

Installation Guide

for the

Intel® Server Control

Order Number: 747116-005

This guide explains how to install and launch the Intel® Server Control (ISC) software. ISC is a server management tool that provides real time monitoring and alerting for server hardware, emergency remote management, and remote server setup. It is implemented using a client-server architecture.

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System Requirements

ISC contains two parts:

- ISC Console Software
- ISC Server Instrumentation Software

ISC Console Software allows interaction with the managed server. It can be installed on these system configurations:

- Windows NT[†] 4.0 server or workstation, Enterprise Edition
- Windows[†] 98 Second Edition workstation
- Windows 2000 workstation

ISC Server Instrumentation Software, when installed, creates a managed server that can be managed from the system running ICS Console Software. It can be installed on these systems:

- Windows NT 4.0 server
- Windows 2000 server
- NetWare[†] server
- UnixWare[†] server
- Linux[†] 6.1 server

Managed Server Requirements

ISC supports several Intel[®] motherboards. For a complete list of supported server motherboards and qualified BIOS revision levels, see the ISC release note files (ENUREADME.TXT and ENUERRATA.TXT). The following requirements must be met for a managed server.

Windows 2000/NT Requirements

- Windows 2000, NT Server 4.0 (SP 5), or Enterprise Edition
- 64 MB of RAM
- 60 MB of available disk space
- Windows NT SNMP or SNMP service installed (required only for connectivity to an SNMP management console)

NetWare Requirements

- NetWare 4.2 or 5.0 symmetric multiprocessing (SMP)
- At least 32 MB of RAM
- At least 60 MB of available disk space

Red Hat Linux Requirements

If you intend to manage a Linux file server, it must meet the following minimum requirements:

- Red Hat Linux 6.1 running in multiple-processor kernel
- 32 MB of RAM
- 60 MB of available disk space

SCO[†] UnixWare Requirements

If you intend to manage a UnixWare file server, you must have an account with root privileges available to you. The server must also meet the following minimum requirements:

- SCO UnixWare 7.1
- 32 MB of RAM
- 60 MB of available disk space

Additional Requirements for DMI-SNMP Translation

Simple Network Management Protocol (SNMP) support must be installed if you want to integrate ISC with an SNMP-based management framework. For SNMP installation information, see your Windows NT, NetWare, or UnixWare documentation.

On the managed server, you should consider the following issues when configuring SNMP:

- Community string names for SNMP Get and Set operations
- Community string names for sending traps
- The destination address for the management console receiving the traps

On the management console, you should consider the following issues when configuring SNMP:

- Compiling the MIBs into the SNMP management consoles
- Integration of ISC traps into SNMP management consoles

Console Requirements

Console System requirements may change when snapping into one of the supported management applications. Please refer to their installation requirements for additional information.

ISC Console Software integrates into an Enterprise System Management Console or it can be installed on a stand-alone console. The required Enterprise System Management Consoles are:

1. Intel® LANDesk® Server Management 6.0x
2. HP OpenView† Network Node Manager 6 for Windows NT
3. CA UnicenterTNG† 2.2 for Windows NT

A stand-alone console manages ISC-enabled servers without Enterprise System Management. It is implemented as an ActiveX control that runs within its own container or third party container application (e.g., Microsoft Management Console, Internet Explorer† v3.02 or later, or Netscape Navigator† v3.0 or later with ActiveX† snap-in). You can choose the stand-alone environment during setup. If you do not choose the stand-alone environment and no management console is present, the ISC software will not install.

Windows 98 Second Edition

- Intel® Pentium® microprocessor or higher
- At least 32 MB of RAM
- At least 10 MB of available disk space

Windows 2000/NT

- Windows 2000/NT Server, or Workstation 4.0 (SP 5), or Enterprise Edition
- Intel Pentium microprocessor or higher
- At least 64 MB of RAM
- At least 10 MB of available disk space

Service Partition and Population

The service partition is a special hard disk partition. It is established when initially setting up the server system and contains utilities, diagnostics, and other software required for remote management. The service partition is not marked as an active partition and the server will only boot from it by a special request. It is not normally visible to the server user because it has a special non-standard partition type that does not appear as an accessible file system to the end user operating system. However, low level disk utilities can see the partition entry as an unknown type, and recognize its space.

The utilities and diagnostics on the service partition can be run locally or remotely. In order to run the utilities and diagnostics the server must boot from the service partition. Remote execution is available from the Direct Platform Control (DPC) Console Manager and System Setup Utility (SSU) Client.

Service Partition Installation

It is recommended that you install the service partition:

- On a clean formatted hard drive with no partitions defined.
- Before installing any operating system.

It can also be installed on a hard drive that contains partitions, providing there is unpartitioned space and one free entry in the partition table. However, these are not recommended because some operating systems may no longer boot if partitions are added or removed after that OS has been installed.

Requirements

- The SP can be on any of the first 8 BIOS-supported physical hard drives.
- SP hard drives must support BIOS INT13.
- At least 50 MB of unused (not partitioned) hard drive space. On large hard drives this unused space must be within the first 8 GB.
- A service partition does not already exist on the hard drive.

⇒ NOTE

There are commercial utilities that can resize existing partitions to free space if more is needed. Alternately, you can add a low capacity hard drive for the service partition.

Installation

This procedure is for installing the SP on a clean formatted hard drive only.



CAUTION

To prevent data loss, do not attempt to run the installation utility from any device other than the Software Kit CD.

1. Backup all data on all hard drive.
2. Disable all system features that prevent writing to the hard drive boot sector.
3. Insert the Software Kit CD into the CD-ROM reader.
4. Restart the server.
5. When the “F2 to enter setup” message appears, quickly press F2 to enter Setup.
6. In Setup, use the arrow keys to select the Boot menu.
7. Use the arrow keys to select Boot Device Priority then press Enter.
8. Select ATAPI CDROM and use the + key to move the selection to the top of the list.
9. Press F10.
10. Select Yes to confirm saving of the current settings and press Enter. The server restarts and boots from the Software Kit CD.
11. When the Server Board CD-ROM menu appears, use the arrow keys to select the Utilities menu and press Enter.
12. Select Run Service Partition Administrator and press Enter.
13. Choose item 3 - Create service partition (first time).
14. Follow the instructions on your screen to select the hard drive for service partition installation.
15. The utility creates the service partition and informs you that it will reboot the server when you press any key.
16. The server reboots from the Software Kit CD.
17. When the Server Board CD-ROM menu appears, use the arrow keys to select the Utilities menu and press Enter.
18. Select Run Service Partition Administrator and press Enter.
19. Choose item 4 - Format service partition and install software.
20. Follow the instructions on the screen to format the service partition and install the partition software.
21. Quit the Server Board CD-ROM menu.
22. Remove the Software Kit CD from the CD-ROM reader.
23. You can now install the user operating system.

Boot the Server from the Service Partition

Boot the server from the service partition when you want to run the utilities and diagnostics found on the service partition. You can reboot a server:

- Locally
- Remotely
- Using the DPC console manager
- Using the Client SSU

Locally Booting the Server from the Service Partition Boot

1. Restart the server.
2. When the “F2 to enter setup” message appears, quickly press F2 to enter Setup.
3. In setup, use the arrow keys to select the Server menu.
4. Select Service Boot and press Enter.
5. Choose Enabled and press Enter. The Service Boot option resets to Disabled after the next system boot.
6. Press F10.
7. Select Yes to confirm saving of the current settings and press Enter. The server restarts and boot from the service partition.

Remotely Booting the Server from the Service Partition Boot

You can remotely boot the server from the service partition using the DPC Console Manager or the SSU Client.

Using the DPC Console Manager

1. Connect to the appropriate server.
2. Select Reboot Service Partition from the Action menu.

Using the Client SSU

1. Select (Re)Connect from the Server menu.

Installing ISC

Managed Server Preparation

ISC uses the event-logging feature of the BIOS for system management status and information. To enable this feature for each server to be managed with ISC, you must boot the server(s) using the System Configuration Utility (SCU) or System Setup Utility (SSU) and set the appropriate options under System Management Options. For motherboard-specific settings and values, see the ISC release note files (ENUREADME.TXT and ENUERRATA.TXT).

⇒ NOTE

It is possible to configure temperature and voltage thresholds on the server system using the SCU or SSU. However, the thresholds set with the SCU or SSU are in effect only for a short time during the system boot process. PIC overwrites these thresholds when the OS loads. It is recommended that all threshold changes be made using Platform Instrumentation Control (PIC).

Compatibility and Upgrade Issues

The following paragraphs describe compatibility and upgrade issues for:

- LSC and LDSM
- Networks
- Windows NT
- Window 98 Second Edition
- Red Hat Linux

LSC and LDSM

If you have earlier versions of LSC or LDSM on your network, be aware of the following:

- Versions of LSC integrated with LDSM (e.g., LDSM with LSC55) are not supported under ISC.
- The ISC-managed server installation will not upgrade the DMI service provider or any DMI database that is already installed on the managed server. However, if a service provider is not found, ISC installs a DMI 2.0 service provider.
- The ISC server installation process installs the remote procedure call (RPC) transports (DCE and ONC) if they are not available on the managed server.
- ISC ships with the DMI 2.0s Service Provider for Windows NT. The 2.0s version is an extension of the Service Provider that supports security. ISC does not use those features, but they are available under Windows NT for possible use by other DMI 2.0s-compliant software.

NetWare

For installation on systems using NetWare, be aware of the following:

- Connect as a user with supervisor rights when installing ISC to a NetWare server.
- All Netware servers require two manual reboots following the ISC installation.

Windows NT

For installation on systems using Windows NT, be aware of the following:

- Connect as a user with supervisor rights when installing ISC to a NetWare server.
- The ISC installation program automatically reboots both remote and local servers as necessary.
- Remote Access Service (RAS) must be previously be installed on the console for if you are installing the ISC Direct Platform Control (DPC) and/or Client System Setup Utility (SSU) component.
- For modem connections between server and console, you must configure the modem using the Control Panel. Maximum modem baud rate is 19200.

Windows 98 Second Edition

For installation on systems using Windows 98 Second Edition, be aware of the following:

- A manual reboot is required following the ISC installation.
- Remote Registry must be previously installed on the console.
- For modem connections between server and console, you must configure the modem using the Control Panel. Maximum modem baud rate is 19200.

UnixWare

For installation on systems using UnixWare, be aware of the following:

- Connect as root user when installing ISC to a UnixWare server.
- A plain text password must be enabled in the registry. If the password is not enabled, an extra reboot following ISC installation will be required on each UnixWare server.
- Vision FS must be installed, configured, and running.
- A manual reboot is required for each server following the ISC installation.
- The server automatically reboots following ISC installation.

Red Hat Linux

For installation on systems using Red Hat Linux, be aware of the following:

- Remote ISC installation is not available.
- Additional steps are required to configure the Linux DMI service provider.
- Additional steps are required to configure the SNMP-DMI mapper.

LSC, LDSM, Windows, NetWare, and UnixWare Installation

The ISC 2.2 package contains both the console and instrumentation software. To install, launch ISCSetup.exe if it is downloaded from the web or Launch Binaries\Setup.exe if it is from a CD-ROM. Remote installation for server instrumentation software is supported for Windows 2000/NT or Novel server. The console software installation can only be installed locally. Select all the server(s) to be installed and follow the instruction on the screen to continue.

After the installation is completed, reboot the server to complete the installation:

- Each Windows 2000/NT server automatically reboots.
 - Each NetWare or UnixWare server requires manual reboot.
1. Login with system administrator access.
 2. Verify the HP OpenView is not running.
 3. Do steps 4 and 5 then skip step 6 if you are installing from the Software Kit CD. Skip to step 6 if you are installing from a download from the web.
 4. At the console, insert the Software Kit CD into the CD ROM reader.
 5. Run the program x:\binaries\setup.exe, where x in the drive letter of your CD ROM reader.
 6. Run the program ISCsetup.exe from the ISC download directory.
 7. Note this installation may require multiple server reboots.

When installation is complete, view the file logfile in the install directory of each server and console to verify that ISC installed correctly.

Red Hat Linux Installation

There are three steps to Red Hat Linux installation process:

- Installing Linux DMI server provider
- Installing ISC
- Configuring the SNMP_DMI mapper

Installing Linux DMI Service provider

1. Insert the Software Kit CD into the console CD ROM reader.
2. Connect to the directory `\isc\LinuxDMI`.
3. Open an ftp session to the Linux server.
4. Change the mode to binary.
5. Copy the file `dmisp-1.0-1.i386.rpm` to a temporary directory on the server.
6. Close the ftp session.
7. Login as root on the server.
8. Enter the command `<temp directory>/rpm -i dmisp-1.0-1.i386.rpm` and press Enter.
9. Follow the instruction on your screen.
10. Reboot the Linux server when the command completes.
11. Repeat steps 5 through 9 for the files:
`dmi2snmp-1.0-10.i386.rpm`
`ucd-snmp-4.0.1-10smux.i386.rpm`

Installing ISC Service Instrumentation

1. Insert the Software Kit CD into the console CD ROM reader.
2. Connect to the directory `\isc\Linux`.
3. Open an ftp session to the Linux server.
4. Change the mode to binary.
5. Copy the file `ISC-2.2-1.i386.rpm` to a temporary directory on the server.
6. Close the ftp session.
7. Login as root on the server.
8. Enter the command `<temp directory>/rpm -I <temp directory>/ISC-2.2-1.i386` and press enter.
9. Following the instructions on your screen.
10. Reboot the Linux server when the command completes.

Configuring the SNMP–DMI Mapper

These steps must be completed if any SNMP management console (HP OpenView, CA UniCenter) will manage the Linux server.

1. Verify that the `dmi2snmp-1.0-10.i386.rpm` and `ucd-snmp-4.0.1-10smux.i386.rpm` are installed.
2. Open the file `/etc/snmp/snmpd.conf` file.
3. Add a trapsink line at the end of the file for each management console that receives traps from the managed server. The trapsink line syntax is:
`trapsink <myhost-name.domain.com>`.

Customizing NetWare Servers After Setup

While installing PIC, the configuration and Setup program installs Adaptec and LSI (Symbios) SCSI, and Intel® LAN Adapter instrumentation on the NetWare server but does **not** enable the instrumentation support.

To enable support for any or all instrumentation, you must edit the PIC_ON.NCF file in the SYS:SYSTEM directory.

To enable the Adaptec SCSI instrumentation, remove the word REM from these lines in the PIC_ON.NCF file:

```
REM load iomgr
REM load dmishim
```

To enable the Intel LAN Adapter instrumentation, remove the word REM from these lines in the PIC_ON.NCF file:

```
REM load e100bdmi.nlm /auto
```

To enable the LSI (Symbios) SCSI instrumentation, remove the word REM from these lines in the PIC_ON.NCF file:

```
REM load simcinw.nlm
```


Launching ISC

ISC can be launched from and can manage your server from one of these enterprise management environments:

- LANDesk Server Manager (LDSM)
- HP Network Node Manager
- CA-Unicenter TNG

Once the ISC application is launched from an enterprise management console, the management console application can terminate, and ISC will continue to operate normally.

ISC can be launched from and can manage your server from a stand-alone ISC Console. The ISC Console can run as an executable program, as an ActiveX control within an Internet browser, or within Microsoft Management Console.

LANDesk® Server Manager

The LANDesk Server Manager (LDSM) console dynamically builds its feature set when communication is established with a managed server. If the managed server is running the ISC, the LDSM console adds an option for "Intel Server Control" in the Tools branch of the LDSM navigation tree. Select this option to launch ISC.

HP Network Node Manager

The HP Network Node Manager Console autodetects servers running the ISC Server Instrumentation software. The Console updates the server bitmap with an ISC server icon for those servers.

To launch the ISC applet, select an ISC-enabled server on the HP Console network map, and then select the "Intel Server Control Applet" option from the Tools Menu. Alternatively, you can launch ISC by selecting an ISC-enabled server on the HP console network map, clicking the right mouse button, and then selecting the "Intel Server Control" option from the popup menu.

CA-Unicenter TNG

The CA-Unicenter TNG Console autodetects servers running the ISC Server Instrumentation software if you have enabled the ISC to CA discovery service. To enable discovery, you must start the "Intel Tng-ISC AutoDiscovery" service. You can start this service from either the TNG Unicenter "Auto Discovery" dialog or from the Windows NT "Services" applet.

The "Intel Tng-ISC AutoDiscovery" service creates a new "Intel Server Control" TNG object for each server having the ISC Service Instrumentation software. That TNG object displays on the map as a child of the "ISC World View" and as a child of the ISC-enabled server. You can view all ISC-enabled servers under the "ISC World View."

To launch ISC, right-click on a "Intel Server Control" icon, and select the "Launch ISC" option from the popup menu.

Stand-alone ISC Console

Use the stand-alone ISC Console to manage ISC-enabled servers without installing an enterprise management console application. The environment is implemented as an executable program; as an application within Microsoft Management Console; or as an ActiveX control that runs within a "container" application, such as Microsoft Internet Explorer, versions 3.0 or 4.0, or Netscape Navigator, version 3.0 or 4.0.

To launch the stand-alone ISC Console in its own container, do the following:

1. Click Start, and then point to Programs.
2. Point to Intel server Control Tool, and then point to Intel Server Control.
3. From the Start Menu in Windows, select Start->Programs->Intel Server Control Tools->Intel Server Control.

Launching the ISC Console with Internet Browsers

To launch the stand-alone ISC Console within a Web browser, do the following:

1. Run the Internet Browser to be used as a “container” for the ISC Console.
2. Within the browser, choose File->Open.
3. Enter the ISC Console filename, specifying the full path to the file:
%ISCPATH%\MI\EMC\IC\ISC.HTM

The stand-alone ISC Console will be started as the active application within the default Web browser.

Once the ISC Console is loaded, the location can be saved as a “Bookmark” (Netscape) or a “Favorite” (Internet Explorer) for easy access in later sessions.

You may also:

1. Locate the file using Windows Explorer, specifying the path:
%ISCPATH%\MI\EMC\IC\ISC.HTM
2. Double-click on the filename to launch the control within the default Web browser.

⇒ NOTE

Netscape Navigator requires a plug-in for viewing ActiveX applications. One that is known to work is ScriptActive[†], which is available from Ncompass Labs, Inc. (see <http://www.ncompasslabs.com>).

Launching the ISC Console with Microsoft Management Console

To launch the stand-alone ISC Console within Microsoft Management Console (MMC), do the following:

1. From a Start Menu in Windows or from the Start→Run selection, run MMC.
2. Within MMC, choose File→Open.
3. Enter the ISC Console filename, specifying the full path to the file:
%ISCPATH%\MI\EMC\IC\ISC.MSC

The ISC stand-alone application will be started as the active application within MMC. You may also:

1. Locate the file using Windows Explorer, specifying the path:
%ISCPATH%\MI\EMC\IC\ISC.MSC
2. Double-click on the filename to launch the control within MMC.

⇒ NOTE

If you have not installed MMC on your console system, you can obtain it from Microsoft at <http://www.microsoft.com/management/mmc/>

