

IBM Remote Deployment Manager 4.30



# Installation and Configuration Guide



IBM Remote Deployment Manager 4.30



# Installation and Configuration Guide

**Note:** Before using this information and the product it supports, read the general information in “Notices” on page 93.

**Fifth Edition (April 2006)**

**© Copyright International Business Machines Corporation 2003, 2006. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

# Contents

<b>Figures</b> . . . . .	v
<b>Tables</b> . . . . .	vii
<b>About this book</b> . . . . .	ix
How this book is organized. . . . .	ix
Notices that are used in this document . . . . .	ix
RDM documentation . . . . .	x
RDM resources on the World Wide Web . . . . .	x
<b>Chapter 1. Introducing Remote Deployment Manager</b> . . . . .	1
RDM environment and terminology . . . . .	1
RDM components . . . . .	1
How RDM works. . . . .	2
<b>Chapter 2. System requirements</b> . . . . .	5
Hardware and software requirements . . . . .	5
Supported operating systems . . . . .	6
<b>Chapter 3. Planning your RDM installation</b> . . . . .	9
Selecting an operating system. . . . .	9
Requirements . . . . .	9
Types of RDM installations . . . . .	9
Configuring routers, switches, and hubs. . . . .	14
Configuring the DHCP service . . . . .	16
<b>Chapter 4. Installing RDM on Linux</b> . . . . .	29
Overview . . . . .	29
Installing RDM Server . . . . .	31
Installing RDM Console. . . . .	34
Installing RDM Deployment Server . . . . .	35
<b>Chapter 5. Installing RDM on Windows</b> . . . . .	41
Performing an attended installation of RDM 4.30 . . . . .	41
Performing an unattended installation of RDM 4.30 . . . . .	52
<b>Chapter 6. Upgrading RDM on Windows</b> . . . . .	57
Upgrading from RDM 4.11 to RDM 4.20. . . . .	57
Upgrading from RDM 4.20 to RDM 4.30 . . . . .	58
<b>Chapter 7. Upgrading RDM on Linux</b> . . . . .	61
Exporting your RDM 4.20 system data on Linux. . . . .	61
Importing RDM 4.20 system data after RDM 4.30 installation on Linux . . . . .	63
<b>Chapter 8. Configuring RDM</b> . . . . .	65
Starting IBM Director Console . . . . .	65
Configuring which subnets are served . . . . .	66
Configuring RDM Server . . . . .	68
Adding a remote deployment server to RDM . . . . .	71
Configuring RDM Deployment Server (D-Server) . . . . .	72
Deleting a remote deployment server from RDM . . . . .	81
Changing the IP address of a remote deployment server . . . . .	82

<b>Chapter 9. Modifying, repairing, and uninstalling RDM</b> . . . . .	85
Modifying, repairing, and uninstalling RDM on Windows . . . . .	85
Uninstalling RDM running on Linux . . . . .	85
<b>Appendix. Terminology summary and abbreviation list</b> . . . . .	87
RDM terminology summary . . . . .	87
Abbreviations . . . . .	87
<b>Getting help and technical assistance</b> . . . . .	91
Before you call . . . . .	91
Using the documentation . . . . .	91
Getting help and information from the World Wide Web . . . . .	92
Software service and support . . . . .	92
Subscription services . . . . .	92
<b>Notices</b> . . . . .	93
Edition notice . . . . .	94
Trademarks . . . . .	94
<b>Index</b> . . . . .	95

---

## Figures

1. Single-LAN environment example one . . . . .	10
2. Single-LAN environment example two . . . . .	11
3. Routed-network environment example one . . . . .	12
4. Routed-network environment example two . . . . .	13
5. WAN environment example . . . . .	14
6. Configuring DHCP server: DHCP window . . . . .	17
7. Configuring DHCP server: Scope Name window . . . . .	18
8. Configuring DHCP server: IP Address Range window . . . . .	19
9. Configuring DHCP server: Add Exclusions window . . . . .	20
10. Configuring DHCP server: Lease Duration window . . . . .	21
11. Configuring DHCP server: Configure DHCP Options window . . . . .	22
12. Configuring DHCP server: Router (Default Gateway) window . . . . .	23
13. Configuring DHCP server: Domain Name and DNS Servers window . . . . .	24
14. Configuring DHCP server: WINS Servers window . . . . .	25
15. Configuring DHCP server: Activate Scope window . . . . .	26
16. Configuring DHCP option 3: Predefined Options and Values window . . . . .	27
17. Configuring DHCP option 3: IP Address Array Editor window . . . . .	27
18. "User Configuration" section of installation script . . . . .	30
19. Installing RDM Server on Windows: Setup Type window . . . . .	42
20. Installing RDM Server on Windows: Custom Setup window . . . . .	43
21. Installing RDM Server on Windows: D-Server Configuration window . . . . .	44
22. Installing RDM Console on Windows: Setup Type window . . . . .	46
23. Installing RDM Console on Windows: Custom Setup window . . . . .	47
24. Installing RDM D-Server on Windows: Setup Type window . . . . .	49
25. Installing RDM D-Server on Windows: Custom Setup window . . . . .	50
26. Installing RDM Deployment Server on Windows: D-Server Configuration window . . . . .	51
27. Export Systems window . . . . .	62
28. Export File window . . . . .	62
29. IBM Director Login window . . . . .	65
30. IBM Director Console . . . . .	66
31. Deployment Server Management Options window: Subnets page . . . . .	67
32. Add Subnet window . . . . .	67
33. Subnet Management window . . . . .	68
34. RDM Options window: Server page . . . . .	69
35. RDM Options window: System page . . . . .	70
36. Deployment Server Management Options window . . . . .	71
37. Add D-Server window . . . . .	72
38. Deployment Server Management Options window . . . . .	74
39. Deployment Server Management Options window: Multicast/MTFTP page . . . . .	77
40. Deployment Server Management Options window: Multicast/MTFTP page . . . . .	78
41. Deployment Server Management Options window: Replication page . . . . .	79
42. Deployment Server Management Options window . . . . .	81
43. Delete Confirmation window . . . . .	82
44. RDM D-Server Configuration window . . . . .	83



---

## Tables

1.	RDM D-Server services . . . . .	2
2.	Minimum hardware and software requirements for RDM . . . . .	5
3.	Prompts and applicable values for Linux installations . . . . .	30
4.	RDM D-Server ports . . . . .	48
5.	Get Donor task port . . . . .	48
6.	Elements of responses files for RDM Server and RDM Deployment Server . . . . .	53
7.	Examples of commands issued to perform an unattended installation of RDM on Windows . . . . .	56
8.	Abbreviations used in IBM Director . . . . .	87



---

## About this book

This book provides information about installing and configuring IBM® Remote Deployment Manager (RDM) 4.30. In addition to presenting an overview of RDM and its prerequisites, it provides information about the following topics:

- Planning an RDM environment
- Installing RDM
- Configuring remote deployment servers
- Modifying, repairing, and uninstalling RDM

---

## How this book is organized

Chapter 1, “Introducing Remote Deployment Manager,” on page 1 contains an overview of RDM and its components.

Chapter 2, “System requirements,” on page 5 contains information about system requirements and supported operating systems.

Chapter 3, “Planning your RDM installation,” on page 9 contains information about network requirements and types of RDM installations. It also contains information about configuring routers, switches, and hubs, as well as procedures for configuring a DHCP service running on either Microsoft® Windows® or Linux®.

Chapter 4, “Installing RDM on Linux,” on page 29 contains instructions for installing version 4.30 of RDM Server, RDM Console, and RDM Deployment Server on Linux. It also contains instructions for upgrading from RDM 4.20 to 4.30 on Linux.

Chapter 5, “Installing RDM on Windows,” on page 41 contains instructions for installing version 4.30 of RDM Server, RDM Console, and RDM Deployment Server on Windows. It also contains instructions for upgrading from RDM 4.20 to 4.30 on Windows.

Chapter 8, “Configuring RDM,” on page 65 contains information about starting IBM Director Console, adding a remote deployment server to the RDM environment, and configuring its settings.

Chapter 9, “Modifying, repairing, and uninstalling RDM,” on page 85 contains information about modifying, repairing, and uninstalling RDM.

“Getting help and technical assistance” on page 91 contains information about getting help and technical assistance.

“Notices” on page 93 contains product notices and trademarks.

---

## Notices that are used in this document

This document contains the following notices that highlight key information:

- **Note:** These notices provide important tips, guidance, or advice.
- **Important:** These notices provide information or advice that might help you avoid inconvenient or difficult situations.
- **Attention:** These notices indicate possible damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.

---

## RDM documentation

Online help is accessible from most of the windows in RDM. To access the online help, use either the Help menu or Help button.

The following documents are available in Portable Document Format (PDF) from the IBM Remote Deployment Manager Web site at [http://www.ibm.com/servers/eserver/xseries/systems\\_management/ibm\\_director/resources/index.html](http://www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/resources/index.html). Check this Web page regularly for new or updated RDM documentation.

- *IBM Remote Deployment Manager 4.30 Installation and Configuration Guide* Fifth Edition, April 2006 (rdm430\_installconfig\_guide.pdf)
- *IBM Remote Deployment Manager 4.30 User's Reference* Fifth Edition, April 2006 (rdm430\_userref\_guide.pdf)
- *IBM Remote Deployment Manager 4.30 Compatibility Guide* Fourteenth Edition, May 2006 (rdm430\_compat\_guide.pdf)

The *IBM Remote Deployment Manager 4.30 Compatibility Guide* lists hardware that IBM has tested with RDM.

You also can download RDM white papers from [http://www.ibm.com/servers/eserver/xseries/systems\\_management/ibm\\_director/resources/index.html](http://www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/resources/index.html). The white papers include a troubleshooting guide and provide additional information about using RDM.

For planning purposes, the following IBM Director documents are available in Portable Document Format (PDF) from the IBM Director 5.10 publications Web site at <http://www-307.ibm.com/pc/support/site.wss/document.do?lnocid=MIGR-61788>:

- *IBM Director 5.10 Installation and Configuration Guide* Fourth Edition, October 2005 (dir5.10\_docs\_install.pdf)
- *IBM Director 5.10 Systems Management Guide* Fourth Edition, October 2005 (dir5.10\_docs\_sysmgt.pdf)

In addition, the following IBM Redbooks™ documents might be of interest:

- *IBM eServer™ BladeCenter® Systems Management with IBM Director V4.1 and Remote Deployment Manager V4.1* (REDP-3776)
- *Implementing Systems Management Solutions using IBM Director* (SG24-6188)

You can download these documents from the IBM Redbooks Web site at <http://www.ibm.com/redbooks/>.

**Note:** Be sure to note the date of documents and to determine the level of RDM software to which the Redbooks documents refers.

---

## RDM resources on the World Wide Web

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

### **IBM Remote Deployment Manager page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/ibm\\_director/extensions/rdm.html](http://www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/extensions/rdm.html)

This Web page provides an overview of IBM Remote Deployment Manager. From this Web page, you can download the latest RDM documentation and white papers. The white papers provide a troubleshooting guide and information about using RDM.

**IBM ServerGuide™ page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/serverguide.html](http://www.ibm.com/servers/eserver/xseries/systems_management/serverguide.html)

This Web page provides an overview of the IBM ServerGuide program.

**IBM ServerGuide Scripting Toolkit page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/sgstk.html](http://www.ibm.com/servers/eserver/xseries/systems_management/sgstk.html)

This Web page provides an overview of IBM ServerGuide Scripting Toolkit and links to the latest version of the toolkit for download.

**IBM UpdateXpress page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/ibm\\_director/extensions/xpress.html](http://www.ibm.com/servers/eserver/xseries/systems_management/ibm_director/extensions/xpress.html)

This Web page provides an overview of IBM UpdateXpress. It also contains links to pages from which you can download UpdateXpress, order an UpdateXpress CD, or purchase a subscription to UpdateXpress updates.

**IBM ServerProven® page**

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

The ServerProven Web page provides information about IBM System x™ (which includes IBM eServer xSeries®, and IBM System x3nnn servers), IBM BladeCenter™, and IBM IntelliStation® hardware compatibility with IBM systems-management tools.

**IBM Support page**

<http://www.ibm.com/pc/support/>

This is the IBM Support Web site for IBM hardware and systems-management software.

**IBM Systems Management Software: Download/Registration page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/xseries\\_sm/dwnl.html](http://www.ibm.com/servers/eserver/xseries/systems_management/xseries_sm/dwnl.html)

Use this Web page to download IBM systems management software, including IBM Director.

**IBM System x Systems Management page**

[http://www.ibm.com/servers/eserver/xseries/systems\\_management/index.html](http://www.ibm.com/servers/eserver/xseries/systems_management/index.html)

This Web page presents an overview of IBM systems management and IBM Director. Click **IBM Director** for the latest information and documentation.



---

## Chapter 1. Introducing Remote Deployment Manager

IBM Remote Deployment Manager (RDM) is a flexible and powerful tool that you can use to remotely perform configuration, deployment, and retirement operations on both IBM and non-IBM systems. You can use RDM to perform the following tasks:

- Update system firmware
- Modify configuration settings
- Install operating systems and applications
- Back up and recover primary partitions
- Securely erase data from disks

RDM is an IBM Director extension. RDM integrates seamlessly with IBM Director; you can use the same administrative console to perform both deployment and management tasks.

---

### RDM environment and terminology

A *system* is a server, workstation, desktop computer, mobile computer (laptop), or point-of-sale system.

The systems in an RDM environment are referred to in the following ways:

- An *RDM server* is a server on which both IBM Director Server and RDM Server are installed.
- An *RDM console* is a system on which both IBM Director Console and RDM Console are installed.
- A *remote deployment server* is a system on which RDM Deployment Server is installed. This system should be in a different subnet than the RDM server. RDM Console can be installed on this system also.
- A *target system* is a system against which an RDM task is run.

---

### RDM components

The RDM software has three components:

- RDM Server
- RDM Console
- RDM Deployment Server (also known as D-Server)

### RDM Server

RDM Server is the main component of Remote Deployment Manager. It contains the application logic, monitors the status of RDM tasks, and stores data both in the IBM Director database and in its own database.

When you install RDM Server, RDM Console and RDM Deployment Server are installed automatically also.

## RDM Console

RDM Console is the graphical user interface (GUI) component of Remote Deployment Manager. RDM Console must be installed on any Director console from which a system administrator will remotely access the RDM server and perform RDM tasks.

## RDM Deployment Server

RDM Deployment Server (also known as D-Server) handles communication between RDM Server and target systems. It delivers commands, data files, and applications to target systems, and it communicates with the RDM server during task execution.

The instance of RDM Deployment Server that is installed on the RDM server contains the *master repository*, which is the collection of files that RDM uses to run tasks on target systems. These files can include system environments, images, utilities, and batch files. We sometimes call this the Master D-server.

The instance of RDM Deployment Server that is installed on a remote system contains a *remote repository* (a subset of the master repository.) We sometimes call this a Remote D-server.

The following table lists information about the services that RDM Deployment Server contains.

Table 1. RDM D-Server services

Service name	What it does
RDM D-Server service	Relays communication between RDM Server and the target systems.
Symantec Unicast Image Server	The server component of the imaging tool. Together with the imaging tool's client component, it can create images of partitions or restore partitions from images. These images are used with the Donor Image, Power Restore, and Windows Clone Install tasks.

---

## How RDM works

RDM uses Wired for Management (WfM) technology, including the Preboot Execution Environment (PXE), to perform tasks on target systems.

RDM automatically listens on the local area network (LAN) for new PXE-enabled systems that attempt to start (boot) from the network. When RDM discovers a PXE-enabled system that does not have a Physical Platform Managed Object entry in the IBM Director database, it runs the default scan task on the system. The task queries the system for basic hardware information and stores the data in the IBM Director database. RDM then assigns a default name to the system, in the form *MachinetypeMachinemodel-Serialnumber*, and an object that represents the new system is displayed in IBM Director Console. You now can run RDM tasks on the target system.

The following steps occur when you run a task on a target system:

1. RDM Deployment Server sends a wake-up packet to the target system. This packet contains the media access control (MAC) address of the network interface card (NIC) that is present in the target system; if the NIC supports Wake on LAN<sup>®</sup>, it can power-on the system.

**Notes:**

- a. For Wake on LAN<sup>®</sup> to work, the system has to be shut down properly.
- b. If the target system supports power-on through its service processor (such as an IBM blade server or a system containing an RSA-II adapter), RDM will instead use the service processor to power-on the system.
2. The target system powers-on and starts (boots) from the network. It then broadcasts a DHCPDISCOVER message. It receives an IP address from the DHCP service and the fully qualified name of an RDM bootstrap loader program from RDM Deployment Server.
3. The target system downloads and runs the RDM bootstrap loader program. The RDM bootstrap loader program sends a message to RDM Deployment Server, asking for instructions, and RDM Deployment Server relays the message to RDM Server.
4. RDM Server sends the fully qualified name of a system environment (via the RDM deployment server) to the target system.
5. The RDM bootstrap loader program creates a virtual diskette drive A in memory, downloads the system environment from the RDM repository, and then installs that system environment on the target system's virtual diskette drive A.
6. The target system starts (boots) from the virtual diskette drive A. The rdagent program starts automatically. This program sets standard environment variables that are used by all RDM tasks.
7. The rdagent program then runs in a loop, requesting a command from the task command list, running the command, and reporting the success. At the end of loop, rdagent shuts the system down as instructed by the last command from RDM Server. The task is completed when the final command is run.

**Note:** The target system only communicates with the RDM deployment server. The deployment server relays all necessary communications to and from the RDM server.



---

## Chapter 2. System requirements

This chapter contains information about the following topics:

- Hardware and software requirements
- Supported operating systems

---

### Hardware and software requirements

This section contains information about system requirements for deployment systems (systems on which RDM is installed) and target systems.

### Deployment systems

The following table lists the minimum software, random access memory (RAM), hard disk space, and hardware that are needed by the systems on which RDM is installed.

*Table 2. Minimum hardware and software requirements for RDM*

Requirements	RDM Server	RDM Console	RDM Deployment Server
Software	IBM Director Server 5.1 or later	IBM Director Console 5.1 or later	None
Memory (RAM)	1024 MB	1024 MB	1024 MB
Temporary disk space on system partition	50 MB	50 MB	50 MB
Disk space for RDM programs	400 <sup>®</sup> MB	100 MB	400 MB
Network adapter	At least one Ethernet adapter, with TCP/IP connectivity	At least one Ethernet adapter, with TCP/IP connectivity	At least one Ethernet adapter, with TCP/IP connectivity

**Important:** For installations of RDM Server and RDM Deployment Server, make sure that sufficient disk space is available for the RDM repository. The actual disk space that is needed for the RDM repository depends on the number and size of the image files that it contains. Typical installations need large amounts of disk space, such as 20 to 40 GB, or even much larger.

To run Remote Storage Configuration tasks against FAS*t*T storage servers, you must install FAS*t*T Storage Server on the RDM server and modify the **path** environment variable so that it includes the directory that contains SMcli.exe.

### Target systems

Target systems must contain the following hardware:

- A supported Intel<sup>®</sup> Pentium<sup>®</sup> (or equivalent) processor that complies with the Wired for Management (WfM), version 2.0, specification
- An Ethernet network adapter that supports Preboot Execution Environment (PXE) protocols, version 2.0 or 2.1.

**Note:** Some systems do not support the PXE protocols completely; some RDM functions fail on specific systems. See the *Remote Deployment Manager 4.30 Compatibility and Configuration Guide* for system-specific information.

---

## Supported operating systems

This section lists the operating systems upon which RDM Server, RDM Console, and RDM Deployment Server are supported.

**Note:** If the RDM server is running Linux, any remote deployment servers must have the same Linux distribution installed.

### RDM Server

You can install RDM Server on the following operating systems:

- Red Hat Enterprise Linux (RHEL) AS, version 4.0, for Intel x86
- SUSE Linux Enterprise Server (SLES) 9.0, for Intel x86
- Windows 2000, Advanced Server and Server Edition (Service Pack 4 or later required)
- Windows Server 2003 Enterprise, Standard, and Web Edition (Service Pack 1 or later required)

**Note:** Cloning of Windows using the RDM Get Donor and Windows Clone Install tasks is not supported from Linux servers. To clone Windows operating systems using RDM, you must install RDM on a Windows server.

### RDM Console

You can install RDM Console on the following operating systems:

- Red Hat Enterprise Linux AS, version 4.0, for Intel x86
- SUSE Linux Enterprise Server 9.0, for Intel x86
- Windows 2000, Advanced Server, Professional, and Server Edition (Service Pack 4 or later required)
- Windows Server 2003, Enterprise, Standard and Web Edition (Service Pack 1 or later required)
- Windows XP Professional Edition (Service Pack 2 or later required)

### RDM Deployment Server

You can install RDM Deployment Server (D-Server) on the following operating systems:

- Red Hat Enterprise Linux AS, version 4.0, for Intel x86
- SUSE Linux Enterprise Server 9.0, for Intel x86
- Windows 2000, Advanced Server, Professional, and Server Edition (Service Pack 4 or later required)
- Windows Server 2003, Enterprise, Standard and Web Edition (Service Pack 1 or later required)
- Windows XP Professional Edition (Service Pack 2 or later required)

## Supported RDM Component and Operating System Combinations

The following combinations of RDM Console, RDM Server and RDM D-Server are supported configurations:

<b>Operating System</b>	<b>RDM Console</b>	<b>RDM Server</b>	<b>RDM Deployment Server</b>
All Supported Windows Versions	Any Supported Windows Version	Any Supported Windows Version	Any Supported Windows Version
Linux-RHEL AS 4.0	Any Supported Windows or Red Hat Linux Version	RHEL AS 4.0	RHEL AS 4.0
Linux-SLES 9.0	Any Supported Windows or SUSE Linux Version	SLES 9.0	SLES 9.0

The key points to derive from the table above are:

- Any combination of supported Windows versions on RDM Console, RDM Server and RDM D-Server is supported.
- For either supported Linux version, RDM Server and RDM D-Server must have the same version (RHEL AS 4.0 or SLES 9.0) installed.



---

## Chapter 3. Planning your RDM installation

This chapter provides the information about the following topics:

- Selecting an operating system
- Network requirements
- Types of RDM installations
- Configuring routers, switches, and hubs
- Configuring a DHCP service to work with RDM

---

### Selecting an operating system

When choosing between Microsoft Windows and Linux operating systems for your RDM servers, you must be aware that the following tasks are not supported from RDM servers installed on Linux:

- Linux Clone Install
- Windows Clone Install
- Get Donor
- Put Donor
- Power Restore

In order to clone Windows or Linux using these tasks, you must install RDM on a Windows system. For this reason, it is a best practice to install RDM on Microsoft Windows rather than Linux.

For more information on using RDM tasks, see the *IBM Remote Deployment Manager 4.30 User's Reference*.

---

### Requirements

An RDM environment must meet the following minimum requirements:

- IBM Director Server (version 5.1 or later) and RDM Server 4.30 must be installed on the RDM server.
- Routers, switches, and hubs must be correctly configured.
- DHCP service must be installed and correctly configured.
- The target systems must be PXE-enabled. All IBM systems come configured for PXE network boot. Non-IBM systems may need to be configured to start (boot) from the network before you can use RDM with them.

**Important:** For each subnet in an RDM environment, RDM must be the only application that uses a PXE service.

---

### Types of RDM installations

There are two basic types of RDM installations:

- RDM Server is installed.
- RDM Server is installed, and RDM Deployment Server is installed on one or more remote servers, each of which is located on another subnet.

**Note:** You can install as many instances of RDM Console as are needed to provide system administrators with remote access to the RDM server.

RDM can be installed on a single local area network (LAN), in an environment with several subnets, or in a wide area network (WAN).

## Single-LAN environment

This section contains illustrations of single-LAN environments.

In Figure 1, RDM is used on a single LAN. The LAN includes an RDM server on which a DHCP service is running, an RDM console, and target systems.

Because the DHCP service is configured on the management server, DHCP option 60 must be configured.

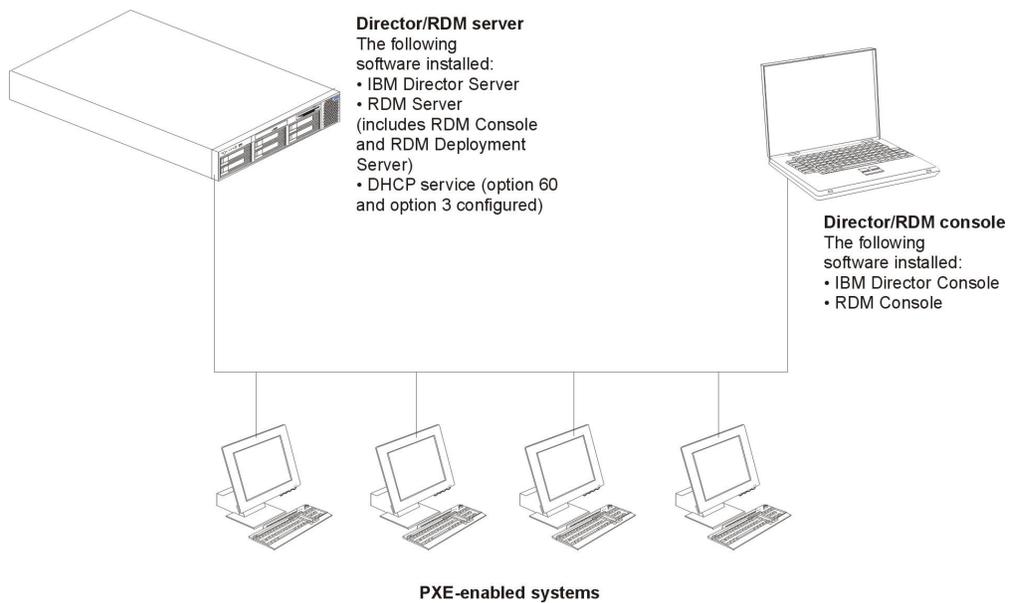


Figure 1. Single-LAN environment example one

In Figure 2 on page 11, RDM again is used on a single LAN. The LAN includes an RDM server, a DHCP server, an RDM console, and the target systems.

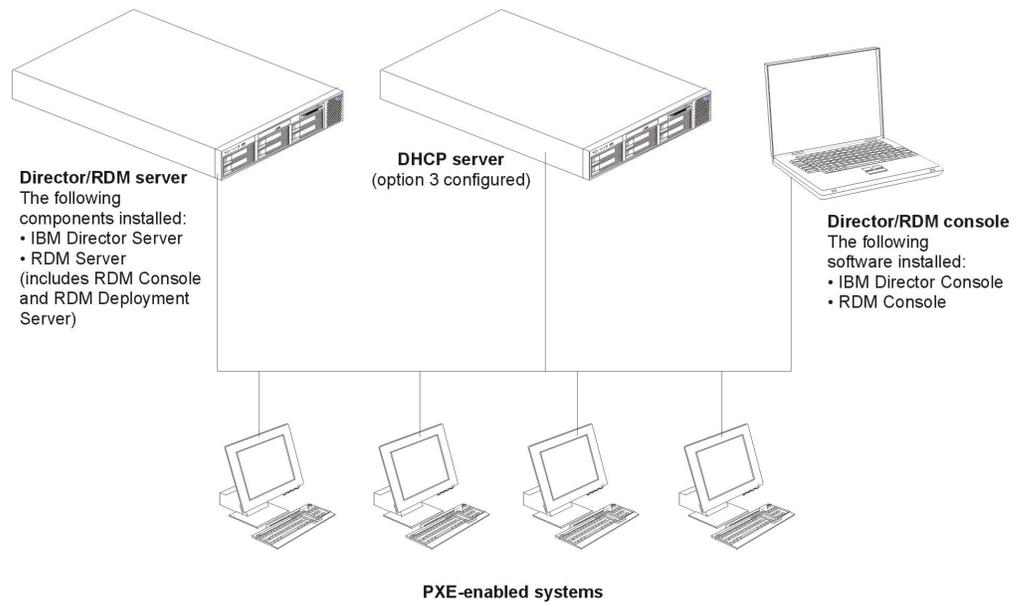


Figure 2. Single-LAN environment example two

## Routed-network environment

This section includes illustrations of several ways that RDM can be configured in an environment that includes several subnets. In each example, the target systems start (boot) from the network either locally or through an IP router. The router must support BOOTP relay agent function, and DHCP option 3 must be configured with the IP address of the router.

In Figure 3 on page 12, the environment includes a DHCP server, an RDM server, a router, and target systems. The DHCP server and the RDM server are on the same subnet. Because there are two subnets, DHCP option 3 is configured with the IP address of the router.

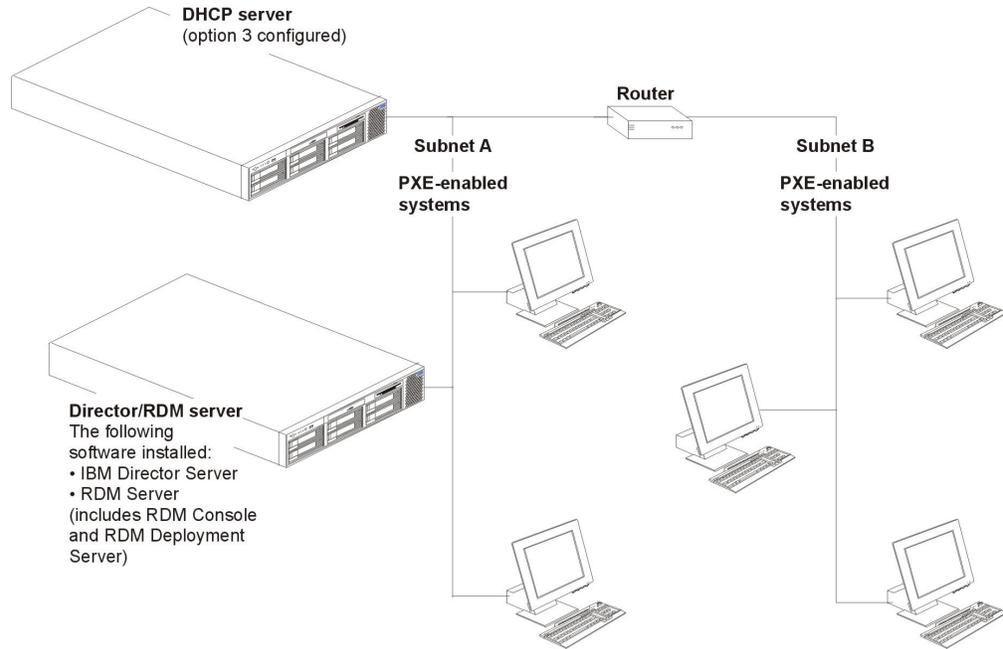


Figure 3. Routed-network environment example one

In Figure 4 on page 13, the environment includes a DHCP server, an RDM server, a router, and target systems. The DHCP server and the RDM server are on different subnets. Because there are two subnets, DHCP option 3 is configured with the IP address of the router.

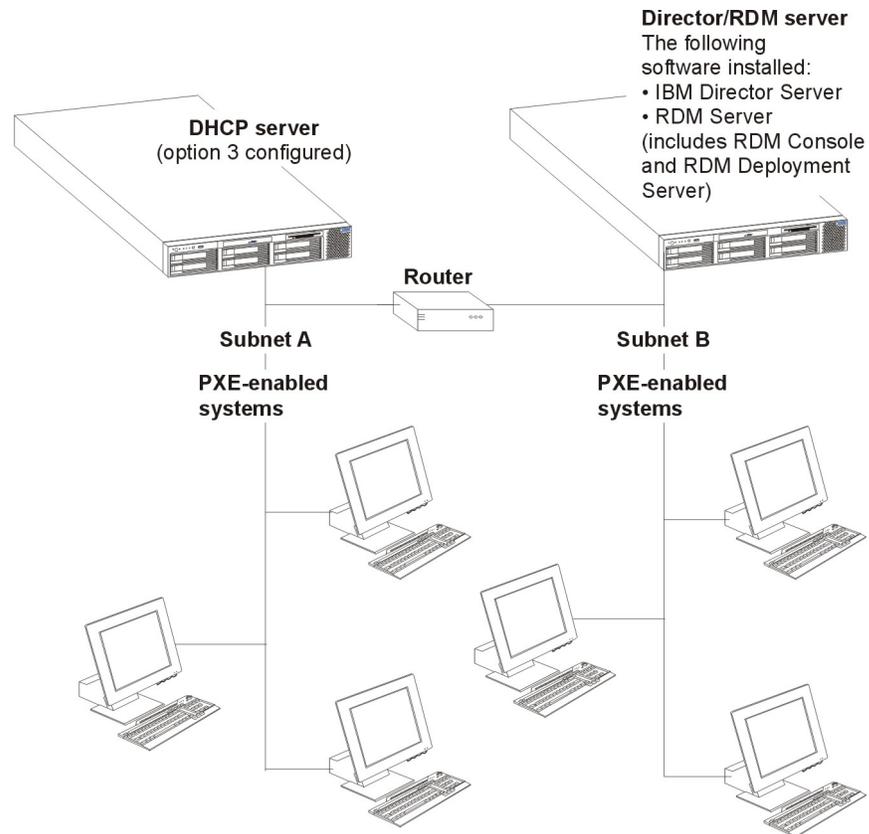


Figure 4. Routed-network environment example two

## WAN environment

In figure 5, RDM is used in a wide area network (WAN). The environment includes four LANs: Atlanta, Boston, Chicago, and New York.

RDM Server is installed on a server on the Chicago LAN. To reduce the impact of network traffic and improve performance, RDM Deployment Server is installed on a server on each of the other LANs. This ensures that the files and data that are sent to the target systems are transmitted at LAN speed.

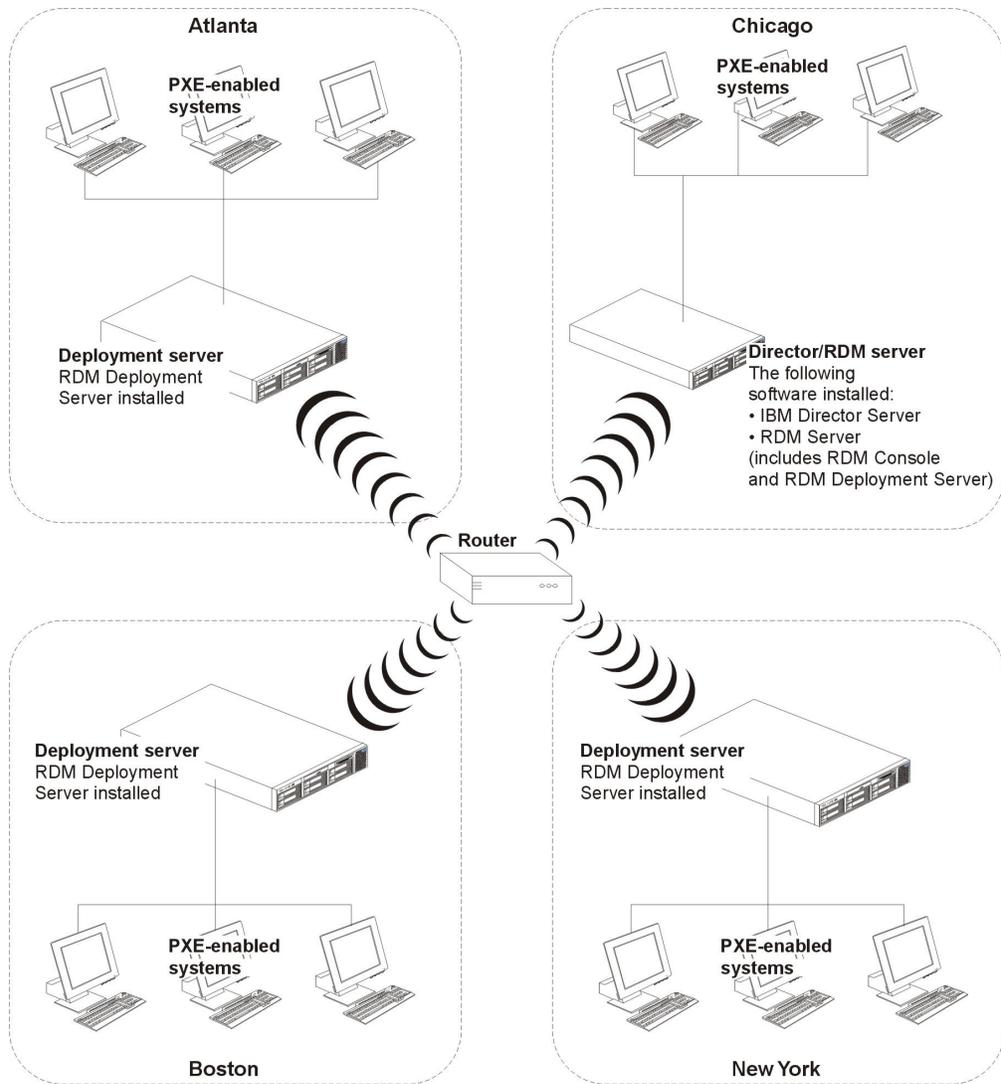


Figure 5. WAN environment example

For security, network traffic is restricted between the remote sites (Atlanta, Boston, and New York) and the RDM server. The routers and firewalls must permit HTTP messages to be transmitted between the remote deployment servers and the RDM server.

**Note:** Figure 5 shows a single subnet in each LAN. Each LAN also could contain multiple subnets.

## Configuring routers, switches, and hubs

This section includes information about configuring routers, switches, and hubs to work in an RDM environment.

## Requirements

For RDM to work in a routed environment, the following conditions must be met:

- The routers must support the following protocols:
  - Internet Control Message Protocol (ICMP)

- Internet Group Management Protocol (IGMP)

**Notes:**

1. ICMP and IGMP enable multicasting. For more information about multicast settings, see the documentation that came with your router.
2. If you configure your deployment server to disable multicast, you do not have to enable IGMP/ICMP.

- Bootstrap Protocol (BOOTP)

- Spanning-tree protocol (STP) must be disabled on ports that are connected to target systems. (Do not disable STP on ports that are connected to switches or routers.)
- Subnet-directed broadcast forwarding must be enabled.

**Note:** This is not the same as broadcast forwarding. Do not enable all broadcast forwarding.

- Proxy Address Resolution Protocol (ARP) forwarding must be enabled.
- BOOTP/DHCP forwarding must be enabled. The BOOTP forwarding addresses must include the address of the RDM D-server. If DHCP service is not enabled on the RDM D-server, the BOOTP forwarding addresses must include at least one DHCP server.
- The DHCP scope for a subnet that contains target systems must have a correct router entry for the subnet.
- You must use the **autonegotiate** setting for all network interface card (NIC), router, and switch configuration settings.

**Important:** Specifying a value, such as 100 MB full duplex, can cause overall network performance to drop by 50-90%. Many RDM tasks and operations might perform poorly or fail.

If any of these conditions cannot be met, RDM cannot be used in the environment. See the documentation that came with your routers to determine what features and protocols they support.

## Configuring routers to forward DHCP broadcast messages

You must configure routers to forward DHCP broadcast messages to RDM Deployment Server. When a PXE-enabled target system first starts (boots) from the network, it sends out DHCPDISCOVER messages that request an IP address and a boot file. This DHCPDISCOVER message is a UDP broadcast message and is not forwarded by a router unless DHCP broadcast messages are forwarded.

To configure a router to forward DHCP broadcast messages to RDM Deployment Server, use one of the following procedures:

- (Cisco router) Enter the IP helper-address configuration command on the router interface to which target systems are attached.
- (IBM router) Type the enable bootp forwarding configuration command.

See the documentation that came with your router for more information.

---

## Configuring the DHCP service

To use RDM, a DHCP service must be running on a subnet that is connected to the RDM D-server. The DHCP service can be running on the RDM D-server, or it can be enabled on another server.

The DHCP service must be configured in the following way:

- A scope must be defined for each subnet that contains target systems.
- A gateway router address must be configured for each scope (if a gateway exists.)
- (If the DHCP service is running on the RDM D-Server only) For the scope of the subnets served by the D-Server, the DHCP service must be configured to answer a PXE client DHCP request with the DHCP service vendor-class-identifier value (option 60) set to **PXEClient**. If you have multiple network cards, and DHCP Server is intended to serve all of the subnets it connects to, then configure option 60 as Server Options. Otherwise, only configure option 60 as Scope Options to scopes served by the D-Server.

This section provides instructions for configuring a DHCP service running on supported Linux and Windows operating systems.

## Configuring the DHCP service on Linux

Complete the following steps to configure a DHCP service on Linux:

1. Open an ASCII text editor and modify the `dhcpd.conf` file in an ASCII text editor. By default, this file is in the `/etc` directory.
2. Add the following line at the beginning of the file:  
`ddns-update-style interim;`
3. Set the `subnet` value to the IP address of the local system.
4. Set the `netmask` value to the netmask value for the local subnet.
5. Set the `option routers` value to the gateway IP address.
6. Set the `option subnet-mask` value to the netmask value for the local subnet.
7. Edit the `range` line. Type the first and the last class-D (multicast) IP address for the range of addresses that are assigned to RDM Deployment Server.
8. Set the `default-lease-time` value to 21600.

**Note:** The value is the number of seconds. The default lease time is six hours.

9. Set the `max-lease-time` value to 43200.

**Note:** The value is the number of seconds. The maximum lease time is 12 hours.

10. (If the DHCP service is running on the RDM D-Server or a remote deployment server) At the end of the `dhcpd.conf` file, add the following text (all on one line):  

```
class "PXE"{match if substring(option vendor-class-identifier,0,9)="PXEClient";
option vendor-class-identifier "PXEClient";}
```

**Note:** In a Linux environment, the PXEClient service should be enabled only on the local subnet. Enabling PXEClient in the remote subnet DHCP configuration can render the master D-server unreachable by machines on the remote subnet, causing timeout errors.

11. Save the modified file.

## Configuring the DHCP service on Windows

This section provides instructions for configuring a DHCP service running on Windows 2000, Advanced Server or Server Edition. (Use similar procedures if your DHCP service is on Windows 2003.) This section provides information about performing the following tasks:

- Running the New Scope wizard
- (If the DHCP service is running on the RDM D-Server only) For the scope of the subnets served by the D-Server, the DHCP service must be configured to answer a PXE client DHCP request with the DHCP service vendor-class-identifier value (option 60) set to **PXEClient**.
- Configuring DHCP option 3

### Running the New Scope wizard

Complete the following steps to use the New Scope wizard to configure the DHCP service:

1. Click **Start Programs** → **Administrative Tools** → **DHCP**. The DHCP window opens.
2. Right-click the server node and click **New Scope**  
The New Scope wizard starts and the New Scope Wizard window opens.

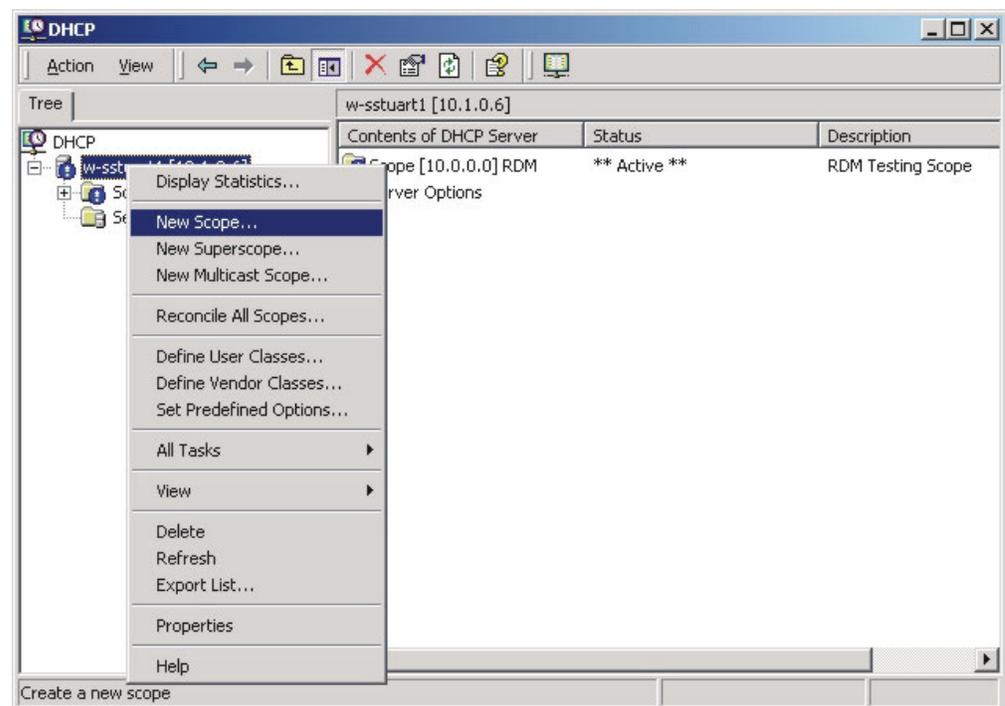


Figure 6. Configuring DHCP server: DHCP window

3. Click **Next**. The Scope Name window opens.

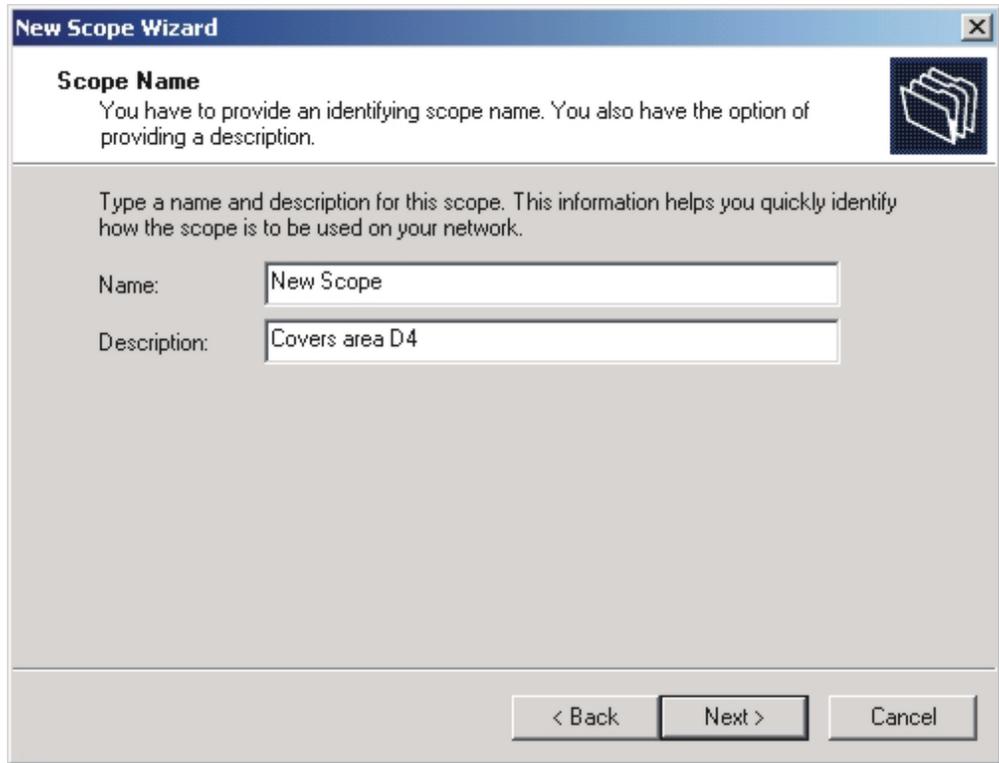


Figure 7. Configuring DHCP server: Scope Name window

4. In the fields, type a name and an optional description; then, click **Next**. The IP Address Range window opens.

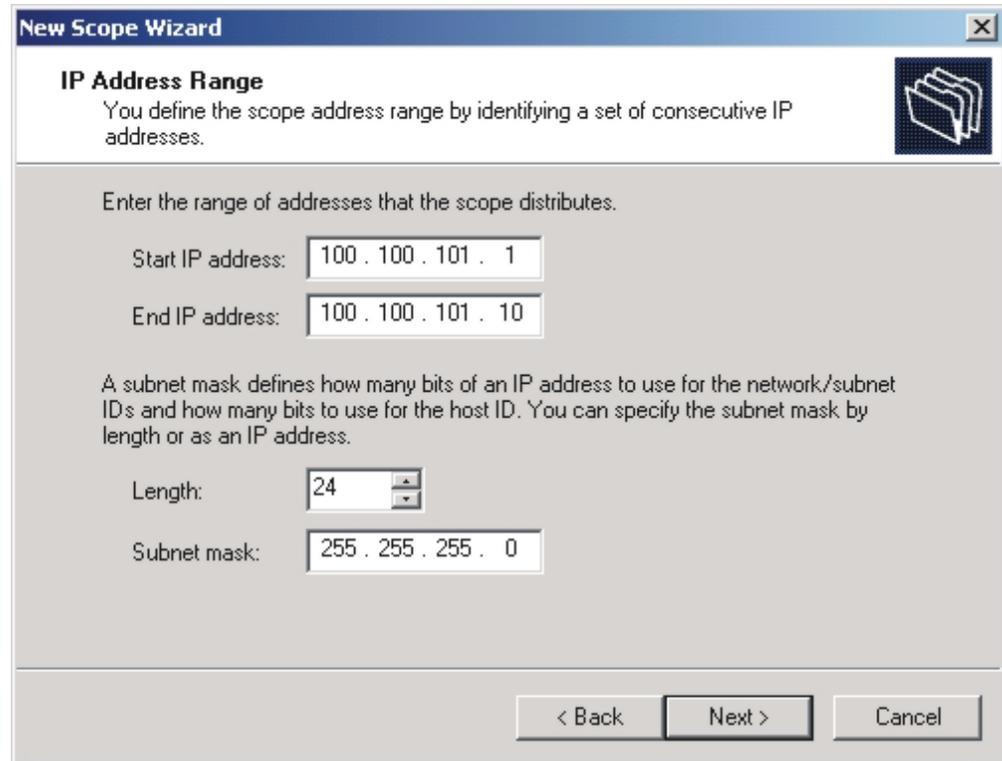


Figure 8. Configuring DHCP server: IP Address Range window

5. Define the scope:
  - a. In the **Start IP address** field, type the starting IP address of the range.
  - b. In the **End IP address** field, type the ending IP address of the range.
  - c. Specify the subnet mask by either typing a length in the **Length** field or typing an IP address in the **Subnet mask** field.
6. Click **Next**. The Add Exclusions window opens.

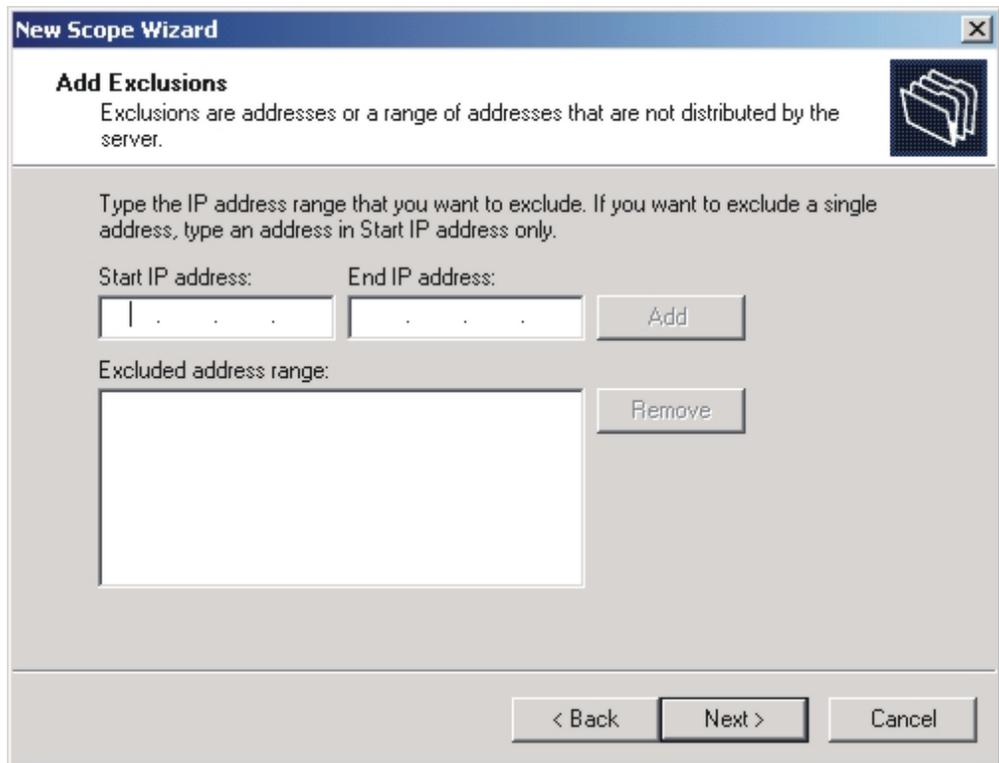


Figure 9. Configuring DHCP server: Add Exclusions window

7. Type the IP address range that you want to exclude, if any; then, click **Add**. Repeat until you have specified all IP address ranges that you want to exclude.
8. Click **Next**. The Lease Duration window opens.

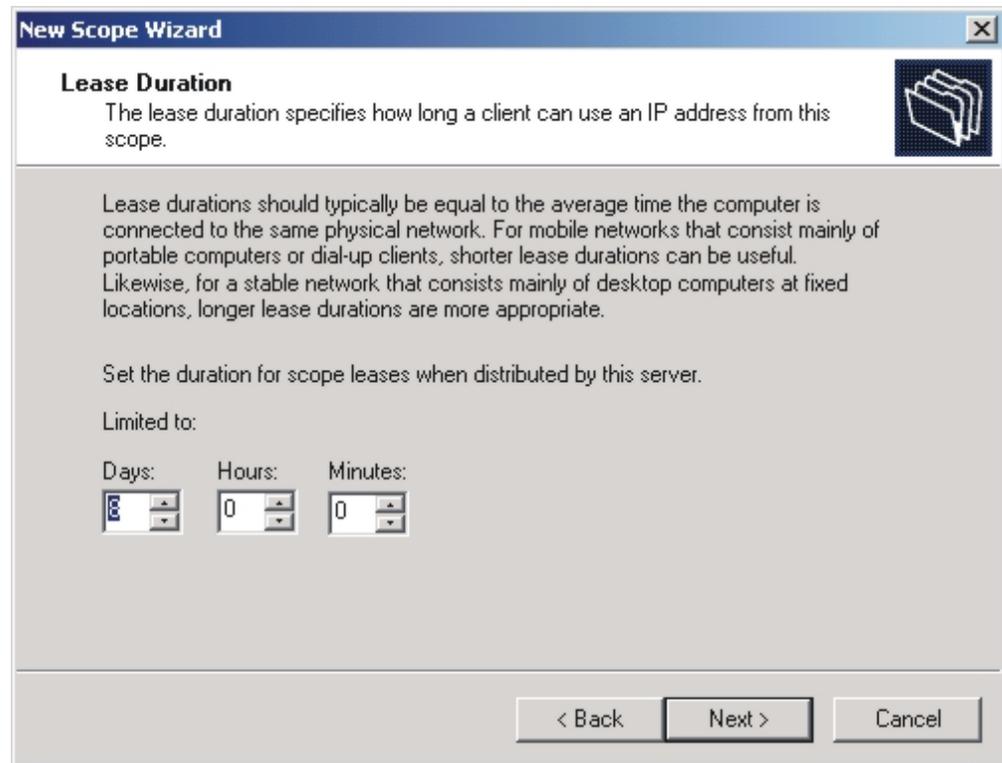


Figure 10. Configuring DHCP server: Lease Duration window

9. Specify the lease duration; then, click **Next**. The Configure DHCP Options window opens.

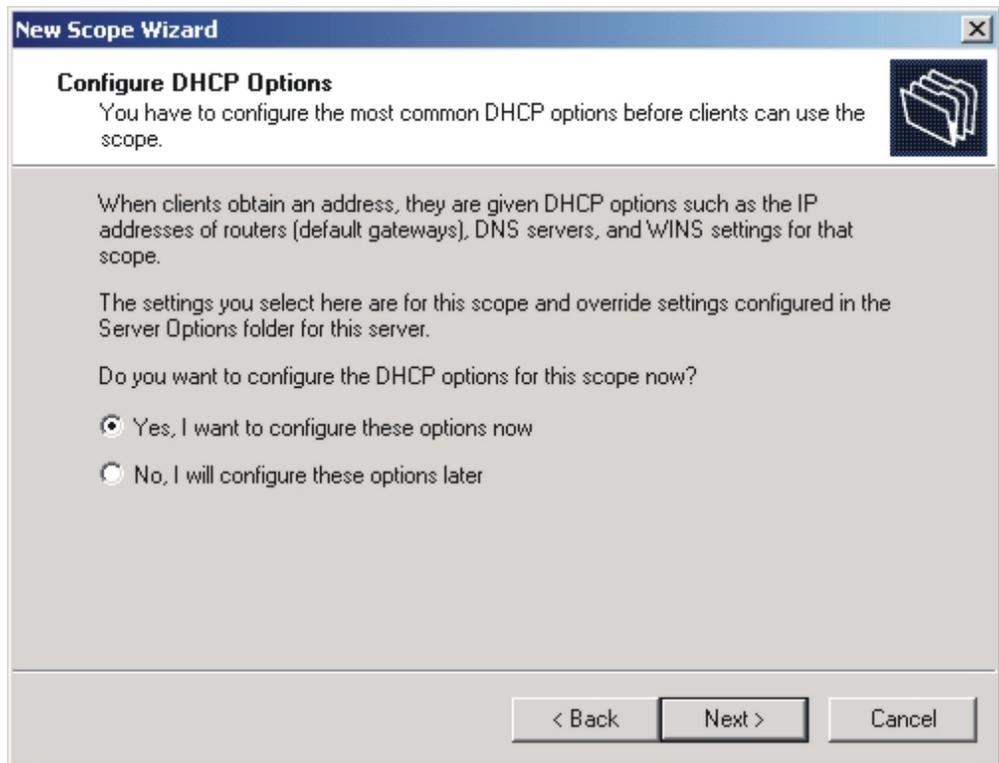


Figure 11. Configuring DHCP server: Configure DHCP Options window

10. Select **Yes, I want to configure these options now**; then, click **Next**. The Router (Default Gateway) window opens.

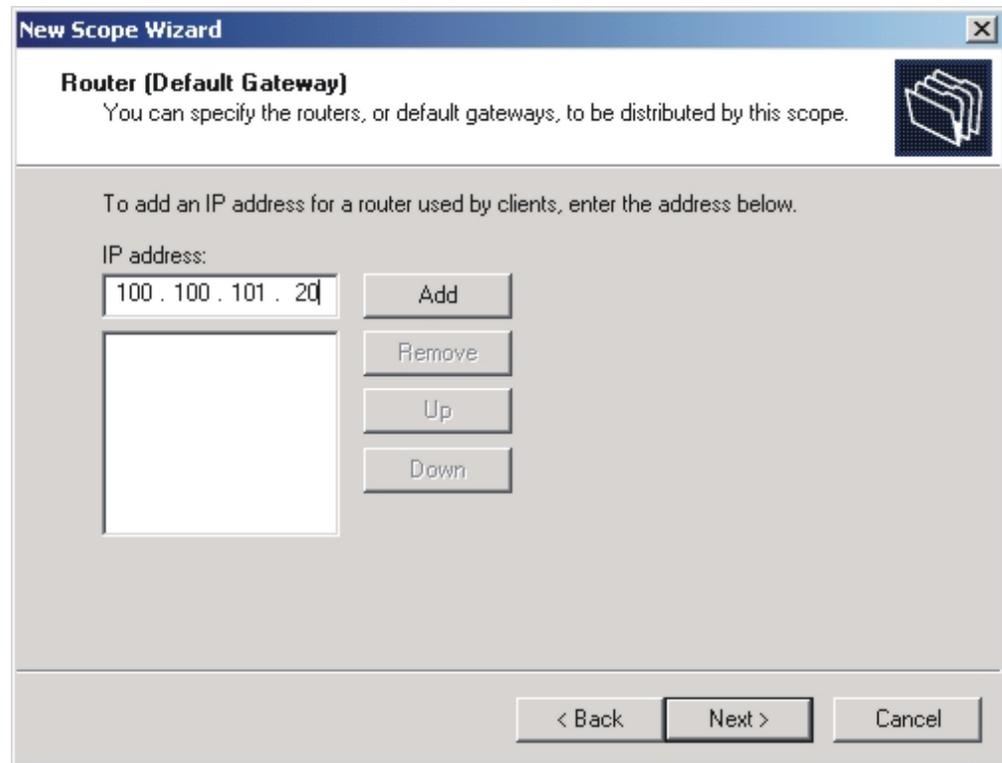


Figure 12. Configuring DHCP server: Router (Default Gateway) window

11. Type the IP address of the router, if one exists, in the **IP address** field. Click **Add**.
12. Click **Next**. The Domain Name and DNS Servers window opens.

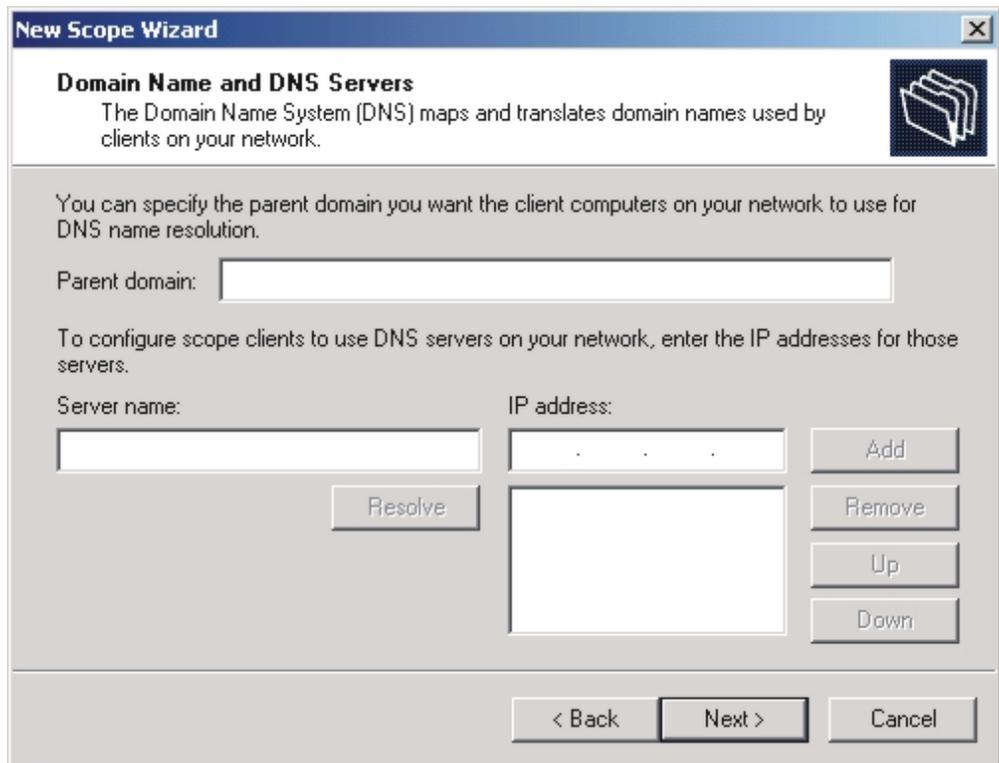


Figure 13. Configuring DHCP server: Domain Name and DNS Servers window

13. (Optional) Type the domain name information; then, click **Next**. The WINS Servers window opens.

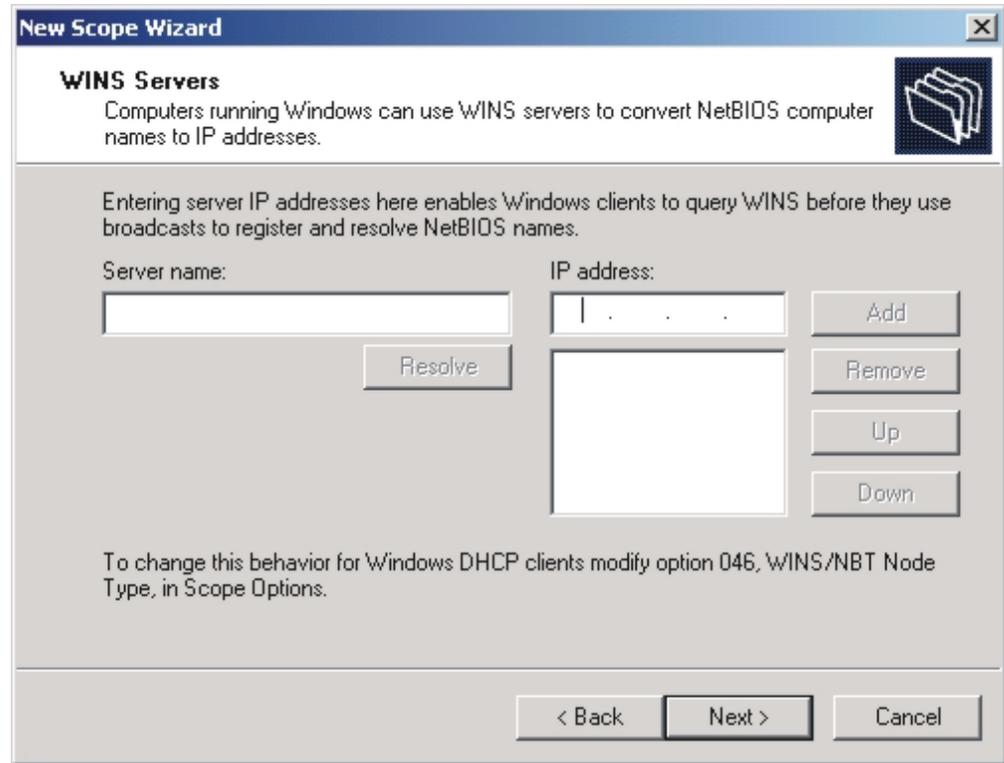


Figure 14. Configuring DHCP server: WINS Servers window

14. (Optional) Type the Windows Internet Naming Service (WINS) server information; then, click **Next**. The Activate Scope window opens.

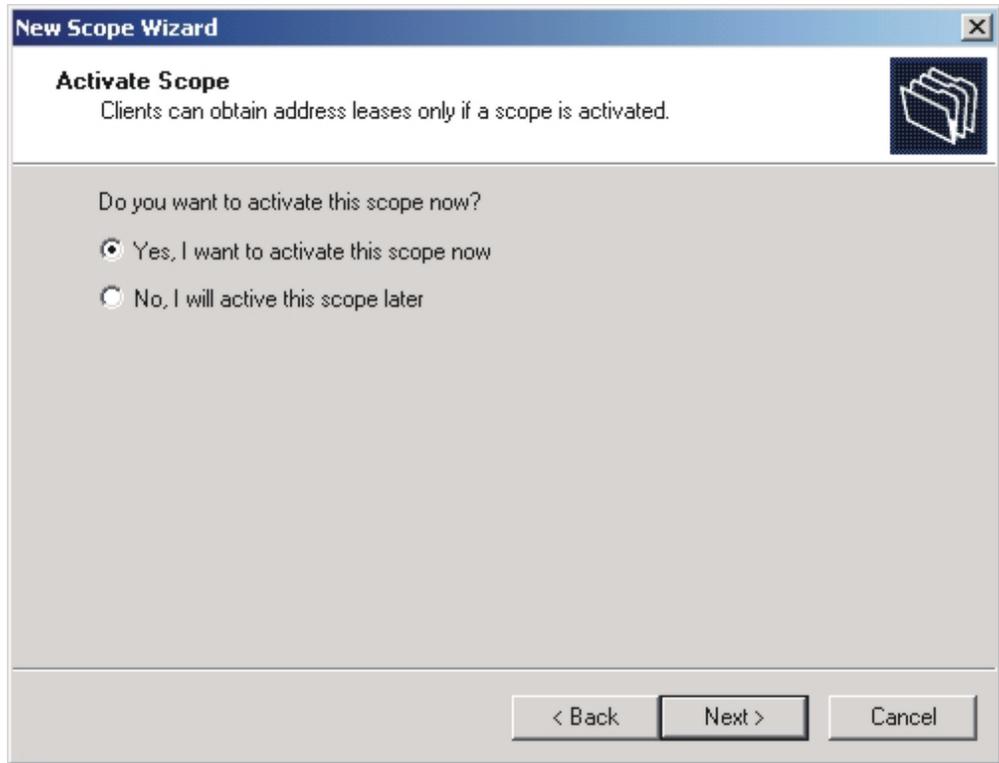


Figure 15. Configuring DHCP server: Activate Scope window

15. Select **Yes, I want to activate this scope now**; then, click **Next**. The Completing the New Scope Wizard window opens.
16. Click **Finish**.

### Configuring DHCP option 60 using the pxedhcp.bat file

If the DHCP service is running on the RDM D-server or remote deployment server, option 60 must be configured. If the server is running Microsoft DHCP, you can configure option 60 during the installation of RDM Server or RDM Deployment Server. You may also configure DHCP option 60 after RDM installation by running the pxedhcp.bat file.

Complete the following steps to configure option 60 by using the pxedhcp.bat file:

1. From a command prompt, change to the RDM\bin directory.
2. Type the following command and press Enter:

```
pxedhcp L
```

### Configuring DHCP option 3

Complete the following steps to configure DHCP option 3:

1. Click **Start** → **Programs** → **Administrative Tools** → **DHCP**. The DHCP window opens.
2. Right-click the server node and click **Set Predefined Options**. The Predefined Options and Values window opens.

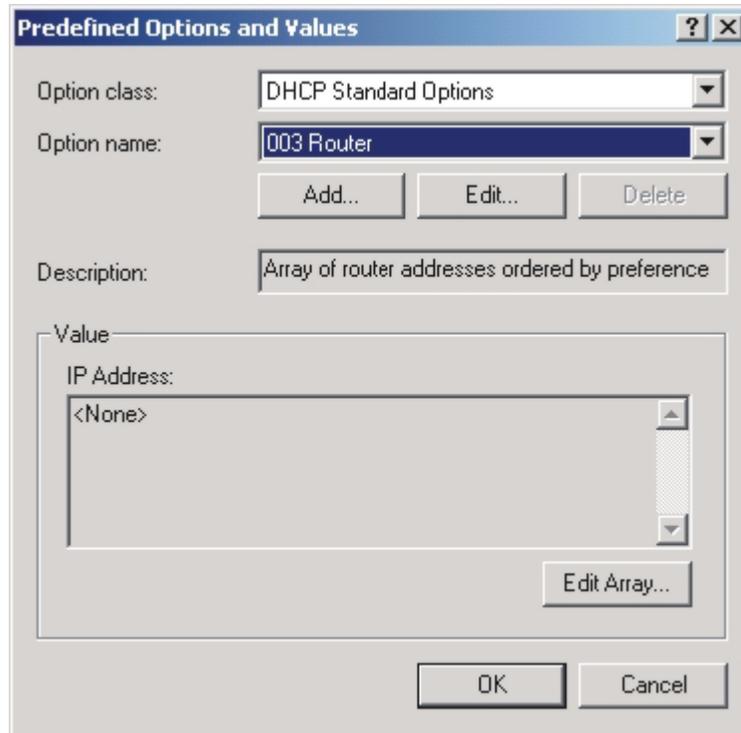


Figure 16. Configuring DHCP option 3: Predefined Options and Values window

3. In the **Option name** field, select **003 Router** and click **Edit Array**. The IP Address Array Editor window opens.

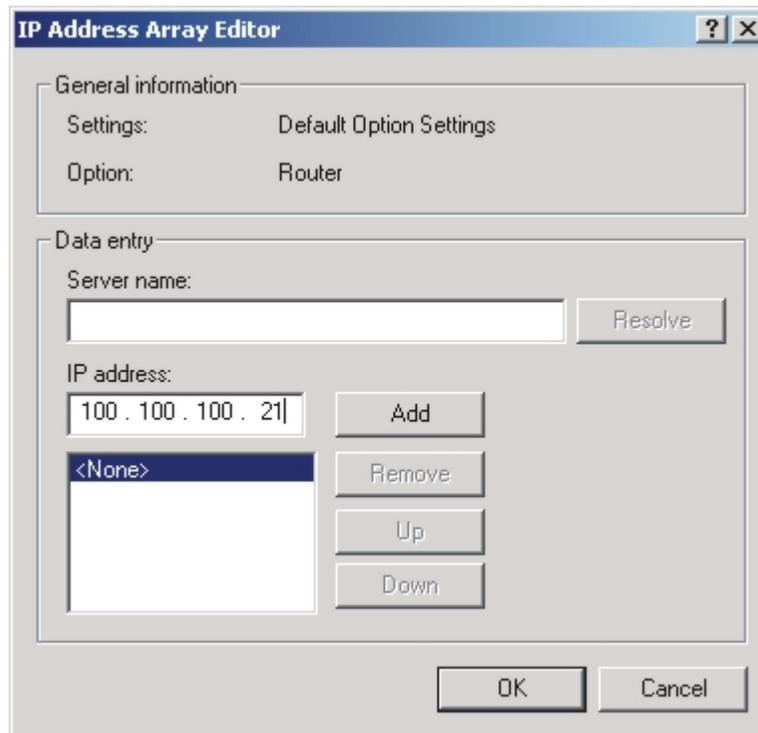


Figure 17. Configuring DHCP option 3: IP Address Array Editor window

4. In the **IP address** field, type the IP address of the router and click **Add**.
5. Click **OK**.

---

## Chapter 4. Installing RDM on Linux

This chapter provides instructions for installing RDM Server, RDM Console, and RDM Deployment Server on Linux. If you are upgrading from Remote Deployment Manager 4.20, go to Chapter 7, “Upgrading RDM on Linux,” on page 61.

### Notes:

1. Before installing RDM, make sure that the mtools package is installed and that issuing the mdir command generates a list of the contents of the drive. For more information about mtools, see the documentation that came with the Linux distribution.
2. RDM Server and RDM Console are not supported on the Gnome desktop environment.

---

## Overview

You install RDM Server, RDM Console, and RDM D-Server by using the following commands:

<b>To install and configure RDM Server</b>	<code>./rdminstall -S</code>
<b>To install RDM Console</b>	<code>./rdminstall -C</code>
<b>To install and configure RDM Deployment Server (D-Server)</b>	<code>./rdminstall -D</code>
<b>To configure RDM Server</b>	<code>./rdminstall -s</code>
<b>To configure RDM Deployment Server (D-Server)</b>	<code>./rdminstall -d</code>

Only one of these parameters can be specified at a time. If you want to install both RDM Server and RDM Console, you must run the installation script twice, specifying the appropriate parameters for each installation.

To perform an unattended installation of either RDM Server or RDM D-Server, include the `-r ResponseFile` parameter. For example, to perform an unattended installation of RDM Server, use the following command:

```
./rdminstall -S -r ResponseFile
```

where *ResponseFile* is the fully qualified name of the response file.

The `rdminstall` script contains customizable fields in the “User Configuration” section at the top of the file.

The following figure contains the “User Configuration” section of the `rdminstall` script.

```

#-----#
# Start of User Configuration Section                                     #
#-----#
#
# SRCDIR = The location where the RDM RPMs can be found.  If the RPMs are #
# in the same directory as this script, leave SRCDIR as is.           #
#-----#
export SRCDIR=`pwd`
#-----#
# End of User Configuration Section                                     #
#-----#
#####

```

Figure 18. “User Configuration” section of installation script

If you install RDM Server or RDM D-Server, you are prompted for certain data. The prompts that are part of the RDM Server installation are a subset of those that are part of the RDM D-Server installation.

The following table lists the information for which you are prompted during an installation of RDM Server and RDM D-Server. It also lists the valid values for these fields.

Table 3. Prompts and applicable values for Linux installations

Prompt	Applicable values
IP address of RDM server	IP address.
HTTP port on RDM server	1024-65535. By default, this is set to 1234. <b>Note:</b> This HTTP port must not be in use by any other application running on the RDM remote D-server.
IP address of remote deployment server*	IP address.
HTTP port on remote deployment server*	1024-65535. By default, this is set to 1234. <b>Note:</b> This HTTP port must not be in use by any other application running on the RDM remote D-server.
MTFTP start port	4016-65535. By default, this is set to 4016.
MTFTP port range	2000-61519. By default, this is set to 2000.
Enable Multicast	yes or no
Multicast start address	IP address in the 226.0.1.1 to 239.255.255.1 range. By default, this is set to 226.0.1.1
Multicast port number	70-65535. By default, this is set to 1758.
Multicast pool size	Number in the 10-255 range. By default, this is set to 50.
Host name	Host name.
Whether a DHCP service is enabled	Whether a local DHCP service (meaning DHCP Server is installed on this machine) is enabled. y (yes) or n (no).
* RDM Deployment Server (D-Server) installation only	

By default, RDM is installed in /opt/IBM/RDM.

---

## Installing RDM Server

This section provides instructions for installing RDM Server 4.30. When you install RDM Server, RDM Console 4.30 and RDM Deployment Server 4.30 are installed automatically also. You can perform either an attended or unattended installation of RDM Server.

**Note:** Before you install RDM Server, make sure that the following prerequisites have been met:

- IBM Director Server 5.1 or later is installed.
- The IBM Director database is enabled.
- The RDM server is connected to the network.

### Performing an attended installation

Complete the following steps to perform an attended installation of RDM Server on Linux:

1. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD-ROM drive.
2. If the CD does not automount, go to step 3. If the CD automounts, type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

3. Type the following command and press Enter:

```
mount -t iso9660 -o map=off /dev/cdrom /mountpoint
```

where *dev/cdrom* is the specific device file for the CD-ROM block device and *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

4. Change to the directory where the installation script is located. Type the following command and press Enter:

```
cd /mountpoint/linux/
```

where *mountpoint* is the mount point of the CD-ROM drive.

5. If you want to customize the installation, go to step 6. If you want to accept the default settings for the installation, type the following command and press Enter:

```
./rdminstall -S
```

Go to step 10 on page 32.

6. To customize the installation, copy the installation script to a local directory. Type the following command and press Enter:

```
cp rdminstall /directory/rdminstall
```

where *directory* is the local directory.

**Note:** The name of the directory to which you are saving the installation script must be composed of only the following characters: A - Z, a - z, 0 - 9,

period (.), underscore (\_), hyphen (-), exclamation point (!). In addition, do not begin the directory name with a hyphen (-). Spaces are not allowed in directory names.

7. Open an ASCII text editor and modify the “User configuration” section of the `rdminstall` script. This script is fully commented.

You can specify the path to the installation CD.

8. Save the modified installation script.
9. To install IBM RDM Server, type the following command and press Enter:

```
/directory/rdminstall -S
```

where *directory* is the local directory to which you copied the installation script.

10. When the following prompt is displayed, type the IP address of the RDM server and press Enter:

```
IP address of RDM server? (www.xxx.yyy.zzz)
```

11. When the following prompt is displayed, type the number of the HTTP port that is to be used for communication between the RDM server and remote deployment servers; then, press Enter:

```
HTTP port on RDM server? (1024 - 65535, default 1234)
```

12. When the following prompt is displayed, type the number of the first MTFTP port; then, press Enter:

```
MTFTP start port (4016 - 65535 default 4016)
```

13. When the following prompt is displayed, type the number of contiguous MTFTP ports that are reserved for use by RDM Server; then, press Enter:

```
Mtftp port range? (2000 - 61519, default 2000)
```

14. When the following prompt is displayed, type the first class-D (multi-cast) IP address for the range of addresses that are assigned to RDM Server; then, press Enter:

```
Multicast start address (226.0.1.1 - 239.255.255.1, default 226.0.1.1)
```

15. When the following prompt is displayed, type the port number of the MTFTP service; then, press Enter:

```
Multicast port? (70 - 65535, default 1758):
```

16. When the following prompt is displayed, type the number of contiguous class-D addresses that are reserved for use by RDM Server; then, press Enter:

```
Multicast pool size (10 - 255, default 50)
```

17. When the following prompt is displayed, type either *y* or *n* and press Enter:

```
Enable Multicast (yes/no, default yes)?
```

18. When the following prompt is displayed, either press Enter to accept the host name that is displayed or type the host name of the RDM server and press Enter:

```
Hostname? (default host name)
```

19. When the following prompt is displayed, type either *y* or *n* and press Enter:

```
Is DHCP daemon enabled on this machine (yes/no, default no)?
```

The information that you provided during the installation process is displayed.

20. When the following prompt is displayed, type either *y* or *n* and press Enter:

```
Is this correct (yes/no)?
```

If you type *n*, return to step 10.

21. To unmount the CD-ROM drive, complete the following steps:

- a. Type `cd /` and press Enter.

- b. Type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

22. Remove the *IBM Remote Deployment Manager 4.30* CD from the CD-ROM drive.

## Performing an unattended installation

This section contains information about creating a response file and performing an unattended installation of RDM Server 4.30 on Linux.

### Creating a response file

Complete the following steps to create a response file:

1. Using an ASCII text editor, create a response file that contains the following text:

```
MasterDServerIpAddress=
```

2. Set `MasterDServerIpAddress` to the IP address of the RDM server.
3. If you want to accept the default settings, go to step 5. Otherwise, to customize the installation, add the following text to the response file:

```
MasterDServerHttpPort=
```

```
MCast=
```

```
MCastStartAddress=
```

```
MCastPoolSize=
```

```
MCastPort=
```

```
MtftpServerStartPort=
```

```
MtftpServerPortRange=
```

```
LocalDhcpServer=
```

4. Configure the optional settings:
  - a. Set `LocalDhcpServer` to yes if the DHCP service is running on the remote deployment server. By default, this is set to no.
  - b. Set `MasterDServerHttpPort` to the number of the HTTP port that is used for the RDM server.
  - c. Set `MCast` to no if you do not want to enable MTFTP. By default, this is set to yes.
  - d. Set `MCastStartAddress` to the first class-D (multi-cast) IP address for the range of addresses that are assigned to RDM Deployment Server.
  - e. Set `MCastPoolSize` to the number of class-D addresses that are reserved for use by RDM Deployment Server.
  - f. Set `MCastPort` to the port number that is assigned to the MTFTP service. This port is used to download files from the instance of RDM Deployment Server running on the RDM server to the instance of RDM Deployment Server running on the remote deployment server.
  - g. Set `MtftpServerStartPort` to the first port number for the range of ports that are used by the MTFTP service.
  - h. Set `MtftpServerPortRange` to the number of ports that are reserved for use by the MTFTP service.
5. Save the response file.

**Note:** You also can use the answer file for an unattended installation of RDM Server on Windows. To do so, you first must run the DOS2UNIX command against the file. See the DOS2UNIX man page for more information.

## Performing the installation

Complete the following steps to perform an unattended installation of RDM Server 4.30 on Linux:

1. If necessary, copy the response file to a location accessible from the system on which you will install RDM Server.
2. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD-ROM drive.
3. If the CD does not automount, go to step 4. If the CD automounts, type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

4. Type the following command and press Enter:

```
mount -t iso9660 -o map=off /dev/cdrom /mountpoint
```

where *dev/cdrom* is the specific device file for the CD-ROM block device and *mountpoint* is the mount point of the CD-ROM drive.

5. Change to the directory where the installation script is located. Type the following command and press Enter:

```
cd /mountpoint/linux/
```

where *mountpoint* is the mount point of the CD-ROM drive.

6. Type the following command and press Enter:

```
./rdminstall -S -r ResponseFile
```

where *ResponseFile* is the fully qualified name of the response file.

7. To unmount the CD-ROM drive, complete the following steps:
  - a. Type `cd /` and press Enter.
  - b. Type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

8. Remove the *IBM Remote Deployment Manager 4.30* CD from the CD-ROM drive.

---

## Installing RDM Console

**Note:** Before you install RDM Console 4.30, make sure that IBM Director Console 5.1 or later is installed.

Complete the following steps to install RDM Console on Linux:

1. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD-ROM drive.
2. If the CD does not automount, go to step 3 on page 35. If the CD automounts, type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

3. Type the following command and press Enter:

```
mount -t iso9660 -o map=off /dev/cdrom /mountpoint
```

where *dev/cdrom* is the specific device file for the CD-ROM block device and *mountpoint* is the mount point of the CD-ROM drive.

4. Change to the directory where the installation script is located. Type the following command and press Enter:

```
cd /mountpoint/linux/
```

where *mountpoint* is the mount point of the CD-ROM drive.

5. If you want to customize the installation, go to step 6. If you want to accept the default settings for the installation, type the following command and press Enter:

```
./rdminstall -C
```

Go to step 10.

6. To customize the installation, copy the installation script to a local directory. Type the following command and press Enter:

```
cp rdminstall /directory/rdminstall
```

where *directory* is the local directory.

**Note:** The name of the directory to which you are saving the installation script must be composed of only the following characters: A - Z, a - z, 0 - 9, period (.), underscore (\_), hyphen (-), exclamation point (!). In addition, do not begin the directory name with a hyphen (-). Spaces are not allowed in directory names.

7. Open an ASCII text editor and modify the “User configuration” section of the *rdminstall* script. This file is fully commented. You can specify the location of the RPM files.
8. Save the modified installation script.
9. To install IBM RDM Console, type the following command and press Enter:

```
/directory/rdminstall -C
```

where *directory* is the local directory.

10. To unmount the CD-ROM drive, complete the following steps:

- a. Type `cd /` and press Enter.

- b. Type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

11. Remove the *IBM Remote Deployment Manager 4.30* CD from the CD-ROM drive.

---

## Installing RDM Deployment Server

You can perform either an attended or unattended installation of RDM Deployment Server (D-Server) 4.30.

## Performing an attended installation

Complete the following steps to perform an attended installation of RDM D-Server 4.30 on Linux:

1. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD-ROM drive.
2. If the CD does not automount, go to step 3. If the CD automounts, type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

3. Type the following command and press Enter:

```
mount -t iso9660 -o map=off /dev/cdrom /mountpoint
```

where *dev/cdrom* is the specific device file for the CD-ROM block device and *mountpoint* is the mount point of the CD-ROM drive.

4. Change to the directory where the installation script is located. Type the following command and press Enter:

```
cd /mountpoint/linux/
```

where *mountpoint* is the mount point of the CD-ROM drive.

5. If you want to customize the installation, go to step 6. If you want to accept the default settings for the installation, type the following command and press Enter:

```
./rdminstall -D
```

Go to step 10.

6. To customize the installation, copy the installation script to a local directory. Type the following command and press Enter:

```
cp rdminstall /directory/rdminstall
```

where *directory* is the local directory.

**Note:** The name of the directory to which you are saving the installation script must be composed of only the following characters: A - Z, a - z, 0 - 9, period (.), underscore (\_), hyphen (-), exclamation point (!). In addition, do not begin the directory name with a hyphen (-). Spaces are not allowed in directory names.

7. Open an ASCII text editor and modify the “User configuration” section of the *rdminstall* script. This script is fully commented. You can specify the location of the RPM files.
8. Save the modified installation script.
9. To install RDM Deployment Server, type the following command and press Enter:

```
/directory/rdminstall -D
```

where *directory* is the local directory to which you copied the installation script.

10. When the following prompt is displayed, type the IP address of the RDM server and press Enter:

```
IP address of RDM server? (www.xxx.yyy.zzz)
```

11. When the following prompt is displayed, type the number of the HTTP port that is to be used for communication between the RDM server and remote deployment servers; then, press Enter:  
HTTP port on RDM server? (1024 - 65535, default 1234)
12. When the following prompt is displayed, type the IP address of the remote deployment server and press Enter:  
IP address of this remote D-Server? (www.xxx.yyy.zzz)
13. When the following prompt is displayed, type the number of the HTTP port that is to be used for communication between the RDM server and the remote deployment server; then, press Enter:  
HTTP port on this remote D-Server? (1024 - 65535, default 1234)
14. When the following prompt is displayed, type the number of the first MTFTP port; then, press Enter:  
MTFTP start port (4016 - 65535 default 4016)
15. When the following prompt is displayed, type the number of contiguous MTFTP ports that are reserved for use by RDM Deployment Server; then, press Enter:  
Mtftp port range? (2000 - 61519, default 2000)
16. When the following prompt is displayed, type the first class-D (multi-cast) IP address for the range of addresses that are assigned to RDM Deployment Server; then, press Enter:  
Multicast start address (226.0.1.1 - 239.255.255.1, default 226.0.1.1)
17. When the following prompt is displayed, type the port number of the MTFTP service; then, press Enter:  
Multicast port? (70 - 65535, default 1758):
18. When the following prompt is displayed, type the number of contiguous class-D addresses that are reserved for use by RDM Deployment Server; then, press Enter:  
Multicast pool size (10 - 255, default 50)
19. When the following prompt is displayed, type either yes or no and press Enter:  
Enable Multicast (yes/no, default yes)?:
20. When the following prompt is displayed, either press Enter to accept the host name that is displayed or type the host name of the RDM server and press Enter:  
Hostname? (default *host name*)
21. When the following prompt is displayed, type either y or n and press Enter:  
Is DHCP daemon enabled on this machine (yes/no, default no)?  
  
The information that you provided during the installation process is displayed.
22. When the following prompt is displayed, type either y or n and press Enter:  
Is this correct (yes/no)?  
  
If you type n, return to step 10 on page 36.
23. To unmount the CD-ROM drive, complete the following steps:
  - a. Type `cd /` and press Enter.
  - b. Type the following command and press Enter:  
`umount /mountpoint`  
  
where *mountpoint* is the mount point of the CD-ROM drive.
24. Remove the *IBM Remote Deployment Manager 4.30* CD from the CD-ROM drive.

## Performing an unattended installation

This section contains information about creating a response file and performing an unattended installation of RDM D-Server 4.30 on Linux.

### Creating a response file

Complete the following steps to create a response file:

1. Using an ASCII text editor, create a response file that contains the following text:

```
MasterDServerIpAddress=  
IpAddress=
```

2. Set `MasterDServerIpAddress` to the IP address of the RDM server and set `IpAddress` to the IP address of the remote deployment server.
3. If you want to accept the default settings, go to step 5. Otherwise, to customize the installation, add the following text to the response file:

```
MasterDServerHttpPort=  
HttpPort=  
MCast=  
MCastStartAddress=  
MCastPoolSize=  
MCastPort=  
MftpServerStartPort=  
MftpServerPortRange=  
LocalDhcpServer=
```

4. Configure the optional settings:
  - a. Set `LocalDhcpServer` to `yes` if the DHCP service is running on the remote deployment server. By default, this is set to `no`.
  - b. Set `MasterDServerHttpPort` to the number of the HTTP port that is used for the RDM server.
  - c. Set `HttpPort` to the number of the HTTP port that is used for the remote deployment server.
  - d. Set `MCast` to `no` if you do not want to enable MTFTP. By default, this is set to `yes`.
  - e. Set `MCastStartAddress` to the first class-D (multi-cast) IP address for the range of addresses that are assigned to RDM Deployment Server.
  - f. Set `MCastPoolSize` to the number of class-D addresses that are reserved for use by RDM Deployment Server.
  - g. Set `MCastPort` to the port number that is assigned to the MTFTP service. This port is used to download files from the instance of RDM Deployment Server running on the RDM server to the instance of RDM Deployment Server running on the remote deployment server.
  - h. Set `MftpServerStartPort` to the first port number for the range of ports that are used by the MTFTP service.
  - i. Set `MftpServerPortRange` to the number of ports that are reserved for use by the MTFTP service.
5. Save the response file.

**Note:** You also can use the answer file for an unattended installation of RDM Deployment Server on Windows. To do so, you first must run the `DOS2UNIX` command against the file. See the `DOS2UNIX` man page for more information.

## Performing the installation

Complete the following steps to perform an unattended installation of RDM D-Server 4.30 on Linux:

1. If necessary, copy the response file to a location accessible from the system on which you will install RDM Deployment Server.
2. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD-ROM drive.
3. If the CD does not automount, go to step 4. If the CD automounts, type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

**Note:** The mount point is distribution-specific. Consult your Linux system documentation for the default mount point.

4. Type the following command and press Enter:

```
mount -t iso9660 -o map=off /dev/cdrom /mountpoint
```

where *dev/cdrom* is the specific device file for the CD-ROM block device and *mountpoint* is the mount point of the CD-ROM drive.

5. Change to the directory where the installation script is located. Type the following command and press Enter:

```
cd /mountpoint/linux/
```

where *mountpoint* is the mount point of the CD-ROM drive.

6. Type the following command and press Enter:

```
./rdminstall -D -r ResponseFile
```

where *ResponseFile* is the fully qualified name of the response file.

7. To unmount the CD-ROM drive, complete the following steps:
  - a. Type `cd /` and press Enter.
  - b. Type the following command and press Enter:

```
umount /mountpoint
```

where *mountpoint* is the mount point of the CD-ROM drive.

8. Remove the *IBM Remote Deployment Manager 4.30* CD from the CD-ROM drive.



---

## Chapter 5. Installing RDM on Windows

This chapter contains instructions for installing RDM Server, RDM Console, and RDM Deployment Server on Windows. If you are upgrading from Remote Deployment Manager 4.20, go to Chapter 6, “Upgrading RDM on Windows,” on page 57.

**Note:** If you are installing RDM on Windows via Remote Desktop, and the installation media is on a remote server via a mapped network drive, you must use the UNC path for the installation media instead of mapping to the network drive.

---

### Performing an attended installation of RDM 4.30

This section contains procedures for performing attended installations of RDM Server, RDM Console, and RDM Deployment Server.

**Note:** If you are installing RDM on a system with Windows XP, Service Pack 2 installed and Windows Firewall enabled, you receive the following prompt when you double-click the setup.exe file:

The publisher could not be verified. Are you sure you want to run this software?

Name: setup.exe

Click **Run** to continue with the installation.

### Installing RDM Server

This section provides instructions for installing RDM Server. When you install RDM Server, the InstallShield wizard automatically installs RDM Console and RDM Deployment Server.

**Note:** Before you install RDM Server, make sure that the following prerequisites have been met:

- IBM Director Server is installed. The IBM Director database is enabled.
- IBM Director Console (that is installed on the server) is not open.
- The RDM server is connected to the network.

Complete the following steps to install RDM Server on Windows:

1. Use an operating-system account with administrator privileges to log on to the RDM server.
2. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD or DVD drive. If the installation process starts automatically and the InstallShield wizard starts, go to step 4. Otherwise, click **Start** → **Run**.
3. In the **Open** field, type the following command and press Enter:  
`d:\windows\setup.exe`

where *d* is the drive letter of the CD or DVD drive. The installation program starts, and the “Welcome to the InstallShield Wizard” window opens.

4. Click **Next**. The License Agreement window opens.

5. Click **I accept the terms in the license agreement**; then, click **Next**. The Setup Type window opens.

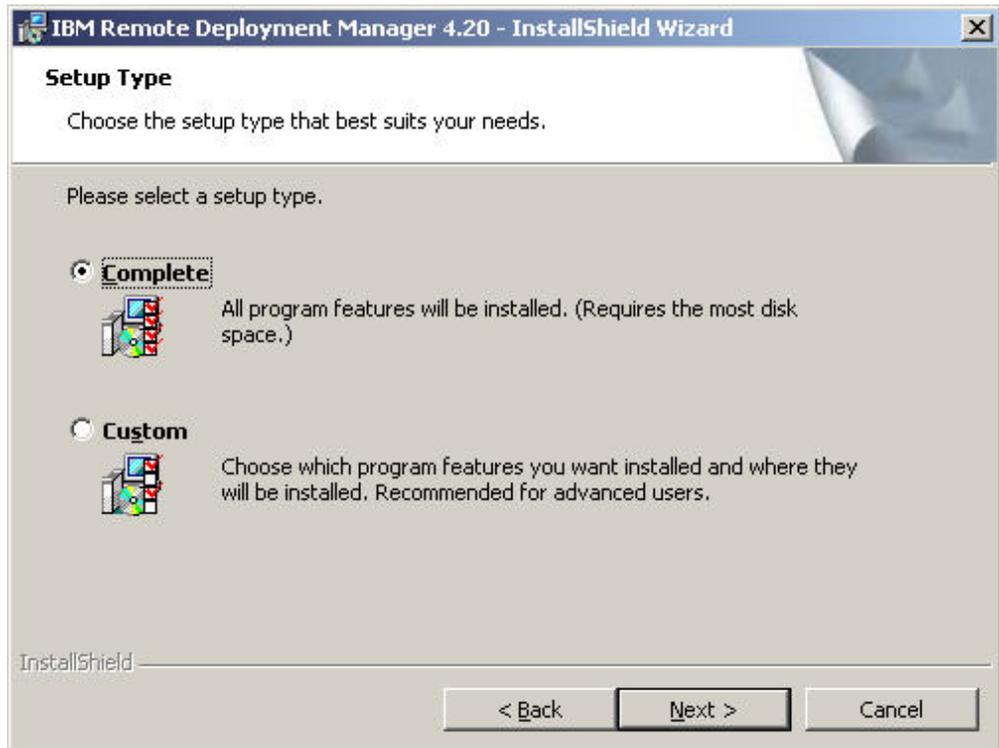


Figure 19. Installing RDM Server on Windows: Setup Type window

6. To install RDM in the default location, click **Complete** and go to step 9 on page 43. Otherwise, click **Custom**; then, click **Next**. The Custom Setup window opens.
7. Click  to the left of **RDM Server**. A menu opens.

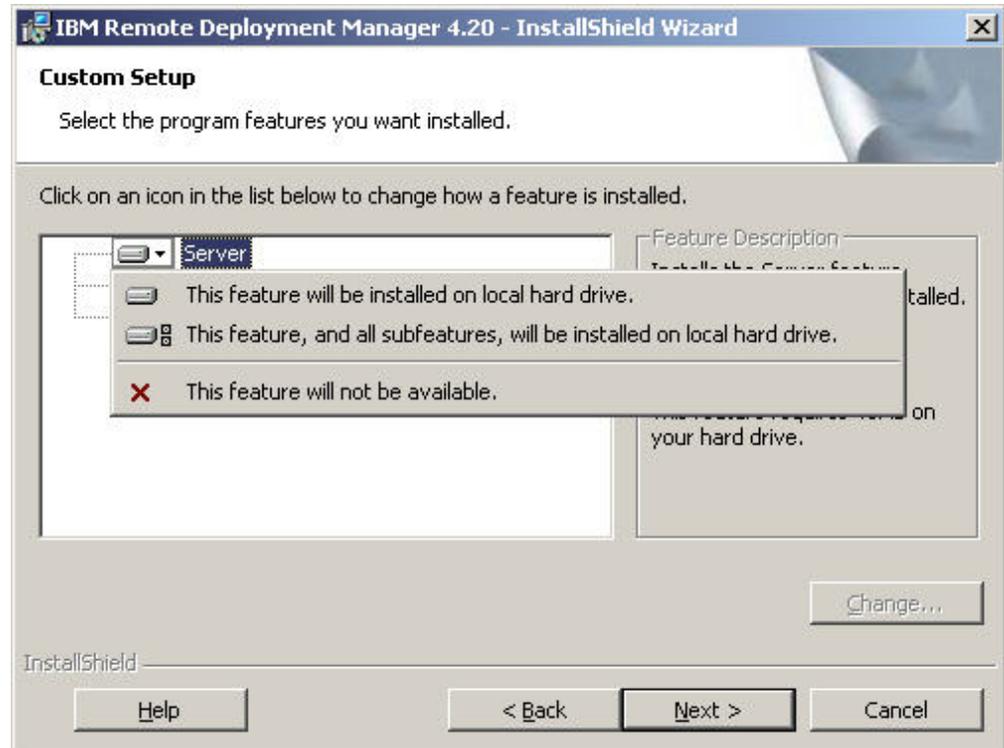


Figure 20. Installing RDM Server on Windows: Custom Setup window

8. Click either **This feature will be installed on local hard drive** or **This feature, and all subfeatures, will be installed on local hard drive**.

By default, RDM Server is installed in *d:\Program Files\IBM\RDM*, where *d* is the drive letter of the hard disk drive. To install RDM in a different location, click **Change**.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.
- The path is read according to DOS-style conventions. For example, the installation program converts *C:\Program Files\IBM\RDM\* to *C:\Progra~1\IBM\RDM\*.
- If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.

9. Click **Next**. The D-Server Configuration window opens.

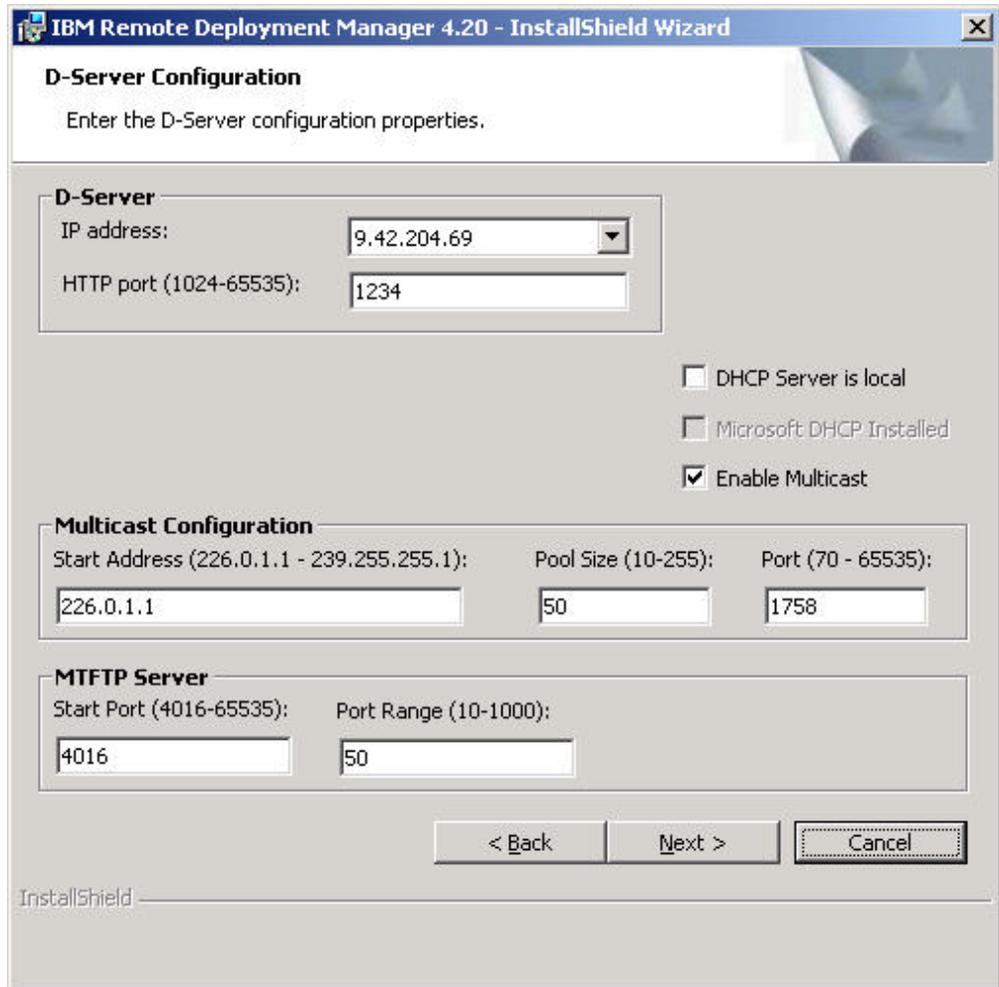


Figure 21. Installing RDM Server on Windows: D-Server Configuration window

10. Configure the settings of the master deployment server:

**Note:** For most or all of the parameters in this window, a typical user will simply accept the default values. However you can customize these parameters, as described below.

- a. In the **D-Server IP address** field, type or select the IP address of the RDM server. If the RDM server contains multiple NICs, select the IP address of the NIC that is used for communications between the RDM server and all RDM remote D-servers.
- b. In the **D-Server HTTP port** field, type the number of the HTTP port that is used for communication between the RDM server and any remote deployment servers. This is the port on which RDM Deployment Server receives HTTP messages. By default, this is set to 1234.

**Note:** This HTTP port must not be in use by any other application running on the RDM server.

- c. If the DHCP service is running on the RDM server, select the **DHCP Server is local** check box. If you are using Microsoft DHCP, select the **Microsoft DHCP Installed** check box; this automatically configures option 60.

- d. Select the **Enable Multicast** check box to enable the use of the MTFTP protocol. If this check box is not selected, RDM will use unicast in all cases. This setting overrides the -M parameter on all MTFTP.EXE commands, forcing the file transfers to be unicast.
11. Configure the multicast IP addresses:
    - a. In the **Start Address** field, type the first class-D (multicast) IP address for the range of addresses that are assigned to RDM Deployment Server. By default, this is set to 226.0.1.1.
    - b. In the **Pool Size** field, type the number of contiguous class-D addresses that are reserved for use by RDM Deployment Server. By default, this is set to 50.
    - c. In the **Port** field, type the port number that is assigned to the service. This port is used to download files from the instance of RDM Deployment Server running on the RDM server to target systems. By default, this is set to 1758.

**Note:** Make sure that the multicast IP addresses are not in use by other applications. For more information, go to <http://www.iana.org/assignments/multicast-addresses>.
  12. Configure the MTFTP server:
    - a. In the **Start Port** field, type the first port for the range of ports that are assigned to the MTFTP server. By default, this is set to 4016.
    - b. In the **Port Range** field, type the number of contiguous ports that are reserved for use by the MTFTP server. By default, this is set to 2000.
  13. Click **Next**. The Ready to Install the Program window opens.
  14. Click **Install** to begin the installation. The installation process might take several minutes to be completed.
  15. When the InstallShield Wizard Completed window opens, click **Finish**.

## Installing RDM Console

**Note:** Before you install RDM Console, make sure that the following prerequisites have been met:

- IBM Director Console is installed and that the system is connected to the network.
- IBM Director Console is not open on this system.

that

Complete the following steps to install RDM Console on Windows:

1. Use an operating-system account with administrator privileges to log on to the system.
2. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD or DVD drive. If the installation process starts automatically and the InstallShield wizard starts, go to step 4. Otherwise, click **Start → Run**.
3. In the **Open** field, type the following command and press Enter:  
`d:\windows\setup.exe`

where *d* is the drive letter of the CD or DVD drive. The installation program starts, and the “Welcome to the InstallShield Wizard” window opens.

4. Click **Next**. The License Agreement window opens.

5. Click **I accept the terms in the license agreement**; then, click **Next**. The Setup Type window opens.

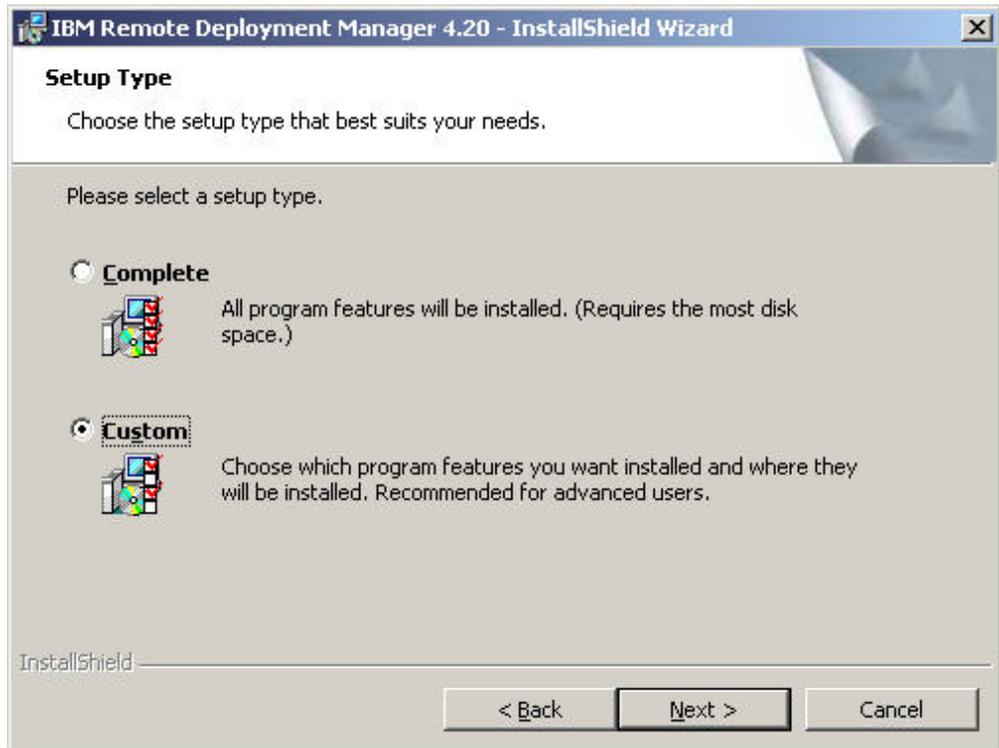


Figure 22. Installing RDM Console on Windows: Setup Type window

6. Click **Custom**; then, click **Next**. The Custom Setup window opens.
7. Click  to the left of **RDM Console**. A menu opens.

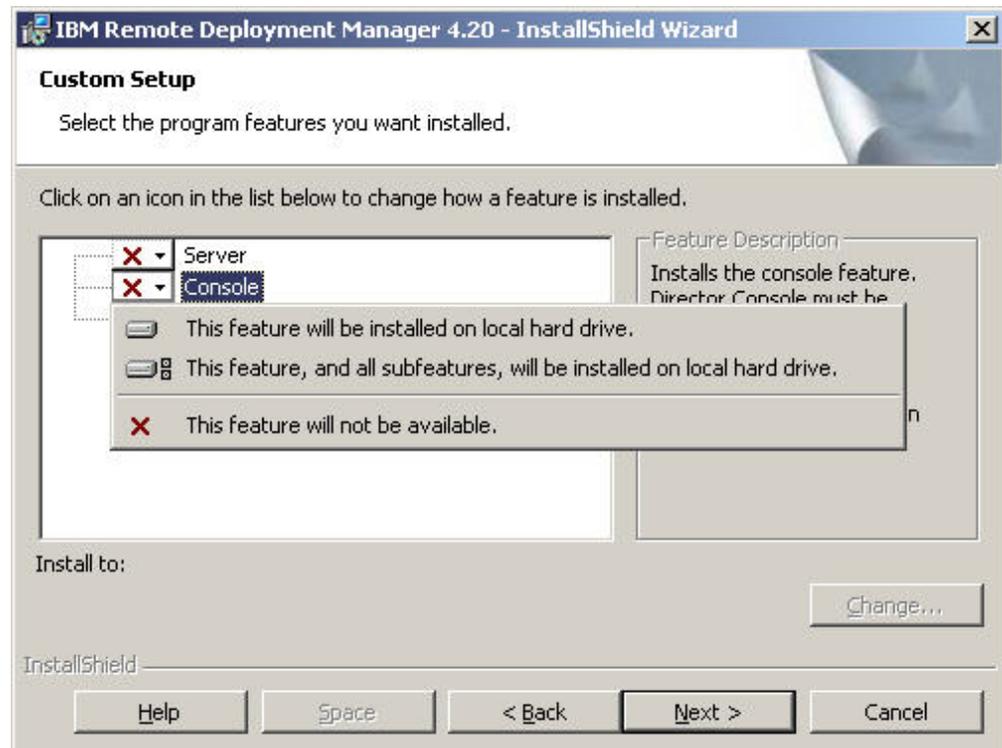


Figure 23. Installing RDM Console on Windows: Custom Setup window

8. Click either **This feature will be installed on local hard drive** or **This feature, and all subfeatures, will be installed on local hard drive**.

By default, RDM Console is installed in `d:\Program Files\IBM\RDM`, where `d` is the drive letter of the hard disk drive. To install RDM in a different location, click **Change**.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.
- The path is read according to DOS-style conventions. For example, the installation program converts `C:\Program Files\IBM\RDM\` to `C:\Progra~1\IBM\RDM\`.
- If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.

9. Click **Next**. The Ready to Install the Program window opens.
10. Click **Install** to begin the installation. The installation process might take several minutes to be completed.
11. When the InstallShield Wizard Completed window opens, click **Finish**.

## Installing RDM Deployment Server

### Notes:

1. Before you install RDM Deployment Server, make sure that the system is connected to the network.
2. You cannot install RDM Deployment Server on a server on which IBM Director Server is already installed.

## Preinstallation considerations for Windows XP, Service Pack 2

If you are installing RDM Deployment Server on Windows XP, Service Pack 2 and Windows Firewall is enabled, you must perform the following steps before running the installation.

1. From the Start menu, select **Settings > Control Panel > Windows Firewall**.
2. Click the **Exceptions** tab.
3. Click **Add Port**.
4. Add the following ports by selecting the port type (UDP or TCP) and entering a name and port number as shown in the following table:

Table 4. RDM D-Server ports

Port Type	Name	Port numbers
UDP	UniCast	69
UDP	UniCast	1759
UDP	MTFTP communication	4016 through 4065 (50 contiguous ports)
UDP	ProxyDHCP	67 (if DHCP Server is installed on the same machine as the RDM Server)
UDP	PXE Server	4011
UDP	DServer core	4012
UDP	PXE Server update	5011
TCP	DServer HTTP	1234 (default)

To run the Get Donor task you must also add the following port:

Table 5. Get Donor task port

Port type	Name	Port numbers
TCP	UCService	50137 (default)

5. Click the **Advanced** tab.
6. Select the network connection you are using for RDM and click **Settings**.
7. Click the ICMP tab.
8. Ensure that **Allow incoming echo request** is checked.
9. Click **OK**.

You can continue with the installation of RDM Deployment Server.

## Performing the installation

Complete the following steps to install RDM Deployment Server (D-Server):

1. Use an operating-system account with administrator privileges to log on to the system.
2. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD or DVD drive. If the installation process starts automatically and the InstallShield wizard starts, go to step 4. Otherwise, click **Start → Run**.
3. In the **Open** field, type the following command and press Enter:  
`d:\windows\setup.exe`

where *d* is the drive letter of the CD or DVD drive. The installation program starts, and the "Welcome to the InstallShield Wizard" window opens.

4. Click **Next**. The License Agreement window opens.

5. Click **I accept the terms in the license agreement**; then, click **Next**. The Setup Type window opens.

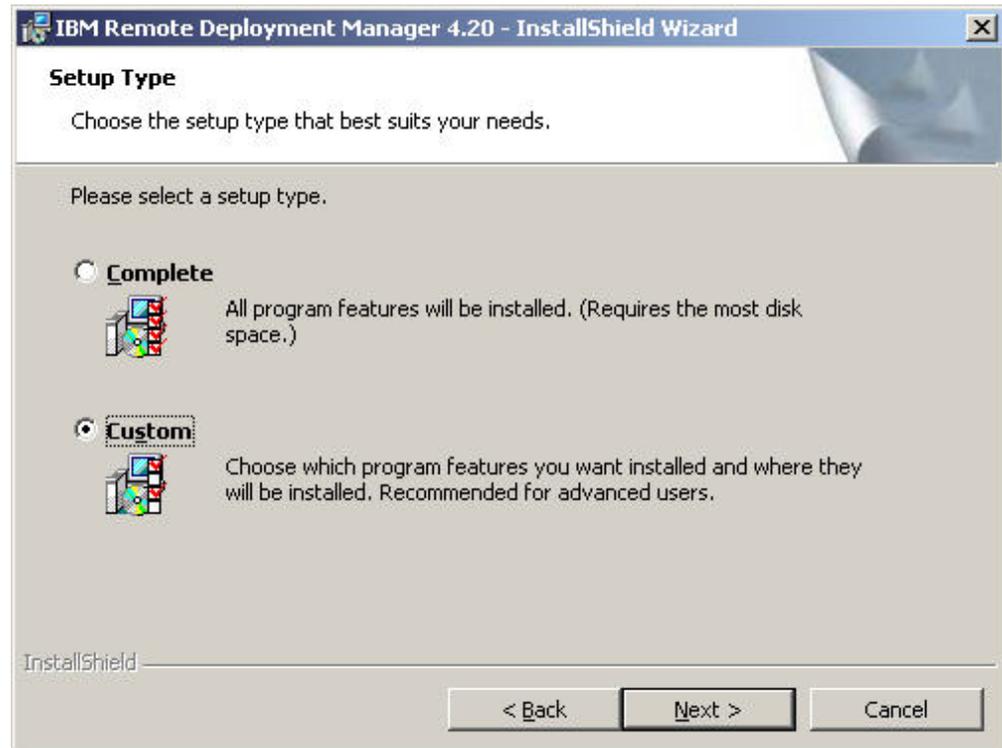


Figure 24. Installing RDM D-Server on Windows: Setup Type window

6. Click **Custom**; then, click **Next**. The Custom Setup window opens.
7. Click  to the left of the D-Server feature name. A menu opens.

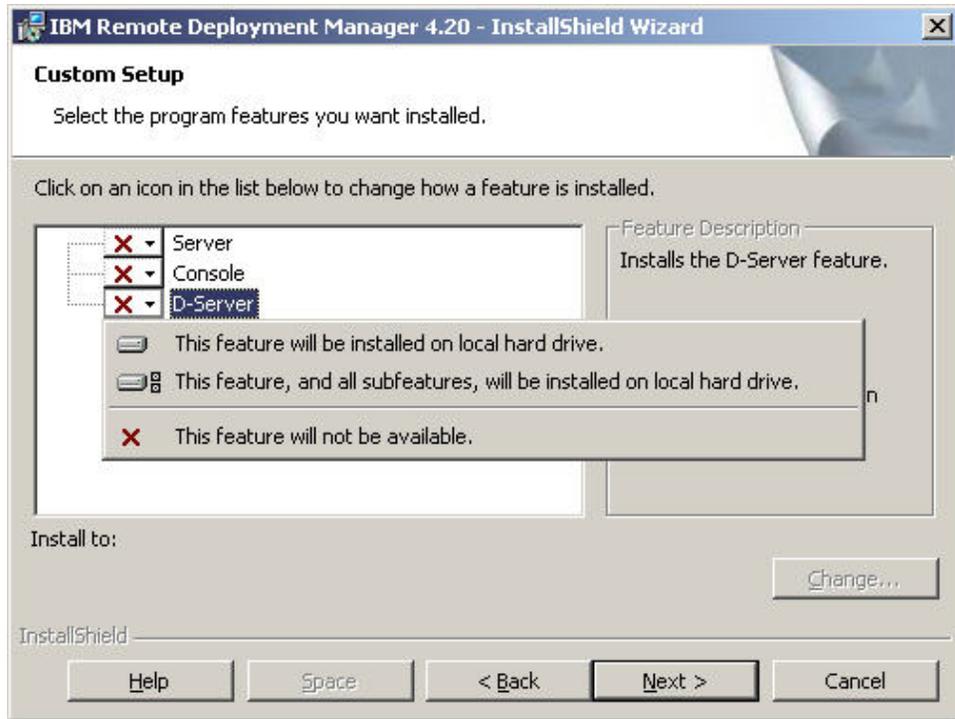


Figure 25. Installing RDM D-Server on Windows: Custom Setup window

8. Click either **This feature will be installed on local hard drive** or **This feature, and all subfeatures, will be installed on local hard drive**.

By default, RDM is installed in `d:\Program Files\IBM\RDM`, where *d* is the drive letter of the hard disk drive. To install RDM in a different location, click **Change**.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.
- The path is read according to DOS-style conventions. For example, the installation program converts `C:\Program Files\IBM\RDM\` to `C:\Progra~1\IBM\RDM\`.
- If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.

9. Click **Next**. The D-Server Configuration window opens.

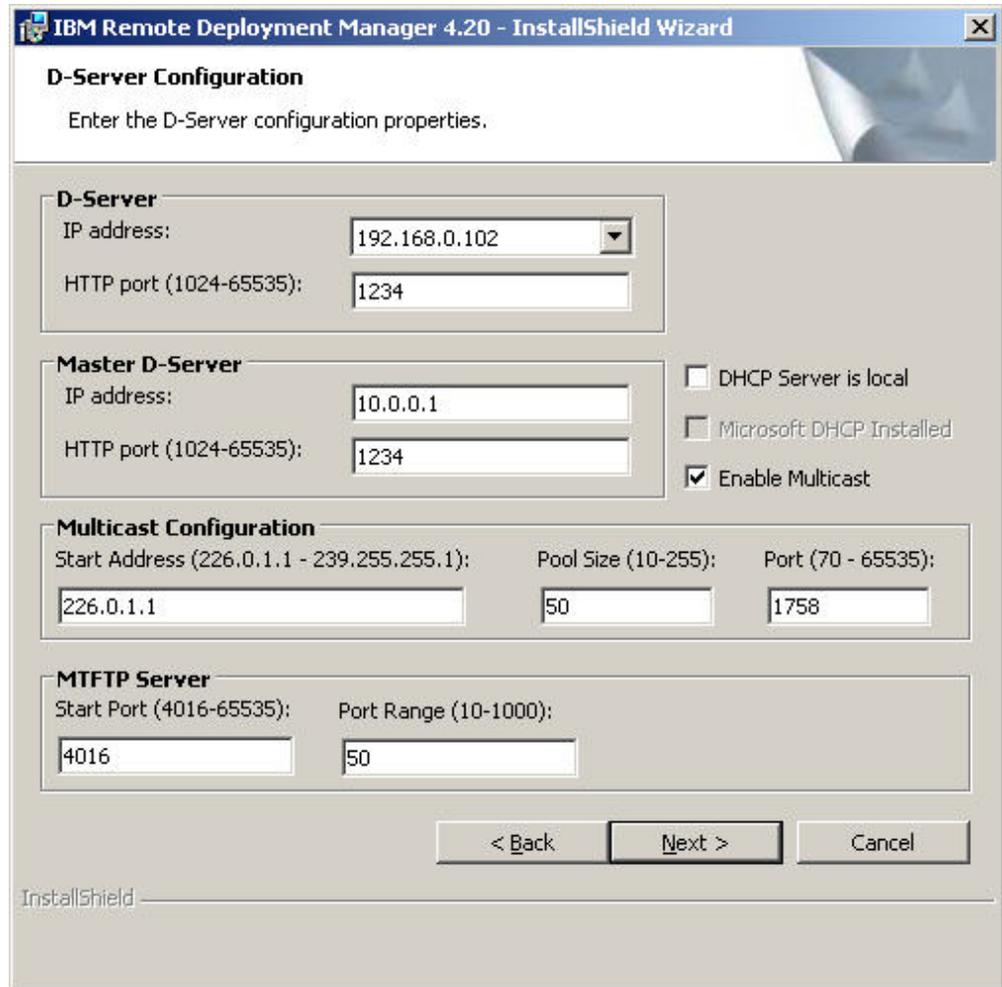


Figure 26. Installing RDM Deployment Server on Windows: D-Server Configuration window

10. Configure RDM Deployment Server:

- a. In the **D-Server IP address** field, select the IP address of the remote deployment server. If the remote deployment server contains multiple NICs, select IP address of a NIC that can communicate with the RDM server.
- b. In the **D-Server HTTP port**, type the number of the HTTP port that is used for communication between the remote deployment server and the RDM server. This is the port on which Remote Deployment Server receives HTTP messages. By default, this is set to 1234.

**Note:** This HTTP port must not be in use by any other application running on the remote deployment server.

- c. If the DHCP service is running on the remote deployment server, select the **DHCP Server is local** check box. If you are using Microsoft DHCP, select the **Microsoft DHCP Installed** check box; this automatically configures option 60.
- d. Select the **Enable Multicast** check box to enable the use of the MTFTP protocol.

11. Provide information about the RDM server:

- a. In the **Master D-Server IP address** field, type the IP address of the RDM server. If the RDM server contains multiple NICs, select the IP address of the NIC that is used for the RDM subnet.
  - b. In the **Master D-Server HTTP port** field, type the number of the HTTP port that is used for communication between the RDM server and remote deployment server. This is the port on which the instance of RDM Deployment Server running on the RDM server receives HTTP messages. By default, this is set to 1234.
12. Configure the multicast IP addresses:
- a. In the **Start Address** field, type the first class-D (multicast) IP address for the range of addresses that are assigned to RDM Deployment Server. By default, this is set to 226.0.1.1.
  - b. In the **Pool Size** field, type the number of contiguous class-D addresses that are reserved for use by RDM Deployment Server. By default, this is set to 50.
  - c. In the **Port** field, type the port number that is assigned to the MTFTP service. This port is used to download files from the instance of RDM Deployment Server running on the remote deployment server to the target systems. By default, this is set to 1758.
- Note:** Make sure that the multicast IP addresses are not in use by other applications. For more information, go to <http://www.iana.org/assignments/multicast-addresses>.
13. Configure the MTFTP server:
- a. In the **Start Port** field, type the first port for the range of ports that are assigned to the MTFTP server. By default, this is set to 4016.
  - b. In the **Port Range** field, type the number of contiguous ports that are reserved for use by the MTFTP server. By default, this is set to 2000.
14. Click **Next**. The “Ready to Install the Program” window opens.
15. Click **Install** to begin the installation. The installation process might take several minutes to be completed.
16. When the “InstallShield Wizard Completed” window opens, click **Finish**.

---

## Performing an unattended installation of RDM 4.30

You can perform an unattended installation of RDM by using a response file, which provides answers to the questions that are posed by the InstallShield wizard. You can use this method to create a standard installation file that can be used on many systems. This section includes instructions for creating a response file and performing an unattended uninstallation of RDM.

### Creating a response file

This section contains information about default response file values and instructions for creating response files for different types of RDM installations.

#### Default response file values

For installations of RDM Server or RDM Deployment Server, the installation program uses default values unless the response file contains alternate values. For example, in either of the following situations, the RDM installation program will use the default values:

- The response file does not include an element
- The response includes an element, but the element is not assigned a value.

The following table lists the elements of response files that have default values:

Table 6. Elements of responses files for RDM Server and RDM Deployment Server

Element	What it specifies	Default value
HttpPort=	The number of the HTTP port that is used for communication between the RDM server and any remote deployment servers. <b>Note:</b> This port must not be in use by any other application running on the local system.	1234
MCast=	Whether MTFTP is enabled. Possible values are yes or no.	yes
MCastStartAddress=	The first class-D (multicast) IP address for the range of addresses that are assigned to RDM Deployment Server.	226.0.1.1
MCastPoolSize=	The number of contiguous class-D addresses that are reserved for use with RDM Deployment Server.	50
MCastPort=	The port number that is assigned to the MTFTP service. This port is used to download files from the instance of RDM Deployment Server that is running on the RDM server.	1758
MtftpServerStartPort=	The first port for the range of ports that are assigned to the MTFTP service	4016
MtftpServerPortRange=	The number of contiguous ports that are reserved for use by the MTFTP service.	50
LocalDhcpServer=	Whether the DHCP service is running on the local server. Possible values are yes or no. <b>Note:</b> If the DHCP service is running on the local server, LocalDhcpServer must be set to yes	no
MicrosoftDHCP=	Whether the DHCP service is produced by Microsoft. Possible values are yes or no. Setting MicrosoftDHCP to yes automatically configures option 60.	no

## Creating a response file for an installation of RDM Server

Complete the following steps to create a response file:

- Using an ASCII text editor, create a text file that contains the following text:

```
[common]
InstallType=Server
InstallDir=C:\Program Files\IBM\RDM
[dServer]
IpAddress=IPaddress
```

where *IPaddress* is the IP address of the RDM server. If the server contains multiple NICs, select the IP address of the NIC that is used for the RDM subnet.

- If you want to install RDM in other than the default location, set `InstallDir` equal to the fully qualified path of the directory where you want to install RDM.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.

- b. The path is read according to DOS-style conventions. For example, the installation program converts C:\Program Files\IBM\RDM\ to C:\Progra~1\IBM\RDM\.
  - c. If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.
3. If you want to accept the default settings for the installation, go to step 5. Otherwise, add the following text to the [dServer] section of the response file:
 

```
HttpPort=
MCast=
MCastStartAddress=
MCastPoolSize
MCastPort=
MtftpServerStartPort=
MtftpServerPortRange=
LocalDhcpServer=
MicrosoftDHCP=
```
4. Assign values to the elements that you want to customize. See Table 6 on page 53 for information about default and applicable values.
5. Name the response file silent.ini.

### Creating a response file for an installation of RDM Console

Complete the following steps to create a response file:

1. Using an ASCII text editor, create a text file that contains the following text:

```
[common]
InstallType=Console
InstallDir=C:\Program Files\IBM\RDM
```

2. If you want to install RDM in other than the default location, set InstallDir equal to the fully qualified path of the directory where you want to install RDM.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.
- The path is read according to DOS-style conventions. For example, the installation program converts C:\Program Files\IBM\RDM\ to C:\Progra~1\IBM\RDM\.
- If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.

3. Name the response file silent.ini.

### Creating a response file for an installation of RDM Deployment Server

**Note:** You also can use this procedure to install both RDM Deployment Server and RDM Console.

Complete the following steps to create a response file:

1. Using an ASCII text editor, create a text file that contains the following text:

```
[common]
InstallType=Type
InstallDir=C:\Program Files\IBM\RDM
[dServer]
MasterDServerIpAddress=IPaddress1
IpAddress=IPaddress2
```

where:

- *Type* is either *DServer* or *Console,DServer*.
- *IPAddress1* is the IP address of the RDM server.
- *IPAddress2* is the IP address of the remote deployment server.

If either server contains multiple NICs, specify the IP address of the NIC that is used for the RDM subnet.

2. If you want to install RDM in other than the default location, set *InstallDir* equal to the fully qualified path of the directory where you want to install RDM.

**Note:** Before you install RDM in other than the default location, be aware of the following restrictions:

- The length of the path must be 28 characters or fewer.
  - The path is read according to DOS-style conventions. For example, the installation program converts *C:\Program Files\IBM\RDM\* to *C:\Progra~1\IBM\RDM\*.
  - If the path length is more than 28 characters, RDM will not function, although it will appear to be installed correctly.
3. If you want to accept the default settings for the installation, go to step 5 on page 54. Other wise, add the following text to the [dServer] section of the response file:
 

```
HttpPort=
MCast=
MCastStartAddress=
MCastPoolSize
MCastPort=
MftpServerStartPort=
MftpServerPortRange=
LocalDhcpServer=
MicrosoftDHCP=
```
  4. Assign values to the elements that you want to customize. See Table 6 on page 53 for information about default and applicable values.
  5. Name the response file *silent.ini*.

## Installing RDM 4.30

Complete the following steps to install RDM:

1. Change to the directory that contains the RDM installation file, *setup.exe*. This file is in the windows directory on the *IBM Remote Deployment Manager 4.30* CD.
2. From the command prompt, type the following command and press Enter:

```
setup.exe /s /v"/qInterface!+ SILENTFILE=directory\silent.ini"
```

where:

- Where *Interface* is one of the following values:
  - **n** specifies that no GUI is displayed.
  - **r** specifies that a reduced-size GUI with a normally-sized progress bar is displayed
  - **b** specifies that a normally sized interface with a reduced-size progress bar is displayed.
- **!** is an optional command that specifies that the GUI does not contain Cancel buttons. (You cannot issue this command if *Interface* is **n**, because **n** specifies that no GUI is displayed.)
- **+** is an optional command that specifies that a window opens when the installation is completed.

- *directory* is the fully qualified path of the silent.ini file.

**Notes:**

- SILENTFILE must be typed in uppercase, as shown.
- If the directory path contains a space, enclose the directory and file name in quotation marks, and add a backslash (\) after SILENTFILE=.

The following table contains example of commands that can be issued to install RDM.

*Table 7. Examples of commands issued to perform an unattended installation of RDM on Windows*

<b>Command</b>	<b>What it does</b>
setup.exe /s /v"/qb SILENTFILE=c:\temp\silent.ini"	Performs an unattended installation of RDM. A normally sized GUI with a reduced-size progress bar is displayed.
setup.exe /s /v"/qn+ SILENTFILE=c:\temp\silent.ini"	Performs an unattended installation of RDM. No GUI is displayed during the installation, although a window opens when the installation is completed.
setup.exe /s /v"/qn SILENTFILE="\c:\Program Files\silent.ini"	Performs an unattended installation of RDM. No GUI is displayed. Because RDM is installed in the Program Files directory, a backslash (\) is issued after SILENTFILE=.

---

## Chapter 6. Upgrading RDM on Windows

This chapter describes the procedures for upgrading to RDM version 4.30 on systems running Windows. Depending on the versions of both RDM and IBM Director currently running on your system, you will have to follow one of several upgrade procedures specified below, in order to upgrade to RDM 4.30 Console, Server and/or Deployment Server.

**Important:**

1. RDM 4.30 components will not interoperate with RDM 4.20 or earlier components. If an RDM 4.30 console, server or remote D-server attempts to connect with an RDM 4.20 or earlier component, a message will be displayed notifying the user that the RDM 4.30 component cannot connect due to a version mismatch.
2. The procedures in this chapter are the only update procedures supported by IBM at this time. Failure to follow these procedures exactly is likely to cause system failures that will require a full reinstallation of both RDM and Director.

To upgrade to RDM 4.30, complete the following steps:

1. Back up the RDM server.
2. If you are using a version of IBM Director earlier than 5.10, upgrade to IBM Director 5.10.

**Note:** Do not try to use RDM after this step.

3. If you are using RDM 4.11.x or earlier, upgrade to RDM 4.20.

**Note:** Do not try to use RDM after this step.

4. Upgrade from RDM 4.20 to RDM 4.30.

**Notes:**

1. If LCCM or a version of RDM earlier than 4.11 is installed, you must uninstall the application; then, install RDM 4.20. You can export your target systems from RDM 3.2 or earlier and then import them into RDM 4.20.
2. When you upgrade to RDM 4.30, the command lists for existing tasks are modified. The command lists that are modified are backed up to a commandList.bak file in the task directory. If you made command list changes to an old task, you must modify the task manually. Use the commandList.bak file for guidance as a model.

---

### Upgrading from RDM 4.11 to RDM 4.20

If you upgrade any RDM software component (RDM Server, RDM Console, or RDM Deployment Server), you must upgrade all RDM software. The levels of RDM software that are running on the RDM server, RDM console, and all remote deployment servers must be identical.

During the upgrade, the installation program detects the RDM software components (RDM Server, RDM Console, or RDM Deployment Server) that are installed and upgrades those components.

Complete the following steps to upgrade from RDM 4.11 to RDM 4.20:

1. Back up the RDM server.

2. Use an operating-system account with administrator privileges to log on to the system.
3. Insert the *IBM Remote Deployment Manager 4.20* CD into the CD or DVD drive. If the installation process starts automatically and the InstallShield wizard starts, go to step 4. Otherwise, click **Start** → **Run**.
4. In the **Open** field, type the following command and press Enter:  
`d:\windows\setup.exe`  
  
where *d* is the drive letter of the CD or DVD drive. The installation program starts, and the “Welcome to the InstallShield Wizard” window opens.
5. If you want to view the readme file that comes with RDM Server, click **View Readme**; otherwise, click **Next** to continue. The License Agreement window opens.
6. Read the terms of the license agreement; then, click **Yes** to accept the terms. The Setup Type window opens.
7. Click **Next**. The “Ready to Install the Program” window opens.
8. Click **Install** to begin the upgrade. The upgrade process might take several minutes to be completed.  
  
**Note:** Do not try to use RDM after this step.
9. When the InstallShield Wizard Completed window opens, click **Finish**.

---

## Upgrading from RDM 4.20 to RDM 4.30

If you upgrade any RDM software component (RDM Server, RDM Console, or RDM Deployment Server), you must upgrade all RDM software. The levels of RDM software that are running on the RDM server, RDM console, and all remote deployment servers must be identical.

During the upgrade, the installation program detects the RDM software components (RDM Server, RDM Console, or RDM Deployment Server) that are installed and upgrades those components.

Complete the following steps to upgrade from RDM 4.20 to RDM 4.30:

1. Back up the RDM server.
2. Use an operating-system account with administrator privileges to log on to the system.
3. Insert the *IBM Remote Deployment Manager 4.30* CD into the CD or DVD drive. If the installation process starts automatically and the InstallShield wizard starts, go to step 4. Otherwise, click **Start** → **Run**.
4. In the **Open** field, type the following command and press Enter:  
`d:\windows\setup.exe`  
  
where *d* is the drive letter of the CD or DVD drive. The installation program starts, and the “Welcome to the InstallShield Wizard” window opens.
5. If you want to view the readme file that comes with RDM Server, click **View Readme**; otherwise, click **Next** to continue. The License Agreement window opens.
6. Read the terms of the license agreement; then, click **Yes** to accept the terms. The Setup Type window opens.
7. Click **Next**. The “Ready to Install the Program” window opens.

8. Click **Install** to begin the upgrade. The upgrade process might take several minutes to be completed.
9. When the InstallShield Wizard Completed window opens, click **Finish**.



---

## Chapter 7. Upgrading RDM on Linux

Because RDM 4.20 and RDM 4.30 do not support the same Linux operating systems, you cannot upgrade directly from RDM 4.20 to RDM 4.30 on Linux systems.

To migrate from RDM 4.20 to RDM 4.30 on Linux, complete the following steps:

1. Back up the RDM server.
2. Export your RDM 4.20 system data.
3. Complete a full installation of RDM 4.30, not an upgrade, on a system with a supported version of Linux.
4. Import your RDM 4.20 system data to the updated system.

**Note:** If you upgrade any RDM software component (RDM Server, RDM Console, or RDM Deployment Server), you must upgrade all RDM software. The levels of RDM software that are running on the RDM server, management console, and all remote deployment servers must be identical.

---

### Exporting your RDM 4.20 system data on Linux

To avoid losing the system data when uninstalling RDM 4.20 and installing RDM 4.30, you can export the system data before you uninstall RDM 4.20. The system data that you export is saved as a text file to the directory that you specify. After you install RDM 4.30, you can import the system data from the text file. You can also use the Export RDM 4.x Systems option to export system data to a comma-separated value (CSV) file.

Complete the following steps to export RDM 4.20 system data:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Import/Export** → **Export RDM 4.x Systems**. The Export Systems window opens.

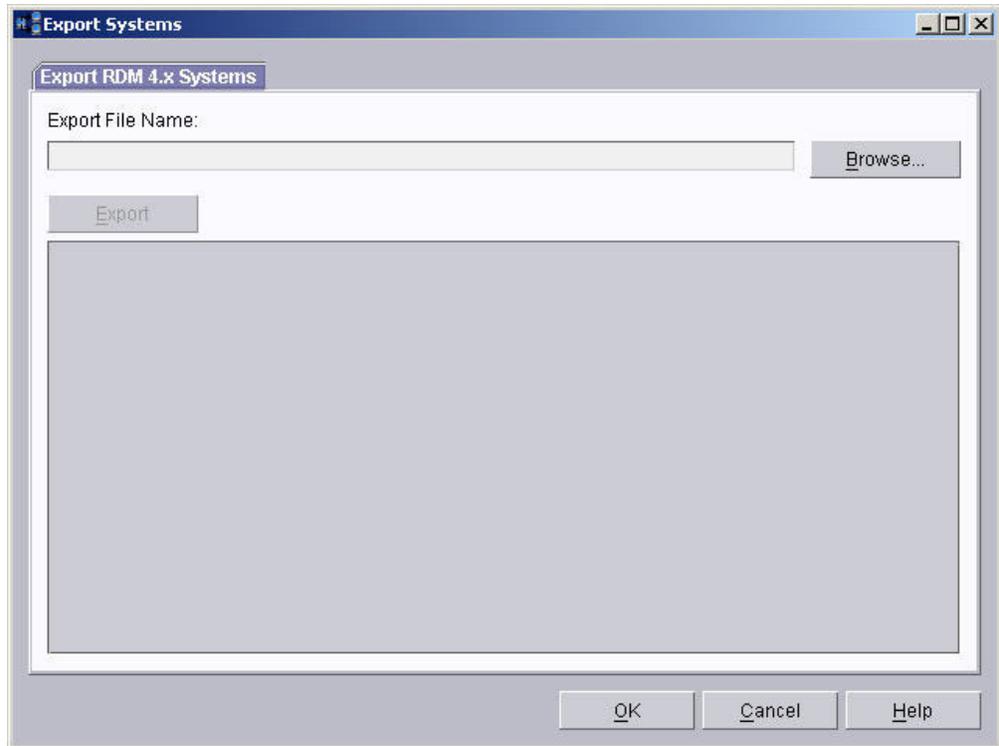


Figure 27. Export Systems window

2. Complete the following step to select the directory to which the file is exported:
  - a. Click **Browse**. The Export File window opens.

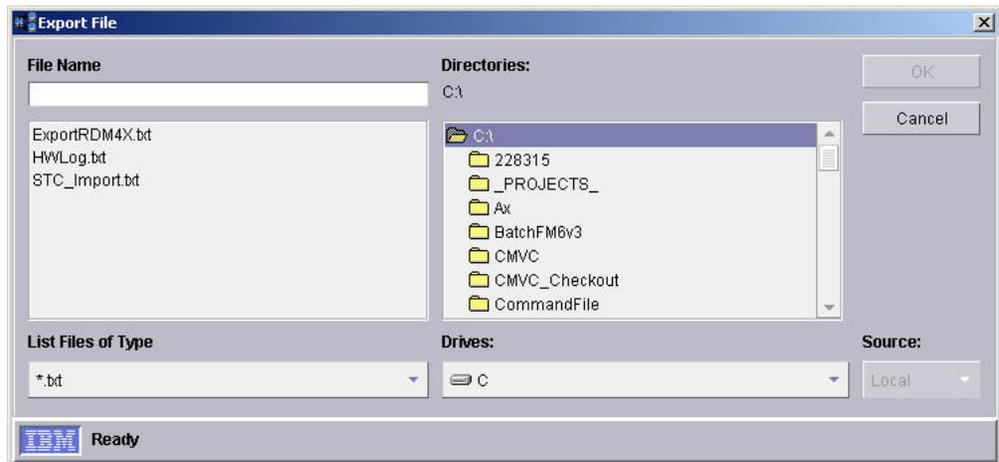


Figure 28. Export File window

- b. In the **Source** field, select the system where the source file is to be exported. You can choose between the local system or the RDM server.

**Note:** If the local system is the management server, **Local** specifies the directories that your operating-system account is authorized to access, and **Server** specifies the directories that the IBM Director Server service can access.

- c. Navigate to the directory where you want to save the file.

3. In the **Name** field, type a name for the exported systems file.

**Note:** If you save the file to a network directory and you plan to import it to another instance of RDM Server, make sure that the directory is accessible from the system on which you plan to import it.

4. Click **OK**. The Export Systems window opens and the file name that you specified is displayed.
5. Click **Export**. The Export Progress indicator is displayed.
6. Click **OK**.
7. After you have finished exporting your RDM 4.20 system data, refer to the "Uninstalling RDM running on Linux" procedure in the "Modifying, repairing, and uninstalling RDM" chapter of this guide, to uninstall RDM 4.20 from your system.
8. After you have finished uninstalling RDM 4.20 from your system, install RDM 4.30 using the procedures outlined in this chapter.

---

## Importing RDM 4.20 system data after RDM 4.30 installation on Linux

Complete the following steps to import your RDM 4.20 system data into RDM 4.30:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Import/Export** → **Import RDM 4.x Systems**. The Import Systems window opens.
2. Click **Browse**. The Import File window opens.
3. In the **Source** field, select the system where the file that you want to import is located. You can choose between the local system or the RDM server.

**Note:** If the local system is the RDM server, **Local** specifies the files that your operating-system account is authorized to access, and **Server** specifies the files that the IBM Director Server service can access.

4. Navigate to the directory from which you want to import the file.
5. In the **File Name** list, select the file you want to import.
6. Click **OK**. The Import Systems window opens and the file name that you specified is displayed.
7. Click **OK**. The systems are imported.

**Note:** After you import the file, you must run an RDM scan task against the new system.



## Chapter 8. Configuring RDM

If your RDM environment includes remote deployment servers, you must add them to the RDM database. This chapter provides information about how to start IBM Director Console, add a remote deployment server to the RDM database, and enable and configure the settings for the RDM Server, RDM D-server, and remote deployment servers.

### Starting IBM Director Console

Complete the following steps to start IBM Director Console:

1. To start IBM Director Console, take one of the following actions:

<b>For Linux</b>	From a command prompt, type the following command and press Enter: twgcon
<b>For Windows</b>	Click <b>Start</b> → <b>Programs</b> → <b>IBM Director Console</b> .

The IBM Director Login window opens.



Figure 29. IBM Director Login window

2. In the **IBM Director Server** field, type the name (or IP address) of the RDM server.
3. In the **User ID** field, type one of the following strings:

<b>For Linux</b>	<i>UserID</i>
<b>For Windows</b>	<i>ComputerName\UserID</i>

where:

- *UserID* is a valid IBM Director user ID.
  - *ComputerName* is either the local computer name or the domain, depending on whether the IBM Director service account has domain or local privileges
4. In the **Password** field, type the password that corresponds to the user ID.

5. Click **OK**. IBM Director Console starts.

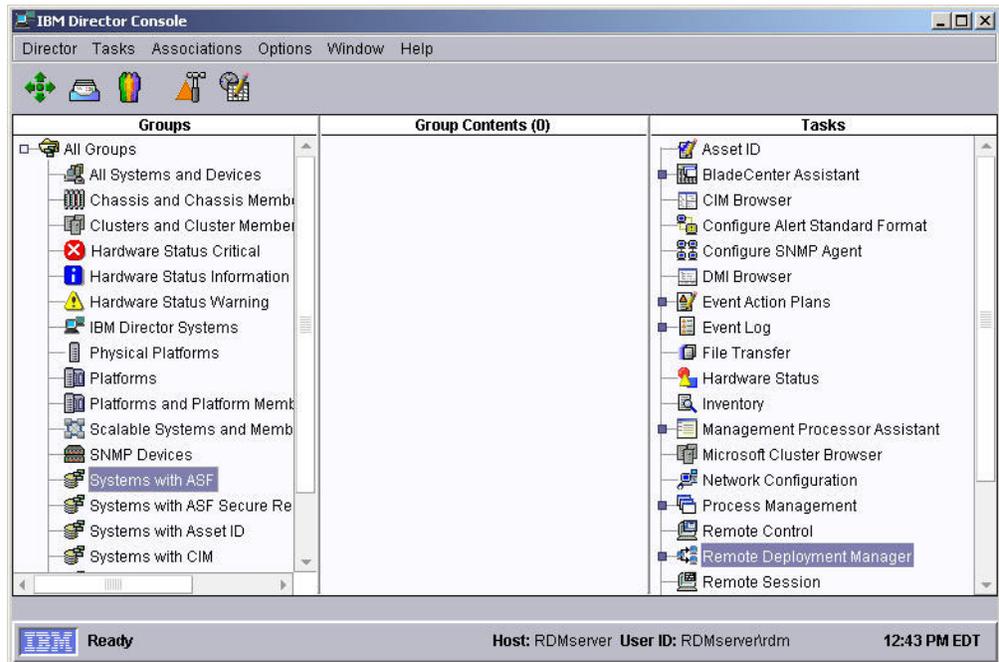


Figure 30. IBM Director Console

---

## Configuring which subnets are served

From the Subnets page, you can display and edit which subnets are served by a deployment server or RDM Server. You also can display all of the subnets that are being served by deployment servers.

**Note:** To configure subnets for the RDM Server, select the server with the asterisk (\*) in front of the server name from the list of D-Servers.

RDM can run a task against a target system only if the subnet of the target system is listed as a subnet for one of the deployment servers. Each deployment server can serve multiple subnets, however, multiple deployment servers should not serve the same subnet. You must add a subnet to RDM for each subnet that contains a target system.

**Note:** Remote deployment servers should not be on the same subnet or LAN as the RDM server. Remote deployment servers are intended to be used in a WAN environment.

Complete the following steps to configure the settings for a deployment server or RDM server:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Options** → **Change D-Server Options**. The Deployment Server Management Options window opens.
2. Click the **Subnets** tab. The Subnets page is displayed.

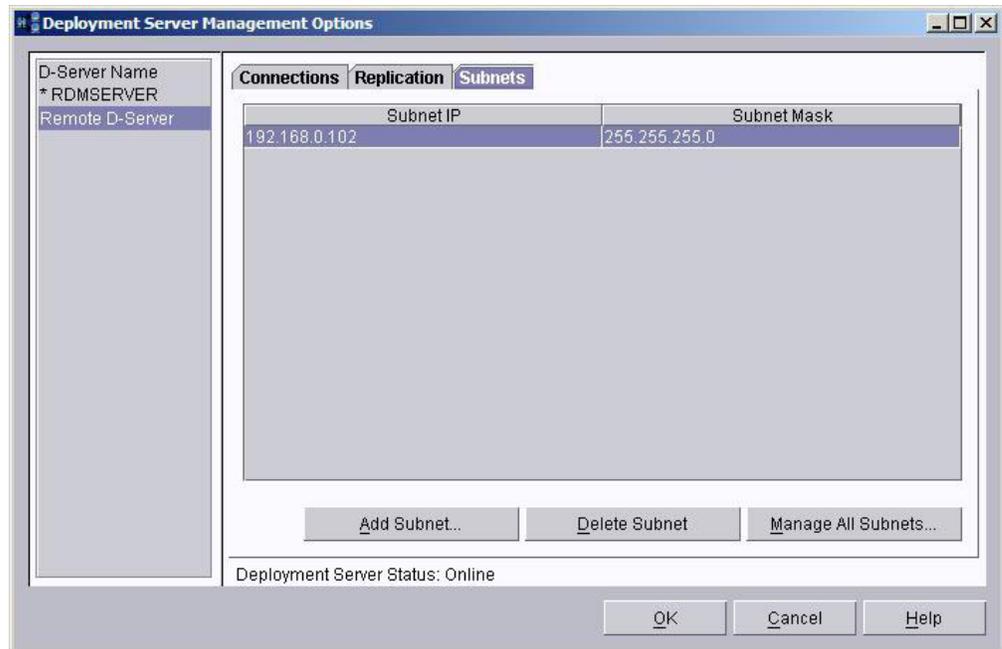


Figure 31. Deployment Server Management Options window: Subnets page

3. Select the server you want to configure from the list of D-servers.
4. Configure the settings:
  - To add a subnet to the list of subnets that are served by a deployment server or RDM server, click **Add Subnet**; then add the applicable IP address and subnet mask information and click **OK**.

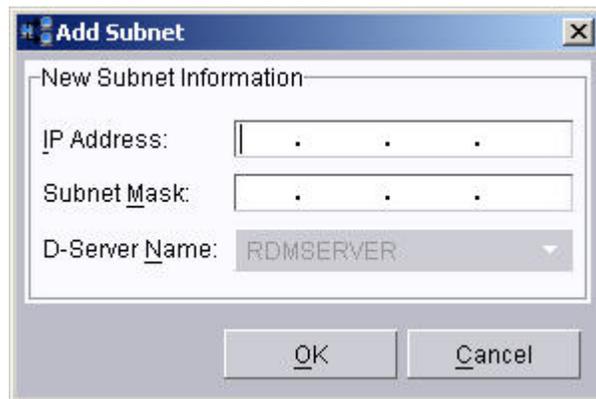


Figure 32. Add Subnet window

- To delete a subnet, in the subnets list, select a subnet; then, click **Delete Subnet**. The subnet is deleted from the list on the Subnets page. You can no longer run tasks against target systems that belong to the deleted subnet.
- To display a list of all of the subnets for all of the deployment servers that are in the RDM database, click **Manage All Subnets**. The Subnet Management window opens.

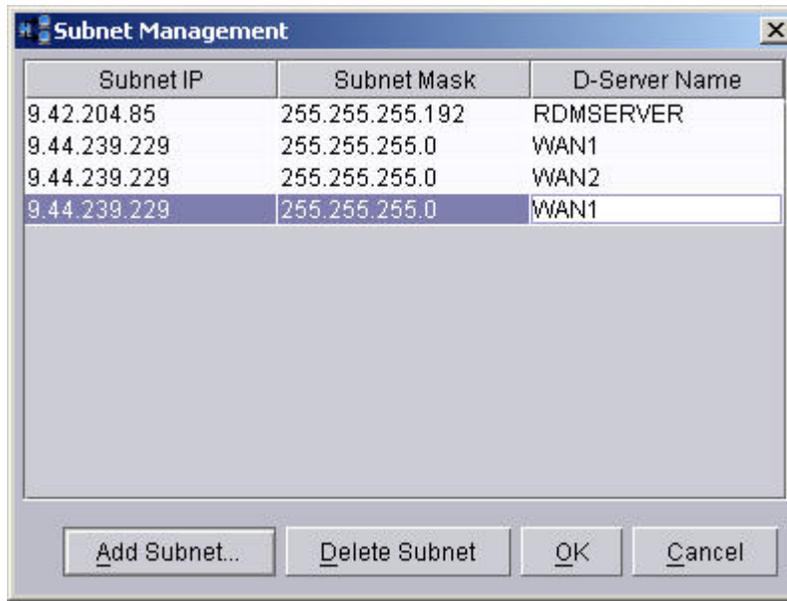


Figure 33. Subnet Management window

**Note:** You can assign a subnet to a different deployment server by selecting the subnet that you want to assign the deployment server to and then selecting another deployment server from the **D-Server Name** field.

Configure the applicable settings; then, click **OK**.

5. Click **OK** to apply the changes, or click **Cancel** to exit with no changes.

---

## Configuring RDM Server

RDM Server, the main component of RDM, contains the application logic for RDM. You can configure the following server and system options using any RDM console:

- Set how long RDM displays successful and failed replication transactions in the transactions list
- Set timeout values for system responses
- Set timeout values for server responses
- Set which scan task is used by default
- Enable or disable the default scan task
- Enable or disable forced shutdowns of target systems by using IBM Director Agent

**Note:** To configure RDM Server on a Linux system, you can use the `rdminstall` script. For information about using this script, see Chapter 4, “Installing RDM on Linux,” on page 29.

Complete the following steps to configure RDM Server options:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Options** → **Change Server Options**. The RDM Options window opens.

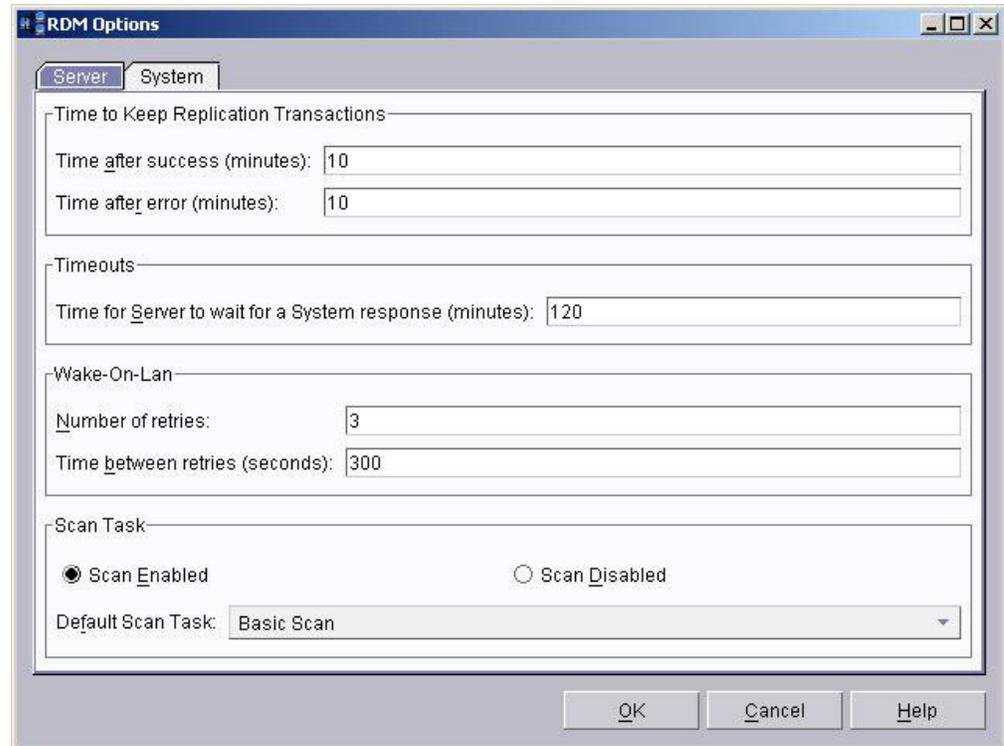


Figure 34. RDM Options window: Server page

On the Server page, set the time intervals for replication transactions and time-outs, and enable or disable the default scan task. On the System page, set the server response time and forced shutdown option.

2. Complete the following steps to configure the options on the Server page:
  - a. In the **Time after success (minutes)** field, type the number of minutes that the transaction remains in the replication list after it is successfully completed. The default setting is 10 minutes.
  - b. In the **Time after error (minutes)** field, type the number of minutes that the transaction remains in the replication list after an error occurs. The default setting is 10 minutes.
  - c. In the **Time for Server to wait for a System response (minutes)** field, type the number of minutes that the server waits for a system response before generating a fail event. The value that you type is used as the default when you run a task. You can override this default value by setting the timeout value in the command list of the task. The default setting is 120 minutes.

**Note:** Typically, when a timeout error occurs, it is because of some other error that occurred during the task. On rare occasions, however, a task will fail if the time that is required to complete the task exceeds the default timeout value. For future successes, modify the command list of the task to include a longer timeout than the default server value. For information about using the TIMEOUT command in a command list, see the command list section of the *IBM Remote Deployment Manager 4.30 User's Reference*. Also, a system might take longer than the configured timeout value and still successfully complete a task. This indicates that the system took longer than

- expected to complete the last instruction that was sent from RDM Server. An error is still logged to indicate the timeout failure.
- d. In the Scan Task group box, click **Scan Enabled** to automatically run the specified scan task for new systems, or click **Scan Disabled** to prevent new systems from being scanned.
  - e. In the **Default Scan Task** field, select the scan task that is to be used for new systems. The default setting is Basic Scan.
  - f. In the **Number of Retries** field, enter the number of times to retry a system scan. The default setting is 3.
  - g. In the **Time between retries (seconds)** field, enter the amount of time (in seconds) RDM should wait between retry attempts. The default setting is 300.
3. Complete the following steps to configure the options on the System page:
- a. Click the **System** tab. The System page is displayed.

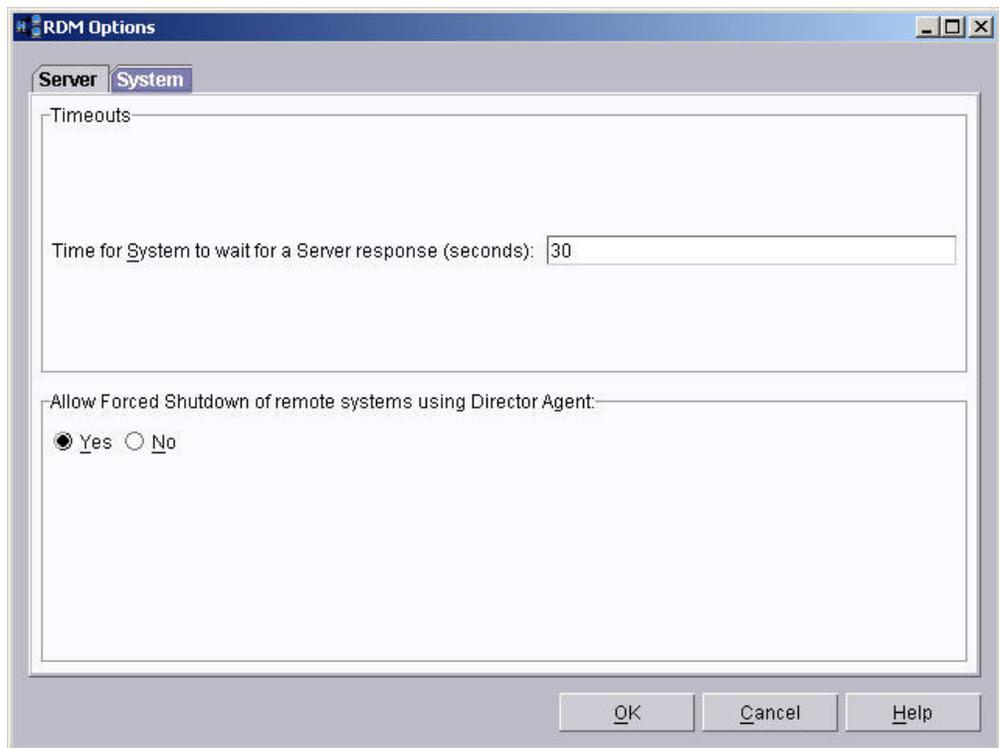


Figure 35. RDM Options window: System page

- b. In the **Time for System to wait for a Server response (seconds)** field, type the number of seconds that a system waits for a response from RDM Server. The default is 30 seconds.
  - c. In the Allow Forced Shutdown of remote systems using Director Agent group box, click **Yes** or **No**. This setting allows RDM to power off a system if the system is on when the RDM task starts.
4. Click **OK**.

---

## Adding a remote deployment server to RDM

RDM Deployment Server acts as a file-server application that delivers programs and data files to target systems. It also handles all communication between the target system and the RDM server.

From IBM Director Console, you can add a remote deployment server to RDM; however, you must first install RDM Deployment Server on the server that you want to use as a remote deployment server. After you install RDM Deployment Server, you can configure the remote deployment server through IBM Director Console.

**Note:** RDM uses the terms "online" and "offline" to indicate whether there is network connectivity between the D-Server and the RDM Server. RDM checks this connectivity at approximately 3-minute intervals (we call these checks "heartbeats"). The **Deployment Server Status** field displayed at the bottom of the Deployment Server Management Options window indicates whether the system was "online" or "offline" at the most recent heartbeat. Thus to absolutely confirm that the system is online or offline, you must monitor the Deployment Server Status for at least 3 minutes.

Complete the following steps to add a remote deployment server to the RDM database:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Options** → **Change D-Server Options**. The Deployment Server Management Options window opens.

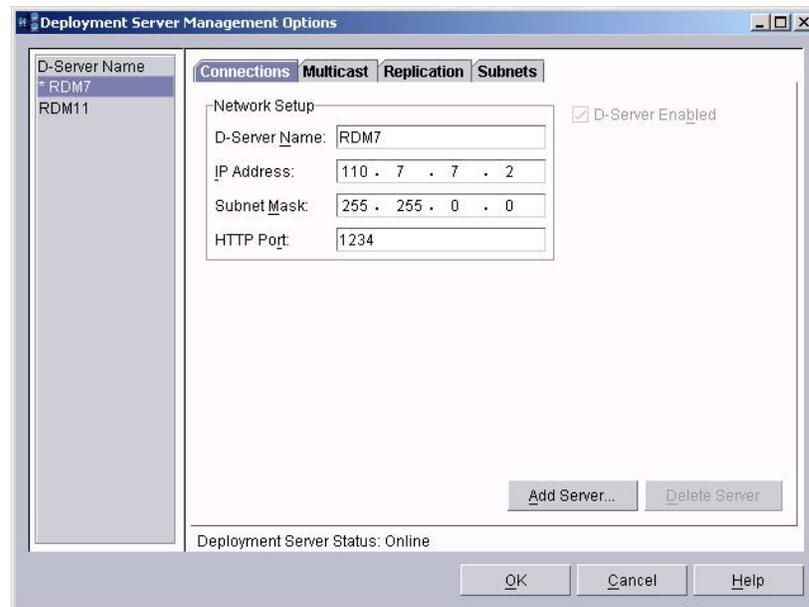


Figure 36. Deployment Server Management Options window

2. Click **Add Server**. The Add D-Server window opens.

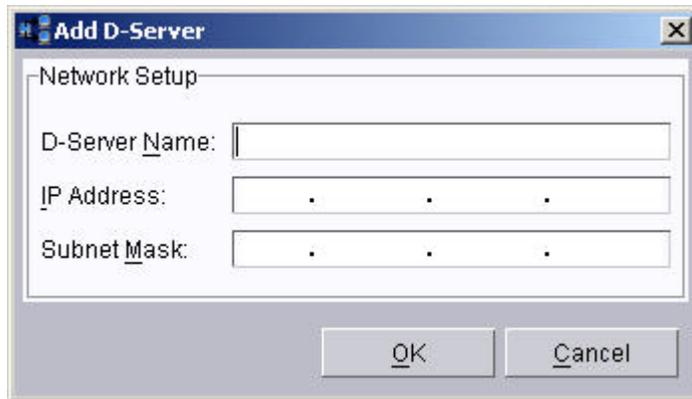


Figure 37. Add D-Server window

3. Provide information about the remote deployment server:
  - a. In the **D-Server Name** field, type a name for the deployment server. The name that you type is used to identify the remote deployment server within IBM Director Console.  
  
**Note:** The name that you type does not change the network-defined host name of the managed system.
  - b. In the **IP Address** field, type the IP address of the deployment server.  
  
**Note:** After you add a deployment server to RDM, you cannot use IBM Director Console to change its IP address. For information about how to change the IP address of a remote deployment server, see “Changing the IP address of a remote deployment server” on page 82.
  - c. In the **Subnet Mask** field, type the subnet mask for the deployment server.
  - d. Click **OK**. The new deployment server is added to the **D-Server Name** list.
4. You can configure additional deployment server information on the Connections, Replication, and Subnets pages. For information about configuring RDM Deployment Server, see “Configuring RDM Deployment Server (D-Server).” When finished adding information, click **OK**.

---

## Configuring RDM Deployment Server (D-Server)

You can configure the following RDM Deployment Server settings using IBM Director Console:

- IP address that is used by RDM Server to communicate with a remote deployment server
- HTTP listening port
- Timeouts for MFTFTP server
- Multicast configuration
- Subnets

**Note:** To configure a deployment server on a Linux system, you can use the `rdminstall` script. For information about using this script, see Chapter 4, “Installing RDM on Linux,” on page 29.

You can configure the settings for a remote deployment server by using an RDM console, only when that remote deployment server is powered-on and in communication with the RDM server.

If you are working with a remote deployment server, you also can:

- Enable or disable RDM Deployment Server
- Enable or disable multicast
- Configure multicast server and client settings
- Enable or disable replication
- Configure the replication threshold

The settings that are displayed in the Remote Deployment Server Management Options window are a subset of the values that are saved in the initialization file (dserver.ini) for the applicable deployment server. When you install RDM Deployment Server, RDM automatically creates the dserver.ini file and saves it to one of the following locations:

---

<b>For Linux</b>	<i>/RDM_installation/local</i>
<b>For Windows</b>	<i>d:\RDM_installation\local</i>

---

where *d* is drive letter of the hard disk drive and *RDM\_installation* is the directory in which RDM is installed.

The instance of RDM Deployment Server running on the RDM server logs errors in the mds.log file. The instance of RDM Deployment Server running on a remote deployment server logs errors in the rds.log file. The log files are saved in one of the following locations:

---

<b>For Linux</b>	<i>/RDM_installation/log</i>
<b>For Windows</b>	<i>d:\RDM_installation\log</i>

---

where *d* is drive letter of the hard disk drive and *RDM\_installation* is the directory where RDM is installed.

Complete the following steps to use IBM Director Console to configure a deployment server:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Options** → **Change D-Server Options**. The Deployment Server Management Options window opens.

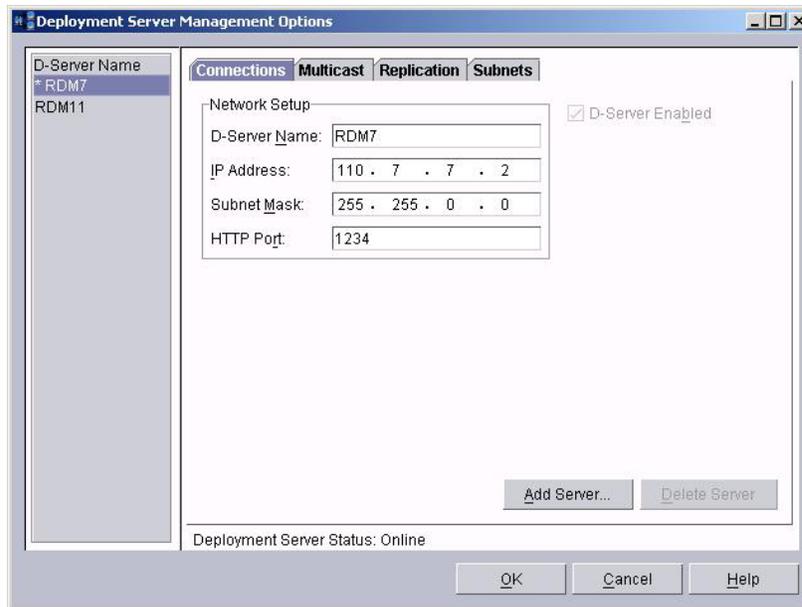


Figure 38. Deployment Server Management Options window

**Note:** An asterisk (\*) next to the name of a deployment server indicates that it is the instance of RDM Deployment Server that is running on the RDM server. The status of the server is displayed at the bottom of the window. The settings for the selected deployment server are displayed in the right pane.

2. On the Connections page, configure the network connection settings for the deployment server.
3. On the Multicast page, configure the multicast options and the MTFTP server and timeout settings for the deployment server.
4. On the Replication page set the large-files threshold and configure the replication times.
5. On the Subnets page, manage and configure the subnets that are served by each deployment server.

**Note:** If you make any configuration changes to a remote deployment server that is enabled, the IBM RDM D-Server service on that system is automatically restarted after you apply the changes. If the remote deployment server is not enabled, the IBM RDM D-Server service is not restarted. For an RDM server, if you modify the Network Setup settings, the IBM RDM D-Server service on the RDM server and on each remote deployment server is automatically restarted after you apply the changes. If the IBM RDM D-Server service is restarted while it is performing an MTFTP operation, the MTFTP operation will fail with an illegal TFTP operation error.

## Enabling a remote deployment server

After you enable a remote deployment server, it can receive and respond to requests from target systems within the network. Typically, remote deployment servers are used in wide area networks.

**Note:** You cannot use IBM Director Console to enable or disable the instance of RDM Deployment Server that is running on the RDM server.

## Enabling a single remote deployment server

Complete the following steps to enable a remote deployment server:

1. In the **D-Server Name** list, on the Connections page of the Deployment Server Management Options window, select the deployment server that you want to enable.
2. Select the **D-Server Enabled** check box to enable the selected deployment server, or clear the check box to disable the selected deployment server.

## Enabling all remote deployment servers

You can set all remote deployment servers to be automatically enabled, and also prevent any individual deployment server from being disabled using the Deployment Server Management Options window. (The **D-Server Enabled** check box will be selected and disabled for all deployment servers.)

Complete the following steps to enable all remote deployment servers at once:

1. On the RDM server, navigate to the *director\_installation*\classes directory, where *director\_installation* is the directory in which IBM Director is installed.
2. Using an ASCII text editor, open the rdm.ini file and add the following line:  
`enableAllRds=yes`
3. Save the modified file.
4. Restart the IBM Director Server service.

**Note:** If you enable all remote deployment servers as described above, to disable a deployment server you must complete the following steps:

1. Remove the line added to RDM.ini.
2. Restart the IBM Director Server service.
3. Go back to the Deployment Server Management Options window and remove the check mark from the **D-Server Enabled** check box.

## Configuring the connection settings

Complete the following steps to configure the network settings for a deployment server:

1. In the **D-Server Name** list, on the Connections page of the Deployment Server Management Options window, select the deployment server that you want to configure.
2. (Optional) To change the name of the deployment server, in the **D-Server Name** field, type a new name for the selected deployment server. The name that you type is used to identify the selected instance of RDM Deployment Server within IBM Director and RDM only. The name that you type does not change the network-defined host name of the managed system.
3. (RDM server only) In the **IP Address** field, type the IP address for the deployment server. The **IP Address** field for remote deployment servers is disabled and cannot be changed in this window. If you modify the IP address of the RDM server by using RDM, the IBM RDM D-Server service is automatically stopped and restarted on the RDM server after you complete your changes.

**Note:** After you add a remote deployment server to RDM, you cannot use IBM Director Console to change its IP address. You must configure the IP address of a remote deployment server locally. For information about how to change the IP address of a remote deployment server, see “Changing the IP address of a remote deployment server” on page 82.

4. In the **Subnet Mask** field, type the subnet mask for the deployment server.

5. In the **HTTP Port** field, type the HTTP port address that the deployment server uses to communicate with the RDM server. The minimum value that you can enter is 1024 and the maximum value is 65535.

## Enabling multicast

After you enable multicasting for a deployment server, the server can receive and respond to multicast requests from target systems within the network.

Complete the following steps to enable or disable multicasting for a deployment server:

1. In the **D-Server Name** list on the Multicast/MTFTP page of the Deployment Server Management Options window, select the deployment server that you want to enable.
2. Select the **Multicast Enabled** check box to enable multicasting for the selected deployment server, or clear the check box to disable multicasting for the selected deployment server.

**Note:** Enabling multicast is recommended. It improves the performance of the deployment server.

## Configuring the multicast settings

In the Multicast Configuration section of the Multicast/MTFTP page, you can configure the multicast settings for a deployment server. Multicast enables the selected deployment server to send information to a single reserved IP address. The information is received and processed by multiple systems that belong to the multicast group. Typically, multicast is used to send deployment images to a large number of target systems simultaneously, in order to reduce network usage and improve performance. The set of systems that listen on a specific IP multicast address is called a *multicast group*. IP addresses for multicast are reserved and assigned from within the Class-D IP address range, from 224.0.0.0 through 239.255.255.255.

Complete the following steps to configure the multicast settings for a deployment server:

1. From the Deployment Server Management Options window, click the **Multicast/MTFTP** tab. The Multicast page is displayed.

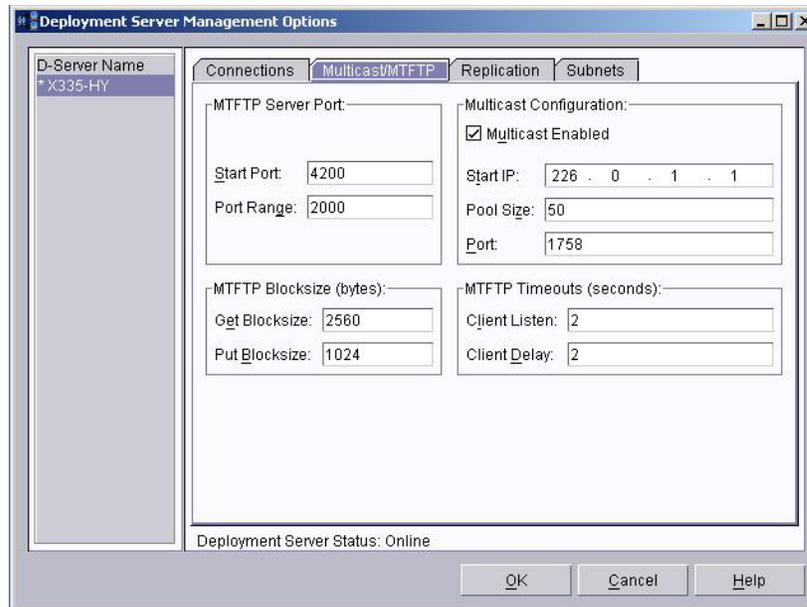


Figure 39. Deployment Server Management Options window: Multicast/MTFTP page

2. In the **Start IP** field, type the first address (Class-D) that is to be reserved for the deployment server to multicast files. By default, RDM uses 226.0.1.1 for the multicast address. The IP address must be between the range of 226.0.1.1 and 239.255.255.1.

**Notes:**

- a. If the **Start IP** address is not within this range, both D-Server and RDM D-Server will fail to start up. To resolve this, change the Start IP address to one within range, then restart D-Server and RDM D-Server.
  - b. Typically, Class-D addresses in the range 224.0.0.0 through 226.0.0.0 are reserved by other applications for non-RDM purposes.
3. In the **Pool Size** field, type the number of consecutive Class-D addresses (from the starting IP address that is specified in the **Start IP** field) that are to be reserved for multicasting files. The pool size can be a minimum of 10 and a maximum of 255. The default is 50.
  4. In the **Port** field, type the User Datagram Protocol (UDP) port number to which the deployment server will send files when it multicasts. The port number is used in conjunction with the IP addresses that are within the range that is specified by the Start IP and Pool Size. The port can be a minimum of 70 and a maximum of 65535. The default is 1758.

## Configuring the MTFTP settings

In the MTFTP Server group box on the Multicast/MTFTP page, you can configure the MTFTP settings for a deployment server. Complete the following steps from the to configure the MTFTP settings for a deployment server:

1. From the Deployment Server Management Options window, click the **Multicast/MTFTP** tab. The Multicast page is displayed.

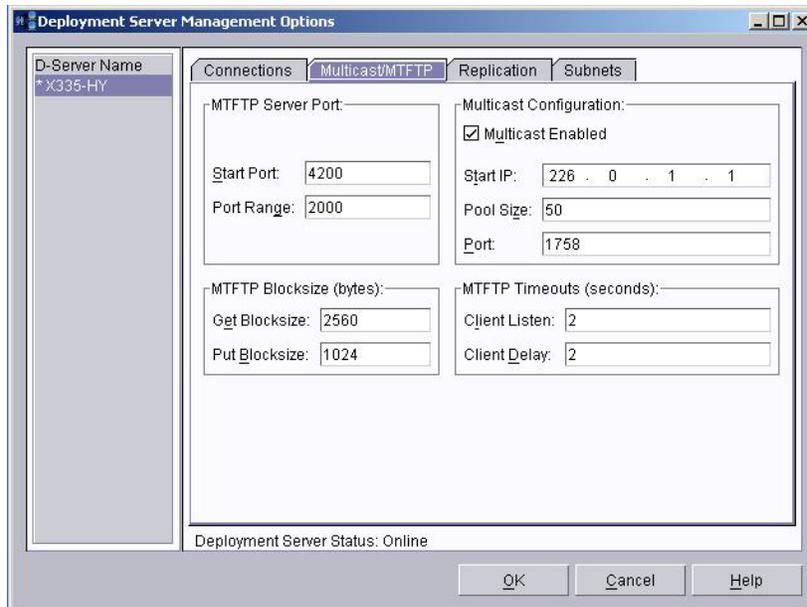


Figure 40. Deployment Server Management Options window: Multicast/MTFTP page

2. In the **Start Port** field of the **MTFTP Server** section, type the first UDP port number from which the deployment server will send a file that is requested by a target system (using either unicast or multicast mode). This restricts the port range for MTFTP traffic. Typically, when a firewall or router is used with RDM, the values that you enter for Start Port and Port Range must correspond to the applicable values that are configured for the router or firewall. The start port can be a minimum of 4016 and a maximum of 65525 (due to the minimum port range of 10). The default is 4016.
3. In the **Port Range** field of the **MTFTP Server** section, type the number of consecutive port addresses from the Start Port where the deployment server will send a file that is requested by a target system (one port per file). The port range can be a minimum of 10 and a maximum of 65535. The default is 2000. Make sure that the range that you specify does not exceed 65535 when it is added to the Start Port value that you entered in step 2.
4. In the **Get Blocksize** field under the **MTFTP Blocksize (bytes)** section, type the blocksize to be used for RDM gets. The range is 512 to 8192 bytes. The size must be specified in multiples of 512, and the default value is 2560.
5. In the **Put Blocksize** field under the **MTFTP Blocksize (bytes)** section, type the blocksize to be used for RDM puts. The range is 512 to 2560 bytes. The size must be specified in multiples of 512, and the default value is 1024.
6. In the **Client Listen** field under the **MTFTP Timeouts (seconds)** section, type the number of seconds that a target system listens to determine whether a file is being transmitted on the network. When this time interval is exceeded, the target system requests the file from the deployment server. This time interval also specifies the base open timeout when the client waits for an acknowledgment from the server before resending a request. The default setting is 2 seconds. In a slow environment or where a router exists between the server and clients, this setting should be increased to better suit the environment delay time.

7. In the **Client Delay** field under the **MTFTP Timeouts (seconds)** section, type the number of seconds that a client system with an incomplete file transmission waits before requesting the file from the deployment server. The default setting is 2 seconds.

## Configuring the replication settings

The Replication page for each deployment server defines rules that indicate how data is replicated from the master repository to the remote repository on the selected deployment server. Each deployment server can use a different set of rules.

**Note:** Replication is always from the RDM server to a remote deployment server. As a result, the replication settings are not used by the instance of RDM Deployment Server that is running on the RDM server. The Replication page can be displayed for the RDM server; however, the settings cannot be edited.

Complete the following steps to configure the settings on the Replication page:

1. From the Deployment Server Management Options window, click the **Replication** tab. The Replication page is displayed.

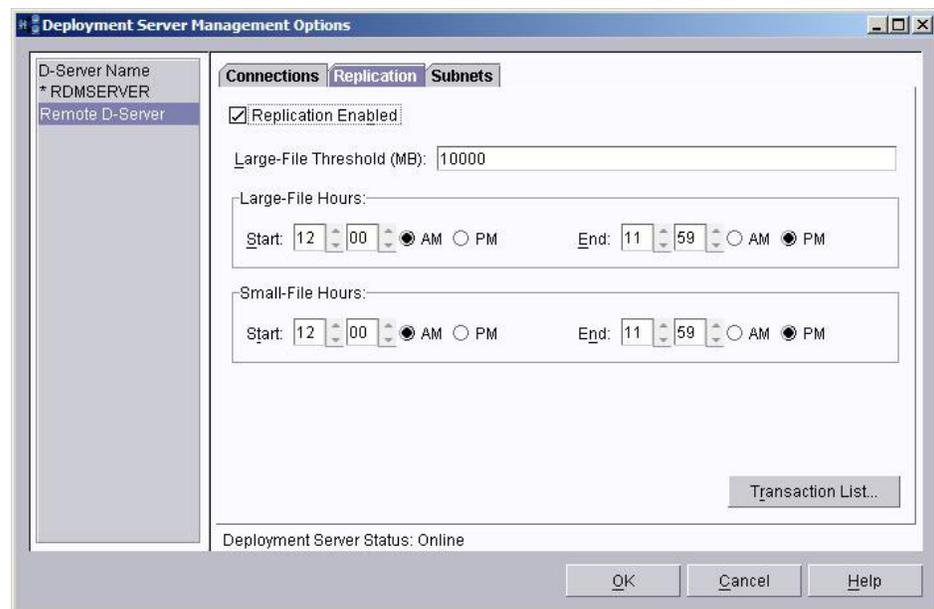


Figure 41. Deployment Server Management Options window: Replication page

2. (Remote deployment server only) Select the **Replication Enabled** check box to enable replication on the selected deployment server, or clear the check box to disable the replication for the selected deployment server.
3. In the **Large-File Threshold (MB)** field, type the minimum file size that the deployment server will use to determine whether a file is “large.” Files that are smaller than the value that you enter are considered “small” files.
4. In the **Large-File Hours** group box, complete the applicable fields to indicate the hours within which a large file can be replicated by the selected deployment server. To avoid excessive network traffic, large files are typically replicated in

the evening when there is minimal network demand by users. Small files are a subset of large files, and are replicated during the large-file hours and small-file hours.

5. In the **Small-File Hours** group box, complete the applicable fields to indicate the hours within which a small file can be replicated by the selected deployment server.

**Note:** The times that you specify for large-file hours can coincide with the times that you specify for small-file hours.

6. To display a list of transactions that have been replicated by the selected deployment server, click **Transaction List**. Transactions that are complete or in error are removed from the list, according to the times that are specified on the Server page in the RDM Options window. For information about how to set how long transactions are displayed, see “Configuring RDM Server” on page 68.

The transaction status is one of the following states:

- **Pending:** The transaction is scheduled to run later.
- **In process:** The transaction is currently running. You cannot delete a transaction in this state.
- **Error:** The transaction had an error.
- **Complete:** The transaction was completed successfully.

The transaction type is one of the following types:

- **User initiated:** The replication was initiated manually through the Image Management option.
- **Automatic update:** The replication was initiated automatically.

To delete a transaction, select the transaction in the list, and then click **Delete**.

To refresh the list, click **Refresh**.

To close the Transaction List window, click **Close**.

7. Click **OK**.

## Restarting RDM Deployment Server (D-Server)

You can stop and start the IBM RDM D-Server service from the command prompt of the system on which the service is running. On rare occasions, you might need to stop the IBM RDM D-Server service. For example, you can restart the service to erase the mds.log or rds.log file in preparation for a problem-debugging test.

### Windows

Complete the following steps to restart the IBM RDM D-Server service on a deployment server that is running Windows:

1. From a command prompt, type the following command to stop the IBM RDM D-Server service:

```
net stop dserver
```

2. From a command prompt, type the following command to start the IBM RDM D-Server service:

```
net start dserver
```

### Linux

Complete the following steps to restart the IBM RDM D-Server service on a deployment server that is running Linux:

1. Type the following command to stop the IBM RDM D-Server service; then, press Enter:

```
/etc/init.d/RDMdserver stop
```

2. Type the following command to start the IBM RDM D-Server service; then, press Enter:

```
/etc/init.d/RDMserver start
```

---

## Deleting a remote deployment server from RDM

From IBM Director Console, you can delete a deployment server from the RDM database. Deleting a deployment server does not uninstall RDM Deployment Server from the server on which it is installed. When you delete a deployment server, it is removed from the list of deployment servers that are displayed in IBM Director Console and it is no longer used by RDM tasks and commands.

**Note:** If the deployment server cannot communicate with the RDM server when you uninstall RDM Deployment Server, the deployment server might remain listed in the Deployment Server Management Options window. To remove it, you must manually delete the deployment server listing after it is uninstalled.

Complete the following steps to delete a deployment server from RDM:

1. From IBM Director Console, click **Tasks** → **Remote Deployment Manager Tools** → **Options** → **Change D-Server Options**. The Deployment Server Management Options window opens.

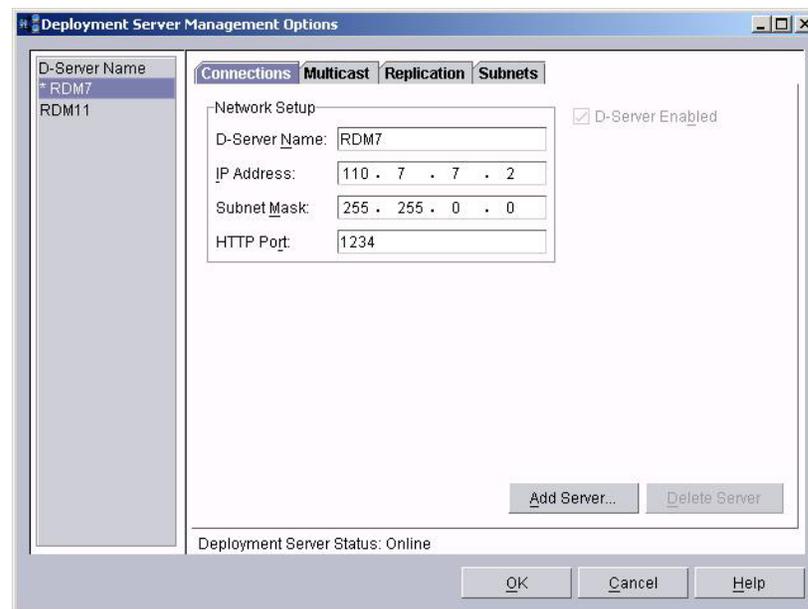


Figure 42. Deployment Server Management Options window

2. In the **D-Server Name** list, select the deployment server that you want to delete.
3. Click **Delete Server**. A confirmation message is displayed.

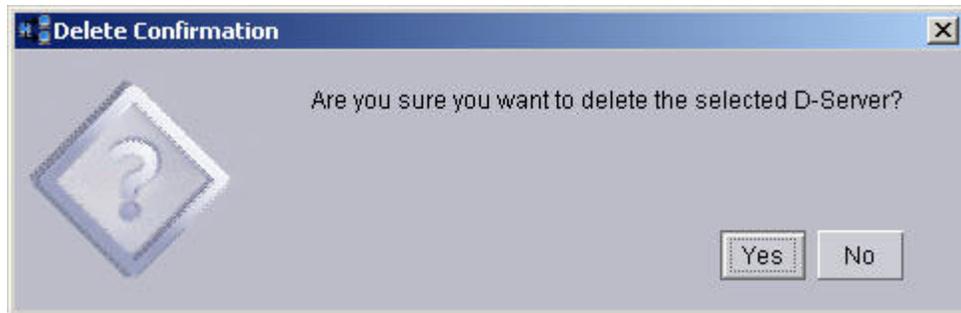


Figure 43. Delete Confirmation window

4. Click **Yes**.

---

## Changing the IP address of a remote deployment server

If the IP address of a remote deployment server changes, you *must* update the IP address that is specified in RDM. Consider the following information:

- You must change the IP address from the deployment server. You cannot do this remotely.
- You cannot use IBM Director Console to update the IP address of the deployment server. For systems running Linux, you must modify the `dserver.ini` file. For systems running Windows, you must run the `dsconfig` utility.

## Changing the IP address of a remote deployment server on Linux

You can modify the values in the `dserver.ini` file to change the IP address that is specified in RDM for a remote deployment server that is running Linux. Before you change the IP address in the `dserver.ini` file, you must change the IP address of the deployment server on the network. For information about changing an IP address of a system, see the documentation provided with your operating system.

Complete the following steps to change the IP address of a remote deployment server that is running Linux:

1. Change to the directory where the `dserver.ini` file is located. Type the following command and press Enter:

```
cd /rdm_installation/local
```

where `rdm_installation` is the directory where RDM Deployment Server is installed.

2. Using an ASCII text editor, open the `dserver.ini` file and change the value of the `IpAddress` parameter to the IP address of the deployment server.
3. Save the modified `dserver.ini` file.
4. Stop the IBM RDM D-Server service. Type the following command and press Enter:

```
/etc/init.d/RDMdserver stop
```

5. Start the IBM RDM D-Server service. Type the following command and press Enter:

```
/etc/init.d/RDMdserver start
```

## Changing the IP address of a remote deployment server on Windows

You can use the RDM D-Server Configuration (dsconfig) utility to change the IP address of a remote deployment server that is running Windows. Before you use the utility to change the IP address, you must change the IP address of the deployment server on the network. For information about changing an IP address of a system within your network, see the documentation provided with your operating system.

Complete the following steps to change the IP address of a remote deployment server that is running Windows:

1. From the Windows desktop of the remote deployment server, click **Start** → **Programs** → **Remote Deployment Manager** → **D-Server Config**. The RDM D-Server Configuration window opens.

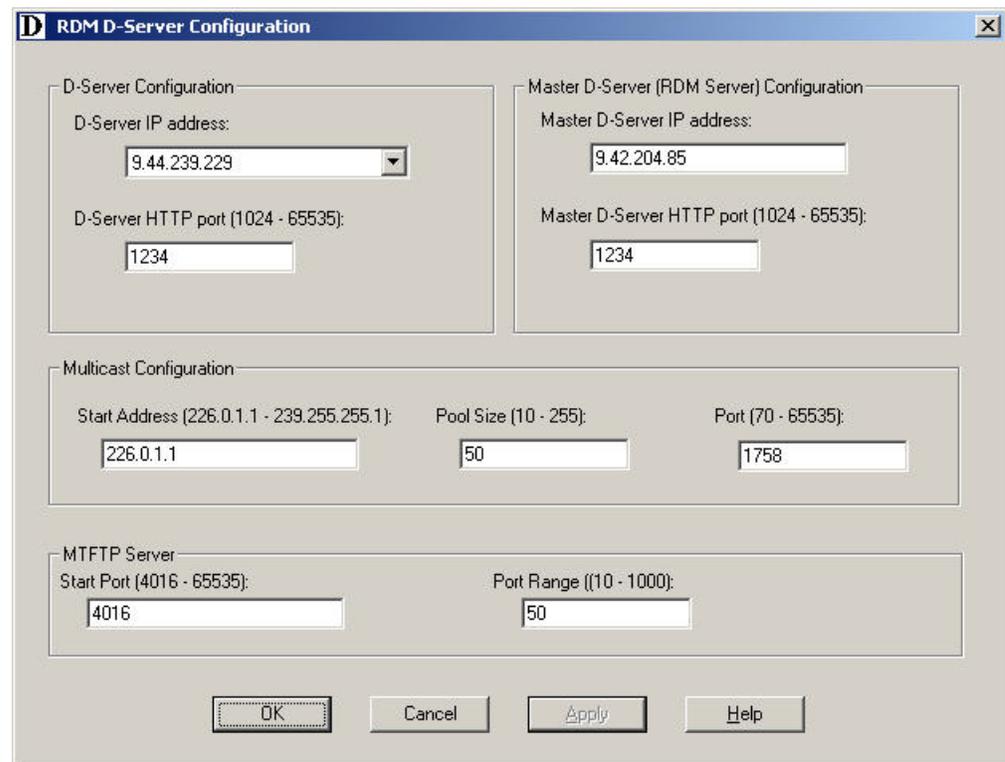


Figure 44. RDM D-Server Configuration window

**Note:** You also can type the following command from a command prompt, to start the RDM D-Server Configuration utility:

```
run d:\RDM_installation\bin\DsConfig.exe
```

where *d* is the disk drive letter of the hard disk drive where RDM is installed and *RDM\_installation* is the directory where RDM Deployment Server is installed.

2. In the **D-Server IP address** field, select the IP address that the deployment server uses to communicate with RDM Server. If the server contains multiple network adapters with multiple IP addresses, the IP addresses will be displayed in the **D-Server IP address** field. Select the one to use for RDM communications. This field is only present if you are configuring a remote deployment server.

3. Configure any additional settings as applicable; then, click **OK**.

---

## Chapter 9. Modifying, repairing, and uninstalling RDM

This chapter contains information about modifying, repairing, and uninstalling RDM running on Windows. It also includes information about uninstalling RDM running on Linux.

---

### Modifying, repairing, and uninstalling RDM on Windows

**Notes:**

1. Modify the installation to add or remove RDM components. Repair the installation to recopy the original RDM files in the event that a file was corrupted or deleted unintentionally.
2. If you only installed RDM Console, you can modify the installation by adding RDM Deployment Server. You also can modify an installation of RDM Deployment Server by adding RDM Console. If you installed both, you can modify the installation by removing either RDM Deployment Server or RDM Console. You cannot modify an installation of RDM Server.

Complete the following steps to modify, repair, or uninstall an RDM software component:

1. Click **Start** → **Settings** → **Control Panel**. The “Control Panel” window opens.
2. Double-click **Add/Remove Programs**. The “Add/Remove Programs” window opens.
3. Click **IBM Remote Deployment Manager 4.30**.
4. Perform one of the following actions:

---

**To uninstall RDM**

Click **Remove**. When the following prompt is displayed, click **Yes**:

Are you sure you want to remove IBM Remote Deployment Manager 4.30 from your computer?

---

**To modify or repair RDM**

Click **Change**. The InstallShield wizard starts. Follow the on-screen instructions.

---

---

### Uninstalling RDM running on Linux

Complete the following steps to uninstall RDM:

1. To change to the directory where the uninstallation script is located, type the following command and press Enter:  

```
cd /opt/IBM/RDM/bin
```
2. Type one of the following commands and press Enter:

---

**To uninstall RDM Server**

`./rdmuninstall -S`

---

**To uninstall RDM Console**

`./rdmuninstall -C`

---

**To uninstall RDM Deployment Server**

`./rdmuninstall -D`

---

If no command line parameters are used with the `rdmuninstall` script, the script determines which version of RDM is installed and removes the appropriate files.



---

## Appendix. Terminology summary and abbreviation list

This appendix provides a summary of Remote Deployment Manager (RDM) terminology and a list of abbreviations that are used in the following RDM publications:

- *Remote Deployment Manager 4.30 Installation and Configuration Guide*
- *Remote Deployment Manager 4.30 User's Reference*

---

### RDM terminology summary

The following terminology is used in the RDM publications.

A *system* is a server, workstation, desktop computer, mobile computer (laptop), or point-of-sale system.

The *RDM software* has three components:

- RDM Server
- RDM Console
- RDM Deployment Server (D-Server)

The hardware in an RDM environment is referred to in the following ways:

- An *RDM server* is a server on which both IBM Director and RDM Server is installed. It also contains an RDM console and the RDM master deployment server.
- An *RDM console* is a system on which both IBM Director Console and RDM Console are installed.
- A *remote deployment server* is a system on which RDM Deployment Server is installed. This system should be in a different subnet than the RDM server. RDM Console can be installed on this system also.
- A *target system* is a system on which an RDM task is run.

---

### Abbreviations

The following table lists abbreviations that are used in the RDM publications.

*Table 8. Abbreviations used in IBM Director*

Abbreviation	Definition
<b>A</b>	
AIA	asset information area
ARP	Address Resolution Protocol
ASCII	American Standard Code for Information Interchange
<b>B</b>	
BIOS	basic input/output system
BOOTP	Bootstrap Protocol
<b>C</b>	
CD	compact disc
CD-R	compact disc–recordable
CD-R/W	compact disc–read write

Table 8. Abbreviations used in IBM Director (continued)

<b>Abbreviation</b>	<b>Definition</b>
CD-ROM	compact disc–read-only memory
CMOS	complementary metal oxide semiconductor
<b>D</b>	
DBCS	double-byte character set
DCC	Direct Client Connection
DHCP	Dynamic Host Configuration Protocol
DOS	disk operating system
DNS	domain name system
DVD	digital video disc
<b>E</b>	
EEPROM	electrically erasable programmable read-only memory
<b>F</b>	
FAStT	Fibre Array Storage Technology
FAT	file allocation table
FTP	File Transfer Protocol
<b>G</b>	
GB	gigabyte
Gb	gigabit
GRUB	Grand Unified Boot Loader
GUI	graphical user interface
<b>H</b>	
HAL	hardware abstraction layer
HBA	host bus adapter
HTTP	Hypertext Transfer Protocol
<b>I</b>	
IBM	International Business Machines Corporation
ICMP	Internet Control Message Protocol
ID	identifier
IDE	integrated drive electronics (?)
IGMP	Internet Group Message Protocol
IMAP	Internet Message Access Protocol
IP	Internet Protocol
IPX/SPX	Internet Package Exchange/Sequenced Package Exchange
IRC	Internet Relay Chat
IRC DCC	Internet Relay Chat Direct Client Connection
IRQ	interrupt request
ISP	Internet service provider
<b>J</b>	
JRE	Java™ Runtime Environment

Table 8. Abbreviations used in IBM Director (continued)

Abbreviation	Definition
<b>K</b>	
KB	kilobyte
KBps	kilobytes per second
Kb	kilobits
Kbps	kilobits per second
<b>L</b>	
LAN	local area network
LCCM	LANClient Control Manager
LDAP	Lightweight Directory Access Protocol
LILO	Linux Loader
LUN	logical unit number
<b>M</b>	
MAC	media access control
MB	megabyte
MBps	megabytes per second
Mb	megabit
Mbps	megabits per second
MD5	message digest 5
MTFTP	Multicast Trivial File Transfer Protocol
<b>N</b>	
NetBEUI	NetBIOS Extended User Interface
NetBIOS	network basic input/output system
NFS	network file system
NIS	network information service
NIC	network interface card
NMO	native managed object
NTFS	Windows NT <sup>®</sup> 4.0 file system
<b>P</b>	
PC	personal computer
PC-DOS	personal computer–disk operating system
PDF	Portable Document Format
PFA	Predictive Failure Analysis
POP3	Post Office Protocol, version 3
PXE	Preboot Execution Environment
<b>R</b>	
RAID	redundant array of independent disks
RAM	random access memory
RDM	IBM Remote Deployment Manager
RFID	radio frequency identification
RPM	Red Hat Package Manager

Table 8. Abbreviations used in IBM Director (continued)

Abbreviation	Definition
<b>S</b>	
SAN	storage area network
SATA	serial advanced technology attachment
SCSI	small computer system interface
SDA	IBM Software Delivery Assistant
SID	security identifier
SMA	IBM System Migration Assistant
SMB	server message block
SMBIOS	System Management BIOS
SMP	symmetric multiprocessing
SMTP	Simple Mail Transfer Protocol
SSH	Secure Shell
STC	System/Task Configuration
STP	Spanning Tree Protocol
<b>T</b>	
TCP/IP	Transmission Control Protocol/Internet Protocol
TFTP	Trivial File Transfer Protocol
<b>U</b>	
UDP	User Datagram Protocol
UUID	universal unique identifier
<b>W</b>	
WAN	wide area network
WfM	Wired for Management
WINS	Windows Internet Naming Service

---

## Getting help and technical assistance

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

---

### Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system is turned on.
- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system. Information about diagnostic tools for BladeCenter and IBM System x systems is in the *Problem Determination Service Guide* on the IBM xSeries Documentation CD. Information about diagnostic tools for IntelliStation is in the *IntelliStation Hardware Maintenance Manual* at the IBM Support Web site.
- Go to the IBM Support Web site at <http://www.ibm.com/support/us> to check for technical information, hints, tips, and new device drivers or to submit a request for information.

You can solve many problems without outside assistance 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 BladeCenter, IBM System x, and IntelliStation 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, see the information for the operating system or program.

---

### Using the documentation

Information about your IBM BladeCenter, IBM System x, or IntelliStation system and preinstalled software, if any, is available in the documentation that comes with your system. That documentation includes printed books, online books, readme files, and help files. See the troubleshooting information in your system documentation for instructions for using the diagnostic programs. The troubleshooting information or the diagnostic programs might tell you that you need additional or updated device drivers or other software. IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. To access these pages, go to <http://www.ibm.com/support/us> and follow the instructions. Also, you can order publications through the IBM Publications Ordering System at <http://www.elink.ibm.com/public/applications/publications/cgibin/pbi.cgi>.

---

## Getting help and information from the World Wide Web

On the World Wide Web, the IBM Web site has up-to-date information about IBM xSeries and IntelliStation products, services, and support. The address for IBM BladeCenter information is <http://www.ibm.com/servers/eserver/support/bladecenter/>. The address for IBM System x information is <http://www.ibm.com/servers/eserver/support/xseries/index.html>. The address for IBM IntelliStation information is <http://www.ibm.com/servers/intellistation/pro/already.html>.

You can find service information for your IBM products, including supported options, at <http://www.ibm.com/support/us>.

---

## Software service and support

Through IBM Support Line, you can get telephone assistance, for a fee, with usage, configuration, and software problems with System x servers, IntelliStation workstations, and appliances. For information about which products are supported by Support Line in your country or region, go to <http://www.ibm.com/services/us/its/pdf/remotesupportxseries.pdf>.

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

---

## Subscription services

An RDM Subscription Services contract entitles you to receive future updates that become available during your subscription period at no additional charge. With software subscription services, you receive proactive notification of new upgrades, patches and support information. A one-year subscription is included with every RDM client license.

For more information about RDM subscription services, or to renew your contract, go to [http://www-03.ibm.com/servers/eserver/xseries/systems\\_management/subscription\\_services/rdm.html](http://www-03.ibm.com/servers/eserver/xseries/systems_management/subscription_services/rdm.html).

---

## 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 give 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  
U.S.A.*

INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product, and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

---

## Edition notice

© Copyright International Business Machines Corporation 2003, 2006. All rights reserved.

U.S. Government Users Restricted Rights — Use, duplication, or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

---

## Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

BladeCenter	ServerGuide
e-business logo	ServerProven
@server	SurePOS™
IBM	System Storage™
IntelliStation	System x
Netfinity®	TotalStorage®
NetVista	Wake on LAN
Redbooks	xSeries
ServeRAID™	

Intel and Pentium are trademarks of Intel Corporation in the United States, other countries, or both.

Microsoft, Windows, and Windows NT® are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX® is a registered trademark of The Open Group in the United States and other countries.

Java™ and all Java-based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Red Hat, the Red Hat “Shadow Man” logo, and all Red Hat-based trademarks and logos are trademarks or registered trademarks of Red Hat, Inc., in the United States and other countries.

Other company, product, or service names may be trademarks or service marks of others.

---

# Index

## A

- activate scope 26
- Address Resolution Protocol (ARP) 15
- attended installation
  - Linux
    - RDM Console 34
    - RDM Server 31
    - Remote Deployment Server (D-Server) 36
  - Windows
    - RDM Console 45
    - RDM Deployment Server 48
    - RDM Server 41

## B

- books x
- BOOTP (Bootstrap Protocol) 15
- bootstrap loader program 3
- broadcast forwarding 15

## C

- components
  - overview, RDM 1
  - RDM Console 2
  - RDM Deployment Server 2
  - RDM Server 1
- configuration
  - MTFTP settings 77
  - multicast settings 76
  - network settings 75
  - RDM Deployment Server 72
  - RDM Server 68
- configuring
  - DHCP option 3 11, 12, 26
  - DHCP option 60 16, 17, 26
  - DHCP service 9, 16
  - domain name 24
  - Linux, DHCP 16
  - Linux, optional settings 33, 38
  - master D-Server 44
  - RDM Deployment Server 51
  - routers, switches, and hubs 15
  - target systems 9
  - Windows, DHCP 17
  - WINS server 25
- customer support x

## D

- D-Server
  - See RDM Deployment Server (D-Server)
- data
  - exporting 61
- deployment servers
  - adding to RDM 71

- deployment servers (*continued*)
  - configuring
    - MTFTP settings 77
    - multicast settings 76
    - network settings 75
    - replication settings 79
    - subnet settings 66
  - deleting from RDM 81
  - enabling 74
  - IP address 72
  - restarting 80
- DHCP (Dynamic Host Configuration Protocol)
  - DHCP Options, configure 22
  - forwarding, broadcast messages 15
  - option 3, configuring 11, 12, 26
  - option 60, configuring 16, 17, 26
  - service
    - configuring 9, 16
    - defining scopes 17
    - Linux, configuring 16
    - New Scope wizard 17
    - Windows, configuring 17
- DHCPDISCOVER message 3, 15
- disk space, minimum requirements 5
- diskette drive A, virtual 3
- documentation x
- domain name, configuring 24
- dserver service
  - restarting 80
  - restarting on Linux 80
  - restarting on Windows 80
- dserver.ini 73
- Dynamic Host Configuration Protocol (DHCP)
  - See DHCP (Dynamic Host Configuration Protocol)

## E

- eFixes x
- environment
  - routed network 11
  - single LAN 11
  - WAN 14
- export
  - system data 61

## F

- FASTT storage servers 5
- forwarding, broadcast messages 15

## H

- hardware requirements
  - management systems 5
  - target systems 5
- help x

## I

- IBM Director
  - console, starting 65
  - login 65
  - ServeRAID Manager feature 41
- IBM Remote Deployment Manager
  - See RDM
- IBM Web site
  - IBM Director 4.30 x
  - RDM resources x
  - Redbooks x
  - Remote Deployment Manager 4.30 x
  - ServerGuide xi
  - ServerGuide Scripting Toolkit xi
  - ServerProven xi
  - support xi
  - Systems Management Software xi
  - UpdateXpress xi
  - xSeries Systems Management xi
- ICMP (Internet Control Message Protocol) 14
- IGMP (Internet Group Management Protocol) 15
- illustrations
  - routed network
    - RDM and DHCP on different servers 12
    - RDM and DHCP on different subnets 13
  - single LAN environment 11
  - WAN environment 14
- import
  - system data 63
- installation
  - Linux
    - attended 34
    - default location 30
    - prompts and values 30
    - RDM Console 34
    - RDM Server prerequisites 31
    - Remote Deployment Server (D-Server) 36
    - response file 29
    - response file, unattended 33, 38
    - unattended 33, 38
  - types of 9
  - Windows
    - attended 41
    - RDM Console 45
    - RDM Deployment Server (D-server) 48
    - RDM Server 41
    - response file 53
    - unattended 52
- InstallShield wizard
  - RDM Deployment Server 48
  - RDM Server 41
- Internet Control Message Protocol (ICMP) 14
- Internet Group Management Protocol (IGMP) 15
- IP address
  - configuring
    - remote deployment servers 82

## L

- Linux
  - automount 36
  - IBM Director Console, starting 65
  - installation
    - default location 30
    - prompts and values 30
    - RDM Console 34
    - RDM Server, prerequisites 31
    - Remote Deployment Server (D-Server) 36

## M

- master D-Server
  - class-D (multicast) IP addresses 45, 52
  - configuring 44
  - HTTP port 44
- master repository 2
- mds.log 73
- memory, minimum requirements for RDM 5
- modifying RDM installation 85
- MTFTP settings 77
- multicast settings 76

## N

- network adapters, minimum requirements 5
- network settings 75
- network topology illustrations
  - RDM and DHCP on different servers 12
  - RDM and DHCP on different subnets 13
  - single LAN environment 11
  - WAN environment 14
- New Scope wizard 17
- NIC (network interface card) 2

## O

- operating systems 6
- option 3, configuring DHCP 11, 12, 26
- option 60, configuring DHCP 16, 17, 26

## P

- planning considerations 9
- Preboot Execution Environment (PXE) 2
- protocols
  - Address Resolution Protocol (ARP) 15
  - Bootstrap Protocol (BOOTP) 15
  - Dynamic Host Configuration Protocol (DHCP)
    - configuring service 9
    - option 3, configuring 11, 12, 26
    - option 60, configuring 16, 17, 26
  - Internet Control Message Protocol (ICMP) 14
  - Internet Group Management Protocol (IGMP) 15
  - User Datagram Protocol (UDP) 15
- publications x
- PXE 2
- PXEDHCP.BAT program 26

## R

rdagent program 3

### RDM

bootstrap loader program 3

components 1

RDM Deployment Server 71, 72

RDM Server 68

custom installation 46

documentation x

environment, overview of 9

hardware requirements 5

installation

modifying, repairing, and uninstalling 85

types of 9

installation, Linux

attended 36

automount 36

default location 30

prompts and values 30

RDM Server prerequisites 31

response file, unattended 33, 38

installation, Windows

attended 41

complete 42

DHCP Server is local 44

Microsoft DHCP Installed 44

RDM Console 45

RDM Server 41

response file, unattended 52

unattended 52

master repository 2

modifying installation 85

overview ix, 1

planning considerations 9

prerequisites 5

remote repository 2

repairing installation 85

software requirements 5

terminology 1

uninstalling 85

upgrade paths 57, 58

Web site x

### RDM console

description 1

system requirements 5

### RDM Console

disk space requirements 5

installation

attended, Linux 34

attended, Windows 45

memory requirements 5

modifying 85

operating systems 6

overview 2

repairing 85

uninstalling 85

upgrading 57, 58

### RDM Deployment Server

configuring 72

initialization

dserver.ini 73

### RDM Deployment Server (D-server)

description 1

installation

attended, Linux 29

attended, Windows 48

unattended, Linux 33, 38

unattended, Windows 52

management options 66

modifying 85

operating systems 6

overview 2

repairing 85

requirements, disk space, memory 5

services 2

Unicast Image Server 2

uninstalling 85

upgrading 57, 58

### RDM server

description 1

mids.log 73

system requirements 5

### RDM Server

configuring 68

disk space requirements 5

installation

attended, Linux 31

attended, Windows 41

memory requirements 5

modifying 85

operating systems 6

overview 1

repairing 85

uninstalling 85

upgrading 57, 58

rdm.ini 75

rds.log 73

Redbooks x

### Remote D-Server

See RDM Deployment Server (D-Server)

### Remote Deployment Manager (RDM)

See RDM

### Remote Deployment Server

See RDM Deployment Server (D-Server)

### remote deployment servers

See also deployment servers

configuring

IP address 82

replication settings 79

enabling 74

rdm.ini 75

rds.log 73

### Remote Storage Configuration 5

repairing RDM installation 85

### replication

configuring 79

time intervals 69

### repository

master 2

remote 2

- response file
  - Windows
    - RDM Console 54
    - RDM Server 53
    - Remote Deployment Server (D-Server) 54
- routed network environment (illustration) 12, 13
- routers
  - configuring 15
  - required protocols 14

## S

- Scan
  - task
    - default 69
- scope, defining 17
- ServeRAID Manager 41
- service
  - DHCP 9
  - DHCP, running on Windows 17
  - Linux 16
  - option 3 11, 26
  - option 60 16, 17
- service packs x
- services
  - and support, Web 92
  - dserver
    - restarting 80
  - RDM Deployment Server 2
- single LAN environment (illustration) 11
- spanning-tree protocol (STP) 15
- specifications, Wired for Management (WfM) 5
- storage servers, FASTT 5
- STP (spanning-tree protocol) 15
- subnet configuration 66
- subnet-directed broadcast forwarding 15
- system data
  - systems data
    - exporting 61
    - importing 63
- system memory, minimum requirements 5
- systems, types 1

## T

- target systems
  - configuration of 9
  - description 1
  - system requirements 5
- tasks
  - Scan
    - default 69

## U

- UDP(User Datagram Protocol) 15
- unattended installation
  - Linux 33, 38
  - Windows 52
- uninstalling RDM 85
- upgrade paths 57, 58

## V

- virtual diskette drive A 3

## W

- Wake on LAN 2
- WAN environment (illustration) 14
- Web site
  - IBM Director 4.30 x
  - IBM RDM resources x
  - IBM Redbooks x
  - IBM Remote Deployment Manager x
  - IBM Remote Deployment Manager publications x
  - IBM ServerGuide xi
  - IBM ServerGuide Scripting Toolkit xi
  - IBM ServerProven xi
  - IBM Support xi
  - IBM System x Systems Management xi
  - IBM Systems Management Software xi
  - IBM UpdateXpress xi
  - IBM xSeries Systems Management xi
- WfM (Wired for Management) 2
- Windows
  - IBM Director Console, starting 65
  - installations, attended 41
  - InstallShield wizard 41
  - RDM installation, complete 42
  - response file, unattended 52
  - Setup Type, complete installation 42
  - unattended 52
- WINS (Windows Internet Naming Service) 25
- WINS server, configuring 25
- Wired for Management (WfM) 2
- Wired for Management (WfM) specification 5
- wizards
  - InstallShield wizard 41
  - New Scope wizard 17





Part Number: 90P2892

Printed in USA

(1P) P/N: 90P2892

