



IBM Systems
IBM Director
Release Notes

Version 5.10

November 2005





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Chapter 1. About this release

This document contains the release notes for the IBM® Director Version 5.10.

See the IBM Director Web site for possible updates to these release notes and copies of the documents at:

www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/

What's new in release 5.10

This topic provides information about new features and enhancements in IBM Director 5.10.

Improvements to how you work in IBM Director

Enhanced user interface

IBM Director 5.10 contains the following features designed to improve usability:

- Enhanced user interface allows more intuitive hierarchical viewing of managed objects in a single-pane view, the "classic" three-pane view, or a two-pane combination view
- New customizable details view of managed objects
- Toolbar is now customizable for users

Event Action Plan wizard

The Event Action Plan wizard now can be launched from IBM Director Console and used to edit existing event action plans. In addition, the wizard has been redesigned to improve usability and render it more powerful. You can specify additional event filters, the systems to which you want to apply the event action plan, and schedule when the event filters are applied.

Improved accessibility

IBM Director 5.10 meets the accessibility standards for Section 508 of the US Rehabilitation Act. The major changes to the product include the following:

- IBM Director Console can be navigated using the keyboard only.
- IBM Director Console includes "Accessibility Preferences" that enable users to customize such display attributes as color, font size, and contrast.
- IBM Director Console implements the Java™ accessibility API which supports interaction with assistive technology.
- The IBM Director documentation is delivered in a Web-based Information Center.

New command-line interface

The **dircmd** command-line interface is deprecated in favor of a new command-line interface: **dircli**. The **dircli** command-line interface supports existing **dircmd** bundles, plus offers a new set of commands for accomplishing common system-management tasks.

Server Configuration Manager

New task to create or update server configuration profiles. Configuration includes the service processors in **@server** xSeries servers.

Software Health

New task to check for outdated firmware, drivers, and IBM Director Agent on managed objects.

Unattended installation

IBM Director Server now can be installed in unattended mode.

Web-based (Information Center) product documentation

New in version 5.10, the IBM Director information center is a comprehensive, browser-based information system that provides easy access to the most up-to-date product information available. Updated periodically, the IBM Director information center contains:

- Assistance for the tasks that users must perform
- Conceptual information
- Reference for commands, extensions, icons, security, and many other topics
- Usage scenarios for IBM Director

To find information, users can search, browse the contents, follow links from one topic to related topics, and print the topics they want to read offline. The IBM Director information center is available at publib.boulder.ibm.com/infocenter/eserver/v1r2/topic/dirinfo/fqm0_main.html.

Inventory enhancements

Inventory collection has been improved with the following new features in IBM Director 5.10:

- Filter queries can be designed for inventory data that has not been collected
- Enhanced tree navigation in the Inventory Query Browser
- Inventory change monitoring
- Custom collections of inventory tables
- Optional events on inventory completion or errors
- Improved control over inventory collection through additional preferences:
 - Enable/disable background inventory service
 - Specify the maximum number of agents to perform inventory collection at the same time, to control resource usage
 - Specify the default collection type for the three agent levels

Upward integration enhancements

IBM Director 5.10 includes the following enhancements to the upward integration modules (UIM):

- Support for Microsoft® Operations Manager (MOM)

Support for more systems in IBM Director**SMI-S storage devices**

- Support for SMI-S 1.1 compliant Storage Managed Systems, including the IBM System Storage DS300 and DS400 devices
- Information displayed in the Hardware Status task and events for all supported SMI-S storage devices

ServeRAID™ hardware and software

IBM Director 5.10 improves support for IBM ServeRAID controllers:

- Configuration Management Station on Linux®
- Support for VMware ESX Server, versions 2.1, 2.5, and 2.51, Console
- Support for VMware ESX Server, versions 2.1, 2.5, and 2.51, guest operating systems
- Support for Red Hat Enterprise Linux AS, ES, and WS, version 4.0
- Support for ServeRAID Server and Console installations on EM64T and AMD64
- Hardware support for the IBM ServeRAID-8i controller
- Separate installation for the ServeRAID Manager extension

For complete support information, refer to the IBM ServerProven® page at www.ibm.com/pc/us/compat/index.html.

Architectural support for more systems

IBM Director 5.10 contains a significant change in the product architecture. IBM Director Server now can manage three different types of managed systems:

Level-0 ("agentless") managed systems

IBM Director manages these systems through the network services that are native to the operating system: SMB/CIFS/DCE-RPC protocols for Windows® systems, or Secure Shell (SSH) for other systems. No IBM Director software is installed. You can perform the following tasks on these managed systems from the IBM Director Console:

- Collect inventory that is available from the operating system
- Install IBM Director Core Services (Level 1) or IBM Director Agent (Level 2)
- Restart the operating system (Windows or Linux)
- Use Remote Session task to execute command-line programs (only if SSH is present)
- Shutdown/power-off systems (Windows)

Level-1 managed systems

IBM Director Core Services must be installed. In addition to the tasks supported by Level-0 managed systems, you can perform the following tasks on these managed systems from the IBM Director Console:

- Collect platform-specific inventory
- Install IBM Director Agent (promote to Level-2 managed system)
- Manage events using event action plans, event subscription, and the event log
- Monitor hardware status
- Restart or shutdown the managed system
- Use the Remote Session task to execute command-line programs (only if SSH is present)
- Distribute system-level update packages

Level-2 managed systems

IBM Director Agent must be installed. You can perform the full complement of IBM Director tasks on the managed system.

Additional systems supported for IBM Director Server and IBM Director Console installation

xSeries servers

- SUSE LINUX Enterprise Server 9 for AMD64 and EM64T
- Windows Server 2003, Enterprise, Standard, and Web x64 Editions

iSeries™ servers

- Red Hat Enterprise Linux AS, version 4.0, for IBM POWER

System p5 and pSeries® servers

- Red Hat Enterprise Linux AS, version 4.0, for IBM POWER

System z9 and zSeries® servers

- Red Hat Enterprise Linux AS, version 4.0 Update 2, for IBM System z9®, zSeries and S/390®
- SUSE LINUX Enterprise Server 9 SP2 for IBM System z9, zSeries and S/390

Additional systems supported for IBM Director Agent installation**xSeries servers and Intel-compatible systems (32-bit operating systems)**

- Novell NetWare, version 6.5
- VMware ESX Server, version 2.5, with the following guest operating systems:
 - Red Hat Enterprise Linux AS, ES, and WS, version 3.0 (Update 3 required)
 - SUSE LINUX Enterprise Server 8 for x86 (Service Pack 3 required)
 - SUSE LINUX Enterprise Server 9 for x86
 - Windows 2000, Advanced Server and Server Editions (Service Pack 3 or later required)
 - Windows Server 2003, Enterprise, Standard, and Web Editions (Service Pack 1 required)
 - Windows XP Professional Edition (Service Packs 1 and 2 required)
- VMware ESX Server, version 2.51, with the following guest operating systems:
 - Red Hat Enterprise Linux AS, ES, and WS, version 3.0 (Update 4 required)
 - SUSE LINUX Enterprise Server 8 for x86 (Service Pack 3 required)
 - SUSE LINUX Enterprise Server 9 for x86 (Service Pack 1 required)
 - Windows 2000, Advanced Server and Server Editions (Service Pack 3 or later required)
 - Windows Server 2003, Enterprise, Standard, and Web Editions (Service Pack 1 required)
 - Windows XP Professional Edition (Service Packs 1 and 2 required)
- Microsoft Virtual Server 2005 with the following guest operating systems:
 - Windows 2000, Advanced Server and Server Editions (Service Pack 3 or 4 required)
 - Windows Server 2003, Enterprise, Standard, and Web Editions
- Microsoft Virtual Server 2005 (Service Pack 1) with the following guest operating systems:

- Windows 2000, Advanced Server and Server Editions (Service Pack 3 or 4 required)
- Windows Server 2003, Enterprise, Standard, and Web Editions
- Windows Server 2003, Enterprise, Standard, and Web x64 Editions
- Windows XP Professional Edition (Service Pack 2 required)
- Windows XP Professional x64 Edition

xSeries servers and Intel-compatible systems (64-bit operating systems)

- Red Hat Enterprise Linux AS, version 4.0, for Intel Itanium
- Windows Server 2003, Datacenter, Enterprise, Standard, and Web x64 Editions
- Windows Server 2003, Datacenter and Enterprise 64-bit Itanium Editions

iSeries servers

- Red Hat Enterprise Linux AS, version 4.0, for IBM POWER

iSeries servers with xSeries options

iSeries server installations can use the following xSeries options:

- Integrated xSeries Server (ISX)
- xSeries servers that are attached to the iSeries servers via the Integrated xSeries Adapter (IXA)

Using these xSeries options, you can install IBM Director Agent and IBM Director Core Services on the following operating systems:

- Red Hat Enterprise Linux AS and ES, version 3.0, for Intel x86
- Red Hat Enterprise Linux AS and ES, version 4.0, for Intel x86
- SUSE LINUX Enterprise Server 8 for x86
- SUSE LINUX Enterprise Server 9 for x86
- Windows 2000, Advanced Server and Server Editions
- Windows Server 2003, Enterprise, Standard, and Web Editions

Note: Whether these operating systems are supported in your iSeries environment depends on the following criteria:

- The Integrated xSeries Server (ISX) installed in the iSeries server
- The xSeries server that is attached to the iSeries server via the Integrated xSeries Adapter (IXA)
- The release of i5/OS or OS/400 installed on the iSeries server

For more information, see *IBM Director Hardware and Software Compatibility*. You can download this document from www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/.

System p5 and pSeries servers

- Red Hat Enterprise Linux AS, version 3.3, for IBM POWER
- Red Hat Enterprise Linux AS, version 4.0, for IBM POWER

System z9 and zSeries servers

- Red Hat Enterprise Linux AS, version 4.0 Update 2, for IBM System z9, zSeries and S/390
- SUSE LINUX Enterprise Server 9 SP2 for IBM System z9, zSeries and S/390

z/VM® Center management

z/VM Center is a new extension for provisioning Linux systems on virtual hardware that is based on real IBM System z9 and zSeries hardware and the z/VM hypervisor. z/VM Center provides two tasks:

Virtual Server Deployment

- Create and maintain templates for virtual hardware.
- Create and maintain templates for Linux systems.
- Create and delete virtual hardware.
- Create and delete instances of the Linux operating system.

Server Complexes

- Use the templates from Virtual Server Deployment to create virtual hardware and Linux instances on this hardware in a single step.
- Manage configurations of Linux instances and virtual hardware. Configuration domains include network settings, Linux configuration scripts, disk access, and VM Resource Manager (VMRM) performance goals.
- Apply configuration changes across multiple Linux instances.

Security enhancements**Security**

IBM Director security has been improved with the following changes:

- AES support for UDP encryption
- Auditing on the server
- For new installations, security settings, including SSL for communication between IBM Director Console and IBM Director Server, are on or selected by default
- On Windows only, group administration of privileges
- PAM authentication support on UNIX®
- User-authenticated **dircli** command-line interface to replace **dircmd**

Other enhancements

IBM Director 5.10 includes the following general enhancements:

- Apache Derby is now the default IBM Director database that is bundled with the product. It is supported on all the operating system on which IBM Director Server can be installed, with the exception of i5/OS.
- Changed the name of the default group "All Systems and Devices" to "All Managed Objects"; this group now has a default association, "System Membership," that associates systems with their platforms.
- Replace the timestamp on the status bar with the number of managed objects displayed in the Group Contents pane
- Support for IBM Java Runtime Environment (JRE) 1.4.2, server release 2
- User-selected associations are persisted per group

Discontinued features in release 5.10**BladeCenter® management**

The BladeCenter Assistant task has been replaced with the BladeCenter Management task.

DMI Browser

The DMI Browser task has been removed.

Management Processor Assistant task

The Management Processor Assistant task has been replaced by the new Server Configuration Manager task.

Microsoft Management Console (MMC)

Microsoft Management Console (MMC) is no longer supported as of release 5.10.

Server Plus Pack

The Server Plus Pack has been withdrawn; however, some of its components are still available:

- Capacity Manager is separately available for purchase for IBM **@server** xSeries® systems
- Rack Manager is now part of the base installation of IBM Director
- System Availability is available from the IBM Web site as a separate, installable extension

Active PCI Manager and Software Rejuvenation are not supported in release 5.10, and if installed for a previous version of IBM Director, they will be uninstalled when IBM Director is upgraded to version 5.10.

Web-based Access

Web-based Access has been removed from the base installation of IBM Director. It is available from the IBM Web site as a separate, installable extension.

Product fix history

IBM Director 5.10 resolves the following APARs:

- **IC46004:** Handle leak in twgagent and pegsunprv reduces memory over time.
- **IC46174:** IBM Director 4.11 managed systems have locks on physical platform objects when they are discovered by an IBM Director 4.21 management server. The Management Processor Assistant (MPA) function does not work. When users request access, they get the message, "Access request failed: target system is currently not available."
- **IC46178:** If short filename support is disabled the IBM Director Agent installation rolls back and does not complete.
- **IC46248:** The mpaconnections.dat file grows large over time causing IBM Director to slow down over time.
- **IC46281:** Malformed URL allows access to the file system of a managed system.
- **IC46283:** Malformed request for WMI CIM server causes the service to crash.
- **IC46571:** BladeCenter chassis managed objects are not available after a Management Module (MM) firmware update on Director 4.20.2.
- **IC44644:** The Cluster Monitor function under the Resource Monitor task returns "invalid data" when the IBM Director Server and IBM Director Agent are using different languages.
- **IC46265:** Custom task extension needs to pull BladeCenter chassis Universal Unique Identifier (UUID) from an event.
- **IC46662:** Deploying a software-package category with the Software Distribution task hangs the system.
- **IC46730:** A malformed packet causes IBM Director Server to crash.

- **IC46742:** Negative Array Size Exception occurs because of malformed network packets.
- **IC46803:** After a large number of BladeCenter chassis units are discovered, BladeCenter chassis inventory does not complete. The BladeCenter chassis icon displays with a green question mark.
- **IC46804:** DIRCMD does not function correctly when a command is issued that includes a directory path that contains a space character.
- **IC46839:** An attempt to install IBM Director Agent 4.20, 4.20.2, or 4.21 on Windows 2003 fails with Internal Error 2911.
- **IC46862:** The reboot option in a software-package category makes the Software Distribution task fail.
- **IC46864:** The Software Distribution task fails with "file not found error."
- **IC46865:** Restart option within a custom package fails in Software Distribution Premium Edition.
- **IC46959:** A malformed packet causes IBM Director Server to crash.
- **IC47033:** When the Fibre Channel adapter identifier displays in inventory, two characters are missing at the end of the identifier.
- **IC47088:** Attackers can abuse HTTP TRACE functionality to gain access to information in HTTP headers such as cookies and authentication data.
- **IC46923:** IBM Director does not report temperature sensor issues accurately on ThinkCentre 8183.
- **IC47303:** Network that is slow to start causes Software Distribution to fail.
- **IC47372:** Discovering an empty BladeCenter chassis causes IBM Director Server to crash.

Chapter 2. Installation and upgrade information

This section provides information about installing and upgrading to IBM Director Version 5.10. See the *IBM Director Installation and Configuration Guide* for more installation information. Access this document at the IBM Systems Software Information Center:

publib.boulder.ibm.com/infocenter/eserver/v1r2/topic/dirinfo/fqm0_main.html.

Installation notes

This section provides additional information about installing IBM Director components on the management server, the management console, and the managed systems.

Management server

Consider the following information when installing IBM Director 5.10 components on your management server.

- **Make sure that you have applied the most recent fix packages.** For required and recommended fixes, go to the IBM Virtualization Engine™ systems services fixes Web site (<http://techsupport.services.ibm.com/server/VirtualizationEngine>). Click **By operating system**. Then, select **Required OS fixes**. View the Required fixes to determine which operating system updates are required.
- **If you install IBM Director 5.10 for i5/OS, you need to configure Pegasus for i5/OS to utilize all of the available function.** See Information APAR II14089 to locate Pegasus PTF numbers for i5/OS V5R3 and instructions to configure Pegasus to operate with IBM Director 5.10.
- **If you install IBM Director 5.10 on an Intel® Itanium-based Linux operating system, the diruninstall script is not available.** You can uninstall the following two RPMs using the standard `rpm -e package name` command.
 - DirectorTIC-5.10-1.ia64.rpm
 - ITDAgent-5.10-1.ia64.rpm
- **Before installing IBM Director, review the firewalls and blocked ports in your installation environment.** The following ports must be open for IBM Director to install successfully.
 - **WMIcimServer:** ports 5988 and 5989
 - **CIMListner:** port 6988

For more information about firewalls and blocked ports, review the Identifying firewalls and blocked ports section in the *IBM Director Installation and Configuration Guide*.

- **Follow instructions to install Remote Deployment Manager (RDM) 4.20 on IBM Director 5.10.** To install Remote Deployment Manager (RDM) 4.20 on IBM Director 5.10, use the following command:

```
setup.exe /v"DIRECTORVEROK=1"
```
- **To use Remote Deployment Manager (RDM) and BladeCenter Configuration Manager together, complete the following configuration steps.**
 1. Ensure that IBM Director Server with the BladeCenter Management Extension and RDM are installed on the system.
 2. Open IBM Director Console.
 3. In the Tasks pane expand **Remote Deployment Manager > Scan**.
 4. Right-click **Basic Scan** and select **Copy**.

5. In the Remote Deployment Manager - Scan window, name the task "BladeCenter Configuration Manager Scan." The Task Description can be the same.
 6. Click the **Advanced** tab.
 7. In the Advanced window, remove the "WAKE" line, and click **OK**.
 8. The new task, **BladeCenter Configuration Manager Scan**, appears in the Task pane below **Scan**.
- **When encryption is enabled, a management server (Server A) becomes unmanageable by a second management server (Server B) after IBM Director Server is reinstalled or reset on Server B.** When two management servers are managing each other, and encryption is enabled, a management problem can occur if IBM Director Server is reinstalled or if the **twgreset** command is run on Server B. You can verify this problem by checking to see if a specific message exists in the appropriate log file on Server B.
For Windows, check log\twgipc.log for the following message:
Transfer::DeliverDatagram.receive data from :9.44.142.80. length is 37289 which is too long.
For AIX®, i5/OS, or Linux platforms check log/TWGRas.log for the following message:
TCP/IP rcvr DecryptObject.doDecryption: decrypted text size is too long.buffer.length=112.unpaddedSize=51687

Note: The lengths, sizes, and addresses listed in the message will vary.

You can eliminate the problem by resetting the encryption key for Server B from Server A's management console.

- **Uninstall SAN Utility Director Extensions before uninstalling IBM Director Server.** For installations that include the Qlogic SAN Utility and SAN Utility Director Extensions, you must uninstall the SAN Utility Director Extensions before uninstalling IBM Director Server on a management server. If you do not uninstall the SAN Utility Director Extensions, the reinstallation of IBM Director Server will succeed, but IBM Director Server will fail to start.
To uninstall Qlogic SAN Utility and SAN Utility Director Extensions, perform these steps:
 1. Change to the IBM/Director directory.
 2. Run the **Uninstall_SANUtility** script:
- **Red Hat Enterprise Linux 3.0, Update 3 installations** When IBM Director Server and IBM Director Console are installed on separate systems that are on separate network segments, communication between the two systems fails if one of the systems is using a firewall. When Red Hat Enterprise Linux 3.0, Update 3 is installed, the firewall is enabled by default.

Management console

Consider the following information when installing IBM Director 5.10 components on your management console.

- **IBM Director tasks can be accessed with IBM Director Console, or you can access them through the Virtualization Engine console.** IBM Director can be managed directly from IBM Director Console. In addition, IBM Director tasks can also be launched in context through the Virtualization Engine console if you use the Virtualization Engine console as the central point for managing virtualized enterprise resources.
- **Uninstall SAN Utility Director Extensions before uninstalling IBM Director Console.** For installations that include the Qlogic SAN Utility and SAN Utility

Director Extensions, you must uninstall the SAN Utility Director Extensions before uninstalling IBM Director Console on a management console. If you do not uninstall the SAN Utility Director Extensions, the reinstallation of IBM Director Console will succeed, but IBM Director Console will fail to start.

To uninstall Qlogic SAN Utility and SAN Utility Director Extensions, perform these steps:

1. Change to the IBM/Director directory.
2. Run the **Uninstall_SANUtility** script:

Managed systems

Consider the following information when installing IBM Director 5.10 components on your managed systems.

- **Previous versions of IBM Director are unable to detect IBM Director Core Services.** If you install IBM Director Core Services that is available with IBM Director 5.10, do not subsequently install a previous version of IBM Director over the top of IBM Director Core Services. Although the installation of the previous version of IBM Director will be successful, unexpected results can occur.
- **A distribution of IBM Director Agent to an AIX system using Software Distribution might complete without installing the agent on the AIX system.** The root filesystem (/) does not have enough space to copy the install package, but the situation was not reported to the IBM Director Server. To complete the installation successfully, increase the size of the root filesystem (/) by 60 MB and restart the distribution.
- **Software Distribution to Level-0 and Level-1 managed systems is limited to three simultaneous distributions.** If you use Software Distribution to distribute IBM Director Core Services or IBM Director Agent to Level-0 and Level-1 managed systems, you can start a distribution to as many managed systems as you want, but the IBM Director Server distributes to no more than three managed systems at a time.
- **The chkconfig bug fix for Red Hat Enterprise Linux AS, ES, and WS, version 3.0 might be required to discover Level-1 managed systems.** The chkconfig bug fix might be required to discover systems with IBM Director Core Services installed on the following operating systems:
 - Red Hat Enterprise Linux AS, version 3.0
 - Red Hat Enterprise Linux ES , version 3.0
 - Red Hat Enterprise Linux WS, version 3.0

For more information about the chkconfig bug fix and how to download it, go to <https://rhn.redhat.com/errata/RHBA-2005-116.html>.

- **When the Novell Client for Windows and IBM Director Core Services are installed on the same system, IBM Director is unable to discover the Level-1 managed system.** The Novell Client for Windows comes with its own Service Location Protocol (SLP) Service Agent (SA). This SA does not accept unicast service registration or queries. The Novell Client package does not provide an option to disable the SLP SA installed with it. When IBM Director Core Services is installed on a managed system that also has the Novell Client installed, IBM Director is unable to discover the Level-1 managed system.
- **Requirements must be met to access Hardware Management Console (HMC) managed systems through IBM Director.**
 - The HMC extension for IBM Director requires HMC to be installed with HMC Version 5 Release 2.0 or later. If the HMC is running an earlier level of HMC software, it will be discovered in IBM Director, but attempts to request access to the HMC will fail.

- The HMC software to integrate with IBM Director is available to download from the HMC Power5 website, <http://techsupport.services.ibm.com/server/hmc/power5>
- **Physical platform managed objects with a baseboard management controller (BMC) service processor might not autorename correctly.** When a physical platform managed object with a Baseboard Management Controller (BMC) service processor is manually added to IBM Director, attempts to autorename that managed object do not work correctly unless a Level-1 or Level-2 system managed object for that machine has also been created.
- **Destination port 427 TCP and UDP must be open to allow SLP discovery of Level-1 managed systems through a firewall.** Destination port 427 TCP and UDP must be open to enable discovery of SMI-S storage devices through a firewall.
- **To manage DS400 and DS300 enclosures, see the ServerAID Manager Release Notes.**

Upward integration modules

Consider the following information for successful upward integration.

- **IBM Director Agent 4.21 is required for upward integration with Microsoft Systems Management Server 2003.** IBM Director Agent 4.21 or later must be installed on all managed systems to support upward integration with Microsoft Systems Management Server (SMS) 2003. This limitation occurs because SMS 2003 gathers information from managed systems differently than previous SMS versions; these changes prevent SMS 2003 from communicating with managed systems that are running versions of IBM Director Agent earlier than 4.21.
- **IBM Director 5.10 Agent and IBM Director 5.10 Core Services can be used with IBM Director 4.20 Upward Integration Module for CA Unicenter.** You can use IBM Director 4.20 Upward Integration Module for CA Unicenter to managed systems that have been upgraded to IBM Director 5.10 Agent or IBM Director 5.10 Core Services.

Upgrade notes

Consider the following information when upgrading to IBM Director 5.10.

- **MIBs are not automatically compiled during an upgrade.** If all of the MIBs that need to be compiled reside in the default directory on IBM Director Server, `/director/proddata/snmp`, you can complete the following steps to compile them before IBM Director is started for the first time after the upgrade.
 1. In `/director/data/snmp/SNMPServer.properties` change the `snmp.recompileOnStartup` property to `true`.
 2. Start IBM Director Server.
 3. In `/director/data/snmp/SNMPServer.properties` change the `snmp.recompileOnStartup` property to `false`. This eliminates unnecessary processing during subsequent starts.
- **CIM Resource Monitors thresholds are not migrated on non-Windows systems.** When you upgrade IBM Director on a system that is running an operating system other than Windows, CIM Resource Monitors thresholds that you have set will not be recognized by IBM Director 5.10. You must delete the old thresholds and define new thresholds for those attributes.
- **Wait between installation of IBM Director Server 4.22 and installation of IBM Director Server 5.10 upgrade.** After installing IBM Director Server 4.22 and

performing the required IBM Director restart, you must wait at least 15 minutes for the system to fully initialize before starting the IBM Director Server 5.10 upgrade.

- **If you upgrade from an evaluation copy of IBM Director version 5.10 and you want to maintain that configuration data in IBM Director version 5.10, complete the following instructions.** It is recommended that you do not use twgsave and twgrestore when moving from an evaluation copy to the full product of IBM Director 5.10; you might achieve unexpected results.

For Windows:

1. Ensure that during the uninstall process for the evaluation copy, you select **No** for the question **Do you want to delete the IBM Director configuration data?**
2. During the installation of the full version of IBM Director 5.10, use the same installation directory that was used during the installation of the evaluation copy.

For Linux:

1. Uninstall the evaluation copy of IBM Director 5.10.
 2. Create the /opt/ibm/director directory if it doesn't already exist.
 3. Look in the /opt/ibm directory for directories named director.save.# (where # is a number). Find the directory with the highest number and make a note of what that directory is.
 4. Change to the /opt/ibm/director directory.
 5. Run the following command to restore the saved data. # is the number from step 3.

```
tar xvf /opt/ibm/director.save.#/saveddata.tar
```
 6. Install the full version of IBM Director Server.
- **Profiles cannot be migrated from the BladeCenter Deployment wizard to the BladeCenter Configuration Manager.** In IBM Director 5.10, BladeCenter Configuration Manager has replaced BladeCenter Deployment wizard, which was available with previous versions of IBM Director. Use BladeCenter Configuration Manager to recreate profiles for your BladeCenter chassis. If you have a large number of profiles to recreate, contact IBM Support for a solution.

Chapter 3. Known limitations, problems, and workarounds

This section provides information about known limitations, problems, and workarounds when using IBM Director Version 5.10.

Limitations

IBM Director 5.10 has the following limitations:

- **(Managed systems running Linux only) Some events are not delivered to IBM Director Server.** For managed systems running Linux, these events are not delivered to IBM Director Server:
 - IBMPSG_RedundantNetworkAdapterEvent
 - IBMPSG_RedundantNetworkAdapterFailedEvent
 - IBMPSG_RedundantNetworkAdapterOfflineEvent
 - IBMPSG_RedundantNetworkAdapterOnlineEvent
 - IBMPSG_LANLeashEvent
- **(xSeries 230 systems only) You cannot use the Asset ID™ task to view System GUID on managed systems running Windows or Linux.** On xSeries 230 systems running Windows, the System GUID is displayed as an empty string. On systems running Linux, the System GUID is displayed as a string of zeros.
- **(Linux systems only) The Net-SNMP service (snmpd) must start before the IBM Director SNMP Agent for Linux (dirsnmpd) starts.** Otherwise, the IBM Director SNMP Agent cannot handle incoming Simple Network Management Protocol (SNMP) requests. This limitation does not apply to SNMP traps on Linux systems.
- **(xSeries 460 servers only) Display of management processor event logs could take up to three minutes or more.** If Web-based Access is being used on an eServer™ xSeries 460 with eight or more nodes, displaying the management processor event logs could take up to three minutes or more. The actual time interval might vary, depending upon the number of log entries in the Remote Supervisor Adapter II for each managed node. Additional delays in the display of logs might be introduced if the request is terminated before the entire display refreshes.
- **You might encounter screen reader errors in selectable lists.** If you use a screen reader to read the options in a selectable list, cancel the selectable list without making a selection, tab to another element in the window, and then return to the selectable list, the screen reader might repeat back the last item that was selected in the first reading, instead of the currently selected item. This is caused by a known problem in the Java Runtime Environment.
- **Keyboard navigations might not function correctly for links in help panels.** If you use keyboard functions to navigate to and activate a hyperlink on an IBM Director help panel, a small colored rectangle might appear on the newly loaded help panel. This does not affect navigation or hyperlink function, but might cause confusion. After you navigate to the next hyperlink, the rectangle will disappear. This is caused by a known problem in the Java Runtime Environment.
- **If you use a keyboard to navigate within IBM Director Console, table columns cannot be resized or reordered with a keyboard command.** When navigating IBM Director Console with a keyboard, you cannot resize or reorder columns. This is caused by a known problem in the Java Runtime Environment.
- **When using keyboard functions to navigate in the Remote Session task, text cannot be highlighted.** If you use keyboard functions to navigate, you

cannot select a specific portion of text in a remote session; however, you can use the copy menu item to copy the entire remote session window.

- **If you use the keyboard to navigate in a window that contains objects in a tree, the keyboard focus might not be immediately visible when you tab to the tree.** To see the keyboard focus when you tab to the tree, press the spacebar or downward arrow.
- **If you use the keyboard to navigate in the Console Preferences window > Appearance Preferences > Color > HSB page, the keyboard focus is not visible for the fields R, G, and B.** If you use a keyboard to navigate within IBM Director Console or you use a screen reader, use the RGB page available from the Appearance Preferences page to set the colors. To adjust the color, move the Red, Green, or Blue slider to the right or left.
- **Objects in the Group Contents pane might not be read using a screen reader.** When using a screen reader with IBM Director Console, use the Tree view in the Group Contents pane. Otherwise, all objects in the pane might not be read.
- **(Linux systems only) When you open a menu that is long enough to cause up and down scroll buttons to display, clicking more than once on a scroll button might close the menu.** This is caused by a known problem in the Java Runtime Environment. Workarounds include:
 - Click on the scroll button and hold it to show the rest of the menu items.
 - Using the keyboard, press the up and down arrow keys to navigate through the menu items.
- **(Systems running Red Hat Enterprise Linux with the Gnome desktop environment only) A new window does not automatically become the active window.** If you perform an action that causes a new window to display, the new window might not (by default) become the active window, even though it is the topmost window. This is caused by a known problem in the Java Runtime Environment. Workarounds include clicking on the new window to make it active, or using the keyboard shortcut (Alt+Tab) to switch to the new window. This limitation does not apply to systems running the K Desktop Environment.
- **Windows MouseKeys feature does not perform as expected on the Help Index alphabet links.** When using the Windows MouseKeys accessibility feature in the Help Index, the first MouseKey "click" on one of the alphabet links at the top of the page will not initially scroll the page to the correct location in the Index. You must move the mouse pointer to that letter and click again, for the page to scroll to the correct location. (This problem does not occur when using the mouse.)
- **File transfers across Daylight Savings Time boundaries might alter Last Modified times of the files.** When transferring files across Daylight Savings Time boundaries, the Last Modified time of the transferred file might be one hour earlier or later than the actual modification.
- **Thresholds set against Checksum attribute in previous IBM Director versions are no longer valid.** In IBM Director 5.10, updates to the Resource Monitors task have changed how the Checksums attribute under **File System Monitor** is calculated (to match the MD5 standard). As a result, thresholds that were defined for this attribute in previous versions of IBM Director should be deleted or changed to match the new value.
- **(Windows systems only) Using the reboot option in the Custom Package Editor with custom packages in categories can cause Software Distribution jobs to fail.** When using the Software Distribution task, if you create a custom package for Windows that you want to make part of a category, do not use the

"Restart Computer" option in the Custom Package Editor. This will cause the Software Distribution job to fail. As a workaround, use the reboot option in the Category Editor instead.

- **(Premium Software Distribution licensed systems only) Custom packages created with previous version of IBM Director Server cannot be edited after a IBM Director 5.10 basic upgrade.** When you upgrade IBM Director Server with a Premium Software Distribution license to IBM Director Server 5.10, you will not be able to edit any custom packages created before the upgrade, until you install the Premium Software Distribution license for 5.10.
- **Undetected dependency failures might occur during package distribution.** If you use the IBM Update Assistant wizard to create a package for the System Availability Agent or Capacity Manager Agent for Linux, then distribute the package to a managed system, no dependency failures will be detected by IBM Director.
- **IBM Director Agent always displays as IBM Director Core Services in Inventory Query Browser.** When Level 2: IBM Director Agent is installed, the Inventory Query Browser displays IBM Director Core Services.
- **Unable to reset HTTP on service processors when SSL is enabled.** When SSL is enabled on a service processor, you cannot reset HTTP on that service processor.
- **When Software Distribution is used to distribute an UpdateXpress package, non-Windows managed systems are not restarted after the package distribution is complete.** Regardless of the reboot option listed in the UpdateXpress XML file, non-Windows managed systems are not restarted after a software distribution is complete.
- **The Perform Health Check menu item appears for software-package categories that do not support the function.** The **Perform Health Check** menu item is available for all software-package categories, but only performs its function if a software package within the category supports Software Health Check.
- **XML document for Event Log might not display in Netscape Browser.** If you export an XML document from the Event Log, you might be unable to view the document with Netscape Browser.
- **The getvpcd command from the MPCLI interface returns no data for some platforms.** If you run the **getvpcd** command from the Management Processor Command Line Interface (MPCLI) on the following physical platforms, no data is returned.
 - xSeries 206m
 - xSeries 306m
- **The getldap command from the MPCLI interface fails on some platforms.** Running the **getldap -properties all** command from the Management Processor Command Line Interface (MPCLI) fails on the following systems with Remote Supervisor Adapter II SlimLine firmware versions (1.05) and (1.06):
 - xSeries 260
 - xSeries 366
 - xSeries 460
- **AIX limitations**
 - The Asset ID task is not supported for managed systems running AIX.
 - The Hardware Status task has the following limitations on AIX:
 - Hardware events are logged in the Events Log, not in the Hardware Status graphical user interface.

- Persistence of Hardware Status - when the connection between the IBM Director Server and the managed system running AIX is down, the most current event from eventID is not saved in the health.dat file.
- Initial Hardware Status - the initial hardware status query is not supported.
- **The getsysstat command on a physical platform managed object with a baseboard management controller (BMC) service processor returns a bluelight SP Exception.** When you use the MPCLI to perform the getsysstat command on a physical platform managed object with a baseboard management controller (BMC) service processor, you receive a bluelight SP Exception rather than the expected system status information.
- **z/VM Center limitations**
 - If you are using z/VM 5.1, you can use only a single network interface for the z/VM manageability access point.
 - For its provisioning tasks, z/VM Center cannot work with disk resources other than minidisks that are made available in form of disk pools (allocation groups).
 - z/VM directory displays data on guest virtual machines as it is defined in the z/VM directory. Dynamic changes—for example, through a CP command—are not reflected. The following information is displayed:
 - User IDs:** name, password and privilege class
 - Processors:** all static information
 - Memory:** initial size and maximum size
 - Minidisks:** MDISK and LINK definitions, dedicated disks are omitted
 - NetworkPorts:** OSA and HiperSocket, Guest LAN, VSWITCH
 - z/VM Center only recognizes a set of virtual OSA devices as a virtual OSA adaptor if three dedicate statements are contiguously defined in the z/VM directory and three consecutive device numbers are assigned.
 - VLAN is not supported. You can use virtual switches. If you use z/VM Center to create guest virtual machines that use a virtual switch, the authorizations for using the switch are not persistent across a z/VM system restart. To assure that the required authorizations are granted after a z/VM restart you can:
 - Add the required SET VSWITCH statements to a z/VM configuration file that is processed during IPL (for example, to SYSTEM CONFIG). You can check \$VMAPI/.vmapi/vswitch.grant as guidance on which statements to add to SYSTEM CONFIG.
 - Run **\$VMAPI/.vmapi/vswitch.grant** on your z/VM manageability access point.
 - z/VM Center requires that operating systems that run on a z/VM virtual server must have network ports. You cannot register an operating system for a z/VM virtual server that has no network ports. Accepted network port types are OSA and HiperSocket, guest LAN, and VSWITCH.
 - A z/VM prototype that is used in a z/VM virtual server provisioning operation must not contain device numbers that are either directly requested in that provisioning operation (like a device number for a disk or a network port) or are implied by subsequent provisioning operations (like creating an operating system).

Problems

IBM Director 5.10 has the following known problems:

- **Presence check does not work on physical platform managed objects.**

- **IBM Storage Area Network Utility might not start.** If you installed either IBM Director or the IBM Storage Area Network Utility in a non-default directory, the IBM Storage Area Network Utility might not start. You can successfully start the IBM SAN Utility from the Windows Start menu or from a command prompt.
- **(xSeries 232, 255, 235, 342, 345, 335, 360, and 440 servers only) A power supply without power might generate an alert.** If no power is running through an installed power supply, whether it is plugged in or in a failing state, the following alert is generated: Power supply device identified as PowerSupply x reports critical state with possible loss of redundancy, where x is the power supply number
- **(ThinkCentre A51, A51P, MP51, and S51 running Windows only) If hyperthreading is enabled, the Resource Monitors task displays two CPU Monitor resources even if only one CPU exists.** When you run the Resource Monitors task on a managed system and view the CPU Monitors resources, resource attributes for two microprocessors (CPUs) are displayed, despite the fact that the system contains only one microprocessor. This occurs if hyperthreading is enabled for the microprocessor. The Resource Monitor task draws data from the operating system, and the operating system interprets a single hyperthreaded microprocessor as two logical microprocessors.
- **(SUSE LINUX Enterprise Server 8 only) You cannot cut and paste information into the ASF Configuration window.**
- **You might experience problems when using the YAST graphical user interface on SUSE LINUX Enterprise Server 8 for x86.** If you use YAST on SUSE LINUX Enterprise Server 8 for x86, you might encounter problems when using functions such as Remove Software. You can use the rpm command to remove IBM Director.
- **(Netfinity® 5100 or xSeries 230, machine type 5658 server only) File transfer might be slow on some systems.** You might experience slow file transfer when running these tasks on Netfinity 5100 or xSeries 230, machine type 5658 servers running Linux:
 - File Transfer
 - Remote Control
 - Software Distribution

You can disable IBM Director Agent session support to remedy this problem. Perform these steps to disable session support for the instance of IBM Director Agent installed on the managed system running Linux:

1. Open the /opt/IBM/director/classes/extensions/TCPIP.NETEXT file in an ASCII text editor.
2. Uncomment this line:

```
net.session.classname=com.tivoli.twg.netipc.TWGTCPSTcpSocketImplFactory
```

3. Save the modified file.
 4. Stop and restart IBM Director Agent.
- **Some RPM Packages might cause RPM verification errors.** After installing certain Red Hat Package Manager (RPM) packages, RPM verification errors occur when you run the following command:

```
rpm -V rpm
```

Where *rpm* is one of the following affected packages:

- ITDAgent
- ITDServer
- DirectorCimCore
- xSeriesCoreServices-level1

– xSeriesServerExt

The verification errors all refer to missing files. This is a known problem that does not result in product inoperability. It is caused by incompatibility between the Director 5.10 RPM packages (which are relocatable) and older versions of RPM (which do not correctly relocate package content.)

By default, IBM Director 5.10 RPM package content is installed in the Director installation directory tree, but some Director configuration files must be moved to the /etc directory. These files are moved to /etc during the RPM installation, but are then flagged as missing by the RPM verification command.

Note: Two other files which are flagged, certdetails.txt and cimserver_planned.conf, are modified during installation with all required system-specific information.

The following files are those that are flagged by this known problem:

```
rpm -V ITDAgent-5.10-1
missing /opt/ibm/director/bin/twgagent.initd
rpm -V DirectorCimCore-5.10-1_RHEL3
missing /opt/ibm/director/bin/dacimlist
missing /opt/ibm/director/bin/dacimom
missing /opt/ibm/director/bin/ibmsa
missing /opt/ibm/director/bin/ibmsainst
missing /opt/ibm/director/bin/startcim
missing /opt/ibm/director/bin/startcimlist
missing /opt/ibm/director/bin/stopcim
missing /opt/ibm/director/bin/stopcimlist
missing /opt/ibm/director/bin/tier1slpinst
M...../opt/ibm/director/cimom/certdetails.txt
SM5...T /opt/ibm/director/cimom/cimserver_planned.conf
missing /opt/ibm/director/cimom/wbem
rpm -V xSeriesCoreServices-level1-5.10-1_RHEL3
missing /opt/ibm/director/bin/ibm-ipmi.cfg
```

- **(Red Hat Enterprise Linux 3.4 only) sticky keys might not work properly in Remote Control and Remote Session tasks.** On Red Hat Enterprise Linux version 3.4, sticky keys (which allow you to type keys in a multiple-key combination consecutively instead of simultaneously) do not work properly within the Remote Control and Remote Session tasks. This is a known accessibility problem that does not otherwise impact product operability.
- **Maximum Managed Systems value does not apply with multiple tier distributions.** When setting the value for the Maximum Managed Systems field on the Software Distribution tab of the Server Preferences window, be aware that this setting only applies to Level-2 managed systems. When an SI-based software distribution package is attempted on multiple tier systems (Level-1 and Level-0 managed systems), the Maximum Managed Systems setting is ignored and the tier distribution attempts all agents simultaneously. One workaround is to limit concurrent distributions based on IBM Director Server's processing power and free disk space.
- **Code fills the IBM Director Help window if you use a combination of keystrokes when navigating with the keyboard.** When using the keyboard to

navigate to hyperlinks in IBM Director help text, the first hyperlink is invisible. When the first link is activated, it causes code to be displayed. Pressing the **Back** button returns you to the help text.

- **Exceptions might be displayed during the launch of the HMC console when a user runs one of the HMC Manager Tools.** The problem is a timing issue during the startup of the HMC console. If the selected HMC console plugin does not load correctly, you will see a Java exception message. After the startup of the HMC console is complete, you can initiate a reload of the console plugin by clicking the **Reload** button which is located in the tool bar directly under the main menu in the HMC console. During the reload, the console plugin should load correctly.
- **If you use the keyboard to navigate in the BladeCenter Configuration Manager and Server Configuration Manager tasks, the keyboard focus might not be visible at times in the Select Components window.** In the Select Components window, the tab key sets the focus on hidden components and on the status bar. If you continue tabbing, the keyboard focus becomes visible again.
- **The link to the IBM Director Information Center on your installation CD takes you to a blank page.** The link contains an extraneous / character at the end of the Web address. The correct link is:
publib.boulder.ibm.com/infocenter/eserver/v1r2/topic/diricinfo/fqm0_main.html.

Workarounds

This section includes solutions to some problems you might encounter when using IBM Director 5.10.

Software distribution fails when connection to the Linux target system is attempted

During a software distribution to Linux Level-1 or Level-0 managed system, the distribution might fail when a connection is attempted to target systems that are running Linux. In order for software distribution to communicate with Linux and the SSH targets using password authentication, you must complete the following steps:

1. On the target systems, edit the `/etc/ssh/sshd_config` file. Change the **PasswordAuthentication** value to **yes**. The default value is **no**.
2. Stop the SSH daemon.
`/etc/init.d/sshd stop`
3. Restart the SSH daemon.
`/etc/init.d/sshd start`

Enabling Alert Standard Format

Note: This information applies to only xSeries 306 servers running SUSE LINUX Enterprise Server 8 (Service Pack 3).

Complete these steps to enable Alert Standard Format (ASF) 2.0 support:

1. Download the following item from the IBM Support Web site at www.ibm.com/pc/support/. This file includes the ASF20RPM.zip file.
Linux RPMs for ASF 2.0 Support for IBM Director Agent – for Intel-based GbE
2. Unzip the ZIP file and install the RPM files.

Timeouts

In networks with high latency, tasks might time out when you work with multiple managed objects concurrently. To increase the time interval before a timeout occurs modify the IPC timeout value in `/opt/ibm/director/data/ServiceNodeLocal.properties`.

UIM for Microsoft SMS fails to create the "All Systems with Director Agent" collection

If the upward integration module (UIM) for Microsoft Systems Management Server (SMS) installation fails to create the queries or collections for "All Systems with Director Agent", open the SMS Admin console and then re-install the UIM.

Accessibility

Consider the following solutions to some accessibility problems you might encounter when using IBM Director 5.10.

Complete IBM Director installation using screen readers that do not support Java applications

When using a non-Java screen reader during IBM Director installation, the reader will probably not be able to read the content of the Database Configuration window, because it is a Java-based interface. To finish the installation with a non-Java screen reader:

1. Using your screen reader, find the window whose title bar reads "IBM Director database configuration", and press **Enter**.
2. The screen reader indicates that the next window is the Apache configuration window. Press **Enter** again.
3. Finish the installation as directed.
4. After installation is complete and you obtain a Java screen reader, you can access and change the database configuration settings by entering the following command in the command prompt window:

cfgdb

Match KDE Keyboard Shortcut Actions to Java GUI Defaults

(Linux systems only) To use Java GUI keyboard shortcuts (such as Ctrl+Tab and Shift+Ctrl+Tab) on the KDE desktop, you must change the default keyboard shortcut settings for the desktop. For systems running KDE:

1. From the main menu, click **Control Center**.
2. In the Control Center window, click **Regional & Accessibility**, and then click **Keyboard Shortcuts**.
3. In the **Shortcut** fields, change the keyboard combinations for specified Actions, as desired.
4. Click **OK**.

Chapter 4. Documentation updates

This section includes documentation updates that might not appear in the IBM Director 5.10 online help or the version of an online or printed IBM Director 5.10 publication that you might receive or access.

- **Requesting access to a z/VM system:** You must specify the Linux administrator ID and password for the z/VM manageability access point (usually root). The translated instructions might erroneously instruct you to specify the administrator ID for the z/VM manageability access point. The latter is a z/VM user ID, not a Linux user ID.
- **z/VM Center, z/VM Virtual Server Deployment task:** The behavior of the **z/VM Virtual Server** field in the Create z/VM Virtual Server wizard has changed. It is now an optional field. This change might not be reflected in the online help. The correct help instructions are:
 - **Optional:** Type a name that you want to use for the new z/VM virtual server within z/VM Center. If you leave this field blank or if you type a name that includes one or more asterisks (*), a name is generated for you. The generated name is made up of two parts:
 - The z/VM system ID.
 - A z/VM user ID. To z/VM, the z/VM virtual server is the guest virtual machine with this user ID.

- **z/VM Center Setup information:**

Optional: You can customize your z/VM manageability access point setup by defining the \$VMAPI and \$CIMVM environment variables for the Linux user ID that runs the CIMOM. This is usually the root user ID.

\$VMAPI environment variable (Optional)

Set the \$VMAPI environment variable to a directory where you want the components that implement the z/VM management profile to maintain configuration and log files. If \$VMAPI is not defined, \$HOME is used instead. To define the environment variable issue:

```
export VMAPI=/home/xxx/yyy
```

In the command `/home/xxx/yyy` is the chosen directory. You can assure that \$VMAPI is defined for every session by adding the export statement to the `.profile` shell startup file.

\$CIMVM environment variable (OPTIONAL)

Set the \$CIMVM environment variable to a directory where you want the z/VM CIM components within the z/VM accessibility management point to maintain configuration and log files. If \$CIMVM is not defined, \$HOME is used instead. To define the environment variable issue:

```
export CIMVM=/home/xxx/yyy
```

In the command `/home/xxx/yyy` is the chosen directory. You can assure that \$CIMVM is defined for every session by adding the export statement to the `.profile` shell startup file.

- **Remote Session:** The Remote Session task overview topic in the online help and IBM Director Information Center contains an icon that is different than the Remote Session icon that is displayed in the interface. The help topic shows green text on the icon; the task icon within the interface shows white text.
- **Operating systems supported by Level-2, Level-1, and Level-0 managed systems:** This topic might erroneously state that IBM Director Core Services is

supported on Intel Itanium-based operating systems. Only IBM Director Agent is supported on Intel Itanium-based operating systems.

- **Preparing to install IBM Director on an iSeries™ server:** The *IBM Director Installation and Configuration Guide* might erroneously state, "When you select to install IBM Director Server, the installation images for IBM Director Agent and IBM Director Console are also selected to be copied to the management server by default."

The correct text is, "When you select to install IBM Director Server, the installation images for IBM Director Agent are available to select and copy to the management server. The IBM Director Console installation images are available on the *IBM Director 5.10 for i5/OS (2 of 2)* media."

- **iSeries > Installing IBM Director Server using the Virtualization Engine installation wizard:** The *IBM Director Installation and Configuration Guide* might contain a step for this topic that erroneously states, "On the Service Selection page, select IBM Director Server. It is recommended that you also select to copy the installation images for IBM Director Agent and IBM Director Console. The installation images that are selected to install are copied to the /QIBM/ProdData/VE2/ManagedNodes/ directory. Click Next."

The correct text is, "On the Service Selection page, select IBM Director Server. It is recommended that you also select to copy the installation images for IBM Director Agent. The installation images that are selected to install are copied to the /QIBM/ProdData/VE2/ManagedNodes/ directory. Click Next."

- **Uninstalling IBM Director Server on i5/OS:** The *IBM Director Installation and Configuration Guide* might not contain the complete information for this topic. The first three steps should correctly state:

1. On the Windows workstation that you used for installing Virtualization Engine software on your i5/OS system, map a network drive to the following folder: \\<system-name>\QVE2, where <system-name> is the name of the i5/OS system from which you want to uninstall one or more Virtualization Engine products. This creates a mapping to the /QIBM/ProdData/VE2 directory that contains the Uninstallation Launchpad executable file.
2. From a Windows command prompt, change to this mapped drive. For example, if the mapped drive is X, type X: and press **Enter**.
3. Verify that there is a file named uninstallVEi5OS.bat in the directory. Run the following command to start the Uninstallation Launchpad:

```
uninstallVEi5OS.bat <mapped_drive>: [<system_name>:<userID>:<password>]
```

The <mapped_drive> is the letter of the mapped drive to the QVE2 share, and [<system_name>:<userID>:<password>] is the i5/OS host name, i5/OS user profile, and password for the user profile separated by the : character. Press **Enter**.

Appendix A. Related information

This topic provides links to additional information related to IBM Director.

IBM Director resources on the World Wide Web

The following Web pages provide resources for understanding, using, and troubleshooting IBM Director and other systems-management tools.

IBM Director information center

publib.boulder.ibm.com/infocenter/eserver/v1r2/topic/dirinfo/fqm0_main.html

Updated periodically, the IBM Director information center contains the most up-to-date documentation available on a wide range of topics.

IBM Director Web site on ibm.com[®]

www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/

The IBM Director Web site on ibm.com has links to downloads and documentation for all currently supported versions of IBM Director. Information on this site includes:

- IBM Director 5.10 - downloads and documentation
- IBM Director 4.22 - downloads and documentation
- IBM Director 4.22 Upward Integration Modules (UIMs) - downloads and documentation
- IBM Director 4.21 - downloads and documentation
- IBM Director 4.20 - downloads and documentation
- IBM Director Hardware and Software Compatibility document - lists supported [@server](http://www.ibm.com) and IBM xSeries systems, as well as all supported operating systems. It is updated every 6 to 8 weeks.
- Printable documentation for IBM Director - available in Portable Document Format (PDF) in several languages

IBM Systems Software information center

www.ibm.com/servers/library/infocenter/

This Web page provides information about IBM Virtualization Engine, IBM Director, and other topics.

IBM ServerProven page

www.ibm.com/pc/us/compat/index.html

This Web page provides information about IBM xSeries, BladeCenter, and IntelliStation[®] hardware compatibility with IBM Director.

IBM Systems Management Software: Download/Electronic Support page

www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/

Use this Web page to download IBM systems-management software, including IBM Director. Check this Web page regularly for new IBM Director releases and updates.

IBM Servers

www.ibm.com/servers/

This Web page on ibm.com links to information, downloads, and IBM Director extensions such as Remote Deployment Manager, Capacity Manager, Systems Availability and Software Distribution (Premium Edition) for IBM servers:

- IBM BladeCenter
- IBM iSeries
- IBM pSeries
- IBM xSeries
- IBM zSeries

IBM Redbooks™

www.ibm.com/redbooks/

You can download the following documents from the IBM Redbooks Web page. You also might want to search this Web page for documents that focus on specific IBM hardware; such documents often contain systems-management material.

Note: Be sure to note the date of publication and to determine the level of IBM Director software to which the Redbooks publication refers.

- *Creating a Report of the Tables in the IBM Director 4.1 Database* (TIPS0185)
- *IBM Director Security* (REDP-0417-00)
- *IBM eServer BladeCenter Systems Management with IBM Director V4.1 and Remote Deployment Manager V4.1* (REDP-3776-00)
- *Implementing Systems Management Solutions using IBM Director* (SG24-6188)
- *Integrating IBM Director with Enterprise Management Solutions* (SG24-5388)
- *Managing IBM TotalStorage® NAS with IBM Director* (SG24-6830)
- *Monitoring Redundant Uninterruptible Power Supplies Using IBM Director* (REDP-3827-00)

Remote Supervisor Adapter

Remote Supervisor Adapter overview

www.ibm.com/support/docview.wss?uid=psg1MIGR-4UKSML

This Web page includes links to the *Remote Supervisor Adapter User's Guide* and *Remote Supervisor Adapter Installation Guide*.

Remote Supervisor Adapter II overview

www.ibm.com/support/docview.wss?uid=psg1MIGR-50116

This Web page includes information about the Remote Supervisor Adapter II.

Other documents

For planning purposes, the following documents might be of interest:

- *Planning and installation guide - IBM eServer BladeCenter (Type 8677)*
- *IBM Management Processor Command-Line Utility User's Guide version 3.00*

Appendix B. Contacting customer support

If you need help, service, technical assistance, or just want more information about IBM products, you can find a wide variety of sources available from IBM to assist you. This section contains information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your system, and whom to call for service, if it is necessary.

Services available and telephone numbers listed are subject to change without notice.

Before you call for assistance

Some problems can be solved without outside assistance. You can use the online help by looking in the online or printed documentation that comes with IBM Director, or by consulting the IBM Support home Web site. Also, be sure to read the information in any release notes and README files that come with IBM Director.

You can solve many problems by following the troubleshooting procedures that IBM provides in the online help or in the publications that are provided with your system and software. The information that comes with your system also describes the diagnostic tests that you can perform. Most hardware systems, operating systems, and programs come with information that contains troubleshooting procedures and explanations of error messages and error codes. If you suspect a software problem, refer to the information for the operating system or program.

Getting help online

IBM maintains pages on the World Wide Web where you can get information about IBM products and services and find the latest technical information. Table 1 lists some of these pages.

Table 1. Support Web sites

www.ibm.com/	Main IBM home page
www.ibm.com/servers/	IBM eServer home page
www.ibm.com/pc/support/	IBM Support page
www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/	IBM Director home page with links to user support and the technical forum
publib.boulder.ibm.com/infocenter/eserver/v1r2/topic/dirinfo/fqm0_main.html	IBM Director information center

Getting help by telephone

Through IBMSupport Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with xSeries servers, IntelliStation workstations, and appliances. For information about which products are supported by Support Line in your country or region, go to www.ibm.com/services/sl/products/.

For more information about Support Line and other IBM services, go to www.ibm.com/services/, or go to www.ibm.com/planetwide/ for support telephone numbers. In the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

Appendix C. Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
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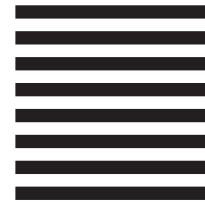
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