HP OpenView Patch Manager Using Radia

for the Windows and UNIX operating systems

Software Version: 2.1

Installation and Configuration Guide

Manufacturing Part Number: T3424-90108

June 2005

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http://www.hp.com/managementsoftware/support

This web site provides contact information and details about the products, services, and support that HP OpenView offers.

HP OpenView online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valuable support customer, you can benefit by using the support site to:

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- Submit enhancement requests online
- Download software patches
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- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
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To register for an HP Passport ID, go to:

http://www.managementsoftware.hp.com/passport-registration.html

Revisions

The version number on the title page of this document indicates the software version. The print date on the title page changes each time this document is updated.

You will receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

The sections below show new features that have been added to the Patch Manager after release 1.2.

Chapter 2: Creating the Patch Manager Environment

2.0.1 Page 24, Patch Manager Implementation Tasks: Patch Manager includes significant performance improvements to the Reporting Server patch reports. These improvements disable the patch reports rendered through the Radia Integration Server.

2.0 Page 30, To install the Patch Manager Components: For version 2.0, the Patch Manager no longer includes an option for the installation of the Messaging Server.

2.0 Page 35, Configuring the Patch Manager Server: The Radia Patch Administrator provides an interface to modify Patch Manager settings.

1.2.1 Page 36, To use the Patch Manager Administrator: The Patch Manager setup page has been updated to reflect new configuration parameters.

2.0 Page 37, Patch Manager Settings: The URL to connect to the Radia Patch Update web site provided by HP has changed to **http://managementsoftware.hp.com/Radia/patch_management/data**. This URL is the value for the nvdm_URL parameter in `patch.cfg`. Furthermore, the nvdm_user and nvdm_password parameters are not required for use with the new location.

2.0 Page 39, Red Hat Feed Settings: Specify the URL and OS Filter for the Red Hat Network data feed using the Patch Manager Administrator. The OS Filter was added to the settings in Version 2.1. This URL is the value for the rhn_url parameter in `patch.cfg`.

2.0.1 Page 40, SUSE Feed Settings: This version of the Patch Manager supports SUSE Linux Enterprise Server Versions 8 and 9. Specify the URL and operating systems. The OS Filter was added to the settings in Version 2.1.

2.1 Page 40, HP-UX Feed Settings: This version of the Patch Manager supports HP-UX Versions 11.00 and 11.11.

2.1 Page 43, Patch Agent Settings: Checkboxes have been added for Linux and HP-UX.

2.0 Page 44, Reporting Settings: Specify the location of the Reporting Server in the Patch Manager Administrator. Click the Reporting icon in the Patch Manager Administrator to view Patch Reports. This URL is the value for the reporting_url parameter in `patch.cfg`.

2.0.1 Page 38, ODBC DSN Settings: A new option has been made for Database Type, either Microsoft SQL Server or Oracle. This is the same as the db_type parameter in `patch.cfg`.

2.0.1 Page 46, See Table 1: The db_type option has been made for Database Type. Possible values are Microsoft SQL Server or Oracle.

2.1 Page 47, See Table 1: The hpux_patch_url, hpux_url, and hpux_xml_url parameters have been added for HP-UX support.

2.0.1 Page 51, See Table 1: The suse_pass, suse_urls, and suse_user parameters have been added for SUSE support.

Chapter 3:
Patch Acquisition

2.1 Page 62, See Figure 3: Shows that security patches can now be acquired for RedHat, SUSE and HP-UX.

2.0.1 Page 72, SUSE Settings: Specify if you want to acquire SUSE Security Advisories.

2.1 Page 73, HP-UX Settings: Specify if you want to acquire HP-UX Security Bulletins..

2.0 Page 75, See Table 3: Use ARCH to specify for which machine architectures you want to acquire patches.

1.2.1 Page 78, See Table 3: A new variable called HISTORY controls how long to keep the Patch Auth Store (PASTORE) instances.

1.2.1 Page 79, See Table 3: A LANG filter, specified in `patch.cfg` or on your acquisition command line, has been added that provides a single comma-delimited list of the language filters to include or exclude from publishing.

1.2.1 Page 79, See Table 3: A PRODUCT filter, specified in `patch.cfg` or on your acquisition command line, has been added that provides a single comma-delimited list of the product filters to include and exclude from publishing.

1.2.1 Page 80, See Table 3: A new variable in called PURGE_ERRORS controls how long to keep Publisher Error (PUBERROR) instances.

1.2.3 Page 80, See Table 3: A RETIRE option, specified in `patch.cfg` or on the acquisition command line has been added. Use the -retire parameter to delete specified bulletins if they exist in the Radia Database during the current publishing session, or to prevent publishing the bulletins specified in the retire parameter to the Radia Database during the current publishing session. The use of the retire option supersedes the bulletins option. HP recommends the use of the retire parameter in the `patch.cfg` file.

2.0 Page 81, See Table 3: Use SUPERCEDED_PATCHES to specify if you want to download the data for superceded patches.

2.0 Page 81, See Table 3: Use VENDORS to specify for which vendors you want to acquire patches.

2.0 Page 81, See Table 3: Use VENDOR_OS_FILTER to specify for which operating systems you want to acquire patches. This does not apply to Microsoft Operating systems, as Microsoft considers its operating systems products.

1.2.1 Page 81, To acquire patches from a command line: The patch publisher now logs the build and version number of the `patch.tkd`.

2.0 Page 82, Patch Acquisition Reports: Patch Manager uses the Reporting Server for patch acquisition reports.

Chapter 4: Patch Assessment and Analysis

2.0.1 Page 92, Installing the Patch Manager Client: Patch Manager client Agent now supports deployment to Red Hat Enterprise Server 2.1, 3 and 4, SUSE 8 and 9, and HPUX 11.00 and 11.11 (11i).

1.2.1 Page 95, Updating the Patch Manager client Agent: A new class AUTOPKG has been added to the PATCHMGR domain for automated acquisition and distribution of product probes (both patch descriptor files and the scripts associated with a product probe).

2.0 Page 95, Updating the Patch Manager client Agent: Use AGENT_OS to specify for which operating systems you want to get Patch Manager client agents updates.

2.0 Page 95, Updating the Patch Manager client Agent: Use AGENT_VERSION to specify for which Patch Manager client version you want to get updates.

1.2.2 Page 95, Product Discovery and Analysis: Bandwidth optimization has been added to the Patch Manager client. Patch Manager objects are cached locally on the client device.

2.1 Page 96, Detecting and Managing Microsoft Office Security Bulletins: Patch Manager has the ability to detect Microsoft Office vulnerabilities for installed Microsoft Office applications. It can also manage those vulnerabilities on locally installed Microsoft Office applications. Patch Manager does not support patch management for Office 95 and Office 97.

2.0 Page 99, Patch Analysis and Reports: Patch Manager now uses the Reporting Server for patch compliance and research reports.

2.0.1 Page 110, Compliance and Research Exception Reports: The Compliance and Research Exception Reports were introduced to provide information about devices that do not meet the criteria for the standard research and compliance device reports.

2.0 Page 113, Deploying Automatic and Interactive Patches: Patch Manager can detect vulnerabilities for interactive and automatic patches. Use the catexp parameter of radskman if you want to limit deployment only to automatic patches.

1.2.1 Page 114, Customizing Reporting Options: Customize the reporting status of a patch file or registry key using three new supported xml tags in the patch descriptor file for a bulletin. The new tags are DesiredState, ReportThreshold, and Use.

1.2.1 Page 117, Disabling Vulnerability Detection and Deployment: Disable a BULLETIN or PATCH instance for detecting patch vulnerability and patch deployment.

Contents

1 Introduction

At the end of this chapter, you will:

- Know the capabilities of HP OpenView Patch Manager Using Radia (Patch Manager).

HP OpenView Patch Manager Using Radia

The Patch Manager provides value for business continuity and security initiatives. The Patch Manager is offered as a complete stand-alone solution and can be used as a fully integrated component of the Radia Management Suite, which provides automated and ongoing configuration management for all software across the enterprise, ensuring that the entire software infrastructure is always in its desired state—up-to-date, reliable, and secure. Key capabilities for patch management activities include:

- **Acquisition:**
  configurable tools to enable automatic collection of security patches and service packs directly from Microsoft, HP-UX, Red Hat, and SUSE web-based depositories.
- **Impact Analysis and Pilot Testing**:
  identification of affected applications, devices, and users to determine configuration impact before security patches are deployed. Patch Manager also allows IT administrators to select target pilot groups based on usage or critical need. Radia is the only solution with these unique impact analysis and pilot testing capabilities that help ensure the stability of business critical systems.
- **Compliance and Vulnerability Assessment**:
  automatic and continuous discovery of devices on the network, software products that are installed on each device, the collected security patches that are already applied to each software product, and identification of software products that the device actually executes. Through this complete discovery and assessment process, the IT administrator can understand the full scope of security vulnerability and system compliance at all times.
- **Deployment**:
  policy-based deployment capabilities that interface directly with a variety of existing policy sources such as Active Directory, LDAP, or SQL databases to enable automatic, rapid, and precise targeting of patches for deployment to servers, desktops, and laptops. Radia patented differencing, bandwidth optimization, multicast, and checkpoint-restart capabilities and multi-tiered infrastructure ensure that security patches are deployed with minimal impact on network resources, and allow patches to be managed across an enterprise of any size.
- **Compliance and Assurance**:
  unique desired-state management that automatically and continuously ensures that security patches remain applied in their proper state as

prescribed by policy. Devices and users are monitored and checked against policy and, if found to be out of compliance, are automatically adjusted to appropriate patch levels. In addition, if patches are corrupted in any way Radia provides self-healing for connected and disconnected users.

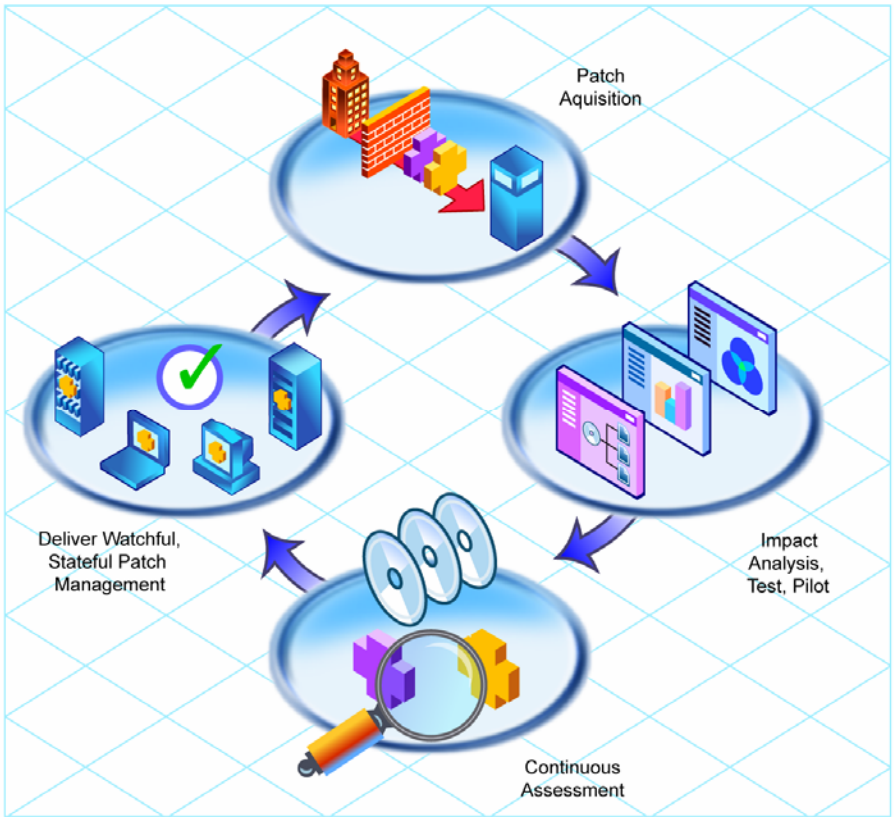


Figure 1: Patch Management life cycle.

Terminology

The following terms are often used throughout this publication, and it may be helpful to become familiar with them before using this guide.

bulletin or security advisory

A bulletin is a security vulnerability reported by a vendor on one of its products. This term is used interchangeably with Red Hat and SUSE Security Advisories.

patch

The patch is the actual file to be deployed and executed to fix the vulnerability. A bulletin can have multiple patches depending on affected products, platforms, architectures, and languages.

qnumber

A qnumber is equivalent to the ticket opened by Microsoft Support. One bulletin can have multiple qnumbers.

Radia Patch Management Components

Patch Manager uses existing components of the Radia Infrastructure in addition to the Patch Manager Server. The following Radia components are required:

- **HP OpenView Configuration Server Using Radia**
  Applications and information about the subscribers and client computers are stored in the Radia Database on the HP OpenView Configuration Server Using Radia (Configuration Server). The PATCHMGR domain in the Radia Database contains instances for patch management. The Configuration Server processes information received from the Patch Manager client. The Configuration Server manages vulnerabilities based on policies established by the Radia administrator using the System Explorer for the HP OpenView Administrator Workstation Using Radia (System Explorer). For more information, refer to the *User's Guide for the HP OpenView Configuration Server Using Radia (Configuration Server Guide)*.
- **HP OpenView Management Portal Using Radia**
  Use the Management Portal to configure the Patch Manager Server and

deploy the Patch Manager client. The Management Portal is a module of the Radia Integration Server, and runs under the Radia Integration Server service. Refer to the *Installation and Configuration Guide for the HP OpenView Management Portal Using Radia* for more information.

- **HP OpenView Patch Manager Server Using Radia**
  The Patch Manager Server acquires security patches from the Internet, loads them into the Radia Database, and then synchronizes them with an SQL or Oracle Database. The information on the patches and the vulnerabilities in your environment can be analyzed using Patch Manager reports. Patch Manager is a module of the Radia Integration Server, and runs under the Radia Integration Server service.
- **HP OpenView Patch Manager client Agent Using Radia**
  Install the Patch Manager client on devices for which you want to manage vulnerabilities. The client discovers products and patches on managed devices.
- **HP OpenView Reporting Server Using Radia**
  As part of the Radia extended infrastructure, the web-based Reporting Server allows you to query the combined data in existing Radia Inventory Manager, Patch Manager, and Radia Usage Manager databases and create detailed reports. In addition, you have the option of mounting an existing LDAP directory, which allows you to filter your data using your LDAP directory levels. The Reporting Server interface provides a dynamic and intuitive way to use Radia SQL data for reporting and overall environmental assessment.
- **System Explorer for the HP OpenView Administrator Workstation**
  The Radia administrator uses the System Explorer to view and manage vulnerabilities stored in the Radia Database. For more information, refer to the *System Explorer Guide for the HP OpenView Administrator Workstation Using Radia*.

You also have the option of using the HP Openview Configuration Analyzer Using Radia and HP OpenView Knowledge Base Manager Using Radia for the analysis and importing of state files. State files represent the current state of an application or a patch. Patch Manager provides a utility to create state files for Microsoft patches.

- **Configuration Analyzer**
  The Configuration Analyzer allows you to view, store, and compare Microsoft patches and application data. Application or Patch data are imported into the Configuration Analyzer in the form of state files. State files represent the current state of an application or a patch. The Patch Manager can automatically generate state files for Microsoft patches. In

addition, it allows you to not only analyze the contents of a patch, but also perform some cross analysis to verify how a patch may impact your environment or how a patch may intersect with another patch. Refer to the *Installation and Configuration Guide for the HP OpenView Configuration Analyzer Using Radia* for more information.

- **Knowledge Base Manager**
  The Knowledge Base Manager performs automated import processing of Radia state files into a database allowing you to compare state files. Refer to the *Installation and Configuration Guide for the HP OpenView Knowledge Base Manager Using Radia* for more information.

Summary

- Use the Patch Manager to manage security vulnerabilities of applications in your enterprise.
- To use all of the features described in this guide, you must be using Patch Manager version 2.0 or above.

2 Creating the Patch Manager Environment

At the end of this chapter, you will:

- Be familiar with the tasks needed to set up the Patch Manager environment.
- Know how to modify the Radia Database and Configuration Server.
- Be able to install the Patch Manager.

Patch Manager Implementation Tasks

Before setting up your environment for the Patch Manager, you must have already installed the latest version of the Configuration Server and Microsoft SQL Server 2000 Service Pack 3a or greater. If using Oracle, the minimum database and driver version is Oracle 9i Release 2, patch set 2 (9.2.0.3). Unless otherwise noted, all components that are added to the Radia infrastructure are contained on the Patch Manager main CD-ROM.

To use the Patch Manager, you will need to complete the following tasks:

- ❑ Create the SQL or Oracle Patch Database and an ODBC DSN.
- ❑ Install the Configuration Server. Refer to the *Getting Started Guide for HP OpenView Using Radia.*
- ❑ Install the Messaging Server 3.0. Refer to the *Messaging Server Guide*.
- ❑ Install the System Explorer. Refer to the *System Explorer Guide.*
- ❑ Run the Patch Manager installation. This installation includes:
  - Modifying the Radia Database.
  - Modifying the Configuration Server executables.
  - Installing the Patch Manager Server.
  - Configuring Patch Manager to use your DSN.
  - Synchronizing the Radia Database with the SQL or Oracle Database.
- ❑ Add a Method Connection to your Radia Database.
- ❑ Install the Management Portal. Refer to the *Management Portal Guide*.
- ❑ Install the Reporting Server 4.4.1. Refer to the *Reporting Server Guide*.
- ❑ Optional: Install and configure the Configuration Analyzer.
- ❑ Optional: Install and configure the Knowledge Base Manager.

This version of Patch Manager includes significant improvement to the performance of Reporting Server patch reports. The change will cause Patch Manager reports rendered through the Radia Integration Server to be disabled. Compliance, Research, and Acquisition reports will be available through the Reporting Server Version 4.1.1 and above with the patch manager object pack applied.

Creating the ODBC Patch Database

Before installing Patch Manager, create a Microsoft SQL Server or Oracle database. If you do not have security rights to create the database, contact your SQL database administrator.

The required size will vary based on the number of patches and managed devices in your environment. The procedures below merely reflect recommendations.

To create a Microsoft SQL Patch database

1 Create a database on your Microsoft SQL Server, with the following recommendations:

General tab	Name: PATCH (or name of your choice with no blanks or underscores)
Data Files tab	Initial Size: 500 MB Select Autogrow by 20%.
Transaction Log tab	Change initial size: 100 MB

2 Use appropriate Microsoft SQL security recommendations for your enterprise.

3 On the computer that will be your Patch Manager Server, create an ODBC DSN called PATCHMGR, or name of your choice, pointing to the new PATCH database on your SQL Server. If you do not know how to create an ODBC DSN, contact your SQL database administrator.

Install Microsoft Data Access Components (MDAC) on your Patch Manager Server. Download it from the Microsoft web site. The minimum version required is MDAC 2.8.

To create the Oracle database

1 Create a tablespace for patchdata on your Oracle Server with the following recommendations:

Tablespace Name	PATCHDATA
Status	Online
Type	Permanent
Datafile	Fully qualified path and name of the datafile such as `patchdata.dbf`
Storage	Minimum Size 200 M and Max size unlimited
Extent Management	Locally managed with automatic allocation
Segment Space Management	Automatic
Logging	No

2 Create a tablespace for patchtemp with the following recommendations:

Tablespace Name	PATCHTEMP
Status	Online
Type	Temporary
Datafile	Fully qualified path and name of the datafile, such as `patchtemp.dbf`
Storage	Size 1000 M
Extent Management	Locally managed with automatic allocation
Segment Space Management	Automatic
Logging	No

3 Create a user and associate the data and temporary tablespaces to the user with a default profile.

Username	radiapatch
Password	Create one based on your enterprise's security recommendations.
Default tablespace	PATCHDATA
Temporary tablespace	PATCHTEMP
Profile	DEFAULT or a PROFILE NAME used for this schema)

4 On the computer that will be your Patch Manager Server, create an ODBC DSN called PATCHMGR, or name of your choice, pointing to the new PATCH database on your Oracle Server. If you do not know how to create an ODBC DSN, contact your Oracle database administrator.

Installing the Administrator Workstation

The Radia v4 Configuration Server CD-ROM contains a Radia Administrator installation. Refer to the *Application Manager Guide* or the *Software Manager Guide* for more information on installation. Instructions for using the System Explorer can be found in the *System Explorer Guide*.

Installing the Patch Manager Server

Identify a computer to act as your Patch Manager Server. It must be able to communicate with your Configuration Server, your ODBC Server, and the Internet. Patch Manager may be installed on Windows 2000, Windows XP, or Windows 2003 Server. See the operating system's documentation for system requirements.

The Configuration Server Components and Radia Database Updates portions of the Patch Manager installation can only be run on the Configuration Server computer. These pieces cannot be installed over a network connection.

The minimum version of Microsoft Data Access Components (MDAC) required is 2.8 on the Patch Manager Server. If you are using Oracle for your

Patch Database, you must use the Oracle Corporation's ODBC drivers, minimum version 9.2.0.3, not those supplied by Microsoft.

If you have previously installed the Patch Manager, rename the `patch.cfg` file.

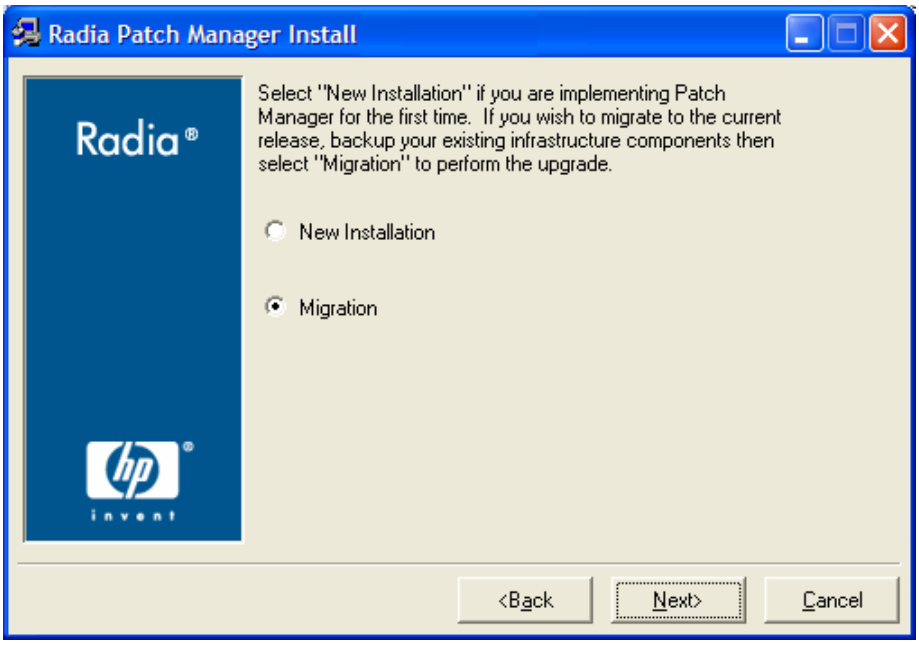
To install the Patch Manager Components

1 From the `extended_infrastructure\patch_manager_server\win32` directory on the Patch Manager installation media, double-click **setup.exe**.

The minimum build of nvdkit required for Patch Manager Version 2.1 is 154. This is included with the installation materials.

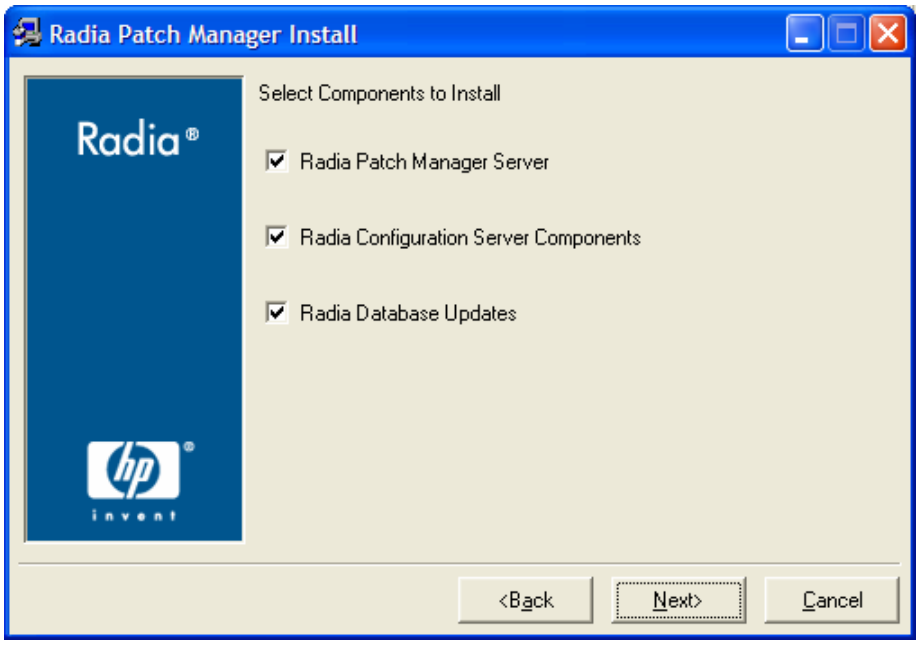
2 Click **Next**.

3 Click **Accept** for the HP Software License Terms.



4 Select **New Installation** if this is a new installation of the Patch Manager. If you want to migrate from Patch Manager Version 1.2, Release 1.2.2 to Patch Manager Version 2.0, select **Migration.** Migration instructions can be found in the Patch Manager media's Migration directory.

If you are migrating, be sure to read the migration instructions before proceeding.



5 Select the components to install. If you are running the Patch Manager installation for the first time, you should check all the options.

— **Patch Manager Server**
Installs the Patch Manager Server including the Radia Integration Server.

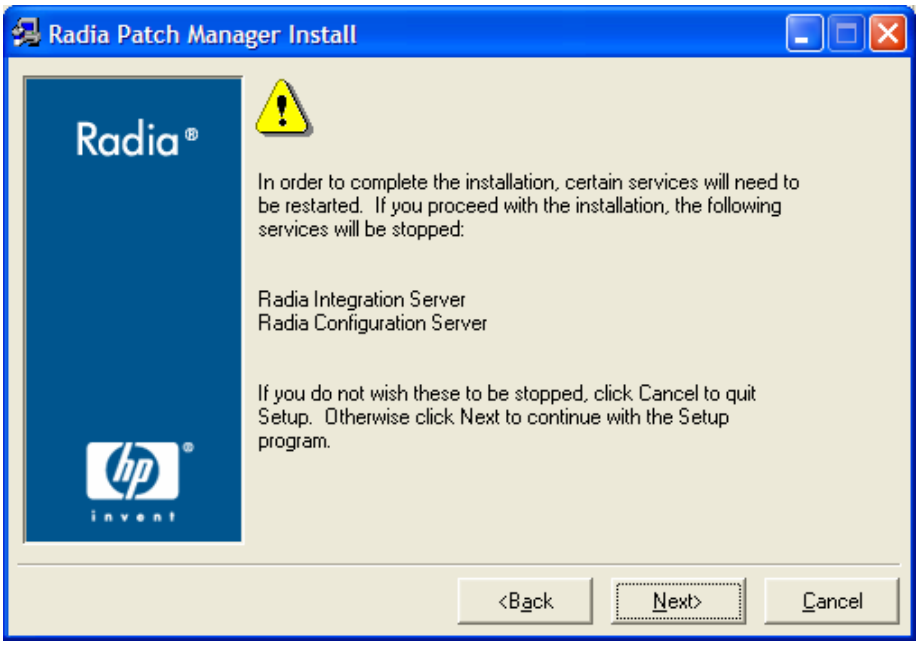
— **Configuration Server Components**
Installs updated executables and scripts for the Configuration Server to work with Patch Manager.

> To use the features of Patch Manager Version 2.0, you must select **Radia Database Updates**. The PATCHMGR domain, and only the PATCHMGR domain, will be replaced, and all data in that domain removed.

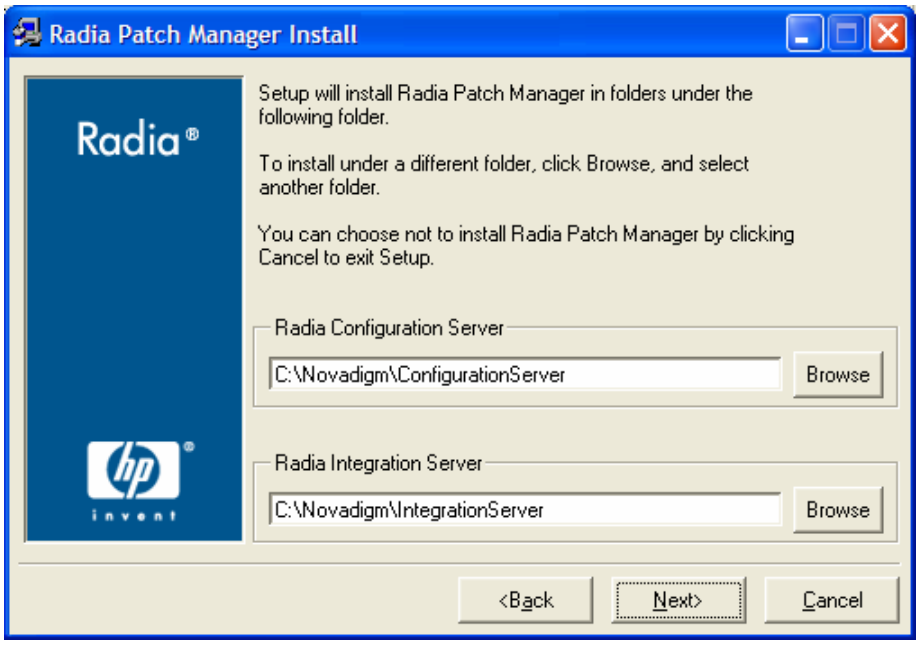
— **Radia Database Updates**
Creates the PATCHMGR domain in the Radia Database.

The Configuration Server Components and Radia Database Updates portions of the Patch Manager installation can only be run on the Configuration Server computer. These pieces cannot be installed over a network connection.

After making your selections, click **Next**.



6 Click **Next** in the warning window.



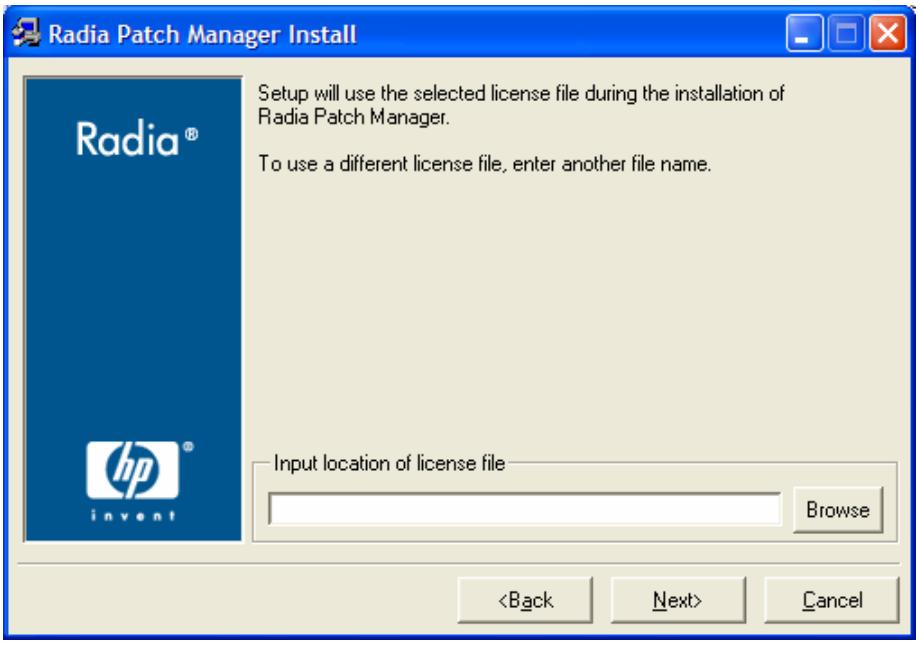
7 Type the location where the Configuration Server is installed, or click **Browse** to navigate to the location.

Type the location where you would like to install the Patch Manager Server (Radia Integration Server), or click **Browse** to navigate to the location.

Where possible, accept the defaults for these directories.

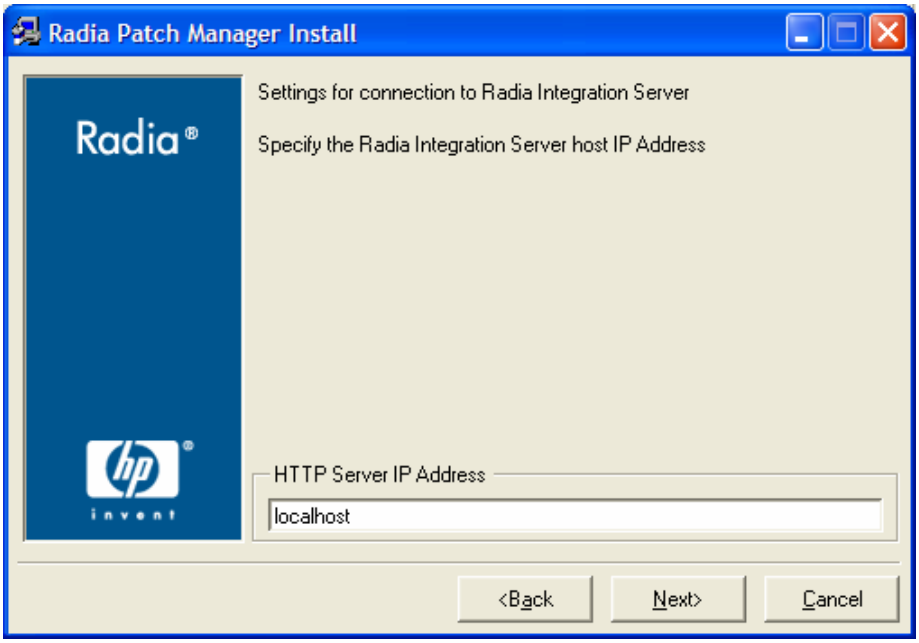
8 Click **Next**.

9 Click **OK** to update the directory contents if you would like to continue.

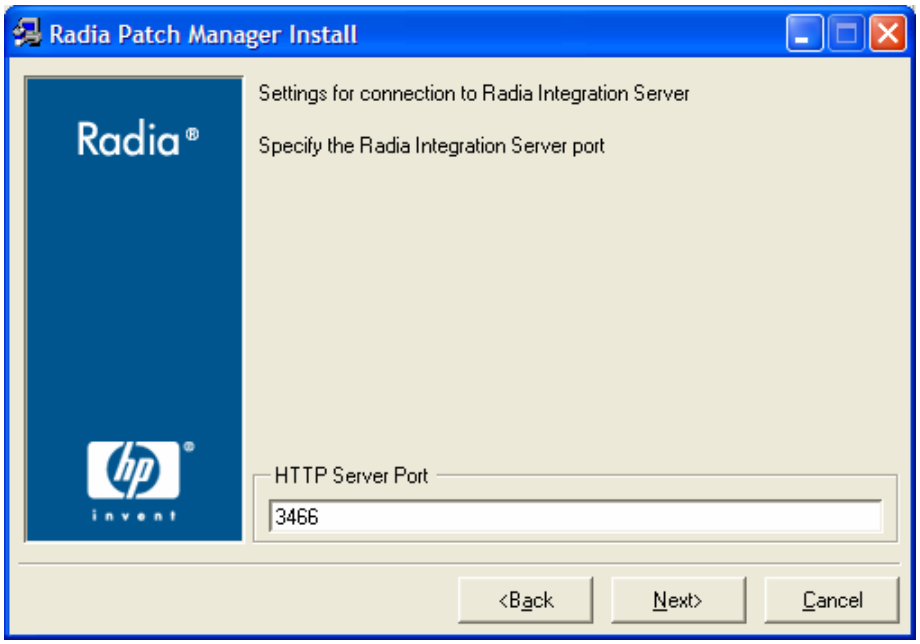


10 Type the location of your license file or click **Browse** to navigate to it.

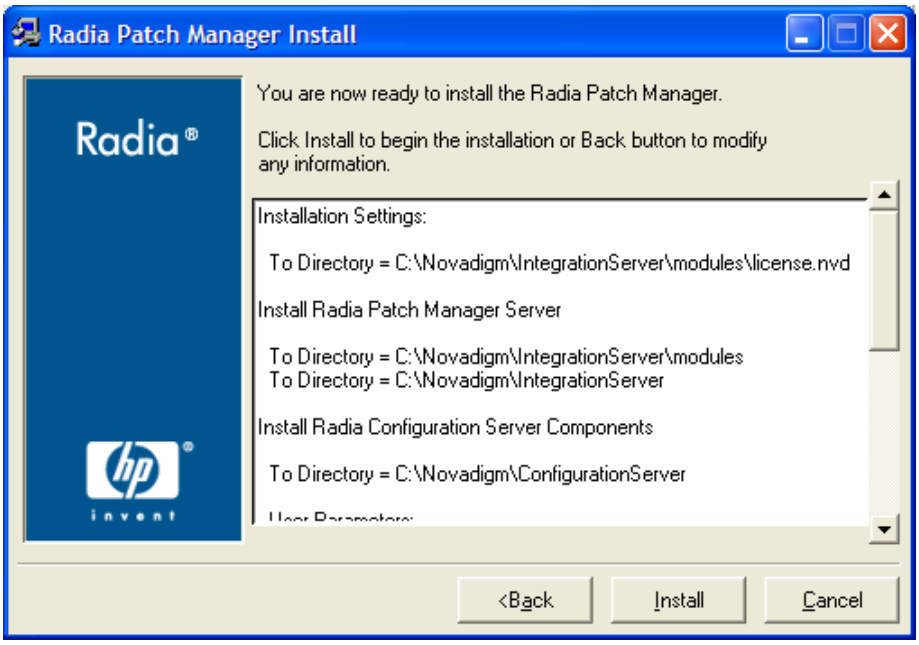
11 Click **Next**.



12 Type the IP address of the Radia Integration Server, and click **Next**. The Radia Integration Server is the service that hosts the Patch Manager module.



13 Type the port of the Radia Integration Server, and click **Next**.



14 Verify the summary screen and click **Install**.

Read and answer any warning dialog boxes that appear. Which dialog boxes appear will depend on your configuration.

15 Click **Finish**.

The Configuration Server and the Radia Database have been updated. The Messaging Service and the Patch Manager have been installed.

You should be directed to the Radia Patch Administrator page for final configuration and database synchronization. If you are not, go to **http://<*patchserveripaddress*>:<*port*>/patch/manage/admin.tsp**, set your configuration, and run a database synchronization.

Configuring the Patch Manager Server

The Radia Patch Administrator page provides an interface to the Patch Manager settings file, `patch.cfg`. `Patch.cfg` includes settings such as passwords, server locations, and DSN information. Use the Patch Manager Administrator to modify these settings or you can edit this file manually. The Patch Manager Administrator is divided into twelve areas described below: Configuration Server, Patch Manager, ODBC DSN, Microsoft Feeds,

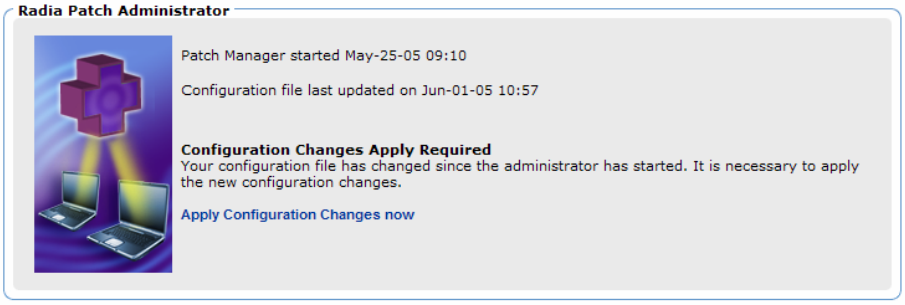
RedHat Feeds, SUSE Feeds, HPUX Feeds, HTTP, Acquisition History, Patch Agent, Reporting, and Default.

To use the Patch Manager Administrator

1 From your web browser, go to **http://***patchserveripaddress***:***port* **/patch/manage/admin.tsp**.

2 Type the values for the parameter you want to set. Any setting that ends with an asterisk (*) is *required*. For detailed information on the available settings, see the information following this procedure and Table 3 on page 75.

3 Click **Save** to apply changes. You will be prompted to restart for the changes to take effect.

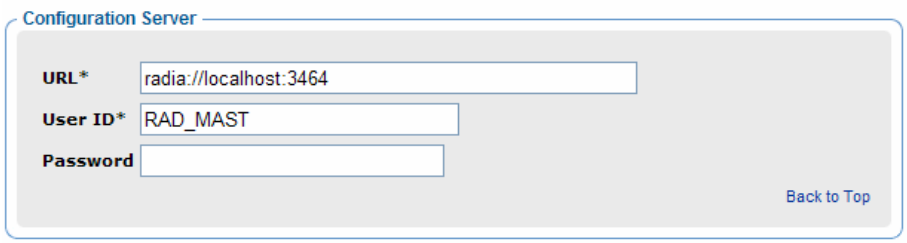


4 Click **Apply Configuration Changes now** to restart the Patch Manager Server.

Configuration Server Settings

The following settings are configured in the Configuration Server section:

URL	Specify the location of your Configuration Server using the format: radia://*ipaddress* or *hostname*:*port*. This is the same as the rcs_url parameter in `patch.cfg`.
User ID	If authentication has been enabled on your Configuration Server, specify the user. This is the same as the rcs_user parameter in `patch.cfg`.
Password	If authentication has been enabled on your Configuration Server, specify the password for the rcs_user. This is the same as the rcs_pass parameter in `patch.cfg`.



Patch Manager Settings

The following settings are configured in the Patch Manager section:

URL* Specify the URL to connect to the Radia Patch Update web site provided by HP. This is the same as the nvdm_url parameter in `patch.cfg`.

Default: **http://managementsoftware.hp.com/Radia/patch_management/data**

Note: This is a new location for Version 2.0. The nvdm_user and nvdm_password parameters are no longer used.

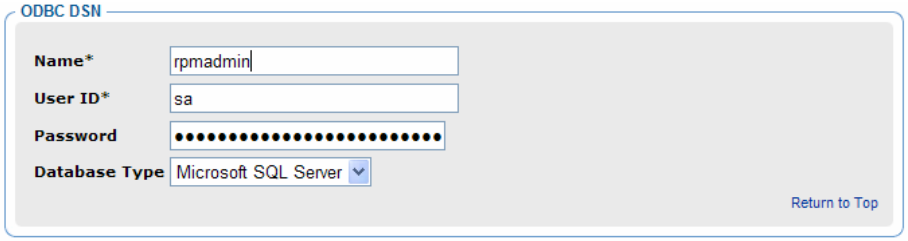
ODBC DSN Settings

The following settings are configured in the ODBC DSN section:

Name* Specify the Data Source Name (DSN) for the Patch SQL or Oracle database. This is the same as the dsn parameter in `patch.cfg`.

User ID* Specify the user for the dsn for the Patch ODBC database. This is the same as the dsn_user parameter in `patch.cfg`.

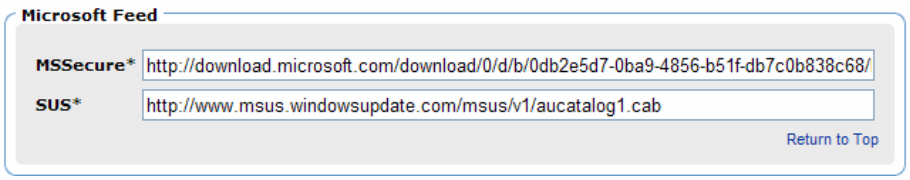
Password	Specify the password for the user of the Patch ODBC database. This is the same as the dsn_pass parameter in `patch.cfg`.
Database Type	Specify the database type. This is the same as the db_type parameter in `patch.cfg`. The two possible values are mssql for Microsoft SQL Server and oracle for Oracle. Mssql is the default value. Note: If you are using Oracle, change this value to oracle before doing a patch acquisition or a database synchronization.



Microsoft Feeds Settings

The following settings are configured in the Vendor Feeds section:

MSSecure*	Specify the URL for the Microsoft `MSSECURE.XML` file. This is the same as the microsoft_url parameter in `patch.cfg`. Default: **http://download.microsoft.com/download/0/d/b/0db2e5d7-0ba9-4856-b51f-db7c0b838c68/MSSecure_1033.CAB**
SUS*	Specify the URL for the Microsoft SUS data feed. This is the same as the microsoft_sus_url parameter in `patch.cfg`. Default: **http://www.msus.windowsupdate.com/msus/v1/aucatalog1.cab**

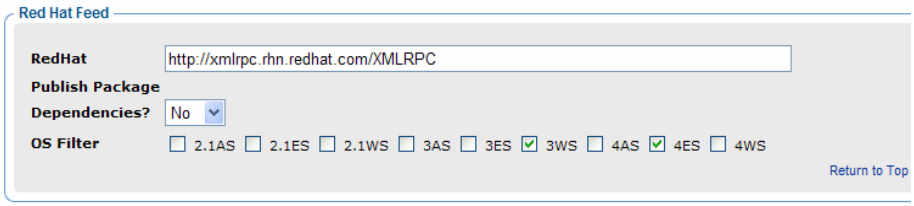


Red Hat Feed Settings

The following settings are configured in the Red Hat Feed section:

RedHat	Specify the URL for the Red Hat Network data feed. This is the same as the rhn_url parameter in `patch.cfg`. Default: **http://xmlrpc.rhn.redhat.com/XMLRPC**
Publish Package Dependencies	Specify **`yes`** if you want to publish additional Red Hat packages that downloaded security advisories may depend on. You can override this setting for a specific acquisition by setting it in Acquisition Settings. This is the same as the rh_depends parameter in `patch.cfg`. Default: No
OS Filter	Select operating systems for the acquisition of Red Hat patches. This is the same as the vendor_os_filter parameter in `patch.cfg`.

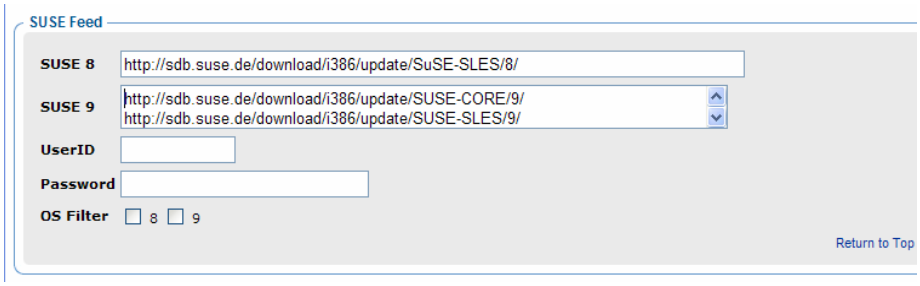
If you remove one operating system in your OS Filter from one acquisition to the next, all patches from the operating system that you removed from the OS Filter will be erased from the patch repository. This applies to all *vendors*. OS Filters are specified either in the Configuration Settings page or in the vendor_os_filter parameter in patch.cfg.



SUSE Feed Settings

The following settings are configured in the SUSE Feed section:

SUSE 8	Specify the url for acquiring updates for SUSE 8. This is set in the suse_urls parameter in `patch.cfg`. Default: http://sdb.suse.de/download/i386/update/SuSE-SLES/8/
SUSE 9	Specify the url for acquiring updates for SUSE 9. This is set in the suse_urls parameter in `patch.cfg`. Defaults: http://sdb.suse.de/download/i386/update/SUSE-CORE/9/ http://sdb.suse.de/download/i386/update/SUSE-SLES/9/
UserID	Specify your SUSE user ID. This is the same as the suse_user parameter in `patch.cfg`. Obtain a user id from the vendor.
Password	Specify the password for the SUSE UserID. This is the same as the suse_pass parameter in `patch.cfg`.
OS Filter	Select operating systems for the acquisition of SUSE Linux Enterprise Server patches. This is the same as the vendor_os_filter parameter in `patch.cfg`.



HP-UX Feed Settings

The following settings are configured in the HP-UX Feed section:

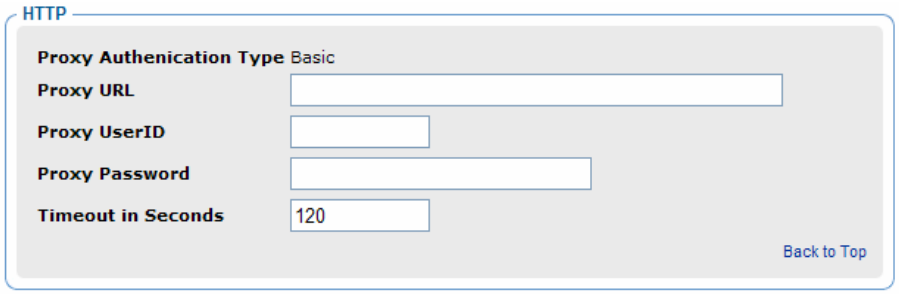
HP-UX Security Catalog	Specify the url for the data source used to assess HP-UX security vulnerabilities. This is set in the hpux_url parameter in `patch.cfg`. Default: **http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=security_catalog2.gz**
HP-UXPatch Description XML	Specify the url for the file containing data on every HP-UX patch. This is set in the hpux_xml_url parameter in `patch.cfg`. Default: **http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=patches.xml**
HP-UX Patch Download	Specify the HP-UX url for downloading the patches. This is the same as the hpux_patch_url parameter in `patch.cfg`. Default: **ftp://ftp.itrc.hp.com/**.
OS Filter	Select operating systems for the acquisition of HP-UX security bulletins. This is the same as the vendor_os_filter parameter in `patch.cfg`. These are the only operating systems that will be available for acquisition for this vendor.

HTTP Settings

The following settings are configured in the HTTP Settings section:

Proxy Authentication Type	Basic. This parameter is not configurable.
Proxy URL	If you use a proxy server for http traffic, specify its URL in the format *`http://ip:port`*. This is the same as the http_proxy_url parameter in `patch.cfg`.

Proxy User ID	If you use a proxy server for http traffic, specify your user ID. This is the same as the http_proxy_user parameter in `patch.cfg`.
Proxy Password	If you use a proxy server for http traffic, specify your password. This is the same as the http_proxy_pass parameter in `patch.cfg`.
Timeout in Seconds	Set the total amount of time to wait for the file to be completely downloaded. If an acquisition session is unable to download the file in this time, then the acquisition will abort the current http location, and will continue the acquisition with the next http location. Increase the http_timeout if you need to allow additional time for a bulletin to download. Http_timeout is displayed in administrator interface in seconds, but stored in `patch.cfg` in milliseconds. This is the same as the http_timeout parameter in `patch.cfg`.



Acquisition History Settings

The following settings are configured in the Acquisition History section:

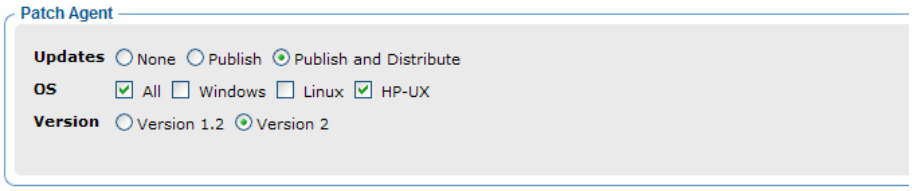
Save History Summary	Specify how long in days to keep the Patch Auth Store (PASTORE) instances. This class contains one instance for each patch acquisition session. HP recommends specifying this here, and not on the command line. If history has a smaller value than Save History Detail, then Save History Detail will be set to the value for Save History Summary. 0 means never to delete any history of Patch Acquisition. This is the same as the history parameter in `patch.cfg`.
Save History Detail	Specify how long in days to keep the Publisher Error (PUBERROR) instances. This class contains one instance for each patch acquisition error. HP recommends specifying this here, and not on the command line. This is the same as the purge_errors parameter in `patch.cfg`.

Patch Agent Settings

These settings are for the maintenance of the Patch Manager client agent files. For more information on this, see Updating the Patch Manager client Agent on page 93. The following settings are configured in the Patch Agent section:

Updates	If you select **Publish**, the updates will be published to the PATCHMGR domain, but will not be connected for distribution (deployment) to Patch Manager client computers. You will need to create these connections. If you select Publish and Distribute, the updates will be published to the PATCHMGR domain and connected to the Discover Patch instance. This option will distribute the updates to your Patch Manager client computers. This is the same as the agent_updates parameter in `patch.cfg`.
OS	Specify for which operating systems to acquire the agent updates. This is the same as the agent_os parameter in `patch.cfg`.

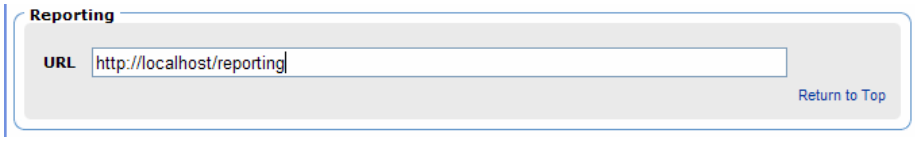
Version — Select which Patch Manager version you would like to acquire the agent updates for. You can only publish one version to one Configuration Server. This is the same as the agent_version parameter in `patch.cfg`.



Reporting Settings

This setting is for the location of the Reporting Server. Click the Reporting icon in the Patch Manager Administrator to view Patch Reports:

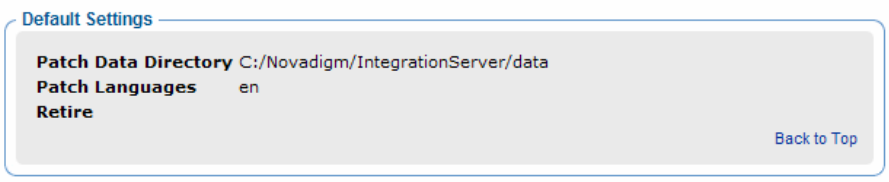
URL — Specify the location of the Reporting Server you are using for your Patch Manager. Click on the **Reporting** icon in the Patch Manager Administrator to view Patch Reports. This is the same as the reporting_url parameter in `patch.cfg`.



Default Settings

The following settings are for informational purposes only. They can only be changed in `patch.cfg` or explicitly in an acquisition command line. Be careful to back up and type in the correct settings when manually editing the `patch.cfg`.

Patch Data Directory	The directory where patches are downloaded to before they are sent to the Configuration Server. If you choose to perform an acquisition using a directory that is pre-populated with data from a previous acquisition, specify a different directory in this parameter. This is the same as the data_dir parameter in `patch.cfg`.
Language	Patch Manager supports non-double byte languages. This parameter shows the abbreviation of the languages for which you will acquire patches. This is the same as the lang parameter in `patch.cfg`.
Retire	Shows the bulletins to retire separated by commas. This parameter works on the bulletin level, not at the product or release level. This is the same as the retire parameter in `patch.cfg`. The retire function: • Deletes specified bulletins if they exist in the Radia Database during the current publishing session. • Does not publish the bulletins specified in the retire parameter to the Radia Database during the current publishing session. The use of the Retire option supersedes the Bulletins option.



Patch Configuration Settings File

If you are unable to use the Patch Manager Administrator, you can make changes directly in the `patch.cfg` file. The default location is *`System Drive`*`:\Novadigm\IntegrationServer\etc`. Settings in `patch.cfg` that are directly related to the Patch Manager Server are listed below. There are additional parameters that are only used for patch acquisition. See Chapter 3, Patch Acquisition for more information.

Table 1: Patch Manager Server Configuration Parameters

Parameter	Description
data_dir	Specify the directory to which you want the security patches downloaded before they are sent to your Configuration Server. Use this parameter to set where to store your patch descriptor files and patch data files in an alternate directory. If you choose to perform an acquisition using a directory that is pre-populated with data from a previous acquisition, specify a different directory in this parameter. Default: `{IntegrationServer}\data\patch` (a directory structure off the directory from which you are running the command).
db_type	Specify the database type. The two possible values are mssql for Microsoft SQL Server and oracle for Oracle. Mssql is the default value. Note: If you are using Oracle, change this value to oracle before doing a patch acquisition or a database synchronization.
dsn	Specify the Data Source Name (DSN) the Patch SQL database. Note: This parameter is required.
dsn_user	Specify the SQL user for the dsn for the Patch SQL database.
dsn_pass	Specify the password for the SQL user for the dsn for the Patch SQL database.
ftp_proxy_pass	If you use a proxy server for ftp traffic, specify your password.
ftp_proxy_url	If you use a proxy server for ftp traffic, specify its URL in the format *ftp://ip:port*. Note: At the time of this writing, Patch Manager supports basic authentication only.
ftp_proxy_user	If you use a proxy server for ftp traffic, specify your user ID.

Parameter	Description
history	Specify how long in days to keep the Patch Auth Store (PASTORE) instances. This class contains one instance for each patch acquisition session. HP recommends specifying this in the `patch.cfg` file, and not on the command line. If history has a smaller value than purge_errors, then purge_errors will be set to the value for history. Default: 0 means never to delete any history of Patch Acquisition.
hpux_patch_url	Specify the HP-UX url for downloading the patches. This is the same as the hpux_patch_url parameter in `patch.cfg`. Default: **ftp://ftp.itrc.hp.com/**
hpux_url	Specify the url for the data source used to assess HP-UX security vulnerabilities. This is set in the hpux_url parameter in `patch.cfg`. Default: **http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=security_catalog2.gz**
hpux_xml_url	Specify the url for the file containing data on every HP-UX patch. This is set in the hpux_xml_url parameter in `patch.cfg`. Default: **http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=patches.xml**
http_proxy_pass	If you use a proxy server for http traffic, specify your password.
http_proxy_url	If you use a proxy server for http traffic, specify its URL in the format **http://ip:port**. Note: At the time of this writing, Patch Manager supports basic authentication only.
http_proxy_user	If you use a proxy server for http traffic, specify your user ID.

Parameter	Description
http_timeout	Set the total amount of time to wait for the file to be completely downloaded. If the acquisition session is unable to download the file in this time, then the acquisition will abort the current http location, and will continue the acquisition with the next http location. Increase the http_timeout if you need to allow additional time for a bulletin to download. Http_timeout is displayed in the `setup.tsp` page in seconds. Specify http_timeout in either the `patch.cfg` file or on the command line in milliseconds. For example, the default as seen in the `setup.tsp` is 120 second. This is reflected in `patch.cfg` as 120000. If you specify http_timeout on the command line, it will be for this acquisition session only.
lang	Patch Manager supports non-double byte languages. Specify the abbreviation of the languages for which you want to acquire patches. Precede any products you want excluded with an exclamation point (!). Default: en (English). Example: - lang fr, en.
microsoft_sus_url	Specify the URL for the Microsoft SUS feed. Default: **http://www.msus.windowsupdate.com /msus/v1/aucatalog1.cab**.
microsoft_url	Specify the URL for the Microsoft `MSSECURE.XML` file. Default: **http://download.microsoft.com /download/0/d/b/0db2e5d7-0ba9-4856-b51f-db7c0b838c68/MSSecure_1033.CAB.** Note: As of this printing, Microsoft has changed the location of `mssecure.xml`. If you are using a release of Patch Manager previous to 1.2.2, you must specify this path on the acquisition command line. This path is hard coded into Patch Manager 1.2.2.

Parameter	Description
nvdm_url	Specify the URL to connect to the Radia Patch Update web site provided by HP. This is the same as the nvdm_url parameter in `patch.cfg`. Default: **http://managementsoftware.hp.com /Radia/patch_management/data** Note: This is a new location for Version 2.0. The nvdm_user and nvdm_password parameters are no longer used.
purge_errors	Specify how long in days to keep the Publisher Error (PUBERROR) instances. This class contains one instance for each patch acquisition error. HP recommends specifying this in the `patch.cfg` file, and not on the command line. If history has a smaller value than purge_errors, then purge_errors will be set to the value for history. Default: 7.
rcs_pass	If authentication has been enabled on your Configuration Server, specify the password for the rcs_user.
rcs_url	Specify the location of your Configuration Server in URL format. Use the format: `radia://`*`ipaddress`*`:`*`port`* where: • `radia` indicates the session type to be opened to the Configuration Server • *`ipaddress`* is the hostname or IP address of the computer hosting the Configuration Server • *`port`* is the port number of the Configuration Server. Note: This parameter is required.
rcs_user	If authentication has been enabled on your Configuration Server, specify the rcs_user.
reporting_url	Specify the URL of your Reporting Server.

Parameter	Description
retire	Specify the bulletins to retire separated by commas. Use the -retire parameter to: • Delete specified bulletins if they exist in the Configuration Server database during the current publishing session. • Not publish the bulletins specified in the retire parameter to the Configuration Server database during the current publishing session. The use of the retire option supersedes the bulletins option. This parameter works on the bulletin level, not at the product or release level. To only retire a specific bulletin, but not acquire any new ones, use – bulletin NONE in addition to the retire parameter. Notes: The only time the retire option should be used on the command line is to delete specific bulletins from the Configuration Server Database. However, it does not keep a cumulative list of retired bulletins if you specify the option on the command line. It is recommended that you set a retired bulletin list in the `patch.cfg` so a cumulative list is maintained. As needed, add to the list in `patch.cfg` instead of recreating the list of retired bulletins on the command line each time you want to retire a new one. Caution: If you have enabled patch removal capabilities, and retire bulletins that are currently under management in your enterprise, the retired security patches may be removed from your Patch Manager client devices. Example: -retire MS00-001,MS00-029

Parameter	Description
rh_depends	Specify **yes** if you want to publish additional Red Hat packages that downloaded security advisories may depend on. You can override this setting for a specific acquisition by setting it in Acquisition Settings. This is the same as the rh_depends parameter in `patch.cfg`. Prerequisite, or dependent, Red Hat packages required to install Red Hat Security Advisories can be acquired from two places. They can either be downloaded from the Red Hat Network during acquisition or they can be found locally if copied from the Red Hat Linux installation media. During an acquisition, Patch Manager will first look for the `.rpm` packages in the appropriate directory. For example, for Red Hat Enterprise Linux 3ES, the baseline operating system rpm files supplied on Red Hat installation media should be placed in `data/patch/redhat/packages/3es`. If a patch's prerequisite software is not found locally, then the package will be downloaded from the Red Hat Network. To decrease the time needed for acquisition, HP recommends copying the dependency packages to the appropriate packages directory from your Linux installation media. The Red Hat RPM packages can be found on the installation media under the `RedHat/RPMS` directory. Default: No
rhn_url	Specify the URL for the Red Hat Security Network Default: **http://xmlrpc.rhn.redhat.com/XMLRPC**.
suse_pass	Specify the password for the user for the SUSE Web site.

Parameter	Description
suse_urls	Specify the urls for the SUSE network. Default: **8 {http://sdb.suse.de/download/i386/update /SuSE-SLES/8/}** **9 {http://sdb.suse.de/download/i386/update /SUSE-CORE/9/ http://sdb.suse.de/download/i386/update/SUSE-SLES/9/}**
suse_user	Specify the user for the SUSE Web site.
sync	Specify the targets that need to be synchronized. Default: rcs.

See the sample `patch.cfg` file below. Note the use of brackets for parameters. If you are specifying any of these from a command line for acquisition, be sure to use quotes around values containing spaces. See Chapter 3, Patch Acquisition for more information on running an acquisition command line.

If you have previously installed the Patch Manager, rename the `patch.cfg` file as a backup precaution. Its default location is *`System_Drive`*`:\Novadigm\IntegrationServer\etc`.

```
patch::init {
    DSN                 "LocalServer"
    DSN_USER            "sa"
    DSN_PASS            ""
    DB_TYPE             "mssql"

    DL_DATEFMT          {%Y-%m-%d %T}

    RCS_USER            ""
    RCS_PASS            ""
    RCS_URL             "radia://localhost:3464"

    NVDM_USER           ""
    NVDM_PASS           ""
    NVDM_URL            "http://managementsoftware.hp.com/Radia/patch_management/data"

    HTTP_PROXY_USER     ""
```

```
HTTP_PROXY_AUTHENTICATION     "basic"
HTTP_PROXY_PASS      ""
HTTP_PROXY_URL       ""
HTTP_PROXY_SCRIPT    ""
HTTP_RETRIES         2
HTTP_TIMEOUT         120000

FTP_PROXY_USER       ""
FTP_PROXY_PASS       ""
FTP_PROXY_URL        ""
FTP_PROXY_SCRIPT     ""
FTP_PROXY_AUTHENTICATION     "basic"

MICROSOFT_USER       ""
MICROSOFT_PASS       ""
MICROSOFT_URL        "http://download.microsoft.com/download/0/d/b/0db2e5d7-0ba9-4856-b51f-
    db7c0b838c68/MSSecure_1033.CAB"
MICROSOFT_SUS_URL    "http://www.msus.windowsupdate.com/msus/v1/aucatalog1.cab"
MICROSOFT_TECHNET    "http://www.microsoft.com/technet/security/bulletin"
MICROSOFT_ASP_EXT    "mspx"

RHN_URL              "http://xmlrpc.rhn.redhat.com/XMLRPC"
RH_DEPENDS           "N"
REPORTING_URL        "http://localhost/reporting"

LANG                 "en"
PRODUCT              {!Windows 95,!Windows 98*,!Windows Me,SUSE::!sles*-yast2,SUSE::!sles*-
    yast2-*,SUSE::!sles*-liby2*}
HISTORY              0
PURGE_ERRORS         7
VENDORS              "microsoft"

AGENT_OS            "*"
AGENT_VERSION       "VERSION2"
AGENT_UPDATES       "publish,distribute"
SUPERCEDED_PATCHES  "N"
SUSE_URLS           "8 {http://sdb.suse.de/download/i386/update/SuSE-SLES/8/} 9
    {http://sdb.suse.de/download/i386/update/SUSE-CORE/9/
    http://sdb.suse.de/download/i386/update/SUSE-SLES/9/}"
SUSE_USER           ""
SUSE_PASS           ""

HPUX_URL
    "http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=security_catalog2.gz"
HPUX_XML_URL
    "http://itrc.hp.com/service/patch/securityPatchCatalog.do?item=patches.xml"
HPUX_PATCH_URL      "ftp://ftp.itrc.hp.com/"
```

Database Synchronization

The patch information that has been sent to the Radia Database on the Configuration Server must be synchronized with your ODBC Patch Database for assessment and analysis of the patch. The Radia Database and the ODBC Patch database house identical information.

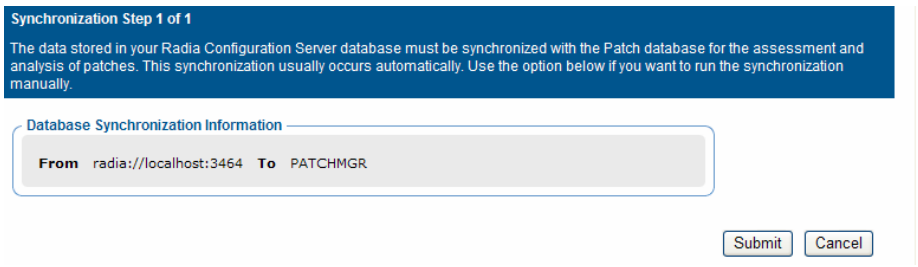
- Each class in the PATCHMGR domain becomes a class in the ODBC database. The corresponding table is named nvd_classname.
- Each attribute in each class becomes a column in its table. The corresponding column name is nvd_attributename. Expressions and connection variables are *not* replicated.
- Each instance in the class becomes a record in the corresponding table.

Usually, this synchronization occurs automatically. There may be circumstances where you may want to run the synchronization manually. For example, you may want to identify what differences may exist between the two databases without committing the changes or only update one class. You can synchronize using either the Radia Patch Administrator or a command line.

To synchronize the databases using the Radia Patch Administrator

1 From your web browser, go to **http://<***patchserveripaddress***>:<***port***>/patch/manage/admin.tsp**

2 From **Operations**, click **Perform a Synchronization**.



3 Click **Submit**.

To synchronize the databases from a command line

- Run the following command line from the Radia Integration Server directory:

```
nvdkit ./modules/patch.tkd sync -dsn patch -dsn_user
rpmadmin -dsn_pass rpmdb -host localhost:3464 -class
"*"
```

`dsn` is a required parameter.

For example, if you only wanted to update the PRODUCT class, you would type:

```
nvdkit ./modules/patch.tkd sync -dsn PATCH -host ↵
localhost:3464     -class "PRODUCT"
```

where the `dsn` is called PATCH and the Configuration Server is the local machine.

See Table 2 below.

Table 2: `Patch.tkd` Synchronization Parameters

Parameter	Description
dsn	Specify the Data Source Name (DSN) the Patch ODBC database. Note: This parameter is required.
dsn_user	Specify the user for the dsn for the Patch ODBC database.
dsn_pass	Specify the password for the user of the Patch ODBC database.
host	Specify the location of your Configuration Server in URL format. Use the format: `radia://`*`ipaddress`*`:`*`port`* where: • `radia` indicates the session type to be opened to the Configuration Server. • *`ipaddress`* is the hostname or IP address of the computer hosting the Configuration Server. • *`port`* is the port number of the Configuration Server. Note: This parameter is required.

Parameter	Description
class	Specify the classes you wish to synchronize between the Configuration Server and the Patch SQL Database. For example, if you want to synchronize only the DEVICE class, specify class="DEVICE". This parameter also accepts a wildcard. Default: class = "*" (synchronize all classes).
commit	Specify 1 if you want to commit changes found in the Configuration Server database to the SQL database. Specify 0 if you do not want change automatically committed. You can view the changes. Default: All changes are committed.
rcs_pass	If authentication has been enabled on your Configuration Server, specify the password for the rcs_user.
rcs_user	If authentication has been enabled on your Configuration Server, specify the rcs_user.

Adding a Method Connection

Use the System Explorer to add an _ALWAYS_ Method connection to the PRIMARY.SYSTEM.PROCESS.ZMASTER instance as shown in the figure below.

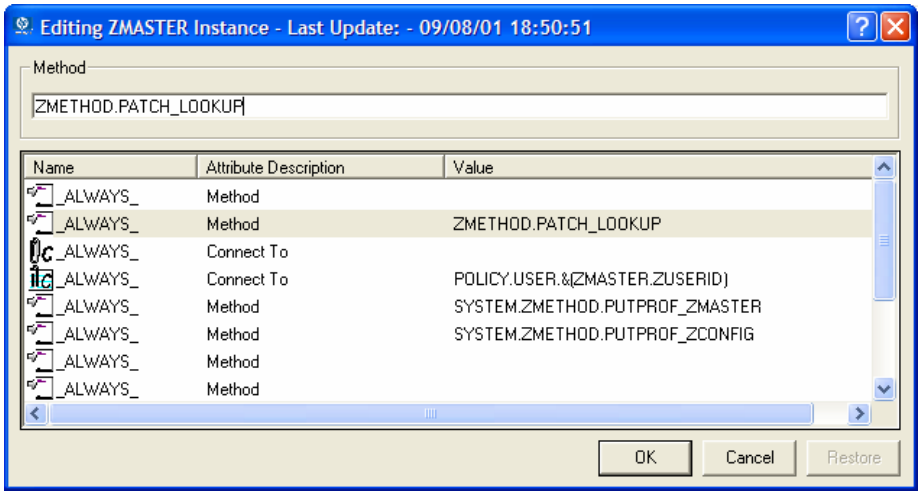


Figure 2: Edit the ZMASTER instance.

This method entry must precede the resolution of any services for a user.

Messaging Server

Install Messaging Server Version 3.0. This includes updates to the Messaging Server for use with Patch Manager.

Reporting Server

The Reporting Server version 4.1.1 is required to view enhanced reports for Radia Patch Manger. Obtain the Reporting Server from the HP Support web site, and review the Release Notes prior to installing. The Reporting Server Guide also includes instructions on how to use the Reporting Server.

Configuration Analyzer Installation Tasks (Optional)

The Configuration Analyzer provides a powerful console for viewing, storing, and comparing application data. Backed by an SQL database, the Configuration Analyzer allows you to import state files. A state file is a highly tuned file format that is used to store information about an application or workstation at a particular point in time.

If you are using Oracle with the Configuration Analyzer, you must use Oracle version 8i or 9i with SQL Loader (part of the Oracle client/admin toolset) on computers that will be performing imports. This includes the Configuration Analyzer and Knowledge Base Manager computers. It is recommended that you use the same version of driver and database to prevent any version mismatch issues.

For information regarding the Configuration Analyzer, refer to the *Configuration Analyzer Guide*.

Installing and Configuring the Knowledge Base Manager (Optional)

The Knowledge Base Manager performs automated import processing of Radia state files into the Radia Application Knowledge Base allowing you to compare state files. The Knowledge Base Manager automated import server runs independent of the Configuration Server to import files found in the AutoImport directories that you specify. The Knowledge Base Manager can be controlled as a Windows service. The service name is RadKBMgr and it may be stopped and started through Administrative Tools\Services of the Control Panel.

For information regarding the Knowledge Base Manager, refer to the *Knowledge Base Manager Guide* available on the HP OpenView web site.

If you are using Oracle with the Knowledge Base Manager, you must use Oracle version 8i or 9i with SQL Loader (part of the Oracle client/admin toolset) on computers that will be performing imports. This includes the Configuration Analyzer and Knowledge Base Manager computers. We recommend that you use the same version of driver and database to prevent any version mismatch issues.

Summary

- Install and modify the Configuration Server and the Radia Database.
- Patch Manager requires an SQL or Oracle database.
- Install the Patch Manager on a computer that can access the Configuration Server and your ODBC Data Source.
- Install the Configuration Analyzer and the Knowledge Base Manager if you want to create and analyze state files.

3 Patch Acquisition

At the end of the chapter, you will:

- Be able to acquire patches.
- Know the parameters available for patch acquisition and database synchronization.

Radia Patch Acquisition

Patch Manager provides a tool that connects to the selected vendor's web site, downloads the information regarding security patches including the files, and publishes this information to the Radia Database. The acquisition process fetches security patches from the vendor *and* publishes this information to the Radia Database.

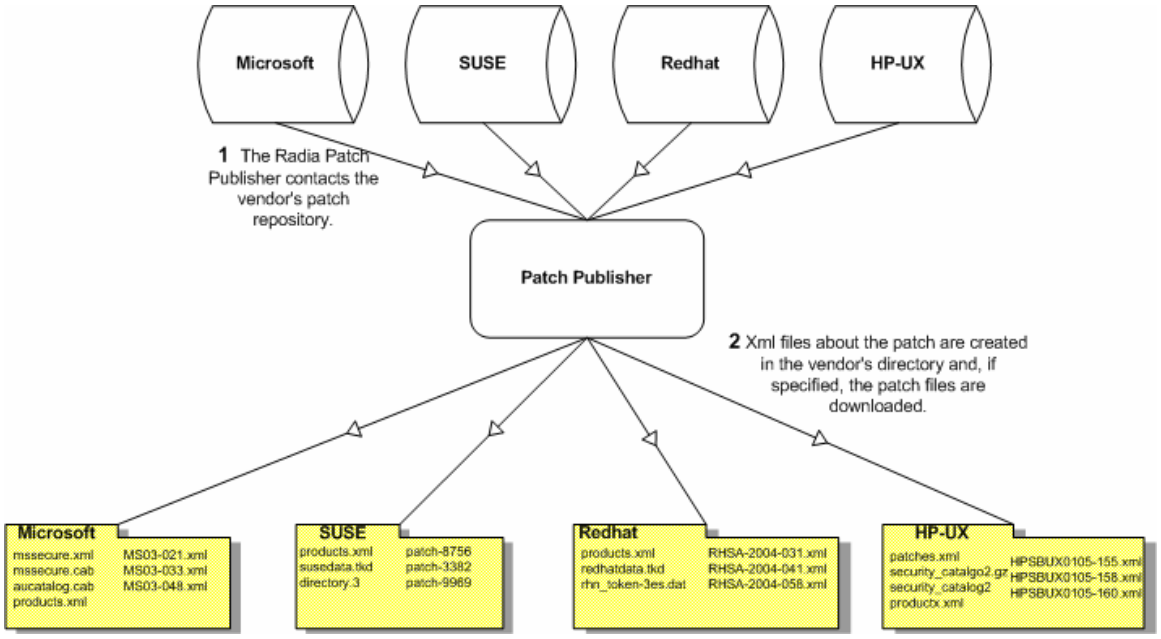


Figure 3: Vendor's patch repository is contacted.

Patch Acquisition Overview

Patch Manager is used to acquire security patches and to synchronize the patch information in the Radia Database on the Configuration Server with the Patch database on the SQL or Oracle Server. If you have already performed an acquisition, only instances that are different are updated.

During the acquisition, the following things occur:

- The vendor's web site is contacted to prepare for the acquisition.

- Either the information about the Bulletins, Security Advisories, and Microsoft Service Packs and the actual patch files or only the information about the patches is downloaded. The information downloaded contains, but is not limited to, detailed data about each security patch, such as supercedence, reboot requirements, and probe information.

  Microsoft security bulletins are automatically acquired provided that they are found in Microsoft's data feed file, `mssecure.xml`.

- An xml file is created for each bulletin acquired and is put in the vendor's folder in the Radia Integration Server's directory. These files are called patch descriptor files.
- The Radia Database's PATCHMGR domain is populated with this information.
- Services are created in the PATCHMGR domain for each of the bulletins acquired.
- The PATCHMGR domain is synchronized with the ODBC database you created.

The syntax for the acquisition includes a verb that describes the action that Patch Manager, `patch.tkd`, is to perform and a list of parameters for that action. Each parameter should be preceded by a hyphen with the value for the parameter following. Examples are provided for patch collection and database synchronization in the following sections.

About Patch Descriptor (XML) Files

When security patches are acquired an xml, or patch descriptor file, with information about the patch is created and placed in the vendor's directory. The vendor directories are located by default in `\\Novadigm\IntegrationServer\Data\Patch`. For example, patch descriptor files for Microsoft bulletins would be in `\\Novadigm\IntegrationServer\Data\Patch\Microsoft` while those for Red Hat are located in `\\Novadigm\IntegrationServer\Data\Patch\Redhat`. The bulletin number is the file name with an `.xml` extension. If the bulletin is identified by MS03-051, then the patch descriptor will be named `MS03-051.xml`. If you also acquired the actual files associated with the bulletin, a folder is created with the name of the bulletin that contains the patch files.

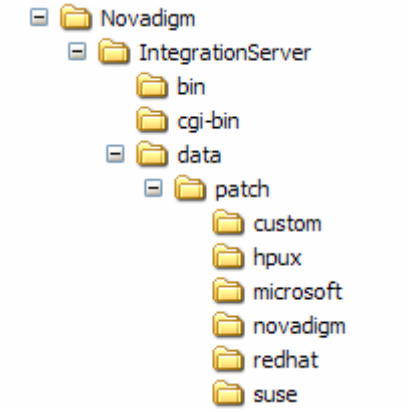


Figure 4: Acquired Patch Descriptor file directory structure.

Some of the information acquired from the vendor may need to be altered before the patch can be managed. Therefore, there are two other subdirectories in `\\Novadigm\IntegrationServer\Data\Patch`. HP provides you with some additional patch descriptor files that are located in the Novadigm subdirectory. Patch descriptor files located in the Novadigm directory override patch descriptor files in the relevant vendor's directory. You can also create or modify your own patch descriptors that will override files in the Novadigm, Microsoft, SUSE, HPUX, and RedHat directories. Use a text editor to make the changes, name the file *exactly* as it is named in the vendor's directory, and place these xml files in the Custom subdirectory. The figure below illustrates an example of this hierarchy using Microsoft bulletins.

HP provides two *sample* descriptor files for Windows Operating System service packs, `MSSP-WIN2k_4.xml` and `MSSP-WINXP_1.xml`. To deploy other Microsoft Operating System service packs, you must create your own patch descriptor files and save them in the Custom subdirectory. You are responsible for deploying the service pack in a test environment before automating the deployment.

The figure below illustrates the patch descriptor override for Microsoft security bulletins. Note that the same hierarchy applies to all vendors, HP-UX, SUSE, and RedHat.

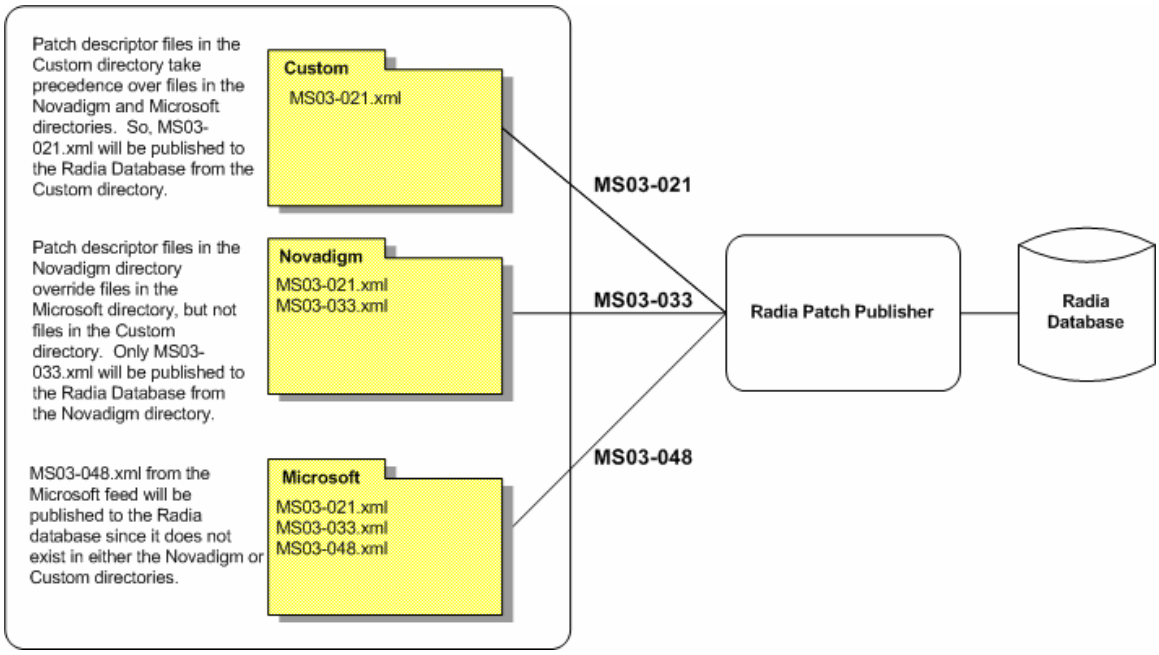


Figure 5: Patch descriptor files in Custom override those in Novadigm and Microsoft.

Red Hat Patch Acquisition Prerequisites

To acquire security patches for Red Hat:

- Establish a Red Hat Network account using the Red Hat web site. At the time of this writing, the location is **http://redhat.com**.
- You will need a Red Hat Network account with one entitlement for each of the Red Hat Enterprise Server OS versions for which you want to acquire and manage patches.

  To perform patch acquisitions for Red Hat Enterprise Server Versions 2.1, 3 and 4, you will need a Red Hat Network account with at least three Red Hat Network system entitlements, one for each Enterprise Server version.

- Prerequisite, or dependent, Red Hat packages required to install Red Hat Security Advisories can be acquired from two places. They can either be downloaded from the Red Hat Network during acquisition or they can be found locally if copied from the Red Hat Linux installation media.

During an acquisition, Patch Manager will first look for the .rpm packages in the appropriate directory. For example, for Red Hat Enterprise Linux 3ES, the baseline operating system rpm files supplied on Red Hat installation media should be placed in `data/patch/redhat/packages/3es`. If a patch's prerequisite software is not found locally, then the package will be downloaded from the Red Hat Network. To decrease the time needed for acquisition, HP recommends copying the dependency packages to the appropriate packages directory from your Linux installation media. The Red Hat RPM packages can be found on the installation media under the RedHat/RPMS directory.

- Use the rhn_register tool to create a Red Hat Network (RHN) systemid file. This file will be used to pass RHN credentials during acquisition. See the procedure below for details.

To create a Red Hat systemid file

1. Perform a root login to a Linux Server running the Red Hat OS for which you would like to automatically acquire security patches.
2. Execute the command rhn_register on the command line when logged into the system as root.
3. When prompted by the rhn_register tool to use an existing or new account, select existing and supply the Red Hat Network username and password you created on the Red Hat web site.
4. Enter a unique profile name for this computer such as the IP address or hostname, and exit the rhn_register tool without applying any patches to the system where you ran rhn_register. A file called `systemid` is created.
5. Copy the file `/etc/sysconfig/rhn/systemid` produced by the rhn_register tool to the `\IntegrationServer\etc` directory on your Patch Manager Server
6. Rename the file from `systemid` to `redhat-3es.sid` for Red Hat Enterprise Server Version 3. If the computer was running Red Hat Enterprise Server V 2.1, then rename the `systemid` file to `redhat-2.1es.sid`.

Access to the Red Hat network might be disabled if the network determines that patches have been acquired too frequently. An error will show in the `patch-acquire.log` including the text `Abuse of Service detected for server linux`. To resolve this issue, delete the registered system from the Red Hat network web interface at **https://rhn.redhat.com**. Recreate the Red Hat credentials file (`systemid`) using the procedure above.

Now, you can run Red Hat Enterprise Server patch acquisition. Be sure that the proper Configuration Server and ODBC parameters are configured in `patch.cfg`.

SUSE Patch Acquisition Prerequisites

For SUSE security patch acquisition, you must establish a User ID and password through your SUSE Linux vendor to access SUSE Internet resources. Specify these credentials using the Patch Manager Administrator Interface.

About HP-UX Patch Acquisition

At the time of this writing, keep the following in mind for HP-UX security patches:

- Acquisition and deployment of HP-UX patch bundles is not supported.
- Acquisition does not acquire HP-UX security patch pre-requisites, nor will the deployment of a HP-UX security patch install pre-requisite patches if they are missing on the agent.
- Roll back of HP-UX security patches is not supported.

Performing a Patch Acquisition

You can acquire patches either using the Radia Patch Administrator or using a command line. The Radia Patch Administrator provides a user friendly interface that allows you to create acquisition profiles that can be saved and used repeatedly. You will need to first create the acquisition file, and then use the Radia Patch Administrator to run the file. Parameters specified in an acquisition profile or on an acquisition command line override parameters set in the `patch.cfg` file. Be sure to use quotes around values containing spaces. You may want to specify required parameters in the `patch.cfg` file. See Configuring the Patch Manager Server on page 35 for more information.

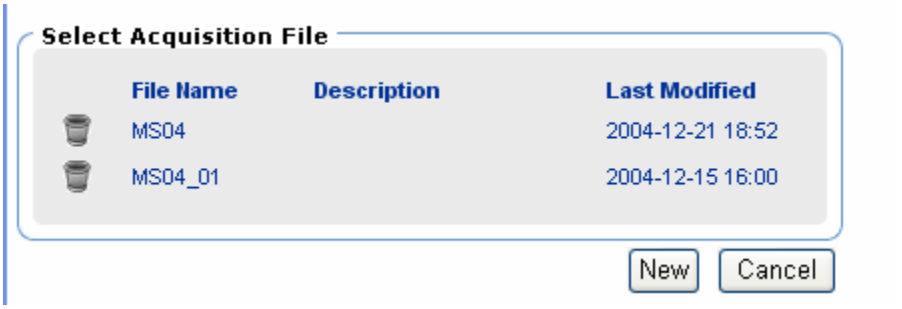
HP recommends acquiring from only one vendor at a time. In addition, some SUSE Security Advisories and Microsoft Office Security Bulletins may take an extended period of time to download. To account for this, consider increasing the HTTP Timeout parameter to value greater than 1200 seconds.

The parameters that are required depend on your environment.

To create or edit an acquisition profile using the Radia Patch Administrator

1 From your web browser, go to **http://***patchserveripaddress***:***port* **/patch/manage/admin.tsp.**

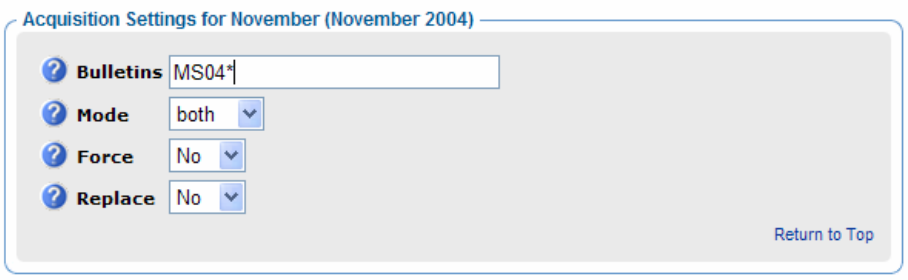
2 From **Configuration**, click **Acquisition Settings**.



3 Either select an existing file to edit, or click **New** to create a new file. Click the trashcan icon to delete an acquisition file. In this example, we click **New**.

4 If you are creating a new file, type a **Filename** and **Description**, then click **Next**.

5 You will be taken to Step 2, where you can set Acquisition Settings.



Acquisition Settings

Bulletins — Specify the bulletins for acquisition separated by commas. The asterisk (*) wildcard character is recognized. This is the same as the bulletins parameter in `patch.cfg`. For Red Hat Security advisories, use a hyphen (-) in place of an asterisk (*) for filtering.

- Microsoft Security bulletins use the naming convention `MS`*`YY-###`*, where *`YY`* is the last two digits of the year that the bulletin was issued and *`###`* is a sequential number of the bulletin number being released for this the year specified. Microsoft service packs are listed in the format `MSSP`*`_operatingsystem_spnumber`*. To acquire *sample* Microsoft Operating System service packs, specify MSSP*. This will download sample service packs using information in the Novadigm or Custom folders.
- HPUX Security bulletins use the naming convention `HPSBUX######`, where `HP` indicates HP hardware, `SB` indicates security bulletin, and `UX` indicates the HP-UX operating system. At times the HP-UX security bulletin may contain an embedded hyphen
- Red Hat Security advisories use the naming convention `RHSA-`*`CCYY-###`*, where *`CC`* indicates the century and *`YY`* the last to digits of the year when the advisory was issued, and *`###`* the Red Hat patch number. Red Hat Security advisories, use a hyphen (-) in place of an asterisk (*) for filtering.
- SUSE Security patches use the naming convention `SUSE-PATCH-####`,where *`###`* represents a numbering scheme provided by SUSE.

Microsoft example: -bulletins MS00-001,MS00-029

Note: If you do not want to download any bulletins, use –bulletins NONE.

Mode

Specify BOTH to download the patches and the information about the patches.

Specify MODEL to acquire only the metadata for patches. Only the Bulletins and Qnumbers for the patches are downloaded, but not the actual patch files. Use this mode so that you can use the reports to expose vulnerabilities on client devices. This is the same as the mode parameter in `patch.cfg`.

Force

Use force when:

- You previously ran an acquisition using the mode MODEL, and now you want to use BOTH.
- You previously ran an acquisition filtering for one language (lang), and now, you need to acquire bulletins for another.
- You previously ran an acquisition specifying one product, and, now, you need to acquire for another.

For example, suppose that originally you only had Windows 2000 computers in your enterprise, so you used -product {Windows 2000*}. A month later, you roll out Windows XP. If you want to acquire the same bulletins, you will need to run the acquisition with -product {Windows XP*,Windows 2000*} and -force y.

Note: If replace is set to Y, the bulletins will be removed and reacquired, regardless of the value of force.

Replace

Set replace to Y to delete old bulletins, specified in the bulletins parameter, and then re-acquire them. This will supersede the value for force. In other words, if you set replace to Y, then any bulletin specified for that acquisition will be deleted and reacquired, whether force is set to N or Y. This is the same as the replace parameter in `patch.cfg`.

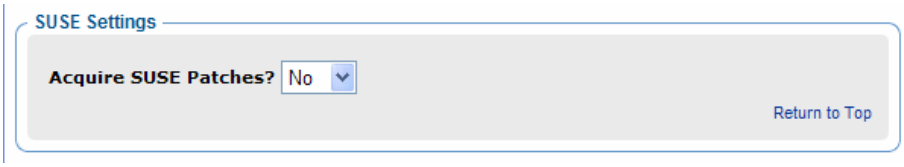
Microsoft Settings

Acquire Microsoft Patches	Select **Yes** if you want to acquire Microsoft Patches. A list of languages will appear.
Languages	Click the languages for the acquisition of Microsoft patches. This is the same as the lang parameter in `patch.cfg`.

RedHat Settings

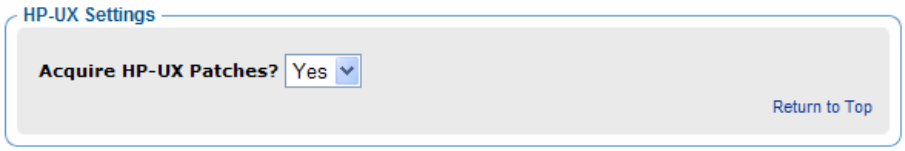
Acquire RedHat Patches	Select **Yes** if you want to acquire RedHat Patches. A list of possible architectures and operating system filters appears.
Publish	Specify **Yes** if you want to publish additional Red Hat

Package Dependencies	packages that downloaded security advisories may depend on. You can override this setting for a specific acquisition by setting it in Acquisition Settings. This is the same as the rh_depends parameter in `patch.cfg`. Prerequisite, or dependent, Red Hat packages required to install Red Hat Security Advisories can be acquired from two places. They can either be downloaded from the Red Hat Network during acquisition or they can be found locally if copied from the Red Hat Linux installation media. During an acquisition, Patch Manager will first look for the .rpm packages in the appropriate directory. For example, for Red Hat Enterprise Linux 3ES, the baseline operating system rpm files supplied on Red Hat installation media should be placed in `data/patch /redhat/packages/3es`. If a patch's prerequisite software is not found locally, then the package will be downloaded from the Red Hat Network. To decrease the time needed for acquisition, HP recommends copying the dependency packages to the appropriate packages directory from your Linux installation media. The Red Hat RPM packages can be found on the installation media under the `RedHat/RPMS` directory. Default: No
Architecture	Select architectures for the acquisition of Red Hat patches. This is the same as the arch parameter in `patch.cfg`.



SUSE Settings

Acquire SUSE Patches?	Select **Yes** if you want to acquire SUSE Patches. Note: Select the operating systems using the OS Filter option for SUSE Feed Setting on the Configuration Settings Page.



HP-UX Settings

Acquire HP-UX Patches?	Select **Yes** if you want to acquire HP-UX Patches. A list of operating system filters appears Note: Select the operating systems using the OS Filter option for HP-UX Feed Setting on the Configuration Settings Page.

If you remove one operating system in your OS Filter from one acquisition to the next, all patches from the operating system that you removed from the OS Filter will be erased from the patch repository. OS Filters are specified either in the Configuration Settings page or in the vendor_os_filter parameter in `patch.cfg`.

6 Click **Next** to go to Step 3 where you will select products.

7 Expand the appropriate vendor's products and check the products you want to exclude from the acquisition. Uncheck the products you want to include.

8 Click **Finish** to save the acquisition file you created.

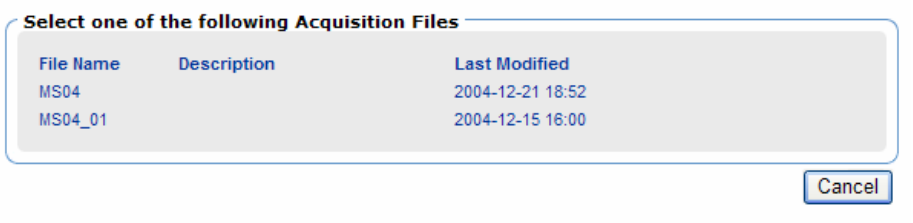
Now, you can use the Radia Patch Administrator to run the acquisition using your saved settings.

To run an acquisition from the Radia Patch Administrator

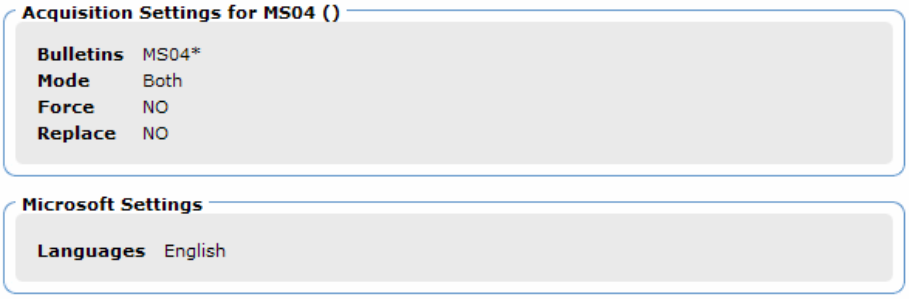
1 From your web browser, go to **http://***patchserveripaddress***:***port* **/patch/manage/admin.tsp**.

2 From **Operations**, click **Start an Acquisition**.

3 Select a file by clicking on its name.

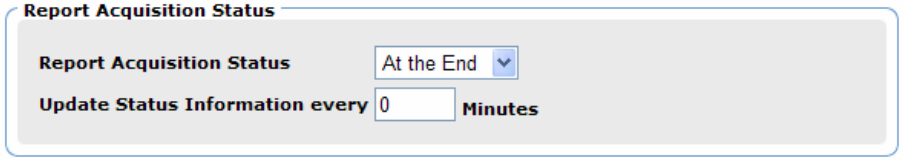


4 Confirm the settings for this acquisition.



Report Acquisition Status

Report Acquisition Status	In addition to the acquisition log, you can specify how frequently you want to update the current acquisition status, viewable in the Patch Manager Administrator.
Update Status Information every	If you specified Periodically in the Report Acquisition Status field, select how frequently you want to update the status file.



5 Read the notice on your agent update settings, and click **Submit** to begin your acquisition.

To acquire patches from a command line

1 From a command prompt on your Patch Manager Server, navigate to the Radia Integration Server's directory. The default location is

System Drive:\Novadigm\IntegrationServer

You can also use the acquisition file you created from a command line. To do this, use the config parameter.

2 Using the parameters listed in Table 3 below create a command line similar to the following:

nvdkit ./modules/patch.tkd acquire -bulletins MS04-*

where you want to acquire the patch files for only bulletins from the Microsoft web site matching a filter of MS04-*.

Parameters specified on the command line overwrite those specified in `patch.cfg`. Use `patch.cfg` for default parameters.

Table 3: Patch Acquisition Parameters

Parameter	Description
arch	Specify the computer architecture for which you want to acquire patches separated by a comma. Valid values for Microsoft acquisitions is x86. Valid values for Red Hat acquisitions are i386,i486,i586,i686,athlon,noarch. Default: x86,i386,i486,i586,i686,athlon,noarch.
bulletins	Specify the bulletins for acquisition separated by commas. The asterisk (*) wildcard character is recognized. This is the same as the bulletins parameter in `patch.cfg`. For Red Hat Security advisories, use a hyphen (-) in place of an asterisk (*) for filtering. • Microsoft Security bulletins use the naming convention `MSYY-###`, where *YY* is the last two digits of the year that the bulletin was issued and *###* is a sequential number of the bulletin number being released for this the year specified. Microsoft service packs are listed in the format

Parameter	Description
	MSSP_*operatingsystem_spnumber*. To acquire *sample* Microsoft Operating System service packs, specify MSSP*. This will download sample service packs using information in the Novadigm or Custom folders. • HPUX Security bulletins use the naming convention HPSBUX######, where HP indicates HP hardware, SB indicates security bulletin, and UX indicates the HP-UX operating system. At times the HP-UX security bulletin may contain an embedded hyphen • Red Hat Security advisories use the naming convention RHSA-*CCYY*-###, where *CC* indicates the century and *YY* the last to digits of the year when the advisory was issued, and ### the Red Hat patch number. Red Hat Security advisories, use a hyphen (-) in place of an asterisk (*) for filtering. • SUSE Security patches use the naming convention SUSE-PATCH-####, where ### represents a numbering scheme provided by SUSE. Microsoft example: -bulletins MS00-001,MS00-029 Note: If you do not want to download any bulletins, use –bulletins NONE.
config	Use this parameter to append an alternate configuration file for acquisition to override settings in patch.cfg. Example: -config c:\acq.cfg Default: patch.cfg.

Parameter	Description
data_dir	Specify the directory where you want the patches downloaded to before they are sent to your Configuration Server. Use this parameter to set where to store your patch descriptor files and patch data files in an alternate directory. Default: `{IntegrationServer}\data\patch` (a directory structure off of the directory where you are running the command from).
force	Use force when: • You previously ran an acquisition using the mode MODEL, and now you want to use BOTH. • You previously ran an acquisition filtering for one language (lang), and now, you need to acquire bulletins for another. • You previously ran an acquisition specifying one product, and, now, you need to acquire for another. For example, suppose that originally you only had Windows 2000 computers in your enterprise, so you used -product {Windows 2000*}. A month later, you roll out Windows XP. If you want to acquire the same bulletins, you will need to run the acquisition with -product {Windows XP*,Windows 2000*} and -force y. Note: If replace is set to Y, the bulletins will be removed and reacquired, regardless of the value of force. Default: N.
ftp_proxy_pass	If you use a proxy server for ftp traffic, specify your password.
ftp_proxy_url	If you use a proxy server for ftp traffic, specify its URL in the format **ftp://ip:port**. Note: At the time of this writing, Patch Manager supports basic authentication only.
ftp_proxy_user	If you use a proxy server for ftp traffic, specify your user ID.

Parameter	Description
history	Specify how long in days to keep the Patch Auth Store (PASTORE) instances. This class contains one instance for each patch acquisition session. HP recommends specifying this in the `patch.cfg` file, and not on the command line. If history has a smaller value than purge_errors, then purge_errors will be set to the value for history. Default: 0 means never to delete any history of Patch Acquisition.
http_proxy_pass	If you use a proxy server for http traffic, specify your password.
http_proxy_url	If you use a proxy server for http traffic, specify its URL in the format **http://ip:port**. Note: At the time of this writing, Patch Manager supports basic authentication only.
http_proxy_user	If you use a proxy server for http traffic, specify your user ID.
http_timeout	If the acquisition session is unable to open the http location in this time, then the acquisition will abort the current http location, and will continue the acquisition with the next http location. Increase the http_timeout if you need to allow additional time for a bulletin to download. Http_timeout is displayed in the `setup.tsp` page in seconds. Specify http_timeout in either the `patch.cfg` file or on the command line in milliseconds. For example, the default as seen in the `setup.tsp` is 120 seconds. This is reflected in `patch.cfg` as 120000. If you specify http_timeout on the command line, it will be for this acquisition session only.

Parameter	Description
lang	Patch Manager supports non-double byte languages. Specify the abbreviation of the languages for which you want to acquire patches. Precede any products you want excluded with an exclamation point (!). Default: en (English). Example: - lang fr, en.
mode	Specify BOTH to download patches and the information about the patches. Specify MODEL to acquire only the metadata for patches. Only the Bulletins and Qnumbers for the patches are downloaded, but not the actual patch files. Use this mode so that you can use the reports to expose vulnerabilities on client devices. Default: BOTH.
product	Specify which products you want to include in the acquisition in the format of *vendor*::*product* in a comma separated list. Precede any products you want excluded with an exclamation point (!). If an include filter is not set, all products are assumed. If you provide any included filters, then the excluded filters will be a subset of the included products. Be sure to conform to the vendor's naming standards. For example, Microsoft refers to Internet Explorer using its full name, rather than a common abbreviation such as IE. Example: To include all Windows products except Windows 95, type **{Microsoft::Windows*, Microsoft::!Windows 95}**. Default: Windows 95, Windows 98 and Window Me, and SUSE specific products *-yast2, *-yast2-*, and *-liby2 are excluded since these platforms and SUSE OS specific products are not supported by Patch Manager. Note: If specifying on the command line, surround the complete product string filters in quotes.

Parameter	Description
purge_errors	Specify how long in days to keep the Publisher Error (PUBERROR) instances. This class contains one instance for each patch acquisition error. HP recommends specifying this in the `patch.cfg` file, and not on the command line. If history has a smaller value than purge_errors, then purge_errors will be set to the value for history. Default: 7.
replace	Set replace to Y to delete old bulletins, specified in the bulletins parameter, and then re-acquire them. This will supersede the value for force. In other words, if you set replace to Y, then any bulletin specified for that acquisition will be deleted and reacquired, whether force is set to N or Y. Default: N.
retire	Specify the bulletins to retire separated by commas. Use the retire parameter to: • Delete specified bulletins if they exist in the Configuration Server database during the current publishing session. • Not publish the bulletins specified in the retire parameter to the Configuration Server database during the current publishing session. The use of the retire option supersedes the bulletins option. This parameter works on the bulletin level, not at the product or release level. To only retire a specific bulletin, but not acquire any new ones, use – bulletin NONE in addition to the retire parameter. Notes: The only time the retire option should be used on the command line is to delete specific bulletins from the Configuration Server Database. However, it does not keep a cumulative list of retired bulletins if you specify the option on the command line. It is recommended that you set a retired bulletin

Parameter	Description
	list in the `patch.cfg` so a cumulative list is maintained. As needed, add to the list in `patch.cfg` instead of recreating the list of retired bulletins on the command line each time you want to retire a new one. Caution: If you have enabled patch removal capabilities, and retire bulletins that are currently under management in your enterprise, the retired security patches may be removed from your Patch Manager client devices. Example: -retire MS00-001,MS00-029
superceded_patches	Set superceded_patches to Y if you want to publish the data even if a patch is marked as superceded. Default: N
vendors	Specify the vendors to acquire patches from. Example: -vendors Microsoft, Redhat, SUSE, HPUX Default: Microsoft.
vendor_os_filter	Specify a filter for the vendor's operating systems in the format *vendor*::*operating system*. RedHat example: Redhat::2.1es,Redhat::3es, SUSE example: Suse::8,Suse:9 HP-UX example: HPUX::11.00,HPUX:11.11 Note: Do not use vendor_os_filter to specify Microsoft operating systems as they are treated as products. Use the product filter for Microsoft operating systems instead.

Look at the Patch Acquisition Reports on the Patch Manager web site to check the success of the acquisition. In addition, a log file is created in the Radia Integration Server's log directory called `patch-acquire.log`. The patch acquisition log includes the version and build number of `patch.tkd`.

Creating Custom Patch Descriptor Files

The patch descriptor files that are created using the **acquire** command use the information from the vendor data feeds. These files may be missing information or contain incorrect information regarding the patch. A **probe** defines what is needed to be in compliance with the security issue that the patch fixes. You can create a custom patch descriptor files using supported XML tags. The custom descriptor file must be placed in the Custom directory and be named identically to the file it will be overriding in the Microsoft, Redhat, SUSE, or Novadigm directories. Below is an example of creating a custom descriptor file for a Microsoft bulletin.

To create a custom descriptor file

1. Copy the Microsoft version of the XML file located in `C:\Novadigm\IntegrationServer\data\patch\microsoft` directory generated during an acquisition into the `C:\Novadigm \IntegrationServer\data\patch\custom` directory.
2. Use a text or xml editor to view the patch descriptor file. Validate the data with the releases itemized in the URL located at the top of the xml. Change `Source` to `Custom`.

```
<!-- XML file built using Novadigms Page Scraper -->

<Bulletin  PopularitySeverityID="0"
URL="http://www.microsoft.com/technet/security/bulletin"
FAQURL="http://www.microsoft.com/technet/security/bulletin"
MitigationSeverityID="0"  Supported="Yes"
ImpactSeverityID="0"  SchemaVersion="1.0"
PreReqSeverityID="0"  DateRevised="20021119"
Source="NOVADIGM"  Name="MS02-065"  Title="Buffer Overrun in
Microsoft Data Access Components Could Lead to Code Execution
(Q329414)"  DatePosted="20021119" >
```

When generating a custom xml, HP recommends including all Product releases. This allows a client running any available releases of the product to be discovered.

3. Make any changes required to adjust the data, and save the custom patch descriptor file. Change the `Source` tag to `Custom`. This value is reflected in the BULLETIN instance's SOURCE attribute.
4. Use the following command line to publish the custom patch descriptor file. If the bulletin were MS02-065, the command line would be:

```
nvdkit ./modules/patch.tkd acquire -rcs_url radia:
//localhost:3464

     -mode BOTH -dsn patch -bulletins MS02-065 -sync rcs -
replace y
```

5 View the `patch-acquire.log` to see where the publishing process obtained the xml from:

```
20040116 15:11:24 Info: Publishing MS02-065 1 of 1

20040116 15:11:24 Info: Using bulletin from custom
C:/Novadigm/IntegrationServer/data/patch/custom/MS02-065.xml

20040116 15:11:24 Info: Loading XML file
C:/Novadigm/IntegrationServer/data/patch/custom/MS02-065.xml

20040116 15:11:24 Info: Loading bulletin MS02-065 from RCS
```

Patch Acquisition Reports

Acquisition based reports show the success and failures of the patch acquisition process from the vendor's web site. To view the reports, access the Reporting Server version 4.1 or above. Installation and configuration information can be found in the *Reporting Server Guide*. Under **Reporting Views**, click **Software Patch Reports** to expand the list of reports.

The Acquisition Summary report shows the number of bulletins, patches, and errors for each acquisition session. In addition, it provides links to the acquisition reports for all bulletins and patches. The date and time of the publishing session is also listed.

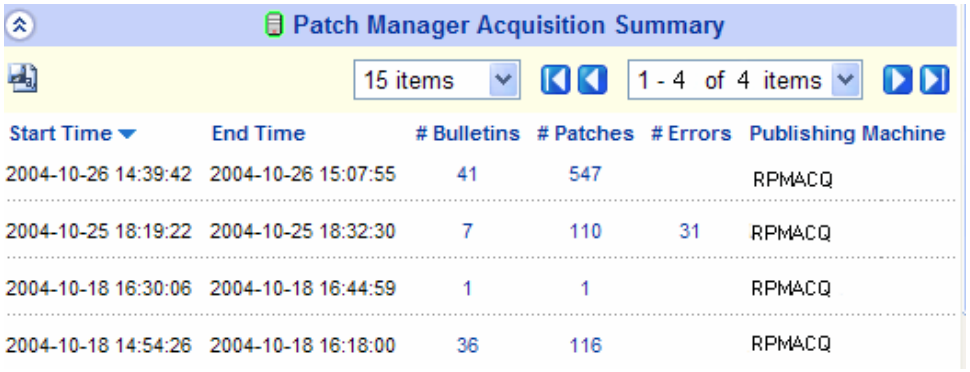


Figure 6: View the Acquisition summary report.

Click **# Bulletins** to see the acquisition summary sorted by bulletin or **# Patches** to see the acquisition summary sorted by patch files.

Click **# Errors** to see further explanations of why the acquisition failed. Numeric error codes displayed in the error reports are standard http status codes. For additional details on these codes, search for "HTTP Status Codes" on the World Wide Web.

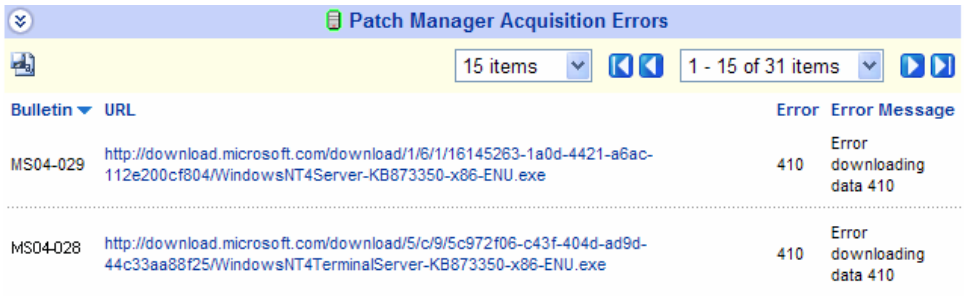


Figure 7: View the acquisition error summary.

Use the Acquisition by Bulletin report to see a summary of the bulletin's acquisition.

Figure 8: View the acquisition summary by bulletin.

From this report click on the number for Applicable Patches to see the files associated with the bulletin. Remember that one bulletin may have multiple patches based on platform. Please note:

- If a bulletin has a patch that applies to a product that Patch Manager does not support, an asterisk (*) will be displayed preceding the bulletin

number. In Figure 8 on page 84, one of the files associated with MS04-001 is not currently supported by Patch Manager.

- At the bottom of this report, there is a second section that includes bulletins that apply to products that are not supported by Patch Manager. These bulletins will not appear in the Research reports.

Figure 9: View the acquisition exceptions by bulletin.

Use the Acquisition by Patch report to see a summary of each patch's acquisition.

Figure 10: View the acquisition summary by patch.

Click on an item in the **Product/Release** column for a specific bulletin to drill down for full details on the patch.

Analyzing Microsoft Patch Files

If you are using the Configuration Analyzer to compare Microsoft patches, you will need to create patch state files. A state file is a highly tuned file format that is used to store information about an application or workstation at a particular point in time. Patch Manager allows you to generate state files only for Microsoft patches that have already been acquired in the Radia Database. Each parameter should be preceded by a hyphen with the value for the parameter following it. The parameters are described in Table 4 below. Parameters set on the command line will override those from the `patch.cfg` file.

Table 4: State File Creation Parameters

Parameter	Description
bulletins	Specify specific bulletins for acquisition separated by commas. The asterisk (*) wildcard character is recognized. Example: -bulletins MS00-001,MS00-029. Default: All bulletins.
rcs_pass	If authentication has been enabled on your Configuration Server, specify the password for the rcs_user.
rcs_url	Specify the location of your Configuration Server in URL format. Use the format: `radia://`*`ipaddress`*`:`*`port`* where: • `radia` indicates the session type to be opened to the Configuration Server. • *`ipaddress`* is the hostname or IP address of the computer hosting the Configuration Server. • *`port`* is the port number of the Configuration Server. Note: This parameter is required.
rcs_user	If authentication has been enabled on your Configuration Server, specify the rcs_user.
state_dir	Specify the location to place the state files. Default: `C:\Novadigm\IntegrationServer\states`.

To create state files

1 From a command prompt on your Patch Manager computer, navigate to the Radia Integration Server's directory. The default location is

```
System Drive:\Novadigm\IntegrationServer
```

2 Using the parameters listed in Table 4 on page 86, create a command line similar to the following:

```
nvdkit ./modules/patch.tkd state –bulletins MS04-003
```

This will create a state file for Microsoft Bulletin MS04-003.

Log files called `patch2state.log` and `advmnfst.log` are created in the current folder.

Refer to the *Configuration Analyzer Guide* for instructions on how to use the state files.

Summary

- Run Radia Patch Acquisition to acquire the patches and publish them to the Radia Database.
- The Patch information from the Radia Database automatically synchronizes with the Patch SQL Database.
- Use the Patch Acquisition reports to see the status of your acquisition.

4 Patch Assessment and Analysis

At the end of this chapter, you will:

- Know how to install the Patch Manager client agent.
- Know how to manage patches on client devices.
- Be familiar with reports that you can generate for patch files.

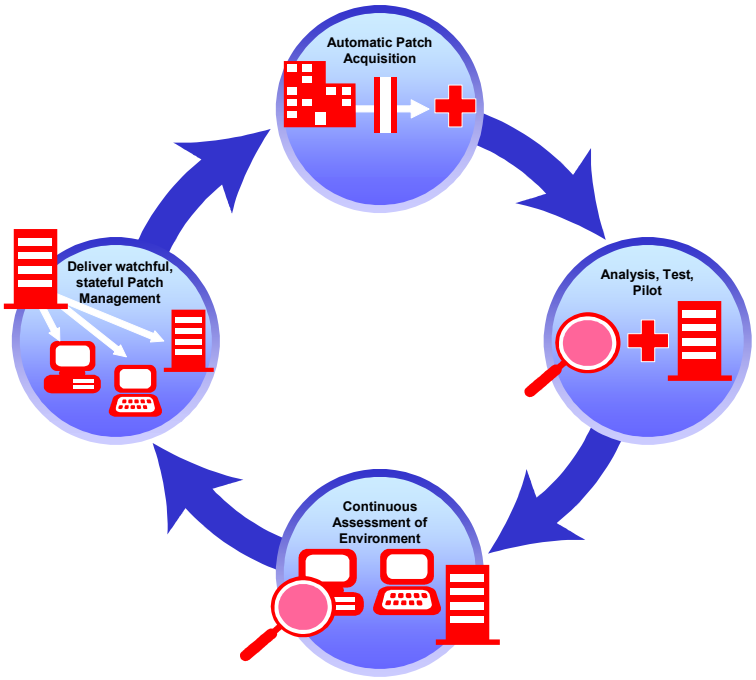


Figure 11: Product discovery and analysis.

Installing the Patch Manager Client

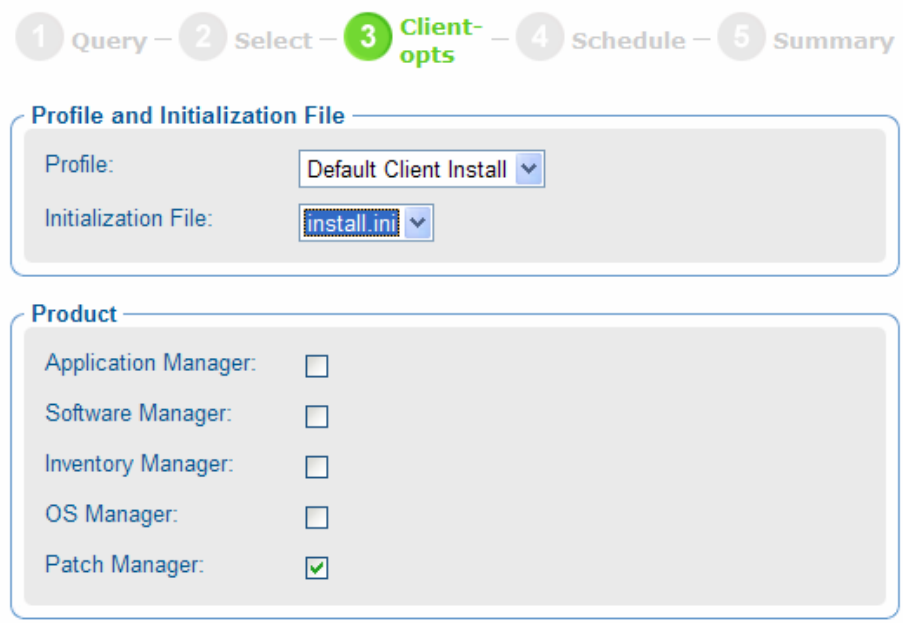
The Patch Manager client must be installed on any client computer that you want to manage vulnerabilities for. You can do this using the Management Portal or using the installation from the CD-ROM provided. For detailed installation instructions, refer to the *Management Portal Guide* or the *Application Manager Guide*. For minimum system requirements, refer to the *Application Manager Guide* for the appropriate operating system.

The minimum required version of nvdkit is 145 for the Patch Manager clients. If your client computers do not meet this requirement, see the technical support web site.

The directions shown below for installation through the Management Portal version 2.0. These screens and instructions may change in future versions. Refer to the *Management Portal Guide* for additional information.

To install the Patch Manager client from the Management Portal

1. Copy the client maintenance files from the Patch Manager CD-ROM to the `\Novadigm\IntegrationServer\media\client\default\win32\maint` directory on the Management Portal computer.
2. Use the Management Portal's Install Client task to begin the installation process.
3. In the Management Portal's Client-opts screen, select **Patch Manager**.



4. Complete the remaining information in the Client-Opts screen.
5. Schedule the installation and submit the job.

If the Radia Management Agent is not already installed on the client computer, the Agent will be installed as part of the Patch Manager client installation.

To install from the CD-ROM for Windows clients

- Navigate to the appropriate subdirectory for you operating system on the Radia v4 applications CD-ROM. Double-click **setup.exe**. When prompted, select the Patch Manager client feature.

To use the install.ini file for Windows Clients

- In the [PROPERTIES} section of the `install.ini` file, add the following line: `ADDLOCAL=NVDINSTALLPATCH`

After installing the client, you will need to assign the appropriate services to the client computers.

To install from the CD-ROM for RedHat and SUSE Linux and HP-UX clients

- Navigate to the appropriate subdirectory for you operating system on the Radia v41 applications CD-ROM. Select the Patch Manager client feature during client installation.

To install the client agent for RedHat and SUSE Linux from the Management Portal

The minimum Radia client version supported is 3.1.2. This version includes nvdkit build version 145. The Patch Manager client Agent for Linux supports Red Hat Enterprise Server 2.1, 3 and 4, and SUSE 8 and 9 for patch deployment.

- The Patch Manager CD-ROM includes a file called maint31.tar located in the `Patch Agent Maintenance\linux\ram` folder. The content of this file must be applied to a Radia client to enable Radia Patch Manager.

For agent installations using the Management Portal running on a Unix operating system:

- Examine the contents of the Management Portal's subdirectory `IntegrationServer/media/client/linux/ram`.
- If the Management Portal's `IntegrationServer/media/client /linux/ram` folder contains a `client31.tar` file, copy the `maint31.tar` file from the `Patch Agent Maintenance\linux\ram` folder on this CD-

ROM to the Management Portal's `IntegrationServer/media/client/linux/ram` directory.

- If the Management Portal's `IntegrationServer/media/client /linux/ram` folder contains a client41.tar file, copy the `maint31.tar` file from the `Patch Agent Maintenance\linux\ram` folder on this CD-ROM to the Management Portal's `IntegrationServer/media/client /linux/ram` directory, then rename `maint31.tar` to maint41.tar.

To install the client agent for HP-UX from the Management Portal

The minimum Radia client version supported is 3.1.2. This version includes nvdkit build version 145. The Patch Manager client Agent for HP-UX supports HP-UX OS releases 11.00 and 11.11 (11i) for patch deployment.

- The Patch Manager CD-ROM includes a file called maint31.tar located in the `Patch Agent Maintenance\hpux\ram` folder on the CD-ROM. The content of this file must be applied to a Radia client to enable Patch Manager.

For installations using the Management Portal running on a UNIX operating system:

- Examine the contents of the Management Portal's subdirectory `IntegrationServer/media/client/hpux/ram`.
- If the Management Portal's `IntegrationServer/media/client /hpux/ram` folder contains a `client31.tar` file, copy the `maint31.tar` file from the `Patch Agent Maintenance\hpux\ram` folder on this CD-ROM to the Management Portal's `IntegrationServer/media/client /hpux/ram` directory.
- If the Management Portal's `IntegrationServer/media/client/hpux /ram` folder contains a `client41.tar` file, copy the `maint31.tar` file from the `Patch Agent Maintenance\hpux\ram` folder on this CD-ROM to the Management Portal's `IntegrationServer/media/client /hpux/ram` directory, then rename `maint31.tar` to `maint41.tar`.

Updating the Patch Manager client Agent

When you run a patch acquisition, you can also download updated product discovery scripts. These files are received from the Novadigm Patch Update web site provided by HP. After download, the files are published to the PATCHMGR domain and connected to the Discover Patch Service instance.

The AGENT_UPDATES parameter, specified during an acquisition session, controls script update processing.

With the use of Patch Manager, Version 2.0, the auto packaging feature will reapply Patch Manager agent maintenance files if a user deleted them between Radia connects.

Client agent files are distributed when the Discover Patch Service is processed on the Patch Manager client computer. This is accomplished through a connection in the Discover Patch Service to the PATCH instance in the AUTOPKG class. In turn, the AUTOPKG.PATCH instance connects to the client agent maintenance packages created when you selected Publish or Publish, Distribute. If you have selected only to Publish and not to Distribute, you will need to create connections from the appropriate instance in the PACKAGE class to the AUTOPKG.PATCH instance. Use the System Explorer to do this. An example is shown below.

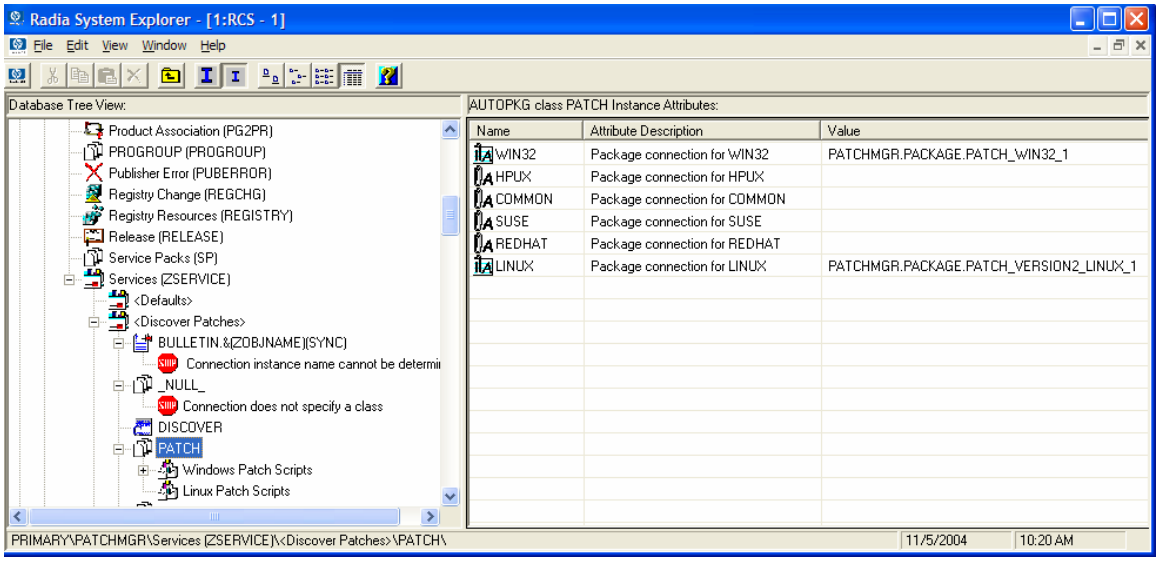


Figure 12: Create connections to the published package.

Table 5: AGENT_UPDATES Values

Value	Description
"" or blank	The agent updates will not be published to the Radia Database's PATCHMGR domain.

Value	Description
Publish,Distribute	This is the default value. Publish the updates to the PATCHMGR domain and connect them to the Discover Patch instance to distribute the updates to your Patch Manager client computers.
Publish	The updates will be published to the PATCHMGR domain, but will not be connected for distribution to Patch Manager client computers. You will need to create these connections.

There are two parameters that control which agent updates you download.

- Agent_os
  Use –agent_os to specify which operating systems to acquire the agent updates for. The default is to download all operating systems. Valid values are win32, linux, suse, and hpux. Note that RedHat, SUSE and HP-UX agent update are only available starting with version 2.0.
- Agent_version
  Use –agent_version to select which Patch Manager version for which you would like to acquire the agent updates. You can only publish one version to one Configuration Server. One Configuration Server cannot host multiple versions of the agent. If piloting, create a separate Configuration Server for the other version.
  - To update for version 2, specify –agent_version version2.
  - To update for version 1.2, specify –agent_version version1_2. (This is the default setting for backward compatibility.)

Product Discovery and Analysis

Before you can manage vulnerabilities, the Patch Manager client must discover which products are on the client computer. Patch Manager objects are cached locally on the client device to optimize bandwidth. Objects are downloaded only if they are different. In addition, the Patch Manager client needs to detect which patches are installed for each discovered product. To do this, assign the Patch Manager Discover Patch Service to the client computers.

Running the Patch Manager client connect *requires* that the dname parameter be set to PATCH. This will keep the resolution of services for the Patch Manager client separate from the resolution of services for the Application Manager client. If you are using Policy Server with Patch Manager, see Appendix C, Policy Server Integration.

To perform patch discovery

1. Connect your client computer (e.g. POLICY.USER.&(ZUSERID)) directly to the PATCHMGR.ZSERVICE.DISCOVER_PATCH service.
2. Create a radskman command line to make a regular client connect. At a minimum, the command line should look like:

```
radskman ip=<RadiaConfigurationServerIPaddress>,
     port=<RadiaConfigurationServerport>,dname=patch
```

For additional information on creating a radskman command line, refer to the *Application Manager Guide*.

Detecting and Managing Microsoft Office Security Bulletins

Patch Manager can detect Microsoft Office security vulnerabilities. It has the capability to manage Microsoft Office vulnerabilities for locally installed Microsoft Office applications. Locally installed means that the installation was performed from a CD-ROM in its native format, specifically not an administrative control point.

You may want to update Microsoft Windows Installer to versions 3.0 or 3.1. These versions contain considerable enhancements to the efficiency of managing patches for Windows Installer applications. Also, please note that some patches will require access to the original installation media. Be sure to test detection and deployment of vulnerabilities before deploying to a production environment.

Patch Manager does not support patch management for Office 95 and Office 97. Currently supported products include Office 2000, Office XP, Office 2003, as well as stand alone products such as Project 2002. For Microsoft Office applications that are either managed by HP OpenView using Radia or an ACP Install Source, the Patch Manager client Agent will *only* detect and report on the vulnerabilities.

Application Manager administrators are urged to use the MSI ACP patching technology built into the recent Radia offerings

Microsoft Office vulnerability detection is turned on by default. you may turn this feature off by modifying the PATCHMGR.CMETHOD.DISCOVER instance. If you want to turn off Microsoft Office detection, set the MSO parameter to N in all attributes of the instance as shown in the figure below.

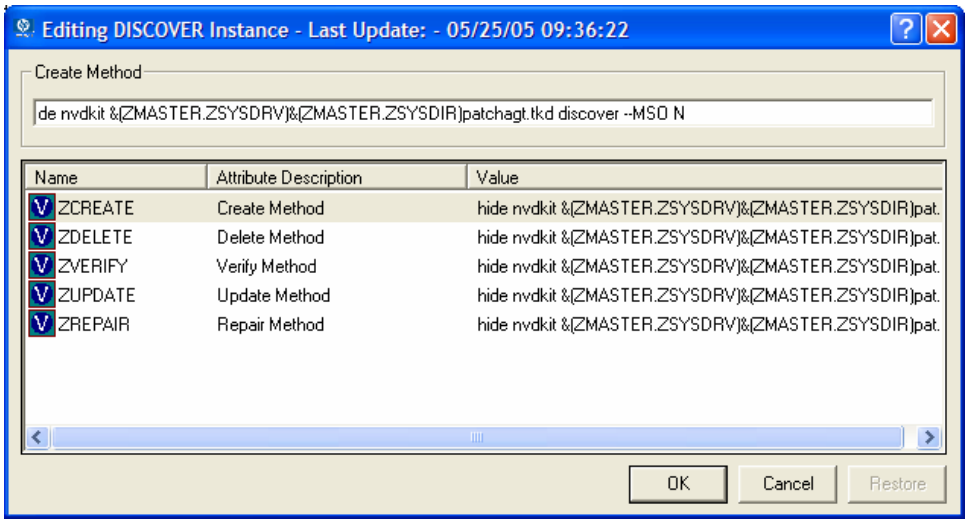


Figure 13: Microsoft Office detection is turned off.

Patch Manager supports deployment and acquisition of Microsoft Office Service Packs. In some cases, Microsoft will determine that a particular Office patch is dependent on a specific Service Pack. In those cases, it will be necessary to distribute the Office Service Pack prior to installing the patch. Patch Manager Reports will assist in determining which bulletins have service pack dependencies, as that information is gathered during product discovery. For example, suppose you have Microsoft Project 2002 Gold installed locally to your client computer. Patch Manager will identify that this computer is vulnerable to MS05-005. You will see this in the Patch Manager Compliance by Device report. In some cases, Microsoft requires that a service pack be installed before a bulletin can be applied. So, before MS05-005 can be deployed to your client computer, Microsoft Project 2002 Service Pack 1 must be deployed. In some cases, application of the service pack will eliminate the vulnerability detected for the bulletin. For example,

after this service pack is installed, the client computer will *still* be out of compliance because MS05-005 has not been installed. In other words, for this client computer to be in compliance, you will need to deploy Service Pack 1 and, then, MS05-005. Note that no bulletin or service pack will be deployed if the client computer has not been entitled to it in policy.

If you are using either Radia or an ACP (Administrative Control Point), you will see a comment in the Compliance reports, specifying that Patch Manager does not manage these types of Microsoft Office installations.

About ZOBJSTAT

The ZOBJSTAT object is created during patch resolution. This object contains information about what products and patches are installed on the client computer. During the resolution process, ZOBJSTAT is sent to the Configuration Server. Instead of storing the information in the Radia Database, the object's content is copied to a directory that is monitored by the Radia Messaging Service. The default location of this directory is `System Drive:\Novadigm\ConfigurationServer\data\patch`. The Radia Messaging Service exports this information to the Patch ODBC Database for storage and analysis. Only the most recent ZOBJSTAT for each client computer is kept. Furthermore, all client device information is stored in the ODBC Database, not in the Radia Database as in previous releases.

Patch Manager Administrator Icons

When you are in the Patch Manager Administrator, there are icons available to take you to available functions, including the Reporting Server.

Figure 14: Click an icon.

- Click the  icon to refresh the page.
- Click the  icon to return to Patch Manager Administrator Home Page.
- Click the  icon to print the currently viewed page.

- Click the  icon to go to Patch Manager Reporting using the Reporting Server.
- Click the  icon to see the latest Bulletin correction information.
- Click the  icon to see the latest agent update information.

Patch Analysis and Reports

Reporting Server 4.1.1 provides web-based reports for Patch Manager. For installation and configuration instructions for the Reporting Server, refer to the *Reporting Server Guide*. The installation media is on the Radia Infrastructure CD-ROM. To view the reports, first access your Reporting Server. Then, under Reporting Views, click **Software Patch Reports** to expand the list of reports.

Figure 15: View the list of Patch Manager Reports.

There are three types of Patch Manager Reports, Compliance, Acquisition, and Research. For information on the Acquisition Reports, see Chapter 3, Patch Acquisition.

Filtering Patch Reports with Reporting Server

Reporting Server also provides filtering capabilities. To access the filters, expand Patch Manager Related in the Search Controls section of the Reporting Server page.

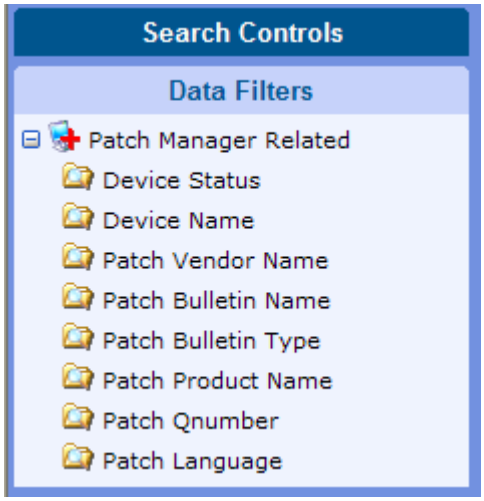


Figure 16: View the Patch Manager Related Data Filters.

Some filters only allow a text entry. Others have a **Show available** options button or magnifying glass to open a filter lookup window.

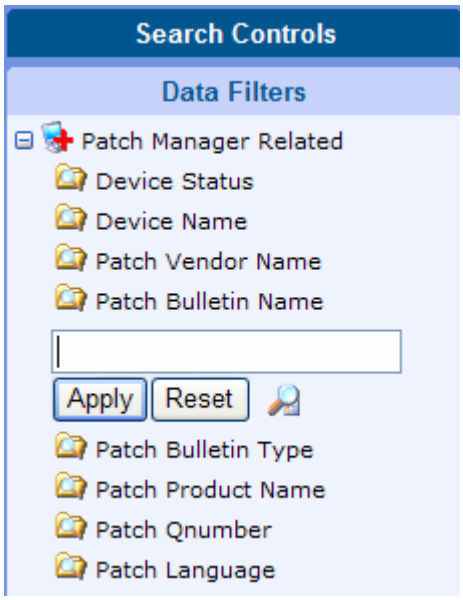


Figure 17: Expand a filter.

Click the magnifying glass to open the filter lookup window.

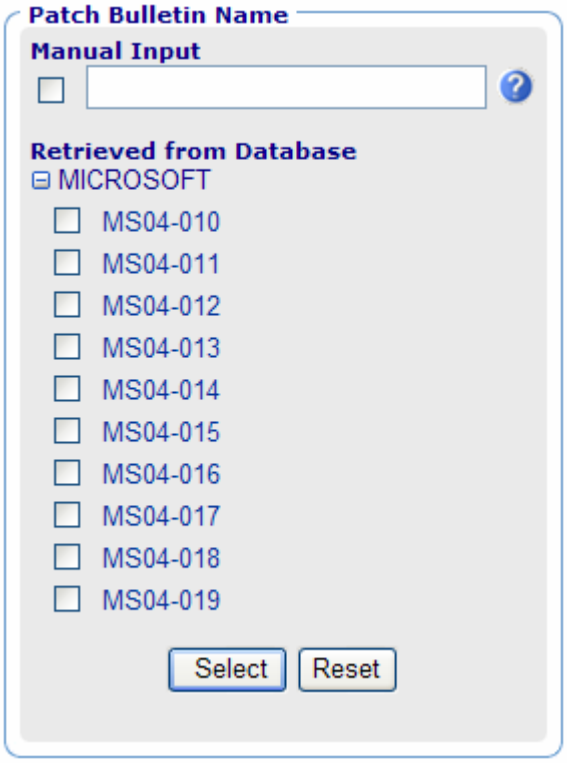


Figure 18: Select the filters.

Click any of the available criteria check boxes to select the criteria you would like to use in your filter. For additional information on creating filters refer to the *Reporting Server Guide*.

Compliance Reports

When a device in your enterprise runs the Patch Manager client, product and patch information is sent to Patch Manager. Then, this information is compared to the available patches to see if this device requires a patch to remove vulnerabilities. Compliance reports show only the information applicable to detected devices in your environment.

- **Compliance by Bulletin**
  Use this report to see the vulnerabilities listed by bulletin. Each row contains information relating to a specific bulletin and an icon.
  - A check mark indicates that this bulletin has been patched on all applicable devices.
  - A power button indicates that at least one device is pending a reboot to be in compliance.

    A pending reboot status will take precedence over a not-patched status, because it is, typically, a short term device status. After the reboot, the device will again show the worst case status. For example, after reboot, if the device still has a vulnerability that has not been patched, the device will display with a red X to show.
  - A question mark indicates that this vulnerability could not be confirmed on at least one device.
  - A red X indicates at least one device is not patched for this bulletin.
  - An exclamation mark indicates a warning.

Status	Bulletin	CVE	Title	Applicable Products	Applicable Devices	Patched	Warning	Not Patched	Other	Reboot Pending	Total
✗	MS04-030	CAN-2004-0718	Vulnerability in WebDav XML Message Handler Could Lead to a Denial of Service (824151)	1	1	0	0	1	0	0	1
!	MS04-031	CAN-2004-0206	Vulnerability in NetDDE Could Allow Remote Code Execution (841533)	1	1	0	1	0	0	0	1
✗	MS04-032	CAN-2004-0207	Security Update for Microsoft Windows (840987)	3	3	0	0	3	0	0	3
			Vulnerability in								

For each bulletin, you can

- Click the bulletin number in the **Bulletin** column to go to the vendor's web site for more information on the bulleting.
- Click the CVE number in the **CVE** column to go the Common Vulnerabilities and Exposures web site.
- Click a title in the **Title** column to see all patches for that bulletin.
- Click the number in the **Applicable Products** column to see the products for the bulletin
- Click the number in the **Applicable Devices** column to see the applicable devices for that bulletin.
- Click the number in the **Patched** column to see the patched devices.
- Click the number in the **Warning** column to see vulnerabilities that the Patch Manager cannot confirm as patched because there may be some discrepancy in the patch verification process.

  For example, a patch for Microsoft SQL server or Microsoft MSDE may show up as a warning. MSDE installs fewer files than SQL Server. A device with MSDE may qualify for the same patch as a device with SQL server, but does not require all the files in the patch. Since Patch Manager cannot report the vulnerability as being patched, this would be reported as a warning.

  Another example may be that a file version on the device is newer than the one delivered by the patch. Again, in this case, Patch Manager cannot report the vulnerability as being patched so it reports a warning.
- Click the number in the **Not Patched** column to see what patches are available but have not been applied.
- Items in the **Other** column represent patches that Patch Manager was not able to verify.
- Items in the **Reboot Pending** column represent patches that will be complete after the client device is rebooted.
- Click the number in the **Total** column to see all patches that are relevant to this bulletin.

- **Compliance by Device**
  Use this report to see the vulnerabilities for devices under Radia patch management. The date of the last scan is listed in the last column. Each row contains information relating to a specific device and an icon.
  - A check mark indicates all applicable vulnerabilities have been patched.

— A power button indicates that the vulnerability will be in compliance pending a device reboot.

> A pending reboot status will take precedence over a not-patched status, because it is, typically, a short term device status. After the reboot, the device will again show the worst case status. For example, after reboot, if the device still has a vulnerability that has not been patched, the device will display with a red X to show.

— A question mark indicates that at least one vulnerability could not be confirmed.

— A red X indicates that at least one vulnerability is not patched for this device.

— An exclamation mark indicates a warning.

For each device, you can

— Click the magnifying glass for additional detail.

— Click the number in the **Applicable Products** column to see the products discovered for that device.

— Click the number in the **Applicable Bulletins** column to see the applicable bulletins for that device.

— Click the number in the **Patched** column to see the patches that were installed.

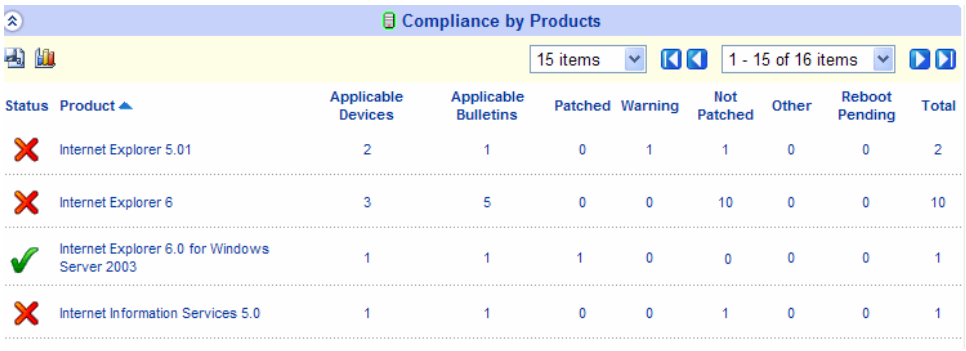
— Click the number in the **Warning** column to see vulnerabilities that the Patch Manager cannot confirm as patched because there may be some discrepancy in the patch verification process.

For example, a patch for Microsoft SQL server or Microsoft MSDE may show up as a warning. MSDE installs fewer files than SQL Server. A device with MSDE may qualify for the same patch as a device with SQL server, but does not require all the files in the patch. Since Patch Manager cannot report the vulnerability as being patched, this would be reported as a warning.

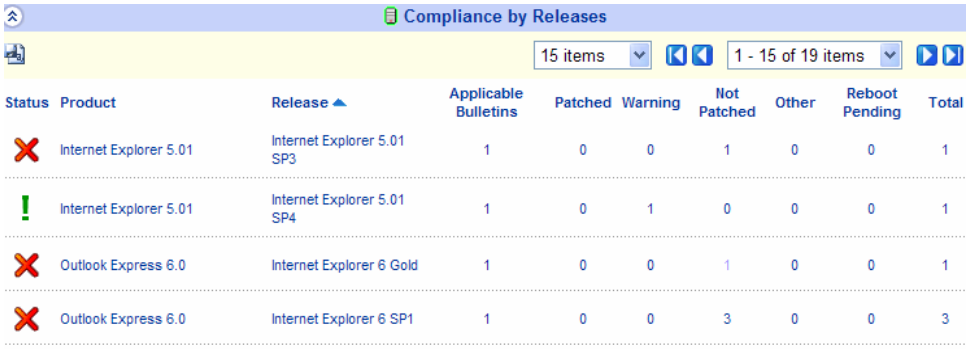
Another example may be that a file version on the device is newer than the one delivered by the patch. Again, in this case, Patch Manager cannot report the vulnerability as being patched so it reports a warning.

- Click the number in the **Not Patched** column to see what patches are available but have not been applied to this device.
- Items in the **Other** column represent patches that Patch Manager was not able to verify.
- Items in the **Reboot Pending** column represent patches that will be complete after the client device is rebooted. These devices will also have a power button icon next to the device name.
- Click the number in the **Total** column to see all patches that are relevant to this device.

- **Compliance by Products**
  This report displays one row for each product. For each product, you can
  - Click the number in the **Applicable Devices** column to see the devices affected by the vulnerability.
  - Click the number in the **Applicable Bulletins** column to see bulletins for the product.
  - View detected vulnerabilities.



- **Compliance by Releases**
  This report lists products by release. There is one row for each release of each product. Click to see Applicable Bulletins.



- **Compliance by Patches**
  This report lists products by patch. There is one row for each patch. Click to see Applicable Products and Applicable Devices.

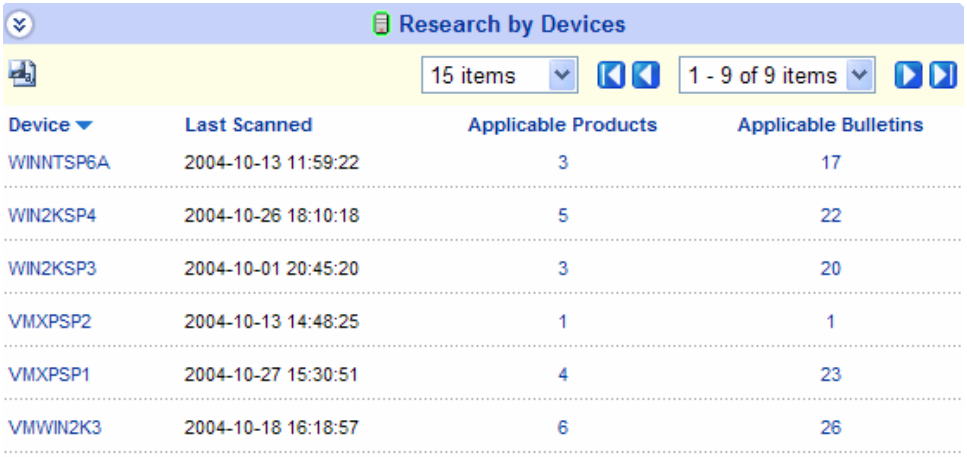
Research Reports

Research based reports display information about the patches acquired from the software vendor's web site. Research based reports offer a Filter bar.

- **Research by Bulletin**
  Use this report to drill down to all bulletins. Click on the bulletin's number in the **Name** column to go to the vendor's web site for more information. Click on the number in the **CVE** column to go to the Common Vulnerability Exposures web site. Click the number in the **Title** or **Applicable Patches** column to view the files needed for this bulletin, to see if they are available for deployment, and to see if the patch has been superceded by another patch. Click the number in the **Applicable Products** column to see which products are influenced by this bulletin.

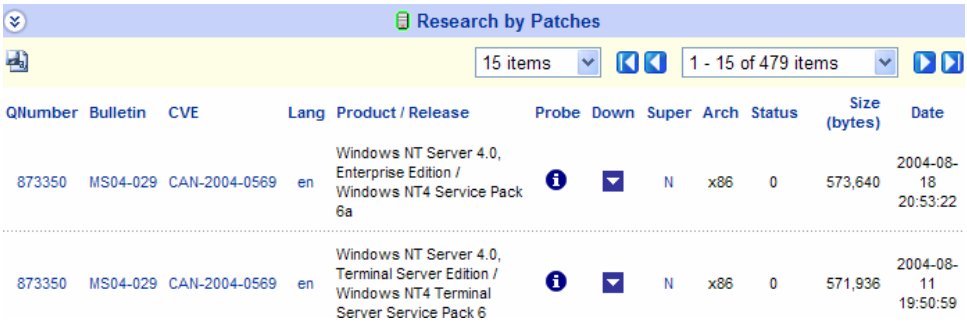
- **Research by Devices**
  Use this report to drill down to all bulletins filtered by a particular

device. Click the number in the **Applicable Products** column to see the discovered products on the device.



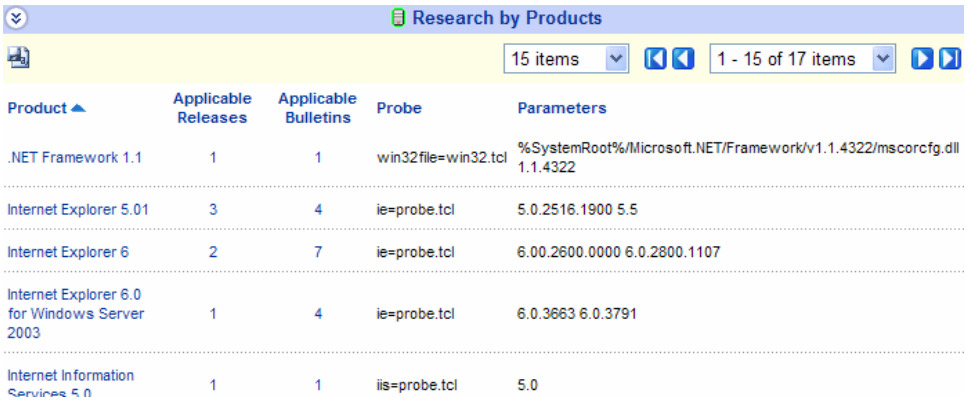
Device	Last Scanned	Applicable Products	Applicable Bulletins
WINNTSP6A	2004-10-13 11:59:22	3	17
WIN2KSP4	2004-10-26 18:10:18	5	22
WIN2KSP3	2004-10-01 20:45:20	3	20
VMXPSP2	2004-10-13 14:48:25	1	1
VMXPSP1	2004-10-27 15:30:51	4	23
VMWIN2K3	2004-10-18 16:18:57	6	26

- **Research by Patches**
  Use this report to view information on patch files including on acquisition status. Click the number in the **CVE** column to go to the Common Vulnerability Exposures web site. Click the icon in the **Down** column to download the patch file.



QNumber	Bulletin	CVE	Lang	Product / Release	Probe	Down	Super	Arch	Status	Size (bytes)	Date
873350	MS04-029	CAN-2004-0569	en	Windows NT Server 4.0, Enterprise Edition / Windows NT4 Service Pack 6a			N	x86	0	573,640	2004-08-18 20:53:22
873350	MS04-029	CAN-2004-0569	en	Windows NT Server 4.0, Terminal Server Edition / Windows NT4 Terminal Server Service Pack 6			N	x86	0	571,936	2004-08-11 19:50:59

- **Research by Products**
  Use this report to drill down to all bulletins filtered by product.



- **Research by Releases**
  Use this report to filter by product release. Click the number in the **Applicable Bulletins** column to see all bulletins for the release.

Compliance and Research Exception Reports

The Compliance and Research Exception Reports were introduced to provide information about devices that do not meet the criteria for the standard research and compliance device reports. All of the devices in these exception reports are in some sort of exception state. The three main reasons for this exception state are:

- connection errors during patch discovery
- an acquisition performed with force and replace options that caused a disconnect with the client's status information

- an inoperable Patch Client Agent

To resolve the exception, perform a new discovery on the device. The new discovery will either resolve the error, in the case of the acquisition disconnect and, possibly, the connectivity problem. In addition, it will produce logs that can be used to troubleshoot the inoperable Patch Client Agent. The research exception report will likely show only a subset of the devices in the compliance exception report because the criteria for the research reports are less restrictive.

Managing Vulnerabilities

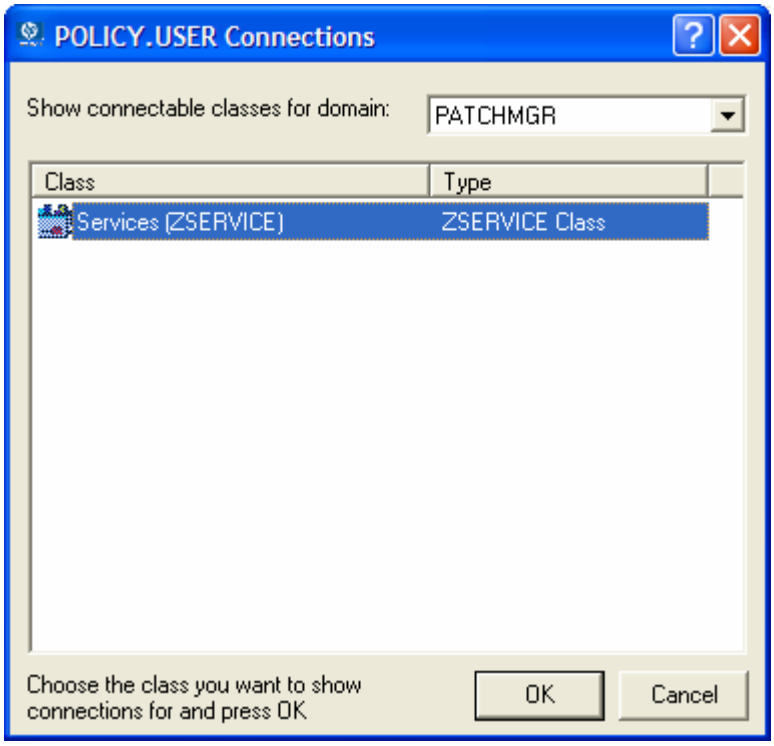
After you have found where vulnerabilities may exist in your enterprise, use Patch Manager to manage these vulnerabilities to client devices. For every bulletin, there is a Services (ZSERVICE) instance in the PATCHMGR domain that is similar to the Application (ZSERVICE) instance in the SOFTWARE domain. Refer to the *Application Manager Guide* for complete descriptions of the attributes available in the ZSERVICE instance in the SOFTWARE domain. In addition, the PATCHMGR.ZSERVICE instance supports bandwidth throttling. See the HP OpenView web site for details.

Set policy entitlement at the ZSERVICE level. Connect the ZSERVICE instance that has the same name as bulletin to the user instances in the POLICY domain or to the Null Instance.

To manage a vulnerability

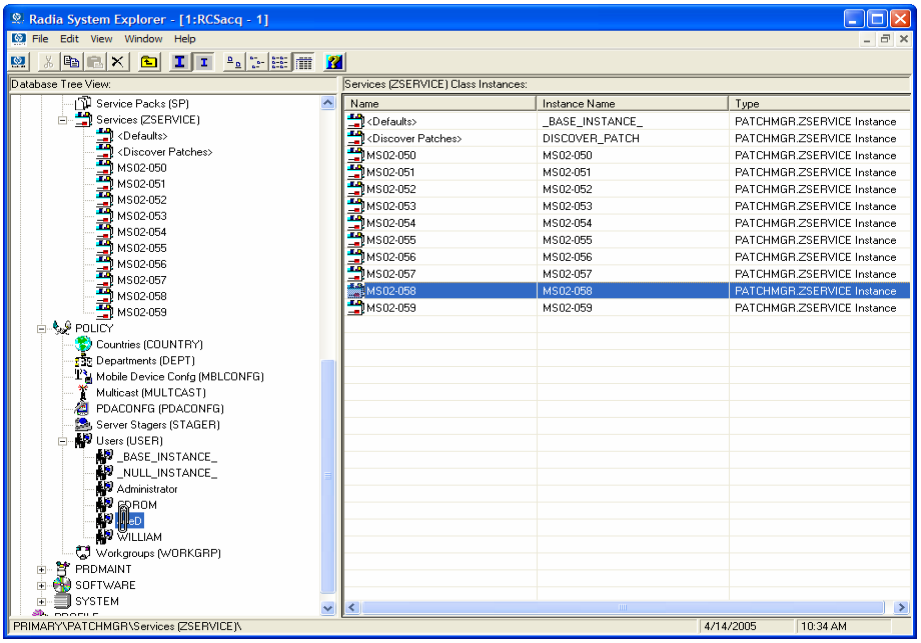
1 Right-click a user instance and select **Show Connections**.

2 Select the **PATCHMGR** domain from the drop-down box as shown in the figure below.



3 Click **OK**.

4 Drag-and-drop the bulletin you want to manage the vulnerability for to the appropriate user instance. When the cursor turns to a paper clip, release the mouse.



5 Click **Copy**.

6 Click **Yes** to Confirm the Connection.

The patch is added to the user's policy. The next time the user logs in the vulnerability will be managed, including installation if necessary.

Deploying Automatic and Interactive Patches

Some patches require user intervention for deployment as designed by the patch's vendor. Patch Manager defines a patch as **automatic** if it does not require user interaction for deployment. A patch is defined as **interactive** if it requires user interaction for deployment. Patch Manager can detect vulnerabilities for both automatic and interactive patches. Patch Manager supports deployment of both interactive and automatic patches. However, those which the vendor has created as interactive will either require user intervention to be installed or will fail to be installed.

Only bulletins that Hewlett-Packard has provided data correction for in an xml file or that a customer has customized may be marked as interactive. This information can be found in the Deployment attribute in the Bulletin and Patch nodes of a Hewlett-Packard provided xml file. Valid values are AUTOMATIC and INTERACTIVE. By default, the vendor does not supply

this information. Therefore, customers are required to test the deployment of a patch to verify if it is interactive before entitling the bulletin in their environment.

When the bulletin is published to the Configuration Server Database, the RUNMODE attribute of the ZSERVICE class of the PATCHMGR domain defines the type of patch. Use the catexp parameter of the radskman command line to limit your installation to bulletins marked as automatic only. The format would be `catexp=runmode:automatic`. If the catexp parameter does not exist, all bulletins will be processed. For a typical Patch Manager client Agent connect, you may want to use the following radskman command line:

```
radskman ip=<RCSIP>,port=<RCSPORT>,dname=patch,catexp
=runmode:automatic
```

For more information on radskman, refer to the *Application Manager Guide*.

Customizing Reporting Options

In some cases, you may not want to mark a vulnerability as an error (shown as an X), or you may not want to mark a warning (shown as a !) with a status of OK (check mark). Defaults are supplied in the OPTIONS class. You may want to view instances of the OPTIONS class as examples. If you need to modify this behavior, create a custom xml file using three new attributes. The three new patch descriptor xml attributes are:

- **DesiredState**
  This attribute maps to the DSTATE attribute in the OPTIONS, FILECHG, and REGCHG classes. Use this attribute to set what the return code should be based on the criteria stated in the USE variable.
- **ReportThreshold**
  This xml attribute maps to the REPORT attribute in the OPTIONS, FILECHG, and REGCHG classes. The properties of the file or registry key will be sent to the Patch Manager based on this value. If the return code is greater than or equal to the value of the REPORT attribute, the file and registry information will be sent to the Patch Manager and will be available in Patch Manager reports. For example, set REPORT to 1 to send the properties if the return code is either 4 (Warning) or 8 (Error).

Setting REPORT to 0 will send the information for all files that show an OK status. This may overburden the Patch Manager Server.

- **Use**
  This xml attribute maps to the USE attribute in the OPTIONS, FILECHG, and REGCHG classes. USE specifies what the criteria are that you are judging against. The possible criteria for the files (FILECHG) are GMTDATE, SIZE, VERSION, CHECKSUM, CRC32. For registry the option is VALUE.

  Be aware that if you customize how a file or registry change is reported, then vulnerabilities may still exist, but will not be reflected in your reports. Prior to changing the reporting status of a detected vulnerability, be sure you have taken measures to eliminate the particular exposure or vulnerability in your environment. Keep track of any customizations that you create.

Values for these attributes in the FILECHG and REGCHG instances will override the value in a connection OPTIONS instance. If these variables are blank in the FILECHG and REGCHG instances, then the value from the connected OPTIONS class will be used. If the patch descriptor xml file does not contain these attributes, then the values from the connected OPTIONS instance will be used.

To customize reporting options

For the purposes of this exercise, assume that all changes are to the OPTIONS class. Connect instances of the OPTIONS class to the file or registry component that you want to customize reporting for.

1. In the USE attribute in the appropriate class (or in the patch descriptor file), specify what properties of the file or registry key you want to evaluate. For example, if you were only interested in the date of a file, set USE to GMTDATE.
2. Set DesiredState (DSTATE) by equating a state from Table 6 below with a return code from Table 7 on page 116. Separate multiple conditions with commas.

Table 6: DesiredState Tag (DSTATE) and Descriptions

State	Description
E	Exists Use this if your only criterion for status is if the file or registry key exists.

State	Description
!E	Does not exist Use this if your only criterion for status is if the file or registry key does *not* exist.
EQ	Equal If the file or registry key meets the exact criteria.
!EQ	Not equal If the file or registry key does not meets at least one of the criteria.
LT	Less than If the file or registry key is less than at least one of the criteria.
GT	Greater than If the file or registry key is greater than at least one of the criteria.

Rules for Valid DSTATE Values

- At least one of the conditions should have a return code of 0 (OK), but you could have more than one condition return a non-zero value (4, 8).
- Testing for Equality (EQ) implies that the component should exist and need not be expressed in the DSTATE variable.

Table 7: Return Code Values

Return Code	Description
0	OK
4	Warning
8	Error

The sample code below shows an example of a customized option for a file option. The criteria specified in the Use tag are version, gmtdate, and size. The DesiredState tag describes to:

- Return a status of OK if the file does not exist (!E=0).
- Return a Warning Status if the version, gmtdate or size of the file are greater than the patched file (GT=4).

— Return an Error Status if the version, gmtdate or size of the file is less than the patched file (LT=8).

```
<FileChg Name="snmpsfx.dll" CRC32="" Gmttime=""
Path="%windir%\system32" Size="" Checksum="14922"
Gmtdate="19990212" Version="4.0.1381.164"
DesiredState="!E=0,GT=4,LT=8" ReportThreshold="1"
Use="VERSION,GMTDATE,SIZE" />
```

The values in the XML file are entirely surrounded by quotes.

3 Set a REPORT threshold. The properties of the file or registry key will be sent to the Patch Manager based on this value. If the return code is greater than or equal to the value of the REPORT attribute, the file and registry information will be sent to the Patch Manager and will be available in Patch Manager reports. For example, set REPORT to 1 to send the properties if the return code is either 4 (Warning) or 8 (Error).

The changes will take effect the next time you publish the patch descriptor file to the Radia Database.

Disabling Vulnerability Detection and Deployment

You may want to disable the detection or deployment of a specific Bulletin or Patch. To do this, use the System Explorer to set the ENABLED attribute to N in the Bulletin or Patch instance in the PATCHMGR domain.

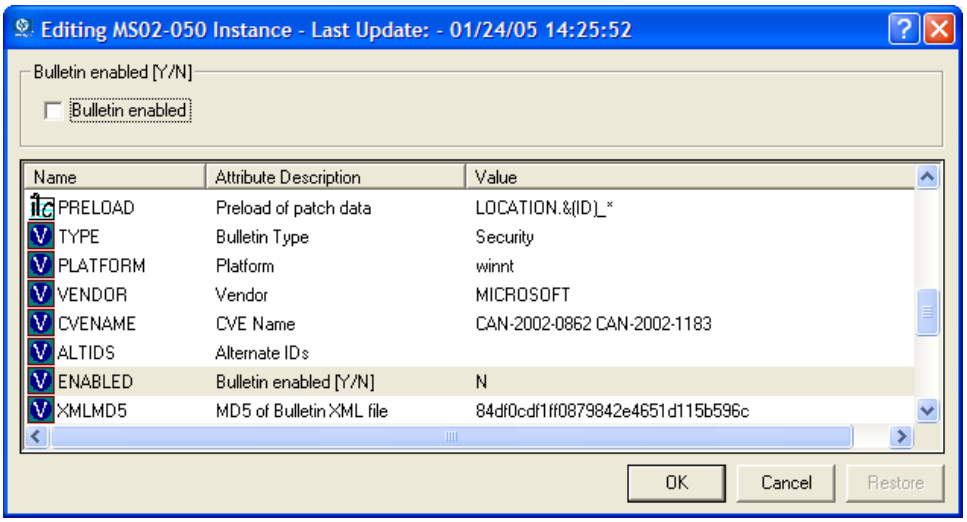


Figure 19: Disable detection of Bulletin MS00-001.

If you want to disable all patches for a particular bulletin, set the ENABLED attribute to N in the Bulletin's instance. If you only want to disable a specific patch file's detection and deployment, set the ENABLED attribute in the patch file's instance.

Controlling Patch Deployment (PATCHARG)

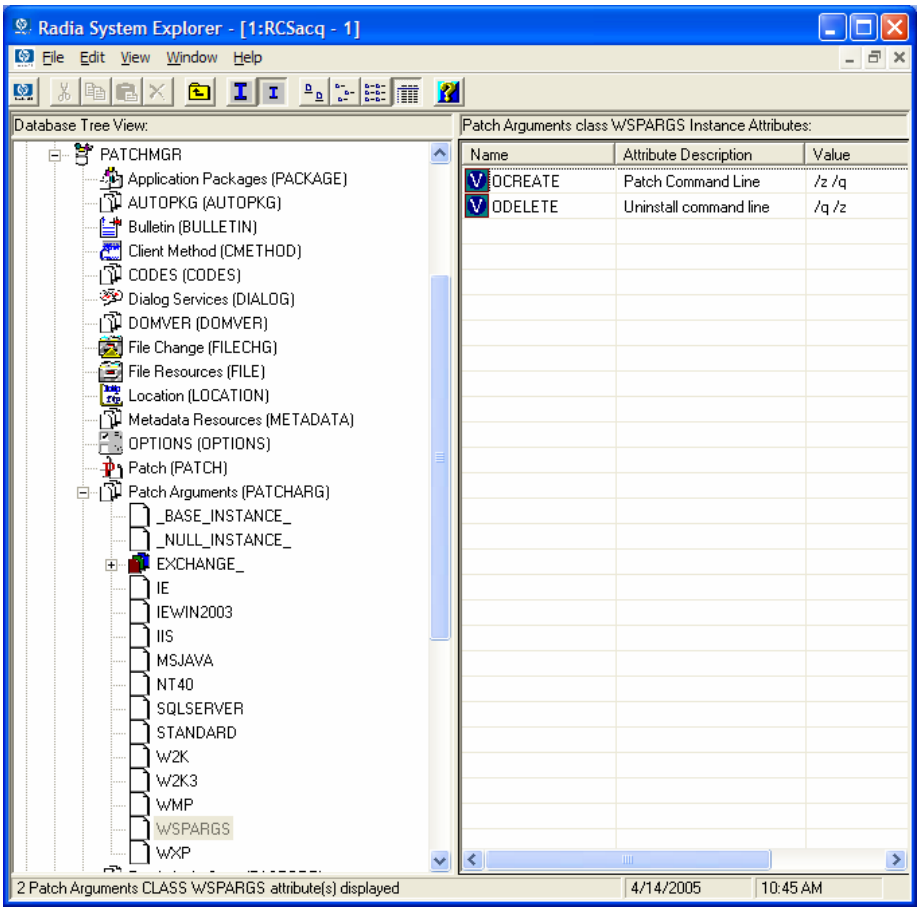
For each patch file, Patch Manager populates the parameters for installing and, where possible, for removing the patch. These parameters can be found in the Patch Command Line (OCREATE) and the Uninstall Command Line (ODELETE) attributes in the PATCHARGS class in the PATCHMGR domain.

You may want to change the command line parameters for installing and uninstalling the patch file. To do this, use the PATCHARG class to create an instance and connect it to the appropriate patch file.

To create alternate command line parameters using PATCHARG

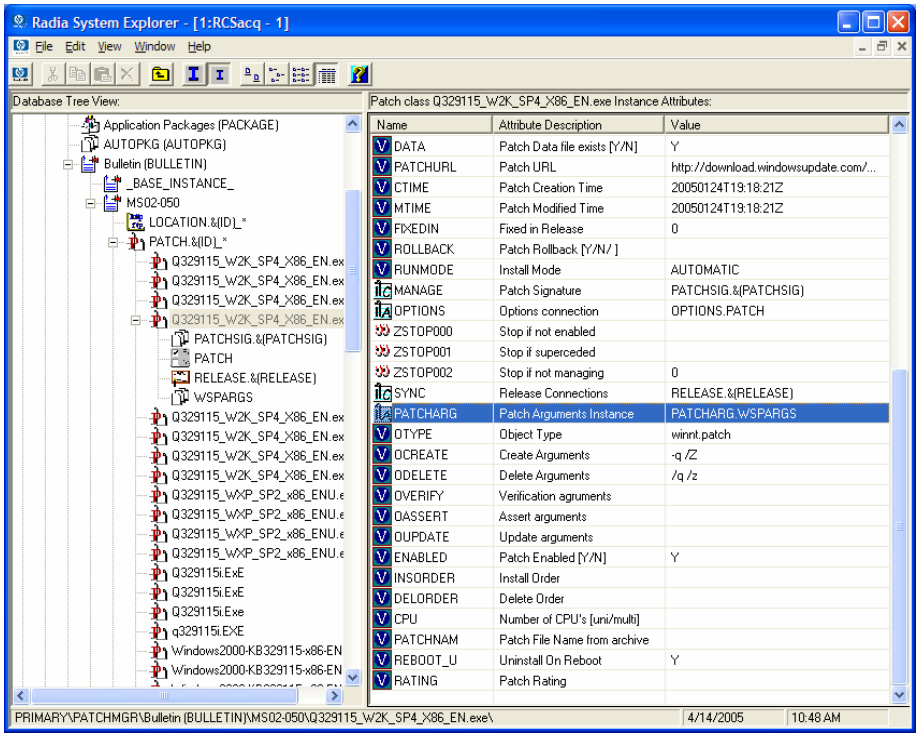
1 Use the System Explorer to navigate to the PATCHARG class in the PATCHMGR domain.

2 Right-click **PATCHARG** and create a new instance. A new instance called WSPARGS has been created in the figure below.



3 Type the new parameters that you want to use. There are two attributes in the PATCHARG class, OCREATE to install the patch, and ODELETE to remove the patch.

4 Type the path to the PATCHARG instance in place of the PATCHARG attribute for the patch file in the BULLETIN class.



5 The parameters you created will be used for this patch file.

Preloading Proxy Server and Staging Servers

If you are using a Proxy Server or Staging Server you may want to preload the patch files. To do this, go to your preload user instance (the default for Proxy Server is RPS) in the POLICY domain. If you do not already have a preload user instance, create one. You must add connections to both the DISCOVER_PATCH service and the services for the bulletins to download. At the end of the bulletin you want to download put a suffix of (PRELOAD). For example, if you wanted to preload only the MS03-039 bulletin, you would add a connection to PATCHMGR.ZSERVICE.MS03-039(PRELOAD). You can use wild cards in the bulletin name. If you want to preload all bulletins beginning with MS03, then type **`PATCHMGR.ZSERVICE .MS03-*(PRELOAD)`** in the connection instance.

The next time you run a preload, the Proxy Server or Staging Server will load the compressed data files from the PATCHMGR domain. For more

information on preloading, refer to the *Proxy Server Guide* or the *Staging Server Guide*.

Removing a Patch

By default, if you disconnect a user from a Microsoft vulnerability service (ZSERVICE) instance, the patch that was installed is not removed. This behavior is controlled in the ZDELETE attribute of the MANAGE instance in the Client Method (CMETHOD) class, and is disabled by default.

Both Red Hat Security Advisory and SUSE Security Advisory removal is disabled deliberately in Patch Manager. When a Linux vendor supplied patch is applied to a target system, the affected Linux software is updated to the current rpm package version and release that addresses the specific security vulnerability. Application of a Linux vendor supplied advisory (patch) does not maintain a backup of the original package, making automated rollback to a prior version impossible. An attempt to remove a Linux rpm package from a client computer would result in the removal of the patch as well as the rpm software package to which the patch applies. If a new vulnerability is found, Linux Security patch vendors release a new patch. This is the nature of Red Hat and SUSE Security Advisories as provided by these patch vendors.

At the time of this writing, Patch Manager does not support removal of HP-UX patches or HP-UX patch bundles.

Acquisition and deployment of HP-UX patch bundles is not supported. Acquisition does not automatically acquire HP-UX security patch pre-requisites, nor will the deployment of a HP-UX security patch install pre-requisite patches if they are missing on the agent. Roll back of HP-UX security patches is not supported.

For Microsoft patches, if you want the patch files removed when you remove a user from vulnerability management, edit the ZDELETE attribute.

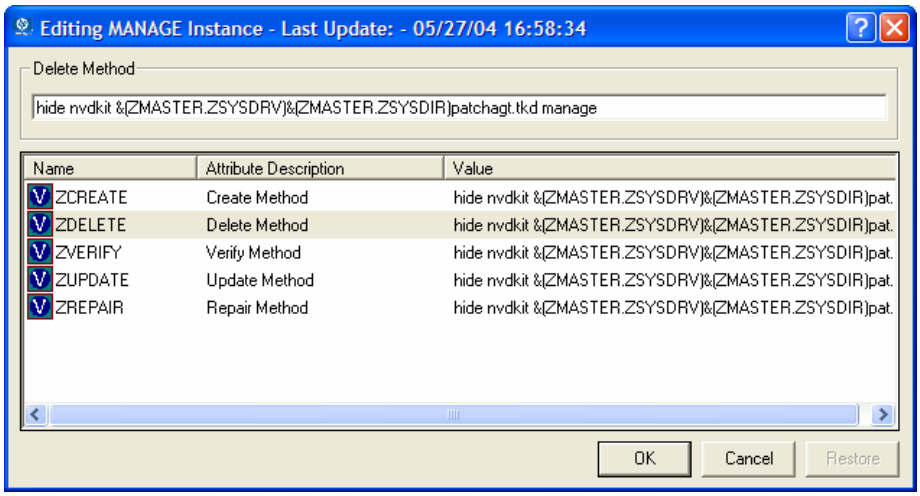
Modifying the PATCHMGR.CMETHOD.MANAGE.ZDELETE method will remove *all* patches for *all* users if the user is no longer assigned the vulnerability.

To remove a patch when a user is no longer assigned the service

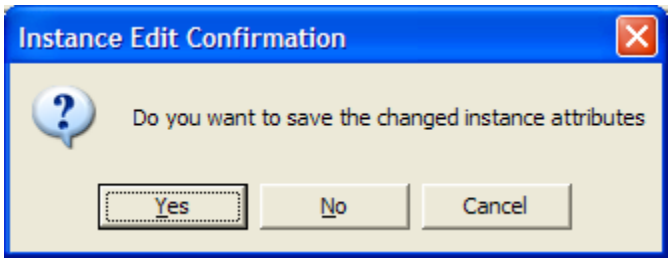
1. Use the System Explorer to navigate to the MANAGE instance of the Client Method (CMETHOD) class in the PATCHMGR domain.
2. Double-click the ZDELETE attribute in the tree view.

3 In the text box, type:

```
hide nvdkit &(ZMASTER.ZSYSDRV)&(ZMASTER.ZSYSDIR)
patchagt.tkd manage
```



4 Click **OK** to change the instance.



5 Click **Yes** to confirm the changes.

6 The Patch Manager client must make a connect for the client to receive the necessary configuration change to allow the removal of patches.

The next time you disconnect a user from a ZSERVICE instance in the PATCHMGR domain, the patch files will be removed.

Summary

- Install the Patch Manager client on devices that you want to manage.
- Patch Manager supplies you with research, patch acquisition, and vulnerability reports.
- Use the reports to identify vulnerabilities in your enterprise.
- Manage vulnerabilities by assigning the patch's service to your client computers.

A Supported XML Tags for Patch Descriptor Files

The patch descriptor files from HP contain information about Products, Releases, Patches, and Patch Manifests. These are shown in tables following the figure.

If you are creating custom patch descriptor files, use the tags that are supported. The node hierarchy of a patch descriptor file is shown in the figure below.


```
- <Bulletin PopularitySeverityID="0" Type="Security"
    URL="http://www.microsoft.com/technet/security/bulletin"
    FAQURL="http://www.microsoft.com/technet/security/bulletin" MitigationSeverityID="0"
    Vendor="MICROSOFT" Supported="Yes" ImpactSeverityID="0" SchemaVersion="1.0" PreReqSeverityID="0"
    DateRevised="20030120" Source="MICROSOFT" Name="MS03-001" Title="Unchecked Buffer in Locator
    Service Could Lead to Code Execution (810833)" DatePosted="20030120" Platform="winnt">
  - <Products>
    - <Product Name="Windows 2000 Advanced Server" FixedInRelease="Windows 2000 Service Pack 4">
      - <Releases>
        - <Release Name="Windows 2000 Service Pack 2">
          + <Patch VerifyCmdline=""
              PatchURL="http://download.windowsupdate.com/msdownload/update/v3-
              19990518/cabpool/Q810833_W2K_SP4_7BCAD659FA326D4979A3CE9034300EA83A30F5EC.EXE"
              Architecture="" Reboot="Y" InstallCmdline="-q /Z" Language="en"
              MSSUSName="com_microsoft.810833_W2K_SP4_5936" SupercededByBulletin=""
              SupercededByMSPatch="" OSVersion=""
              MSSecureName="Q810833_W2K_SP4_X86_EN.exe" ObjectType="winnt.patch"
              QNumber="810833" ProbeCmdline="" Superceded="N" OSType="" OSSuite=""
              Platform="winnt" UninstallCmdline="">
```


Figure 20: View a sample patch descriptor file.

Bulletin Node

Node name: Bulletin

Parent node: None

Children: Products

Table 8: XML Tags in the BULLETIN class

XML Tag	Radia Attribute	Description
PopularitySeverityID	POPULAR	Popularity ID Source: `MSSECURE.XML`
URL	URL	Bulletin URL Source: `MSSECURE.XML`
FAQURL	FAQURL	Frequently Asked Questions (FAQ) URL Source: `MSSECURE.XML`

XML Tag	Radia Attribute	Description
Supported	SUPPORT	Supported [Y/N] Source: MSSECURE.XML
ImpactSeverityID	IMPACT	ImpactID Source: MSSECURE.XML
MitigateSeverityID	MITIGATE	Mitigate ID Source: MSSECURE.XML
PreReqSeverityID	PREREQ	Prereq ID Source: MSSECURE.XML
DateRevised	REVISED	Bulletin Revised On Date the bulletin was revised in YYYYMMDD format. Source: MSSECURE.XML
Source	SOURCE	Source [MICROSOFT/NOVADIGM /CUSTOM] Directory from which the patch descriptor file was published.
Vendor	VENDOR	MICROSOFT/REDHAT/HPUX
Type	TYPE	Type of Bulletin Security/ServicePack/Other
Platform	PLATFORM	Winnt/linux
Name	NAME	External ID Source: MSSECURE.XML
Title	TITLE	Title Bulletin title. Source: MSSECURE.XML
DatePosted	POSTED	Bulletin Posted On Date the bulletin was posted in YYYYMMDD format. Source: MSSECURE.XML

XML Tag	Radia Attribute	Description
Schema Version		The patch schema version currently 1.0
	MTIME	Time the instance was modified in the Radia Database.
	CTIME	Time the instance was created in the Radia Database.
	ID	Internal instance ID.
HPPosted	HPPOSTED	Date the bulletin was initially posted by HP.
HPRevised	HPREVISD	Date the bulletin was revised by HP.
Deployment	RUNMODE	Specifies whether the patch can be installed automatically (AUTOMATIC) or needs user interaction (INTERACTIVE).

Products Node

Node name: Products

Parent node: Bulletin

Children: Product

Attributes: None

Product Node

Node name: Product

Parent node: Products

Children: Releases

Table 9: XML Tags in the PRODUCT class

XML Tag	Radia Attribute	Description
Name	NAME	Source: `MSSECURE.XML`
FixedInRelease	FIXEDIN	Source: `MSSECURE.XML`

Releases Node

Node name: Releases

Parent node: Product

Children: Release

Attributes: None

Release Node

Node name: Release

Parent node: Releases

Children: Patch

Table 10: XML Tags in the RELEASE class

XML Tag	Radia Attribute	Description
Name	NAME	Source: `MSSECURE.XML`

Patch Node

Node name: Patch

Parent node: Release

Children: Package

Table 11: XML Tags in the PATCH class

XML Tag	Radia Attribute	Description
PatchURL	PATCHURL	A URL that points to an .EXE or .MSI file. Source: `MSSECURE.XML/SUS`
Reboot	REBOOT	Specified if the client device should be rebooted, after the patch is installed. Source: `MSSECURE.XML/SUS`
Architecture	ARCH	x86|i64 Source: `MSSECURE.XML/SUS`
Language	LANG	en,fr,de Source: SUS
MSSUSName	SUSNAME	The SUS name for the patch from `MSSECURE.XML`. Source: `MSSECURE.XML`
SupercededByBulletin	SUPERBU	The bulletin name that supercedes this patch. Source: `MSSECURE.XML`
SupercededByMSPatch	SUPERMSS	The MSSECURE patch name that supercedes this patch. Source: `MSSECURE.XML`
Superceded	SUPERCED	Specifies if the patch has been superceded. Valid values are Y or N. Source: `MSSECURE.XML`

Table 11: XML Tags in the PATCH class

XML Tag	Radia Attribute	Description
MSSecureName	MSSNAME	The MSSECURE name for this patch. Source: `MSSECURE.XML`
OSVersion	OSVER	Operating System Version
QNumber	QNUMBER	QNUMBER for the patch from `MSSECURE.XML`. Source: `MSSECURE.XML`
OSType	OSTYPE	The operating system type, such as server or workstation.
OSSuite	OSSUITE	The operating system suite, e.g., datacenter,blade.
Platform	PLATFORM	The platform type winnt,win9x,solaris,linux.
InstallCmdline	OCREATE	This is the arguments that are passed to the create procedure. Source: SUS
VerifyCmdline	OVERIFY	The Verify Arguments.
UninstallCmdline	ODELETE	The Uninstall Arguments.

Table 11: XML Tags in the PATCH class

XML Tag	Radia Attribute	Description
ObjectType	OTYPE	Format: namespace=script filename Default: winnt.patch This specifies the type of the object and the name of the script file that would have the following procedures defined verify create delete assert The procedures should have the namespace as part of the name, e.g., winnt.patch::create. If the script filename is not specified then the filename is {namespace}.tcl. Source: Novadigm
ProbeCmdline	OVERIFY	The probe command line. Source: Novadigm
	ID	The unique ID created in the RCS database for this patch.
	PATCHSIG	The name of the Patch Signature instance. Source: Novadigm
	LOCATION	The name of the LOCATION instance that contains the patch data.
	BULLETIN	The bulletin name set during publishing. Source: MSSECURE.XML

Table 11: XML Tags in the PATCH class

XML Tag	Radia Attribute	Description
	DATA	Does the RCS have the patch data [Y/N] filled in during publishing. If the RCS has the data the value would be Y else it would be N.
	DSTATE	Desired state for a patch, this is usually classed in from an instance. Source: Novadigm
	REPORT	Report threshold, similar to DSTATE is classed in from an instance. Source: Novadigm
	USE	The variables used in checking the desired state. Source: Novadigm
Deployment	RUNMODE	Specifies whether the patch can be installed automatically (AUTOMATIC) or needs user interaction (INTERACTIVE).

Patch Signature Node

Node name: PatchSignature

Parent node: Patch

Children: FileChg, RegChg

Attributes: None

FileChg Node

Node name: FileChg

Parent node: PatchSignature

Chidren: None

Table 12: XML Tags in the FILECHG class

XML Tag	Radia Attribute	Description
Name	NAME	File name. Source: `MSSECURE.XML`
Path	PATH	The directory name, this can contain environment variables, e.g., `%windir%`, and is used by the appropriate scripts for Windows and Linux. Source: `MSSECURE.XML`
CRC32	CRC32	The CRC of the data.
Gmttime	GMTTIME	The GMTDATE expressed as YYYYMMDD. Source: `MSSECURE.XML`
Gmtdate	GMTDATE	The GMTTIME expressed as HH:MM:SS. Source: `MSSECURE.XML`

Table 12: XML Tags in the FILECHG class

XML Tag	Radia Attribute	Description
Size	SIZE	The size of the file. Source: `MSSECURE.XML`
Checksum	CHECKSUM	The checksum of the file. Source: `MSSECURE.XML`
Version	VERSION	The version of the file. Source: `MSSECURE.XML`
	DSTATE	The desired state of the FILECHG instance, this is usually classed in from another instance in the RCS database. Source: Novadigm
	REPORT	The report threshold. If on evaluation of this file change instance the RC is greater than the threshold then we will create a ZOBJSTAT for that instance. Source: Novadigm
	USE	The variables to use during comparison, e.g., Version,Checksum,Gmtdate. Source: Novadigm

RegChg Node

Node name: RegChg

Parent node: PatchSignature

Children: None

Table 13: XML Tags in the REGCHG class

XML Tag	Radia Attribute	Description
Name	NAME	Value Name. Source: `MSSECURE.XML`
Path	PATH	The fully qualified Registry Key Name. Source: `MSSECURE.XML`
Value	VALUE	The Data value stored in the registry. Source: `MSSECURE.XML`
Type	TYPE	Registry data type should be one of the following: sz = Simple Registry String multi_sz = Registry Multi String expand_sz = Registry string with environment variables dword = Registry dword binary = Binary data Source: `MSSECURE.XML`
	DSTATE	The desired state of the FILECHG instance, this is usually classed in from another instance in the RCS database. Source: Novadigm
	REPORT	The report threshold. If on evaluation of this file change instance the RC is greater than the threshold then we will create a ZOBJSTAT for that instance. Source: Novadigm
	USE	Not used. Source: Novadigm

HPFileset Node

Node name: HPFileset

Parent node: PatchSignature

Children: None

Table 14: XML Tags in the HPFSET class

XML Tag	Radia Attribute	Description
Name	NAME	Fileset Name
Version	VERSION	Fileset Version

B Restarting the Client Computer

You may need to restart a client computer based on an application event. To do this, specify a reboot type and reboot modifiers in the ZSERVICE.REBOOT attribute. The modifiers allow you to:

- set the type of warning message
- handle a reboot with either a machine or user connect
- and cause an immediate restart after the application event.

First, specify the application event that needs the reboot. Table 15 below lists the codes for all possible application events. Set the application event code to a reboot type and any reboot modifier that you need to use. The sections below describe each type of reboot and all reboot modifiers.

If the hreboot parameter is missing from the radksman command line, the parameter defaults to Y to handle service reboot requests. If you set hreboot to p, the client computer will *power down*, regardless of whether or not there is a service requiring a reboot.

If you need an application to immediately perform a hard reboot with no warning messages on application installation and repair, set the ZSERVICE.REBOOT variable to AI=HQI, AR=HQI.

If you wish to alter reboot panel behaviors based solely upon the requirements of a patch, as supplied by the vendor, use the AL event, to trigger the reboot event for locked files. The versioning event (VA) is not applicable in Patch Manager.

Table 15: Reboot Events and Codes

Application Events	Code	Description
Install	AI	Use AI to specify a reboot behavior for application installations. The default is no reboot.
Deinstall	AD	Use AD to specify a reboot behavior for application removals. The default is no reboot.
Locked File	AL	Use AL to specify a reboot behavior when a locked file is encountered. The default behavior when a locked file is encountered is to perform a Hard reboot with just an **OK** button (HY).
Update	AU	Use AU to specify a reboot behavior for application updates. The default is no reboot.
Repair	AR	Use AR to specify a reboot behavior for application repairs. The default is no reboot.
Version Activation	VA	Use AI to specify a reboot behavior for application version activations. The default is no reboot.

Reboot Types

After deciding which application events need a computer reboot, you will need to choose the type of reboot. Radia sends a message to the operating system that the computer needs to reboot. There are three types of reboot.

- **Hard Reboot (H)**
  All applications are shut down regardless of whether there are open, unsaved files or not. The subscriber will not be prompted to save open, modified files.
- **Soft Reboot (S)**
  Users are prompted to save their data if applications have open, unsaved files. If applications have unsaved data, the reboot will wait for the user to respond to the application's request for the user to save his data.
- **No Reboot (N) (default reboot type)**
  The computer will not restart after completing the specified application event. This is the default reboot type for all application events except a Locked File Event (AL). If you specify AL=N, then the client computer will not perform a hard reboot with **OK** and **Cancel** buttons when a locked file is encountered. If no restart type is specified for an application event, no restart will occur.

Reboot Modifier: Type of Warning Message

You can specify the type of warning message you want to send to the subscriber before the restart occurs. If you specify a type of reboot, but do not specify a type of warning message, the default warning message for that type will be displayed. There are three types of warning messages. Warning messages are displayed automatically for the Radia Software Manager and for Application Manager used with the Radia System Tray. If you do not want to show a warning message, specify ask=N in a radskman command line.

Radia Clients for Linux do not display reboot panels.

- **Quiet (Q)**
  No reboot panel will be displayed.

- **OK Button (A)**
  A warning message will display with an OK button only. Clicking the **OK** button will initiate the reboot. The user will not be able to cancel the restart.
- **OK and Cancel Button (Y)**
  Clicking the **OK** button will initiate reboot. If the subscriber clicks **Cancel**, the reboot will be aborted.

You can specify a timeout value for the Warning Message box by adding the RTIMEOUT value to the radskman command line. Set RTIMEOUT to the number of seconds you want the Radia Client to wait before continuing with the reboot process.

For example, the default Reboot panel displays both an **OK** and **Cancel** as shown in the figure below.

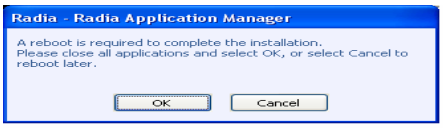


Figure 21: View the default reboot panel.

If would like to suppress the Cancel button on the agent reboot panel, specify a ZSERVICE.REBOOT attribute of: AL=SA which would display the dialog box shown in the figure below. Use this if the vendor-supplied patch mandates a reboot to complete the Patch installation.

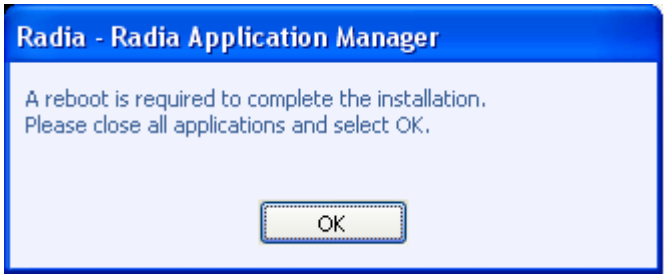


Figure 22: Change the reboot panel to show only the OK button.

Reboot Modifier: Machine and User Options

The Radia Client can connect as a machine or as a user by specifying the context parameter on the radskman command line. Use the Machine/User reboot modifier to specify if the reboot should complete based on the type of connect.

Patch Manager client connects occur in the machine context.

- **Reboot on Machine connect (blank)**
  When a machine/user reboot modifier is not supplied, the default behavior will be to reboot only on a machine connect where context=m in radskman, or if the context parameter is not specified. This default behavior should satisfy the majority of reboot requirements.
- **Reboot on User connect only (U)**
  The reboot will be honored on a user connect only where context=u in radskman or if the context parameter is not specified. The reboot will NOT occur where context=m in radskman.
- **Reboot on both Machine and User connect (MU)**
  Reboot will only occur when both the machine and user components of the application are installed.

Reboot Modifier: Immediate Restart

You can modify each type of reboot by adding I for Immediate. Use Immediate when you want the computer to restart immediately after

resolving the current service. Radia will resolve the rest of the subscriber's services after the computer restarts. If you specify I, but do not specify H or S as the type of reboot, a hard reboot will be performed.

Specifying Multiple Reboot Events

If you have two services that require a reboot event on the same Client Connect, the most restrictive reboot type and reboot panel will be used. The least restrictive reboot type is No Reboot (N), followed by Soft Reboot (S), and the most restrictive is Hard Reboot (H). The least restrictive reboot warning message supplies both **OK** and **Cancel** buttons (Y), followed by an **OK** button only (A), and the most restrictive is completely quiet (Q).

Suppose a subscriber is assigned an application that needs a soft reboot with just an **OK** button on installation, AI=SA. The subscriber is also assigned a second application that needs a hard reboot that displays both an **OK** and **Cancel** button, AI=HY. After all of the subscriber's application events are completed, a Hard Reboot (H) with only an **OK** button displayed (A) will be performed.

C Policy Server Integration

If you are using Policy Server to create entitlements in your enterprise, you can filter out which domains the Policy Server will assign services from based on connect parameters.

If you are using Policy Server with Patch Manager, you will want to separate resolution of regular software services from those for Patch Manager. Policy Server filters services based on the dname passed on the radskman command line. The Policy Server configuration file, `pm.cfg`, contains filter settings in format:

```
DNAME=<DOMAIN NAME>   { rule }
```

Where the DOMAIN NAME is the value passed in dname by RADISH. In the case of a Patch Manager client, this will be the dname parameter of radskman. Dname should be "patch". If the filter name passed in dname is not found in `pm.cfg`, then the filter `DNAME=*` will be used. The minimum version requirement for Policy Server is version 3.2.1.

The default configuration for these filters is shown in the figure below:

```
DNAME=*          { * !PATCHMGR !OS }

DNAME=PATCH      { PATCHMGR }

DNAME=OS         { OS }
```

In this configuration the default rule (*) will ignore PATCHMGR and OS domains and allow everything else as denoted by the use of "!". PATCH and OS rules allow only policies for PATCH and OS domains respectively. If for instance, we wanted to allow any policies for OS manager resolution we would change the last filter to: `DNAME=OS  { * }`.

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