

Installation Guide

for

Intel® Server Control

(ISC) Ver. 3.5.3

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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Platform Compatibility

Feature availability can depend on which version of Intel® Server Control (ISC) is running on which platform. Specifically, compatibility is an issue when an ISC 3.5.x console is managing a network of systems that are running older versions of ISC. For feature availability, refer to the Platform Compatibility Matrix beginning on page 21.

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, Enterprise Edition, Service Pack 6a
- Windows NT Workstation, Service Pack 6a
- Windows[†] 2000 Advanced Server, Service Pack 3
- Windows 2000 Professional, Service Pack 3

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

- Windows NT 4.0 server
- Windows 2000 server
- NetWare[†] server
- UnixWare[†] server
- Linux[†] server
- Open Unix 8

Managed Server Requirements

ISC supports several Intel[®] baseboards. For a complete list of supported server baseboards and qualified BIOS revision levels, see the files README.TXT and ERRATA.TXT. You can find these files in the appropriate language directory of the Docs directory on the System Resource CD. The following requirements must be met for a managed server.

Windows 2000/NT Requirements

- Windows 2000 Advanced Server (Service Pack 3), NT Server 4.0 (Service Pack 6a), 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 5.1 SP1 symmetric multiprocessing (SMP), Service Pack 2A
- At least 96 MB of RAM
- At least 60 MB of available disk space

- The Transportation Independent Remote Procedure Call (TIRPC) runtime library for ONC RPC must be installed and running on Netware before installing ISC (see page 13).

Red Hat Linux Requirements

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

- Red Hat[†] Linux 7.2, 7.3, 8.0, or AS 2.1 running 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 v7.1.1
- 32 MB of RAM
- 60 MB of available disk space

Caldera Open Unix 8 Server Requirements

- Caldera Open Unix 8.0
- 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

ISC can run from its own ISC Console or can integrate into an Enterprise System Management Console (ESMC). The supported ESMCs are:

1. H-P OpenView† Network Node Manager 6.1 for Windows NT
2. CA UnicenterTNG† 2.4 for Windows NT

Console System requirements may be different when using one of the supported management applications. Please refer to their installation requirements for additional information.

Windows 2000/NT

- Windows 2000 Advanced Server or Professional (Service Pack 3)
- Windows NT 4.0 Server, Enterprise Edition or Workstation 4.0 (Service Pack 6a)
- For Windows NT, Remote Access Service must also be installed to enable modem connectivity
- Intel® Pentium® microprocessor or higher
- At least 64 MB of RAM
- At least 10 MB of available disk space
- Microsoft Windows compatible modem must be used if you connect to the server by modem

Service Partition

The service partition is a special hard disk partition. It is established when initially setting up the server system and contains utilities 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 may see the partition entry as an EISA partition, and recognize its space.

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

Service Partition Installation

It is recommended that you install the service partition:

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

It can also be installed on a hard drive that contains partitions if there is approximately 40 MB of space and one free entry in the partition table, but only if the drive is smaller than 8 GB. However, installing the service partition on a partitioned drive is not recommended because some operating systems may no longer boot if partitions are added or removed after that OS has been installed.

Requirements

- The service partition can be on any of the first 4 BIOS-supported physical hard drives.
- Service partition hard drives must support BIOS INT13 and INT 15.
- Current BIOS must be installed.
- Remove old service partitions and create the new service partition with a current System Resource CD.
- At least 40 MB of unused (not partitioned) hard drive space is required. On large hard drives this unused space must be within the first 8 GB.
- A service partition cannot already exist on the hard drive. (If one exists, remove the older service partition first using the older System Resource CD)

⇒ 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 service partition on unpartitioned hard drive only.



CAUTION

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

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

⇒ NOTE

More information about the service partition can be found in the Service Partition Administration utility.

Boot the Server from the Service Partition

Boot the server from the service partition to run the utilities found on the service partition. You can reboot a server:

- Locally
- Remotely using the DPC Console Manager
- Remotely using Client SSU

Locally Booting the Server from the Service Partition

Depending on the server platform, the BIOS may give you an option to directly boot the Service Partition at startup. If not, you can boot the Service Partition by making a change in BIOS Setup.

1. Restart the server.
2. If you see a message like "press F2 to enter Setup, press F4 to boot the Service Partition", simply press F4. Ignore the following steps.
3. If there is no option to boot the Service Partition directly, when the "F2 to enter Setup" message appears, quickly press F2 to enter Setup.
4. In Setup, use the arrow keys to select the Server menu.
5. Select Service Boot and press Enter.
6. Choose Enabled and press Enter. The Service Boot option resets to Disabled after the next system boot.
7. Press F10.
8. Select Yes to confirm saving of the current settings and press Enter. The server restarts and boots the service partition.

Remotely Booting the Server from the Service Partition

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

Configuring the Server for EMP Access

To take advantage of DPC and CSSU features, the Emergency Management Port (EMP) and console redirection settings must be configured using the Server System Setup Utility (Server SSU).

1. Insert the System Resource CD into the CD drive.
2. Restart the server.
3. When the "F2 to enter setup" message appears, quickly press F2.
4. In Setup, use the arrow keys to select the Boot menu.
5. Use the arrow keys to select Boot Device Priority then press Enter.
6. Select ATAPI CDROM and use the + key to move the selection to the top of the list.
7. Press F10.
8. Select Yes to confirm saving of the current settings and press Enter. The server restarts and boots from the System Resource CD.
9. When the menu appears, use the arrow keys to select the Utilities menu and press Enter.

10. Select “Run System Setup Utility” under the “Utilities” menu. You will see SSU executables installed the first time and then the Server SSU launches.
11. In the Available Tasks list select Platform Event Manager and click OK.
12. Click the Configure EMP button.
13. Enter the following in the Emergency Management Port (EMP) dialog box:

| Option | Entry |
|----------------------|---|
| Enter New Password: | Enter the EMP password (if required), up to 16 characters. |
| Verify New Password: | Re-enter the EMP password (if required). |
| ESC Sequence: | +++ (default) |
| Hangup String: | ATH (default) |
| Modem Init String: | ATE1Q0V1X4&D0S0=0 (default). May require change based on the installed modem requirements. |
| System Phone Number: | The phone number to call when using a modem to access the EMP port. |
| Access Mode: | Always Active. (default is Preboot) |
| Restricted Mode: | Disable. (default is Enable) |
| Connection Mode: | Modem Connect (default) for modem connections to COM2. Direct Connect for serial connections to COM2. |

14. Click Save, then Close.
15. Exit from the Server SSU.
16. Quit the menu.
17. Remove the System Resource CD from the drive.
18. Reboot the server.

Configuring the Server for LAN Access

To take advantage of LAN access and BMC LAN-Alerts features (using NIC1¹ on the supported servers), server settings must be configured using the Server System Setup Utility (Server SSU). After the settings are initialized they can be changed using the Client System Setup Utility (CSSU).

If you are going to define a SNMP community, be sure to do it before installing ISC.

1. Insert the System Resource CD into the CD drive.
2. Restart the server.
3. When the “F2 to enter setup” message appears, quickly press F2.
4. In Setup, use the arrow keys to select the Boot menu.
5. Use the arrow keys to select Boot Device Priority then press Enter.
6. Select ATAPI CDROM and use the + key to move the selection to the top of the list.
7. Press F10.
8. Select Yes to confirm saving of the current settings and press Enter. The server restarts and boots from the System Resource CD.
9. When the menu appears, use the arrow keys to select the Utilities menu and press Enter.

¹ Network Interface Controller 1 (NIC1) must be used for DPC and CSSU connections on server systems capable of using two NIC ports. During initial server configuration using the local SSU at the server, the Platform Event Manager selections for IP address, Subnet Mask and Gateway all pertain to NIC1. You can use both NIC1 and NIC2 for normal operating system network connections.

10. Select “Run System Setup Utility” under the “Utilities” menu. You will see SSU executables installed the first time and then the Server SSU launches.
11. In the Available Tasks list select Platform Event Manager and click OK.
12. Click the Configure LAN button.
13. Enter the following on the BMC LAN Configuration (LAN) dialog box:

| Option | Entry |
|------------------------|---|
| Enable LAN Alerts: | Click to enable BMC LAN-alerts (optional). |
| Enter New Password: | Enter the BMC LAN Configuration password, up to 16 characters (optional). Default is NULL. This will be used for all LAN connections in CSSU, DPC, PIC, and BMC LAN-alerts. |
| Verify New Password: | Re-enter the BMC LAN Configuration password (if one is set). |
| LAN Access Mode: | Always Available, which allows DPC and CSSU access via LAN. (By default, LAN access is Disabled.) |
| SNMP Community String: | Public (default) unless there is a predefined SNMP host to receive SNMP traps from BMC LAN-Alerts. Must be from 5 to 16 characters. |
| IP Configuration: | Static (default) unless you are using DHCP for IP hosting, then select DHCP. |
| Host IP Address: | Enter the IP address of the server if you are not using DHCP. |
| Gateway IP Address: | Enter the IP address of the router if you are not using DHCP. |
| Subnet Mask: | Enter the subnet mask of the hosts on the subnet if you are not using DHCP. |
| Alert IP Address: | Enter the IP address of the server to receive SNMP traps for the community defined with the SNMP Community String. Enter 0.0.0.0 (default) if a community is not defined. |

14. Click Save, then Close.
15. Exit from the Server SSU.
16. Quit the menu.
17. Remove the System Resource CD from the drive.
18. Reboot the server.

Using the Direct Platform Control (DPC) Console

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

Using the Client System Setup Utility (CSSU)

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

Installing Intel® Server Control (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 Setup Utility (SSU) and set the appropriate options under System Management Options.

Compatibility and Upgrade Issues

The following sections describe compatibility and upgrade issues for:

- NetWare
- UnixWare
- Windows NT
- Windows 2000

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.
- A manual reboot is required for each server following the first phase of ISC installation after ISC files have been copied to the target server.
- The server automatically reboots one more time following the final phase of ISC installation.
- The Transportation Independent Remote Procedure Call (TIRPC) runtime library for ONC RPC or a substitute file set for NetWare 5.x must be installed and running. To install the TIRPC library, follow these steps:
 1. Go to the <http://support.intel.com/> site, and make the following selections:
 - Servers
 - Server Management and Maintenance
 - Intel Server Control
 - Software Drivers
 - Legacy Software Drivers
 - Transport Independent Remote Procedure Call (TIRPC) (listed under "Other Software")
 2. Get the compressed (zipped) files TIRPC-IN.EXE, NLM4.EXE and INTRANET.EXE.
 3. TIRPC installation
 - a. Unzip the TIRPC-IN.EXE file, including its subdirectories, to an empty floppy disk, using the `-d` option in the command line to preserve the directory structure.
 - b. Run NWCONFIG on the Netware Server.
 - c. Select "Product Options."
 - d. Select "Install a product not listed."
 - e. Specify the source directory: "a:\"
 - f. Select the package: "Netware 4.0 TIRPC Runtime and Configuration files"

- g. Specify the destination directory: "sys:System"
 - h. Wait for the installation to complete.
 - i. Exit NWCONFIG.
4. INTRANET installation
 - a. Unzip the INTRANET.EXE file to an empty floppy disk
 - b. From a remote system, map a drive to the netware server.
 - c. Insert the Intranet floppy in the remote system.
 - d. Copy all NLM files from the floppy to the Netware server.
 5. Configuration for TIRPC
 - a. Run NWCONFIG on the Netware server.
 - b. Select "edit AUTOEXEC.NCF"
 - c. Add the line "LOAD SPX_ND" before the LOAD/BIND or INITSYS.NCF statements (also called network initialization).
 - d. Add the line "RPCSTART.NCF" after the LOAD/BIND or INITSYS.NCF statements (also called network initialization). Include TCP/IP configuration if you want TIRPC to work over TCP/IP.
 - e. Add the line "ONCSP" after rpcstart.ncf.
 - f. Exit NWCONFIG.
 - g. Restart the server.

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 prior to ISC installation will be required on each UnixWare server.
- Vision FS must be installed, configured, and running.
- Mcopy must be installed on each ISC managed UnixWare server. Please refer to the man page for doscp for download and install instruction for mcopy. Mcopy can also be installed by installing the mtools package from the Skunkware 7 CD-ROM.
- A manual reboot is required for each server following the first phase of ISC installation after ISC files have been copied to the target server.
- The server automatically reboots one more time following the final phase of ISC installation.

By default, SCO UnixWare v7.1.1 systems have DMI access set to read-only. This setting prevents ISC from changing sensor thresholds, enabling the watchdog timer, and executing other functions. To allow ISC to operate correctly, DMI access write permission must be enabled. Do the following to enable DMI access to write:

1. Log in as 'root'.
2. Stop the DMI Service Provider (dmi stop).
3. Open the file /etc/rc2.d/S89dmi for editing.
4. Change the line `$DMI_PATH $@` to `$DMI_PATH $@ -w`.
5. Save the file and restart the DMI Service Provider (dmi start).

This change is valid for all future sessions.

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 Windows NT server.
- The ISC installation program automatically reboots both remote and local servers as necessary (only Windows 2000 and Windows NT systems can be automatically rebooted).
- Remote Access Service (RAS) must be previously installed on the console if connectivity is through a modem.

Windows 2000

When upgrading to ISC 3.5.x, the previously installed service partition must be removed and recreated using utilities supplied with ISC 3.5.x. The system BIOS must also be upgraded.

Windows, NetWare, and UnixWare Installation

The ISC 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 Novell 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, UnixWare, or Linux server requires manual reboot.
1. Login with system administrator access.
 2. Verify that H-P OpenView is not running.
 3. Do steps 4 and 5 then skip step 6 if you are installing from the System Resource CD. Skip to step 6 if you are installing from a download from the web.
 4. At the console, insert the System Resource CD into the CD ROM drive.
 5. Run the program x:\binaries\setup.exe, where x in the drive letter of your CD ROM drive.
 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.

Customizing NetWare Servers After Setup

While installing PIC, the configuration and Setup program installs support for third-party instrumentation on the NetWare server but does not enable the instrumentation support.

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

Add the line:

```
rpsstart.ncf
```

Before the line:

```
isc_on.ncf
```

To enable the Adaptec SCSI instrumentation, edit the ISC_ON.NCF file in the SYS:SYSTEM directory and remove the word REM from these lines:

```
REM load nwaspi  
REM load iomgr  
REM load ciodmi
```

Red Hat Linux Installation

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

- Remote ISC installation is not available.
- ISC 3.5.x supports only Red Hat Linux 7.1, 7.2, 7.3, 8.0 and AS 2.1.
- You must follow all three parts of the Red Hat Linux installation process:
 1. Installing Linux DMI server provider
 2. Installing ISC
 3. Configuring the SNMP_DMI mapper if you will use an SNMP management console

Installing Linux DMI Service Provider

1. Insert the System Resource CD into the Linux server CD ROM drive.
2. The CD should automatically be mounted by the system. If not, you can mount the CD using either of the following methods:
 - Enter the mount command as follows:

```
mount /mnt/cdrom
```
 - Use the Disk Management utility. To invoke this utility click the footprint icon, select **System**, and then select the **Disk Management** menu option. Click the Mount button beside /mnt/cdrom.
3. Uninstall ucd-snmp if it has been installed previously with `rpm -e`.

➡ NOTE

The `ucd-snmp` package or `net-snmp` (whichever applicable) is often installed by default and will likely need to be uninstalled. If you uninstall `ucd-snmp` (or `net-snmp`), you must also remove all related `snmp` and `DMI` packages. When you remove these packages, remove them in an order that eliminates dependency error messages. For example, if a dependency error message appears, remove the package mentioned in the error message. Continue removing the dependent packages in this manner until the error messages stop.

4. Install the `DMI` service provider package located in the `/ISC/Software/linux/dmispnp` directory on the System Resource CD by using the `rpm` command. For example, the following command installs a version of the `DMI` service provider package:

```
rpm -i dmisp-1.0-6.i386.rpm
```

5. Locate and install the `ucd-snmp` RPM, `ucd-snmp-utils` RPM, and `dmi2snmp` RPM packages. These packages are also located in the `/ISC/Software/linux/dmispnp` directory on the System Resource CD. Use the `rpm` command to install each package. For example, the following three commands install versions of these three packages (Note that these names may not be the same for all versions of Linux):

```
rpm -i ucd-snmp-4.1.1-15smux.i386.rpm
rpm -i ucd-snmp-utils-4.1.1-15smux.i386.rpm
rpm -i dmi2snmp-1.0-15.i386.rpm
```

6. Reboot the Linux server after you have installed all the packages.

Installing ISC Server Instrumentation

1. Insert the System Resource CD into the Linux server CD ROM drive.
2. The CD should automatically be mounted by the system. If not, you can mount the CD using either of the following methods.
 - Enter the mount command as follows:
`mount /mnt/cdrom`
 - Use the Disk Management utility. To invoke this utility click the footprint icon, select **System**, and then select the **Disk Management** menu option. Click the Mount button beside `/mnt/cdrom`.
3. Run the ISC install script from the Linux directory by entering the following commands at the command-line prompt:

```
cd /mnt/cdrom/ISC/Software/linux
./installme
```

4. Follow the instructions on your screen. The script prompts you to read and accept a license agreement. Next, the ISC install program determines the version of the Red Hat Linux kernel running on your server and installs the right version of the IPMI driver on your server. The script then proceeds to install the ISC package (e.g. `isc-3.5.1-1.i386.rpm`) on your server. In case the installation of the driver fails, the script displays appropriate error messages and then terminates without installing the ISC package.
5. Reboot the Linux server when the command completes.

Configuring the SNMP–DMI Mapper

You must complete these steps if any SNMP management console (H-P OpenView, CA UniCenter) will manage the Linux server.

1. Verify that the `dmi2snmp` and `ucd-snmp` packages are installed. For example, the files `dmi2snmp-10-15.i386.rpm` and `ucd-snmp-4.1.1-15smux.i386.rpm` could represent the `dmi2snmp` and `ucd-snmp` packages, respectively.
2. Open the file `/etc/snmp/snmpd.conf`. You can use any available editor such as `vi`, `emacs`, or a linux editor.
3. Ensure that the `com2sec` entry is present at the beginning of the configuration file. The following are examples of the correct syntax for this entry:

```
com2sec local default public
```

or

```
com2sec local <IP> public
```
4. where `<IP>` is the IP address of the managing server.
5. Add a `trapsink` line at the end of the file for each management console that receives traps from the managed server. Use the following syntax when adding the line:

```
trapsink <myhost_name.domain.com>
```

Be sure to substitute appropriate strings for the host name and domain.

Installation for Open Unix Servers

Open Unix Preparation

Before installing ISM on Open Unix systems, do the following on each server:

- `Mcopy` must be installed on each server. Please refer to the *man* page for `doscpc` for download and install instruction for `mcopy`. `Mcopy` can also be installed by installing the `mtools` package from the Open Unix 8.0 Skunkware 8 CD-ROM.
- Desktop Management Interface (DMI) must be installed on each server. By default, Open Unix systems have DMI access set to read-only. This setting prevents ISM from changing sensor thresholds, enabling the watchdog timer, and executing other functions. To allow ISM to operate correctly, DMI access write permission must be enabled after the DMI installation.

Follow these steps:

1. Log in as 'root'.
2. Stop the DMI Service Provider (`dmi stop`).

3. Open the file `/etc/rc2.d/S89dmi` for editing.
 4. In the `dmistart()` function, change the line `$DMI_PATH $@` to read `$DMI_PATH $@ -w`.
- Save the file and restart the DMI Service Provider (`dmi start`). This change will remain valid for all future sessions.

Installation Procedure for Open Unix

On Open Unix systems follow these steps to install ISM:

1. Insert the ISM CD into the Open Unix server CD drive.
2. Enter the `mkdir` command as follows:

```
mkdir /cdrom
```
3. Enter the `mount` command as follows:

```
mount -r -F cdfs /dev/cdrom/cdrom1 /cdrom
```
4. The ISM package is located in `/cdrom/CD/Software/OpenUNIX/ismou.pkg`; to install ISM, enter the command:

```
pkgadd -d /cdrom/ism/software/openunix/ismou.pkg
```
5. Follow the onscreen instructions, which prompt you to read and accept a license agreement.
6. After a successful installation, you are prompted to reboot the system. First unmount the CDROM so you can remove the CD, then reboot the system:

```
umount /cdrom  
shutdown
```

Customizing Open Unix Servers After Setup

The set action of some SNMP attributes causes the server to shutdown/power off. To globally disallow all set requests:

1. Change the `ReadOnly` entry in the `/usr/local/ism/bin/sdlink.cfg` file to `True`.
2. Reboot the server.

Launching Intel Server Control (ISC)

ISC can be launched from its own ISC console or can manage your server from one of these enterprise management environments:

- H-P 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.

H-P Network Node Manager

The H-P 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 H-P 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 H-P 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 Server 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 an “Intel Server Control” icon, and select the “Launch ISC” option from the popup menu.

ISC Console

Use the ISC Console to manage ISC-enabled servers without installing an enterprise system management console (ESMC) application. To launch the ISC Console:

1. Click Start, and select Programs.
2. Select Intel Server Control, and then click on ISC Console.

Platform Compatibility Matrix

Table 1 lists ISC features specific to hardware platforms. In the table, columns indicate specific platforms while rows describe specific features.

Table 1 Platform Compatibility Matrix

| Board/ Chassis | TSRLT2 TSRMT2 | SCB2/ SR2200 | SDS2/ SR5100 |
|---|------------------|-----------------|-----------------|
| Alerting-In Band | | | |
| ISC paging | Y | Y | Y |
| SNMP for Enterprise Sys. Mgt. Con. | Y | Y | Y |
| Desktop Management Interface indication | Y | Y | Y |
| Network alerts (pop-up messages) | Y | Y | Y |
| Alerting-Out Of Band | | | |
| Platform Event Paging | Y | Y | Y |
| OOB LAN alerts (SNMP traps) | Y | Y | Y |
| BIOS Console Redirection | | | |
| Over modem/serial | Y | Y | Y |
| Over LAN | Y | Y | Y |
| Direct Platform Control (DPC) Console Management Plug-In | | | |
| Server control | Y | Y | Y |
| Console redirection | Y | Y | Y |
| System Event Log manager | Y | Y | Y |
| Sensor Data Records manager | Y | Y | Y |
| Field Replaceable Unit manager | Y | Y | Y |
| Remote Sensor Access manager | Y | Y | Y |
| Auto answer on modem | Y | Y | Y |
| Ease of Use | | | |
| Online help | Y | Y | Y |
| Documentation | Y | Y | Y |
| Java-based GUI | N | N | N |
| Fans | | | |
| Fan pack-digital | Y | Y | Y |
| Fan pack-tach | Y | Y | Y |
| Individual fans-digital | N | N | N |
| Individual fans-tach | N | N | N |
| Hot Swapping | | | |
| Hot swap disk drives | Y | Y | Y |
| Hot swap power supply | N | Y | Y ¹ |
| Hot swap fans | Y | Y | Y |

¹ Not available in all SKUs

continued

Table 1 Platform Compatibility Matrix (continued)

| Board/ Chassis | TSRLT2 TSRMT2 | SCB2/ SR2200 | SDS2/ SR5100 |
|--|--------------------------|-------------------------|-------------------------|
| Industry Design Standards | | | |
| IPMI 0.9 compliant | N | N | N |
| IPMI 1.0 compliant | N | N | N |
| IPMI 1.5 compliant | Y | Y | Y |
| Monitoring | | | |
| Component temperatures | Y | Y | Y |
| Fan speeds | Y | Y | Y |
| Baseboard voltage | Y | Y | Y |
| Baseboard sensors | Y | Y | Y |
| Chassis intrusion | Y | Y | Y |
| Drive availability | Y | Y | Y |
| Power supply health | Y | Y | Y |
| Power supply redundancy | Y | Y | Y |
| OOB Emergency Management | | | |
| Remote power control (on, off, reset) | Y | Y | Y |
| Access to non-volatile logs | Y | Y | Y |
| Remote sensor access | Y | Y | Y |
| Service partition | Y | Y | Y |
| OOB Remote Management | | | |
| Intelligent Chassis Management Bus | Y | Y | Y |
| Direct Platform Control over LAN | Y | Y | Y |
| Command for graceful OS shutdown | Y | Y | Y |
| Enterprise System Management Consoles (ESMCs) | | | |
| HP OpenView Network Node Manager 6.1 | Y | Y | Y |
| CA Unicenter Framework TNG 2.4 | Y | Y | Y |
| ISC Console | Y | Y | Y |
| Remote Access | | | |
| LAN in-band (OS up) | Y | Y | Y |
| LAN OOB (OS down) | Y | Y | Y |
| Modem OOB (OS down) | Y | Y | Y |
| Remote Boot/Access Service Partition | | | |
| Over modem/serial | Y | Y | Y |
| Over LAN | Y | Y | Y |
| Remote Diagnostics | | | |
| OOB hardware confidence tests | N | N | N |

continued

Table 1 Platform Compatibility Matrix (continued)

| Board/ Chassis | TSRLT2 TSRMT2 | SCB2/ SR2200 | SDS2/ SR5100 |
|--|--------------------------|-------------------------|-------------------------|
| Remote Management (in-band) | | | |
| Desktop Management Interface (IA32) ² | Y | Y | Y |
| Platform Instrumentation Control ³ | Y | Y | Y |
| Remote Repair | | | |
| FW upgrades | Y | Y | Y |
| Bios upgrades | Y | Y | N |
| File upload and execution | Y | Y | Y |
| Security | | | |
| CHAP Compliance | Y | Y | Y |
| Passwords | Y | Y | Y |
| Service Partition | | | |
| Client System Setup Utility (remote access) | Y | Y | Y |
| DOS shell access (command prompt) | Y | Y | Y |
| File transfer | Y | Y | Y |

² Operating Systems include Windows NT 4.0 SP6A or Windows 2000 SP3, Netware 5.1 SP2A, UnixWare 7.1.1, Open Unix, and Linux 7.1, 7.2, 7.3, 8.0, and AS 2.1

³ 32-bit Windows Console: Windows 2000 Professional SP3, Windows 2000 Advanced Server SP3, Windows NT Workstation 4.0 SP6A