you must also define the regional options for your computer as English (United States) – with no other languages supported - the Date format as m/d/yyyy, and the Time format as h:mm:ss:tt.
- Make sure that you are logged in with local administrator rights
- To define regional options:

  1. From the *Start* menu, select **Settings>Control Panel>Regional and Language Options**. In the displayed **Regional Options** tab, select **English (United States)** from the *Standards and Formats* dropdown list.
  2. Click **Customize** and make sure that the *Time Format* is **h:mm:ss:tt** in the **Time** tab. Click the **Date** tab and make sure that the *Short Date Format* is **M/d/yyyy.** Click **OK** and return to the *Regional and Language Options* dialog.
  3. Select **United States** from the *Location* dropdown list in the **Regional Options** tab.
  4. Select **English (United States)** from the *Language for non-Unicode programs* dropdown list in the **Advanced** tab.
  5. Select **Apply all settings to the current user account and to the default user profile**.
  6. Click **OK**.

Note: It is recommended for advanced users to apply the date format settings for all the profiles in the Windows Registry (under HKCU\Default\Control Panel\International and for every other defined user under HKCU).

➤ **Hardware considerations:**

The following table describes the CPU and RAM requirements for running the ICS on a dedicated server. The ICS software is designed to run in conjunction with other applications, but for performance considerations of both the Interwise and other applications we recommend restricting this to small office sites. Customers should consult with their Interwise support representative to see if this is a good option for them.

CPU	**RAM**	**Concurrent Users (security level)**		**Concurrent Events (secured level)**	
		Normal	Secured	Normal	Secured
Dual Core / Dual Processor 3.4 GHz	4GB	1500	1200	250	180
Dual Processor 3.4 GHz	2 GB	700	500	120	85
Dual Processor 2.4 GHz	2 GB	600	450	100	65
Dual Processor 1.4 GHz	1 GB	500	340	75	48
Dual Processor 1 GHz	512 MB	350	225	40	25

Interwise does not have specific requirements for the network interface card (NIC), only that it supports TCP/IP and has a single IP address bound to it.

Interwise does though recommend using highest possible speed for the connection of the ICS to the LAN (supported by the local switch also), and using NIC "teaming" wherever possible so their will be redundancy at the NIC level.

Please note that Interwise recommends 36 GB hard drive for onsite customer ICS installations. We also recommend that customers setup a D:\ (or any different drive letter) as a separate partition leaving 12 GB for the C:\ (OS partition). We recommend to install the ICS under the new (D:\) partition with the other 24 GB of Hard disk space.

Neither of these recommendations are mandatory; the Interwise software and associated temporary files typically do not consume more than 2 GB of hard disk space.

- **Firewall Considerations:**

The Interwise architecture is fundamentally designed be to flexible in how our architecture can be deployed. As such it is impossible to anticipate all the different implementations in the scope of this document, and Interwise recommends to its customers that it consults with its support representatives in order to confirm the appropriate firewall rules.

The ICS will need to communicate with the ICC and ISM components over ports 80 and 443. These are requests initiated by the ICS server, and the ICC/ISM merely respond to these requests.

The ICS will need to communicate with the Parent ICS over which ever port the Parent ICS is configured to listen on. For most customers who are connecting their onsite child ICSs to the Interwise hosted system, this means either 443 or 7778 (or 80 if necessary).

The ICS will need to listen for inbound client connections on a single IP / Port. By default the software will listen on port 443, but it can be configured to listen on any port. Interwise has registered port 7778 with IANA for Interwise traffic.

- **Proxy Considerations:**

The Interwise Communication Server is a Proxy of real-time Interwise data streams (it terminates inbound connections and redirects data information requests and transfers from one client to parent server or alternative client as appropriate). Thus Interwise suggest to our customers wherever possible that the ICS not be "routed" through traditional HTTP proxies.

The ICS though does support going through traditional web proxies. In some circumstances this may affect performance/quality of the real-time data streams. Please consult with Interwise support personnel for additional information.

Installing the Interwise Communications Server (ICS) Application

- **Do not install a Communications Server on the ICC computer. The ICC installation includes a Communications Server installation and installing the Server over it will corrupt it.**
- **Do not install a Communications Server on a machine running the Windows Media Server.**
- **On Windows 2003 Server: Do not install a Communications Server on a machine running the Windows Terminal Server without first installing SP1 of Windows 2003 (remove the Windows Terminal Server if you are not sure).**

This installation installs the following components that reside on the same computer:

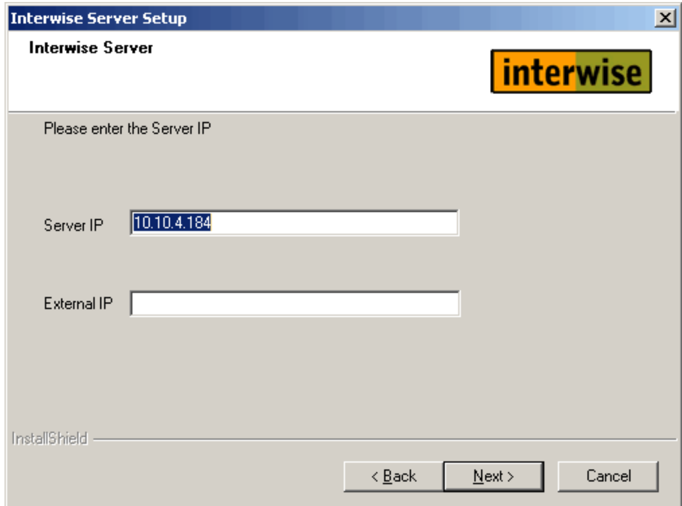
- Communications Server ('px')
- Muxtiplexor ('mux')
- Push Server ('push')
- Server Agent (the Server controller) ('pxagent')
- Monitoring tool ('iwmonitor')
- Cleanup agent ('iwutils')

The following procedure describes how to install the ICS.

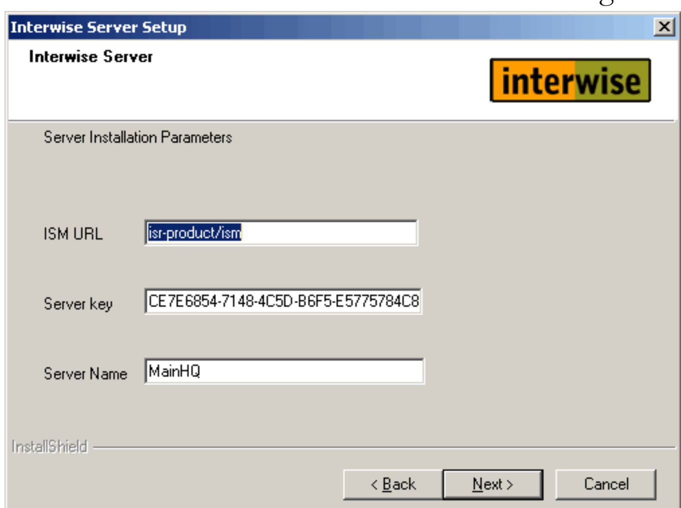
Note: The installation process can contain additional screens, according to the build options defined in the **.ini** file.

➢ **To install the Communications Server:**

1. Download the latest version of the ICS software from the Interwise customer support community and save it locally.
2. From the installation folder, double-click the **Setup.exe** file. The *Welcome* window is displayed.
3. Click **Next**. The *License* window is displayed.
4. Click **Yes** to accept the license agreement. The following window is displayed:



5 The installation program will automatically locate your local IP address. If you want to change it, enter the relevant IP for the server. If you have an external IP address for the server, then enter the IP in the **External IP** field. Click **Next**. The following window is displayed:



6 Define the following:

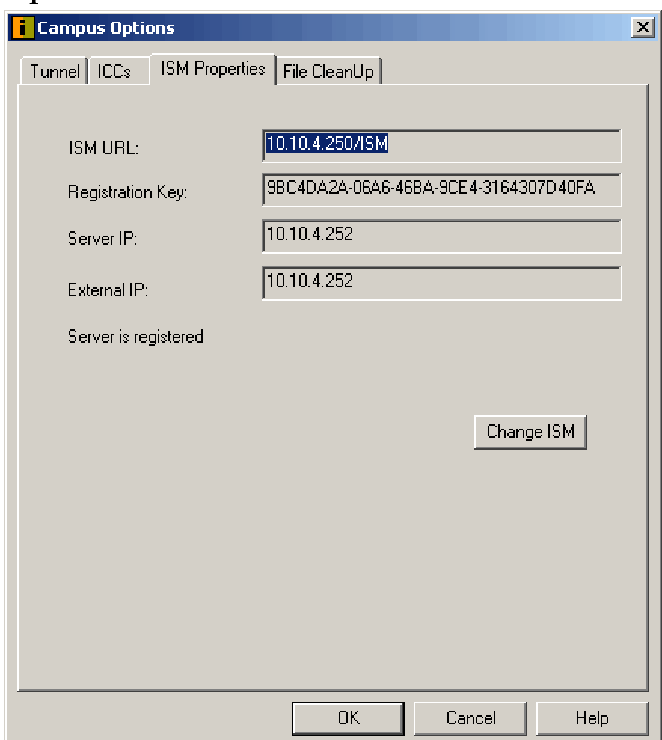
- **ISM URL:** The URL of the ISM from which this ICC will be managed.
- **Server key:** Generated in the ISM when defining the Communications Server
- **Server Name**: The same as the Server name defined for the server in the ISM).

7 Click **Next**. The *Setup Status* window is displayed, and the files are installed. This process may take a few minutes.

8 Upon completion, the *Finish* window is displayed. Click **Finish** to complete the Server installation.

➢ To verify the installation of the Communications Server:

1 From the *Start* menu, select **Programs>Interwise>Interwise Server Options**.



2 Click the **ISM Properties** tab to view the details of the ISM to which the server should be registered. If there is any error in registering the server to the ISM, a 'Server is not registered' message is displayed.

Note: You need to create the ICS settings in the ISM before the ICS is operational. Refer to the *Working with the ISM* document for additional information.

Testing the ICS installation:

Test Section	Step	Test	Pass Y/N	Comments
Pre-Work	NA	ICS Internal IP: ICS External IP (if needed):	**NA**	
Check ICS	**1**	Create an iMeeting to begin in 10 minutes time and confirm that the Enter link becomes RED.		
Check ICS	**2**	From a computer other than the ICS itself log and into the event and confirm that you are able to join the event.		
Check ICS	**3**	With the Participant application disconnect from whatever ICS which was selected by the intelligent server selection and reconnect manually selecting the new ICS you just installed (NOTE : If this is a DMZ installation it is very important to have an additional Participant log into the event from outside the customer firewall)		
Check ICS	**4**	Check the status indicators on both the Participant applications		
Check ICS	**5**	Participate some in the event, validate audio data transmission		

Monitoring the ICS after it is installed:

As mentioned earlier the ICS installation adds the following components:

- Communications Server ('px')
- Muxtiplexor ('mux')
- Push Server ('push')
- Server Agent (the Server controller) ('pxagent')
- Monitoring tool ('iwmonitor')
- Cleanup agent ('iwutils')

Each of these components has a different purpose:

1) The PX is the process which begins when a user connects to a live event, and goes down after the last user disconnects from that event.
2) The MUX is the process which listen for inbound connections
3) The PUSH is the process responsible for handing end-user request for pre-uploaded event materials
4) The PXAgent is a service which brings up all the processes (including the PXAgent process) and is responsible for handling all communication with the other Interwise server components
5) The IWMonitor is a monitoring tool which can be used with the Interwise proprietary monitoring setup
6) The IWUtils is a tool which runs to clean-up temporary files, cache and old logs on the ICS server.

Interwise recommends (none of the below items are mandatory) the following monitoring procedures for onsite systems:

- Monitor the MUX.exe – it should be running at all times. If it stops running it should send an immediate alert to appropriate IT staff to inform them that is no longer running, and this will need immediate attention.
- Monitor the PUSH.exe – it should be running at all times. If it stops running it should send an immediate alert to IT staff to inform them that is no longer running.

- Monitor the PXAgent service and PXAGENT.exe – the PXagent service should be always Started and Automatic. The PXAgent.EXE should always be running. If either of these are not true, then an alert should be sent to appropriate IT staff to inform them that is no longer running, and this will need immediate attention
- The PX.exe(s) is not like the other processes, as there might be many, only one or no PX.exe running on an ICS at any time while the server is functioning perfectly normally.

  Thus Interwise recommends that IT departments monitor the number of PX.exe processes running on the server on a regular basis in order to insure that maximum ICS capacity is not being approached.
- The IWMONITOR.exe does not need to be monitored
- The IWUTILS.exe does not need to be monitored.

Additionally:

- Interwise recommends monitoring the total CPU level on an ICS to insure that it does not run at 100% CPU for any reason (related to Interwise or other software operating on the server)
- Interwise recommends monitoring the available disk space on both the OS disk partition and on the Interwise partition to insure that neither of them are becoming full.

TWO IMPORTANT NOTES ABOUT ONGOING SYSTEM MAINTENANCE:

1) Interwise recommends that organizations running the Interwise software regularly apply the Microsoft Windows server security and performance patches as released by Microsoft.
2) Interwise recommends regular restarting of the ICS machine. We recommend restarting the ICS machine at least once every month, and more if the system is going to handle a substantial amount of events and traffic. For precautionary reasons systems that are considered mission critical, should be rebooted weekly during a normal weekend maintenance window.