HP OpenView Publishing Adapter Using Radia

for the HP-UX and Windows operating systems*

Radia Release Version: 4.2i

Software Version: 3.1.2

Installation and Configuration Guide

*Information in this guide can be used for all supported platforms except where indicated for a specific platform only.

Document Release Date: January 2006

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PREBOOT EXECUTION ENVIRONMENT (PXE) SERVER

Documentation Updates

This manual's title page contains the following identifying information:

- Software Version number, which indicates the software version
- Document release date, which changes each time the document is updated
- Software release date, which indicates the release date of this version of the software

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Contents

1 Introduction

At the end of this chapter, you will:

- Be familiar with the Publishing Adapter.
- Understand the different publishing modes available with the Publishing Adapter.
- Understand the Publishing Adapter system requirements.

What is the Publishing Adapter?

The Publishing Adapter is a command-line driven content publishing tool that identifies a set of files and components (and their relationships) and publishes them in a controlled, automated, repeatable manner, to the Radia Database, where they are stored as objects. The Publishing Adapter can:

- scan for files on multiple drives or file systems,
- scan and publish files from any mapped drive or file systems,
- be configured to limit the subdirectories that are scanned,
- include or exclude at the file level, and
- select files by type.

Additionally, the Publishing Adapter can accommodate frequent patching of internal applications, as well as publish build versions, and output from HP legacy (PVCS or ClearCase) adapters. Its capacity to revise content material is reliable, and can be designed to perform continuously, at designated times, and in pre-determined intervals, and can be easily executed from within any script or code capable of calling a command prompt.

Why Use the Publishing Adapter?

The Publishing Adapter offers a means of reliable and instant data updates to information that must be posted in an automated fashion.

The primary function of the Publishing Adapter is to distribute updates to content, data, and applications rather than the initial application packaging. Typically, these types of data updates require a repeatable process. Digital content, such as file sets, graphics, price lists, and interest rates, are types of managed lists that might require an automated update process that the Publishing Adapter can provide.

Since the Publishing Adapter is a repeatable process, it dynamically creates package instances and names them (with date and sequence number) to

accommodate multiple publishing sessions. The user can select from three input modes: files, input objects, and a configuration file. A Radia Client is not required.

The Publishing Adapter vs. Standard Radia Publishing

The Publishing Adapter provides a command-line alternative to the Component Selection Mode of the graphical user interface of the Radia Publisher. The Publishing Adapter offers an automated, repeatable command-line process, whereas the Radia Publisher must be monitored from start to finish. For more information on the Radia Publisher tool, refer to the *Installation and Configuration Guide for the HP OpenView Application Manager Using Radia (Application Manager Guide)* or the *Installation and Configuration Guide for the HP OpenView Software Manager Using Radia (Software Manager Guide).*

Support for Radia Legacy Adapters

Previous Radia Source Control Management Adapters (SCM Adapters) were PVCS and ClearCase (Atria). The Publishing Adapter is intended as a replacement for these tools, and will accept objects from these legacy adapters.

Overview

The Publishing Adapter default operation creates standard instances of the PACKAGE, FILE, PATH, DESKTOP, and REGISTRY classes in the SOFTWARE domain of the Radia Database. Three additional features of the Publishing Adapter are the ability to:

- publish into other classes, as well as a different domain.
- optionally create (and update, as needed) a ZSERVICE class instance connection to a published package.

- automatically generate the path information that is required for the distribution of a package. The path information is generated dynamically by a combination of configuration options and the location of the files being published.

The Publishing Adapter is run one of two ways:

- By providing configuration objects.
- By specifying in the configuration file the targeted files to be published.

Table 1 shows how to apply each of these methods.

Table 1 Publishing Adapter Method Applications

method	**promote.tkd** (configuration file-based publishing)	**SCMAdapt.tkd** (object-based publishing)
scan	intype=SCAN	ZINPUT.ZAPPLIC=Y
file	intype=FILE (files specified in the insource file)	ZINPUT.ZAPPLIC=N (files specified by heap in ZINPUT or ZPROMOTE)
object	N/A	intype=OBJ
filtering	Available	N/A

Publishing Modes

Configuration File-Based Publishing

Configuration file-based publishing allows for multiple publishing modes, which are dictated by the information contained in a configuration file. Multiple configuration files can be maintained and used for different publishing jobs, providing an administrator with the ability to repeat a publishing session as needed.

Files can be published to the Radia Database using either method available with the Publishing Adapter, scanning a directory or publishing files listed in an input file.

- The scanning method enables you to scan one or more directories. This method also lets you specify:
  - the depth of the scan (that is, the number of subdirectories),
  - filters as selection criteria, and
  - criteria for the inclusion/exclusion of files.
- The files listed method is more efficient if you want to publish a set of files. Additionally, you can identify and target files to be published to specific classes of the Radia Database. For example, you can designate files with the "lnk" extension to be published to the DESKTOP class on the Radia Database.

In configuration file-based publishing, when a name is designated in the service option and `addtosvc=1`, a new connection is made to the service. If the service doesn't exist, it is created and the connection is made. In either case, this connection will occupy the first available CONNECT_TO field. In the ZPROMDFT object, used in object-based publishing, the ZSERVICE variable must contain a valid instance name, and the ZSVCCNCT variable must be `Y`.

When a name for a package is specified with an asterisk (*), the package name is sequentially generated (prefixYYYYMMDD#) with the same prefix (*prefix**). Multiple packages with the same name (identical prefix*) are linked

to one another as REQUIRES connections within the service. The first package promoted is linked directly (as an INCLUDES connection) to the service in the first available CONNECT_TO field. See the following example.

```
SERVICE ---> INCLUDES connection ---> PCKG01
```

Subsequent packages (with the same prefix) that are promoted override the previous package, and assume the direct link to the service, forcing that previous package to adopt a REQUIRES link to it. And so it continues, with each new same-named package breaking its predecessor's INCLUDES connection to the service, and "demoting" that previous package to a REQUIRES link to itself. See the following example.

```
SERVICE--->INCLUDES--->PCKG03
                       |
                       |--->REQUIRES conn--->PCKG02
                                             |
                                             |-->REQUIRES--
>PCKG01
```

The prefix used to create a sequentially generated service name must be a unique name and cannot match any existing service names. For example, if the service name SAMPLE exists, the prefix SAMPLE* cannot be used to create sequentially generated service names using the `addtosvc` parameter.

Only in this scenario are the packages connected to the service as REQUIRES, with the second package requiring the first, the third package requiring the second, and so on.

Multiple packages with different names are linked to the service independently at subsequent available connects. Each of these packages will be added in the order in which it is received by the Radia Configuration Server, and placed in the first available CONNECT_TO field.

The Publishing Adapter performs a CRC (cyclical redundancy check) on the fully qualified path, not just the file name. In order for the file to be recognized as a duplicate, it must consistently be promoted from the same location. The Publishing Adapter does not delete connections, except in the case of multiple promotes having an identical prefix*, nor does it remove REQUIRES links.

Object-Based Publishing

For object-based publishing, the selection of files to be published is derived from information in the ZPROMDFT *and* either a ZINPUT or ZPROMOTE object, which are generated as a result of the existing Radia PVCS and ClearCase adapters.

If you are not using either of these legacy tools, use the Radia Client Explorer to create these objects as described in Input Objects on page 59.

Radia Native Packaging

Radia Native Packaging is a feature of the Publishing Adapter specifically designed to publish UNIX native software packages (HP-UX and Solaris). Radia Native Packaging is installed with the Publishing Adapter on UNIX systems. See Radia Native Packaging for more information.

System Requirements and Availability

The Publishing Adapter is available for Win32 and the HP-UX operating systems. It has these system requirements:

- Network connectivity to the Radia Configuration Server.
- A minimum of 2 MB of hard disk space.
- Access to any directories from which you want to publish.

Operating System Considerations

Win32 Platforms

Registry files being published into the REGISTRY class need to be converted from the REGEDIT4 registry export format to the Radia EDR format required by the Radia client. The Publishing Adapter will perform this conversion automatically, unless the file has an EDR extension. In this case, `promote.tkd` assumes that the file has already been converted to the EDR format.

The Publishing Adapter will *not* convert files from the REGEDIT5 registry export format.

UNIX Platforms

Before using the Publishing Adapter in a UNIX environment, it is necessary to modify the `filters all` parameter in the configuration file. This consideration is specific to the configuration file-based publishing method (`promote.cfg`).

As you can see below the default values are:

```
filters all {

type            file
class           file
exclude   "*.log *.bak"
include   "*"
distroot  {}

}
```

You will need to change the `class` parameter from its default of `file` to `unixfile`.

```
filters all {

type            file
class           unixfile
exclude   "*.log *.bak"
```

```
include   "*"
distroot  {}

}
```

Make sure that the new class, UNIXFILE, is included in the Radia Database. If your Configuration Server is version 4.3 or earlier, contact HP Support in order to get the class definition.

The exclude, include, and distroot parameters should be set to the values appropriate to the user's requirements.

Summary

- The Publishing Adapter is a command-line driven content publishing tool.
- The Publishing Adapter offers three publishing modes: Configuration File-Based, Object-Based, and Radia Native Packaging.
- The Publishing Adapter requires connectivity to a Radia Database.

2 Installing the Publishing Adapter

At the end of this chapter, you will:

- Know how to install the Publishing Adapter.

The Publishing Adapter is available for Windows and UNIX operating systems. Depending on your operating system, you will need to use either `setup.exe` (for Windows) or `install` (for UNIX) from the CD media to install the Publishing Adapter.

Recommendations

Stop any programs that are currently running before installing the Publishing Adapter.

Installing the Publishing Adapter for Windows

To install the Publishing Adapter for Windows

1 From the installation media, double-click **Setup.exe**.

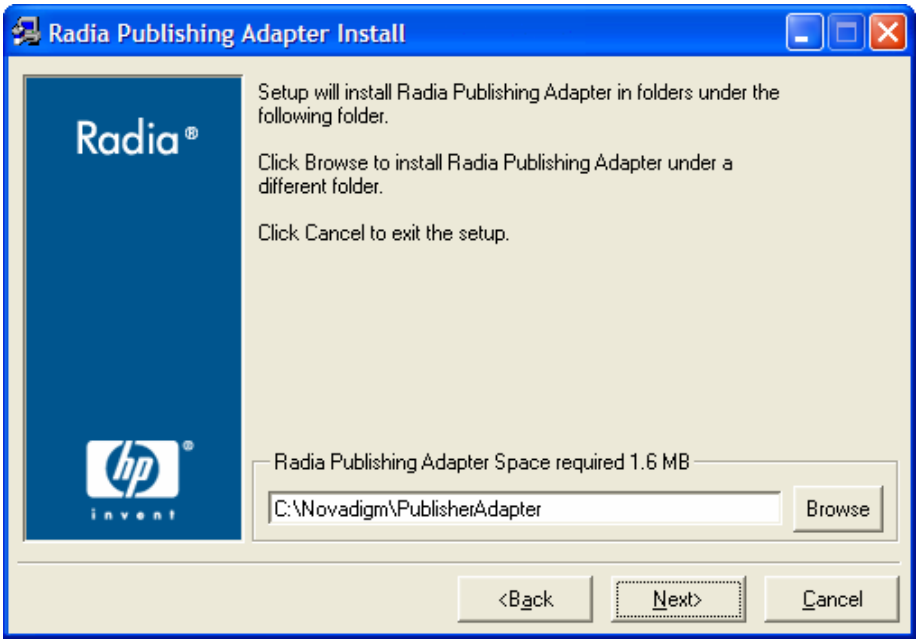
The Welcome window opens.

2 Click **Next**.

The HP Software License Terms window opens.

3 Read the license terms and click **Accept**.

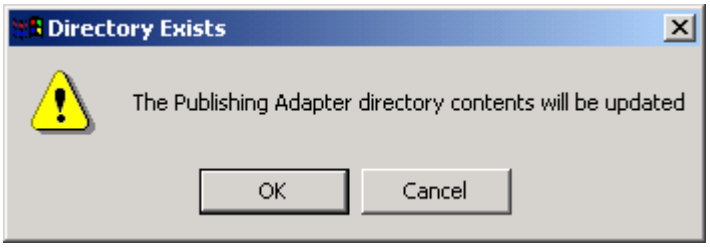
The Directory Location window opens.



4 Type the name of the directory where you would like to install the Publishing Adapter (default is `C:\Novadigm\PublisherAdapter`), or click **Browse** to navigate to it.

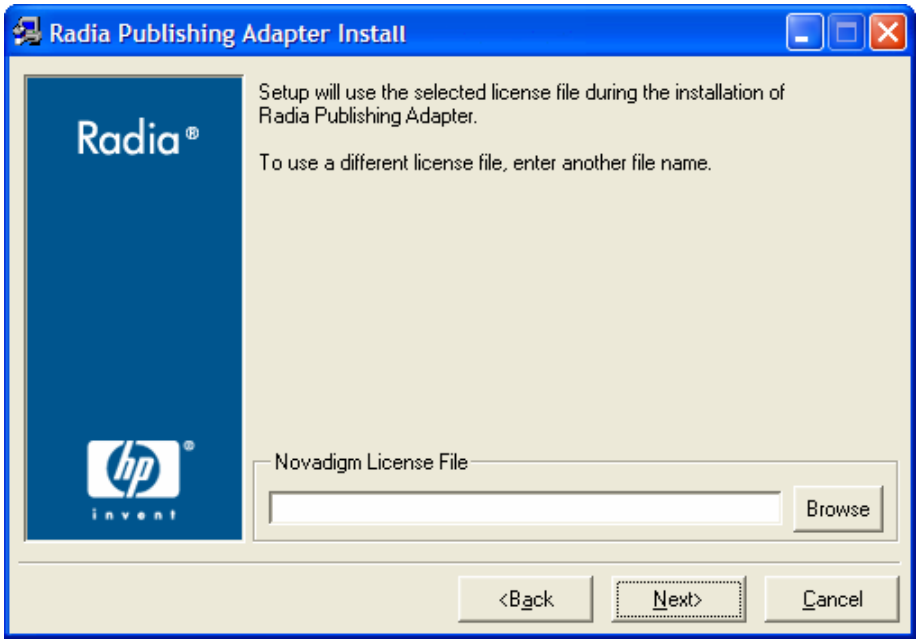
5 Click **Next**.

If the directory you specified already exists, the dialog box below appears.



6 Click **OK**.

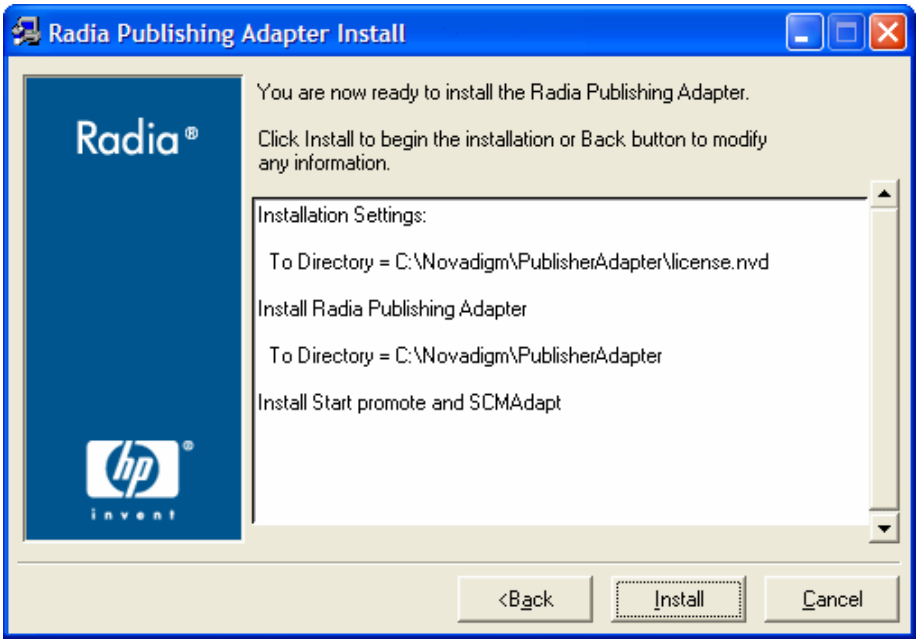
The license file window opens.



7 Enter the location of your license file, or click **Browse** to navigate to it.

8 Click **Next**.

The Installation Settings window opens.



9 Click **Install**.

10 When the installation is complete, click **Finish**.

You have successfully installed the Publishing Adapter for Windows.

Installing the Publishing Adapter for UNIX

If you are installing the Publishing Adapter on a UNIX system that supports graphics, the graphical installation will automatically begin after it is started. For UNIX systems that support graphics, see UNIX Graphical Installation below. For UNIX systems that do not support graphics, the non-graphical installation program is automatically started. For UNIX systems that do not support graphics, see UNIX Non-Graphical Installation on page 29.

If you are installing the Publishing Adapter onto a UNIX system that supports graphics, but you would like to use the non-graphical mode instead, change your current directory to the location of the install program on the CD media and type:

```
./install –mode text
```

This will start the non-graphical installation of the Publishing Adapter. See UNIX Non-Graphical Installation on page 29 for instructions.

UNIX Graphical Installation

This section guides you through the graphical installation of the Publishing Adapter.

To install the Publishing Adapter using the graphical interface

1. Depending on your version of UNIX, change your current working directory to the correct subdirectory on the installation media.
2. Type `./install`, and then press **Enter**.

   The Welcome window opens.
3. Click **Next**.

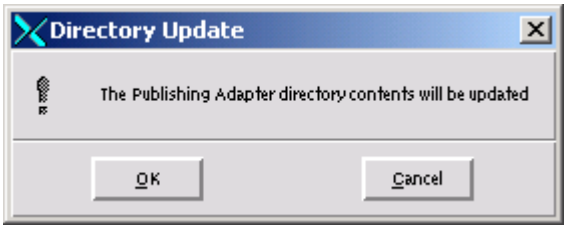
   The HP Software License Terms window opens.
4. Read the agreement and click **Accept**.

The Directory Location window opens.

5 Type the name of the directory to which you would like to install the Publishing Adapter (default is `/opt/Novadigm/PublisherAdapter`), or click **Browse** to select a location.

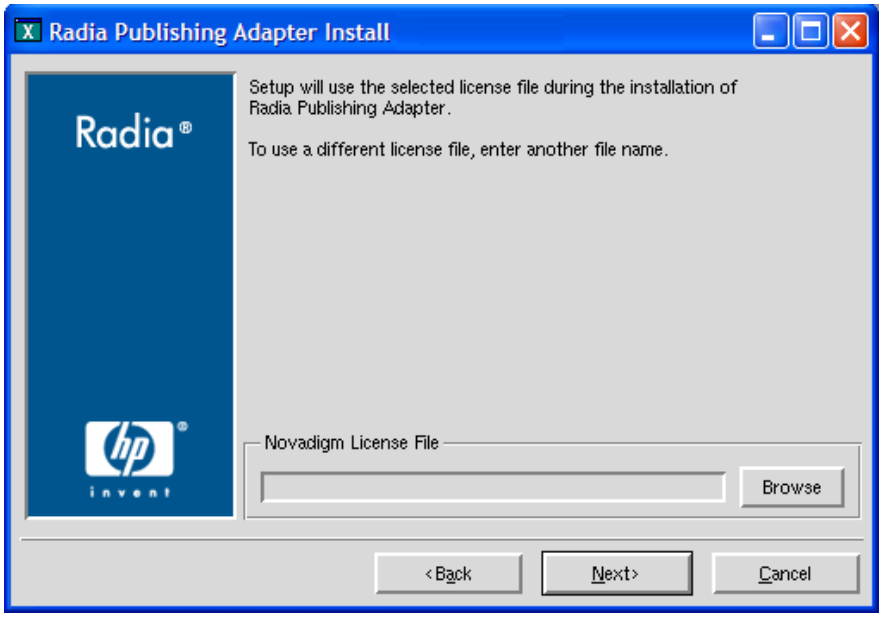
6 Click **Next**.

If the directory you specified already exists, the dialog box below appears.



7 You can specify a new directory by clicking **Cancel** and returning to the previous step, or click **OK** to proceed.

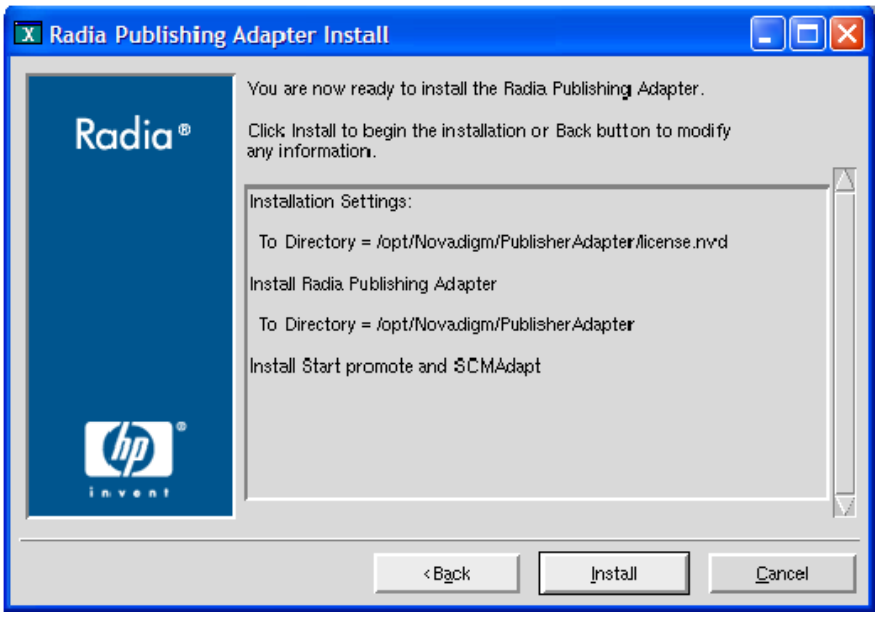
The license file window opens.



8 Enter the location o your license file or click **Browse** to select the location manually.

9 Click **Next**.

The Installation Settings window opens.



10 Click **Install**.

11 When the installation is complete, click **Finish**.

You have successfully installed the Publishing Adapter for UNIX.

UNIX Non-Graphical Installation

This section guides you through the non-graphical installation of the Publishing Adapter for UNIX.

To install the Publishing Adapter using the non-graphical installation

1 Depending on your version of UNIX, change your current working directory to the correct client subdirectory on the installation media.

2 Type `./install -mode text` and then press **Enter**.

The Publishing Adapter installation begins.

3 Type `c`, and then press **Enter**.

4 Press a key to view the End User License Agreement.

5 When you are finished viewing the agreement, type **`Accept`** and press **Enter**.

6 Accept the default location for the Publishing Adapter (`/opt/Novadigm/PublisherAdapter`) by pressing **Enter**, or specify a different location.

   If the directory you specify already exists, you will be prompted to continue. Alternatively, if the directory does not exist, the installation program will display the Installation Settings.

7 Type **`Y`**, and then press **Enter**.

8 Enter the location and name of your license file and press **Enter**.

9 Press **Enter** to accept the default (Y) and begin the installation.

   If you do not want to begin the installation, type **`N`**, and then press **Enter**.

10 To complete the configured installation process, press **Enter**.

You have successfully installed the Publishing Adapter for UNIX.

Summary

- The Publishing Adapter is available for Windows and UNIX operating systems.
- Before installing the Publishing Adapter, it is recommended that you stop any running programs.

3 Configuration File-Based Publishing (promote.tkd)

At the end of this chapter, you will:

- Be familiar with Configuration File-Based publishing.
- Understand the command line parameters needed for `promote.tkd`.
- Understand the `promote.cfg` parameters.
- Understand how to specify additional attributes.

Using Configuration File-Based Publishing

One method available for publishing with the Publishing Adapter is configuration file-based publishing. This method uses a configuration file (`promote.cfg`) that includes your publishing specifications. The publishing session is then executed from the command line. Command line parameters are described in Table 2 below, and the configuration file is described in The PROMOTE Configuration File on page 35.

Execute the command line from the directory where you installed the Publishing Adapter (default is `C:\Novadigm\PublisherAdpater\`). The command line is preceded with `nvdkit promote.tkd`, files that were installed during the Publishing Adapter installation and contain the Novadigm runtime Tcl interpreter and configuration file-based publishing code respectively.

Example

```
nvdkit promote.tkd -cfg promote.cfg -user rad_mast -pass
radia
```

Table 2 Command-Line Parameters for promote.tkd

Parameter	Description
`-cfg` *`filename`*	Specifies the file that contains the configuration options for this execution of the Publishing Adapter. The file `promote.cfg` is provided as a sample configuration file, and is the default value. This file can be re-named. You can maintain multiple configuration files to facilitate a variety of publishing jobs. This parameter is optional. If no configuration file is specified, `promote.cfg` in the current working directory is used.
`-user` *`userid`*	Radia administrator user ID. The default is RAD_MAST. This parameter is optional.
`-pass` *`password`*	Radia administrator password. This parameter is optional.

Parameter	Description
-phase *input*	If present and the value is `input` (not case-sensitive), the database will be created, but the files will not be published. This is useful for testing filters, debugging, and verifying that your selected criteria are producing the expected results (the results are sent to the log and displayed on the screen). This parameter is optional. Note: Any value other than input will be ignored.

The PROMOTE Configuration File

Table 3 below describes the configuration file parameters.

The PROMOTE Configuration File Format

Table 3 PROMOTE Configuration File Format (`promote.cfg`)

Option	Description
`Package`	Defines the PACKAGE class instance name or prefix. If specified without a trailing asterisk (*), the value is used as the absolute PACKAGE class instance name. If specified with a trailing asterisk (*), the value is used as a prefix to dynamically generate the PACKAGE class instance name. When used as a prefix, the PACKAGE class instance name is generated as: `<pkgprfx>YYYYMMDDs` where `YYYYMMDD` is the current date, and `s` is a sequence number used to guarantee uniqueness.
`pkgname`	Specifies the friendly name of the PACKAGE class instance (NAME).
`pkgdesc`	Specifies a description of the PACKAGE class instance (ZPKGDESC) attribute on the package that gets populated.

Option	Description
service	Defines the name of the ZSERVICE class instance that will be optionally created (or updated) in the Radia Database during the publishing session. The publishing session will create a ZSERVICE class instance if one does not exist. Note: This option will work only if addtosvc=1.
svcname	Specifies the friendly name of the ZSERVICE class instance (NAME). This command is optional.
svcdesc	Specifies a description of the ZSERVICE class instance (ZSVCNAME) attribute on the service that gets populated. This command is optional.
addtosvc	Tells the Publishing Adapter whether to update a ZSERVICE class instance with a connection to the newly published package. 1 = Add connection to ZSERVICE. 0 = Do not add connection to ZSERVICE. Note: If set to 1, the service command must have a value specified.
compress	Tells the Publishing Adapter whether to use compression. 1 = Use compression. 0 = Do not use compression.
Intype	Defines the type of the input source. Values are FILE and SCAN. FILE - Use when the list of files to be published is contained in a file. Note: The insource option must be used if intype=FILE. SCAN - Use when the list of files to be published is to be scanned on a drive/file system. Note: The filescan option must be used if intype=SCAN.

Option	Description
Insource	Specifies the name of the source file. The specified file should contain a list of qualified filenames, one per line, to be published. Additionally, numsplit and distroot can be specified in the file. These options behave in the same manner as described in the filescan section of this table. Note: Relevant only when intype=FILE. The formats that are accepted for the lines in the file are presented below: • global distroot <value> - Specifies the distroot value to be used for the files listed on the lines that follow it. If not specified, the original location of the file will be used as the distribution directory. • global numsplit <value> - Specifies the numsplit position to be used for the files listed on the lines that follow it. The default value is 1. • <filename> - Specifies the fully qualified name of a file to be published. Notes: Filters will still be applied to the files before publishing. If a file does not match any filters, it will not be published. The commands global distroot and global numsplit can be specified at any point in the insource file. Their values affect only the lines that follow them, and remain in effect until the next global command is encountered. Therefore, group together files by their common distroot and numsplit values. In the examples below, note the values of numsplit (3 and 2) and distroot (d:/myapps and d:/place). The resulting outputs are presented also.

<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td></td><td>
<table>
<tr><th>Example A</th><th>Example B</th></tr>
<tr><td>global numsplit 3
global distroot d:/myapps
d:/temp/src/apps/a.dat
d:/temp/src/apps/test2.tcl

Output:

(distroot) | (stem)
d:/myapps/apps/a.dat
d:/myapps/apps/test2.tcl</td><td>global numsplit 2
global distroot d:/place
d:/temp/list.pdf
d:/temp/mymk.tcl

Output:

(distroot) | (stem)
d:/place/list.pdf
d:/place/mymk.tcl</td></tr>
</table>
</td></tr>
<tr><td>mgrdiff</td><td>Reserved for future use.

1 = to activate comparison with existing resources for service.

0 = to turn off.</td></tr>
<tr><td>loglvl</td><td>Defines the log tracing level. A value of 3 will show informational log messages. A value greater than 3 will show debugging log messages.</td></tr>
<tr><td>logfile</td><td>Specifies the name of log file.</td></tr>
<tr><td>host</td><td>Defines the name and port (in URL format) of the host Radia Configuration Server. For example: radia://localhost:3464</td></tr>
<tr><td>path</td><td>Defines the Radia Database path to the file and domain to which the package will be published, for example, PRIMARY.SOFTWARE.</td></tr>
<tr><td>filescan {body}</td><td>Specifies the control information for file scanner. The configuration file sample shows two filescan sections, to indicate that multiple filescan functions are supported. However, if you are performing only one filescan function, you must delete the additional section.

Note: This applies only when intype is set to SCAN.

Each filescan must contain the following options:</td></tr>
<tr><td></td><td>dir - Directory to scan.</td></tr>
</table>

<table>
<tr><th>Option</th><th>Description</th></tr>
<tr><td></td><td>distroot - Optional root directory for distribution to be used in the creation of PATH class instance. If omitted, the root is derived by applying the value of numsplit to dir.</td></tr>
<tr><td></td><td>numsplit - Ordinal position in which to split file paths into root and stem (starting with the drive letter on Win32 systems, and the first directory on UNIX platforms). The root that results from the split will be used in the creation of PATH class instances, unless distroot is specified. The resulting stem is used to create the class instances as specified in the filters.{class} option.
<table>
<tr><th>Value</th><th>Full path</th><th>Root</th><th>Stem</th></tr>
<tr><td>0</td><td>c:/program files/my app</td><td>empty</td><td>c:/program files/my app</td></tr>
<tr><td>1</td><td>c:/program files/my app</td><td>c:/</td><td>program files/my app</td></tr>
<tr><td>0</td><td>/work/myapp</td><td>empty</td><td>/work/myapp</td></tr>
<tr><td>1</td><td>/work/myapp</td><td>/work</td><td>/myapp</td></tr>
</table>
Important Note: We recommend that you specify a minimum value of 1 on Win32 platforms, because a value of 0 will result in the drive letter being included in the stem, rather than the root.</td></tr>
<tr><td></td><td>depth - Defines how may directory levels the file scanner will scan, starting with (and including) the directory specified for dir. A value of -1 is a special case that tells the file scanner to scan to any depth. Scan depth cases are:
<table>
<tr><th>depth</th><th>result</th></tr>
<tr><td>-1</td><td>root directory and all of its subdirectories</td></tr>
<tr><td>0</td><td>root directory only</td></tr>
<tr><td>1</td><td>root directory and its files</td></tr>
<tr><td>>1</td><td>root directory and its files down to the specified depth</td></tr>
</table></td></tr>
</table>

Option	Description
`filters {body}`	Filters to use as selection criteria during the scan process. Multiple filters are supported. Priority of filters is the order in which they are specified. Therefore, filters for desktop links should be placed before filters for regular files. Once a file meets the selection criteria of a filter, the remaining filters do not evaluate it.
	`type` - Identifies the type of Radia Configuration Server file being filtered. This value tells the publishing session how to create the instance in the Radia Database for a given file that matches the filtering criteria. Accepted values are FILE, DESKTOP, and REGISTRY. `class` - Radia Database class to be used for files selected by `filters`. For example: FILE, DESKTOP, and REGISTRY. Note: Refer to the section, Operating System Considerations on page 18 for more information. `exclude` - Specifies a file to be excluded. Values should be enclosed in quotes, with multiple values separated by a space, as in, `"*.lnk .exe"`. This option will accept an asterisk (*) wildcard. `include` – Specifies a file to be included. Values should be enclosed in quotes, with multiple values separated by a space, as in, `"*.lnk *.exe"`. This option will accept an asterisk (*) wildcard. `distroot` - Optional root directory (for distribution) to be used in the creation of PATH class instances for any files that match this filter. Note: This setting overrides the `distroot` value specified in `filescan`. `value(s)` - Optional ZSTOP expression to be used in PACKAGE class instance. Multiple expressions are supported, and should be arranged as one expression per line.

Option	Description
expression	The ZSTOP expression to be used in the PACKAGE class instance. Multiple expressions are supported, but should be arranged one per line. This parameter is optional. Note: Although the expression is optional, the variable expression must be specified in the *.cfg file. Its value will be set in ZSTOP in the published package.
replacepkg	Replace existing package with new package. This parameter works only for packages that do not contain a PACKAGE connection. If the new package promote session does not complete, the original package remains available renamed with a leading underscore (_packageName). If promote session completes successfully, the original package is deleted. 1 = Replace existing package with new package. 0 = Do not replace existing package. If package exists, the Publishing Adapter session is aborted.
attr {body}	Additional instance attribute values to be added during the promote. The instance names and values should be enclosed in brackets, one per line. Use only valid instance names. When specifying connection type instances, use an enumerated instance name, with the exception of the first instance, for example, ALWAYS connections should be designated as: _ALWAYS_, _ALWAYS_#2, _ALWAYS_#3. Alternatively, you can specify a connection as CONN0001. The enumerated instance names are defined as follows: METHOD Connections: METH0001, METH0002, METH0003… ALWAYS Connections: CONN0001, CONN0002, CONN0003… INCLUDES Connections: INCL0001, INCL0002, INCL0003… REQUIRES Connections: REQU0001, REQU0002, REQU0003… Refer to the section Specifying Additional Attributes on page 44 for more information.

Sample PROMOTE Configuration File (promote.cfg)

The sample of code below presents a sample promote.cfg including the standard defaults. Remove the section in bold if doing only one filescan function.

promote.cfg

```
# Publishing Adapter Default Options
#
# package      package instance name or prefix (i.e., foo or foo_*)
# pkgname      to be used as friendly name of package (NAME)
# pkgdesc      to be used as description of package (DESCRIPT)
# service      zservice instance name
# svcname      to be used as friendly name of service (ZSVCNAME)
# svcdesc      to be used as a description of the service (NAME)
# addtosvc     connect package to service
# compress     1 to request compression
# intype              source type for list of resources (FILE/SCAN)
# insource     file path for input if type is FILE
# mgrdiff      Reserved for future use.
1 - to activate comparison with existing resources for service
0 - to turn off
#
#
   package     " "
   pkgname     " "
   pkgdesc     " "

   service     " "
   svcname     " "
   svcdesc     " "
   addtosvc    0

   compress    1
   intype      SCAN
   insource    " "

   mgrdiff     0

   loglvl      3
   logfile     promote.log
   host        radia://localhost:3464
   path        PRIMARY.SOFTWARE
   replacepkg         1

   #
```

```
   # File Scanner Control Info
   # depth     number of subdirs to traverse (-1 = all)
   # numsplit  number of subdirs (includes drive in Win) to use in root
   # distroot  distribution root to be used to create path instance
   #           if left blank, root of dir is used
   #
   filescan {
dir           {}
distroot              {}
numsplit              2
depth         -1
   }

   filescan {
        dir           {}
        distroot      {}
        numsplit      1
        depth         -1
   }

   #
   # Priority of the component classes as receiving bucket is based on filter order
   #
   # Specialized (like desktop) should be put before file class filters
   #
   # Abstract Filters (multi-type)
   # class     database class used for files that satisfy this filter
   # expressionexpression strings for ZSTOPs in package instance
   #
   filters lnk {
type          desktop
class         desktop
exclude       " "
include       "*.lnk"
distroot              {}
   }

   filters reg {
type          registry
class         registry
exclude       " "
include       "*.reg *.edr"
distroot              {}
   }

   filters all {
type          file
class         file
exclude       "*.log *.bak"
```

```
include         "*"
distroot                {}

attr {
        ALWAYS_#3       SOFTWARE.ZSERVICE.REDBOX
        NAME            Redbox
}

   }

   expression   {
   }
```

Specifying Additional Attributes

Use the Publishing Adapter `attr` parameter to automatically create Service, Package, and Component instances for individual applications via a publishing session. These additional attribute values can be specified in the configuration file or directly on the command line as command line arguments.

When specifying additional attributes, the following rules apply:

- The attributes and their values only affect the instances being created or promoted during that publishing session. For example, if the ZRSCVRFY attribute and its value for the UNIXFILE class are specified as input to the publishing session, only instances of the UNIXFILE class created during that publishing session are affected. No other instances of the UNIXFILE class or any other class are affected.

- The value of the attributes, which may share an identical name with attributes in other classes, will not be contaminated by the value specified for a named class. For example, if a Publishing Adapter execution will create both FILE and UNIXFILE instances in the same publishing session, it is possible to specify an altered value of the ZRSCVRFY attribute for UNIXFILE without altering the default value to be applied to the ZRSCVRFY attribute of the FILE class.

- No new attributes will be added to a class using the Publishing Adapter. If an additional attribute is specified that is not defined in the class

template, the attribute will not be included with the promote object and a warning will be issued in the log file (`promote.log`) as follows:

```
Warning: Invalid Attribute: XYZ!
Warning: Not defined in class template
Warning:       -zservice-attr-XYZ discarded
```

- Attributes defined in the configuration file will overwrite the attributes inherited from the base instance.

- Attributes defined on the command line will overwrite the attributes defined in the configuration file and the attributes inherited from the base instance.

- The following attributes are generated by the promote process and cannot be specified in the configuration file or on the command line:

  ZRSCDATE

  ZRSCTIME

  ZRSCSIZE

  ZCMPSIZE

  ZRSCSIG

  SIGTYPE

  The following message will be issued to the log if one of these attributes is specified:

  ```
  Warning: Restricted Attribute: ZRSCDATE!
  Warning: ZRSCDATE is set during promote
  Warning:       -all-attr-ZRSCDATE discarded
  ```

- The ZRSCCRC represents a special case. The ZRSCCRC will be calculated if the additional attribute ZRSCCRC is set to YES. Not including the additional attribute will leave the ZRSCCRC field blank.

- There is no error checking of attribute values specified in the configuration file or on the command line. If a value specified is too large for its field or the character type is incorrect, the value will be truncated and the incorrect character type will be promoted. For example,

specifying a two-character numeric field such as ZOBJPRI with the value ABCD will result in a value of AB after promotion.

Specifying Additional Attributes in the Configuration File

To specify an additional attribute with its associated value, an `attr` section must be added to the appropriate filter section or class section of the configuration file. Attributes are specified in the filter section for the components they apply to using a unique filter name. Additional Package, Service, and Path attributes are specified in a separate `attr` section.

The sample code below displays an excerpt from a configuration file containing the `all` filter with an additional attribute section (`attr`):

```
filters all {
             type          file
             class         unixfile
             exclude       ""
             include       "*"
             distroot      {/xyz/test}

             attr          {
              ZCREATE      {PKUNZIP &ZRSCCFIL}
              ZPERUID         (&(USER)/&(GRP))
             }
}
```

Within each appropriate filter section an `attr` section is added. The arguments of the `attr` section must be included within curly brackets ({ }). These arguments make up the attribute name and value list for that filter.

The Package, Service, and Path class instances created by the Publishing Adapter do not have filters associated with them. To specify attributes for these class instances use the format shown below, with the attributes and their values specified between the braces.

```
attr PACKAGE {
            RELEASE      3.5.6
}
```

There is only one attribute and its associated value or value list allowed per line. If the value of the variable is multiple words the value must be enclosed in brackets { } or double quotes as in the value `{PKUNZIP &ZRSCCFIL}`.

Attribute names are not case-sensitive; the values are promoted in the same case in which they are specified.

If an attribute is specified and it is not part of the PACKAGE, ZSERVICE, or PATH class or it is not part of a recognized filter, the attribute is deleted and the following message is written to the log:

```
Warning: Invalid Filter: abc !
Warning:       -abc-attr-ZUSERID discarded
```

If an attribute specified does not exist in the class template, when this attribute is processed the attribute is discarded and the log will display:

```
Warning: Invalid Attribute: NOTGOOD!
Warning: Not defined in class template
Warning:       -all-attr-NOTGOOD discarded
```

There is no limit to the number of additional attributes that can be specified or the order in which they can be specified.

Specifying Connection Types

INCLUDES, REQUIRES and ALWAYS connections can be specified for all classes that contain these type of connections. There are two methods of specifying connection types.

- Specifying the explicit connection type with a sequential number appended such as `_ALWAYS_#3`.
- Specifying the numbered type connection such as `CONN0001`.

REGISTRY, DESKTOP, FILE, PACKAGE, and ZSERVICE classes contain INCLUDES, REQUIRES, and ALWAYS connections defined in the default database. The connection must be specified with the name and the number.

The sample code below, displays an example of specifying connections for the ZSERVICE instance.

```
attr zservice {
      _ALWAYS_#3   SOFTWARE.ZSERVICE.REDBOX
      _ALWAYS_#2   SOFTWARE.ZSERVICE.DRAGVIEW
}
```

The connection takes the slot number specified with one exception. The _ALWAYS_ connection of the ZSERVICE class is reserved for use by the package instance created by the Publishing Adapter session. If this connection is specified on the command line or in the configuration file, the value specified in the configuration file or on the command line will overwrite the package connection created from the promote process.

The formats for specifying additional attributes using connection types are as follows:

- Method Connections:
  METH0001, METH0002, METH0003
- Always Connections:
  CONN0001, CONN0002, CONN0003
- Includes Connections:
  INCL0001, INCL0002, INCL0003
- Requires Connections:
  REQU0001, REQU0002, REQU0003

The following is an excerpt of the configuration file with the connection type attributes specified.

```
filters all {
        type          file
        class         file
        exclude       "*.log *.bak"
        include       "*"
        distroot      {}
        attr {
   meth0001     notepad
        CONN0003      test123
        }
}
```

A table is printed in the promote.log that shows:

- All attributes in the class.
- The connection type (V=variable, M=method, C=class, I=includes, R=requires).
- The connection type name.

- The value inherited from the base instance.
- The value set for the Publishing Adapter promote.

The following is an excerpt of the table presented in the log file.

```
Info: ------------------------------------------------------
Info:  filter = all   classname = FILE
Info:
Info: Name       Type Connection          BaseInst       RPA
Info: ------------------------------------------------------
Info: ZOBJDATE   V                    20010910
Info: ZOBJTIME   V                    17:04:57
Info: ZOBJID     V                    D0010BE54B1E
Info: ZRSCMO     V                    M                 O
Info: ZINIT      M  METH0001                          notepad
Info: _ALWAYS_#3 C  CONN0003                          test123
```

If the same attribute is set using an explicit connection (for example, `ZINIT = {pzunzip &zrsccfil}`) and a connection type connection (for example, `meth0001 = notepad.exe`), the following error is generated and the Publishing Adapter session is halted.

```
Error:!!!Conflict of Additional Attributes
Error:   Specify either Explicit or Connection type for
Attribute
Error:   Explicit type: -all-attr-ZINIT = pzunzip &zrsccfil
Error:   Connection type: -all-attr-METH0001 = notepad.exe
```

Specifying Additional Attributes on the Command Line

With this enhancement the use of a configuration file is no longer a required configuration argument.

Additional attributes can also be specified directly on the command line. Attributes added using the command line take the following format:

```
-(filter name)-attr-(variable name)      value
```

or

```
-(class name )-attr-(variable name)      value
```

Example

```
-all-attr-zinit              "PKUNZIP &ZRSCCFIL"
-package-attr-release        1.2.3
```

Therefore an example of a Publishing Adapter command line with additional attributes specified would be as follows:

```
nvdkit promote.tkd cfg promote.cfg -all-attr-zinit "PKUNZIP
&ZRSCCFIL"
```

Additional attribute command line arguments are specified in lowercase with the exception of the attribute values. The attribute values will retain the case they were specified in when promoted. If the value of the attribute contains multiple words, the value should be surrounded by double quotes as in the example above.

The filter name, attr keyword, and variable name must be separated by hyphens.

If the second element of the string is not attr, a warning is issued to the promote.log:

```
Warning: Problem command line attribute !
Warning:       -zservice-axxt-zinit discarded
```

If the configuration file is specified and the `.cfg` file exists, no new configuration file is unpacked. If the configuration file doesn't exist, a blank configuration file is unpacked with the name specified for the `.cfg` file. If no `.cfg` file is specified, the default name of `promote.cfg` is used for the blank configuration file that is unpacked.

When the `promote.tkd` is run, a sample `.cfg` file is unpacked.

Filters and Filescans

To specify filters and filescan configuration on the command line use the following formats.

Filescans

Only one filescan can be specified on the command line. If additional filescans are needed they must be specified in the configuration file. The command line options for filescan are:

```
-fs-dir
-fs- distroot        {}
-fs- numsplit        1
-fs- depth           -1
```

Filters

To specify a filter on the command line use the following argument format:

```
-filters <filtername>
-<filtername>-type        value
-<filtername>-class       value
-<filtername>-exclude     value
-<filtername>-include     value
```

The filters argument must be used to specify the unique name of the filter. There can be multiple filters entries each specifying a unique filter name. Multiple filters can be defined on the command line.

Command line example:

```
nvdkit promote.tkd -filters testrpa -testrpa-type file -
testrpa-class file -testrpa-exclude "" -testrpa-include "*"
```

The filter executed on the command line above is displayed in the `promote.log` excerpt below:

```
20020918 11:42:05 Info: Filter[testrpa]:
20020918 11:42:05 Info: filtername = testrpa
20020918 11:42:05 Info:       type = file
20020918 11:42:05 Info:      class = file
20020918 11:42:05 Info:    include = *
20020918 11:42:05 Info:    exclude = {}
```

There is no limit to the number of additional attributes that can be specified or the order in which they can be specified. The same rules that apply to the

configuration file for valid attributes also apply to the command line attributes.

Specifying attributes on the command line, the attribute must be in a recognized filter or in the zservice, package or path class. If not, the following message is written to the log:

```
Warning: Invalid Filter: abc !
Warning:       -abc-attr-ZUSERID discarded
```

If a package name is not specified on the command line, the default package name of `rpadefault*` is used.

```
#
# Radia Automated Publishing Interface
#
# package      - package instance name or prefix (i.e. foo or foo_*)
# pkgname       - to be used as friendly name of package (NAME)
# pkgdesc       - to be used as description of package (DESCRIPT)
# service      - zservice instance name
# svcname       - to be used as friendly name of the service (ZSVCNAME)
# svcdesc       - to be used as a description of the service (NAME)
# addtosvc      - connect package to service
# compress     - 1 to request compression
# intype       - source type for list of resources (FILE/SCAN)
# insource     - file path for input if type is FILE
# mgrdiff      - 1 to activate comparison with existing resources for service - not
       implemented
#
#
   package     "attr_test"
   pkgname     "attr_test"
   pkgdesc     "attr_test"

   service     "attr_test"
   svcname     "attr_test"
   svcdesc     "attr_test"
   addtosvc    1

   compress    1
   intype      SCAN
   insource    ""

   mgrdiff     0

   loglvl      3
   logfile     promote.log
   host        radia://localhost:3464
```

```
    path       PRIMARY.SOFTWARE
#
    # File Scanner Control Info
    # depth    - number of subdirs to traverse (-1 = all)
    # numsplit - number of subdirs (includes drive in win) to use in root
    # distroot  - distribution root to be used to create path instance
    #             if left blank, root of dir is used
    #
    filescan {
        dir             {c:/attr/test}
        distroot        {}
        numsplit        2
        depth           2
    }
    #
    # Priority of the component classes as receiving bucket is based on
    # filter order
    # Specialized (like desktop) should be put before file class filters
    #
    # Abstract Filters (multi-type)
    # class    - database class used for files that satisfy this filter
    # expression - expression strings for ZSTOPs in package instance
    #
filters reg {
            type         registry
            class        registry
            exclude      ""
            include      "*.reg *.edr"
            distroot     {}
}

filters lnk {
        type         desktop
        class        desktop
        exclude      ""
        include      "*.lnk"
        distroot     {}
        attr   {
        MACHUSER    TESTUSER
        ZCREATE     {PKUNZIP &ZRSCCFIL}
        }
    }
filters all {
                type         file
                class        file
                exclude      ""
                include      "*"
                distroot     {/john/test}
                attr   {
```

```
                ZCREATE     TESTSTART
                 ZDELETE            TESTOVER
                 }
    }
  expression {
    }
attr package {
            releASE    3.5.6
            wrong      thisiswrong
            includes   SOFTWARE.PACKAGE.ADAPT
            includes#2 SOFTWARE.PACKAGE.RAPILINK
        }
        attr  zservice {
        ZSVCMO          m
        URL             {WWW.NOVADIGM.COM}
        _ALWAYS_#3      SOFTWARE.ZSERVICE.REDBOX
        _ALWAYS_#2      SOFTWARE.ZSERVICE.DRAGVIEW
        }
     attr path {
                 zrscmo O
 }
```

Summary

- Execute configuration file-based publishing from the command line.
- Edit `promote.cfg` to include your required publishing parameters.
- Use the `attr` parameter to specify additional attributes.

4 Object-Based Publishing (SCMAdapt.tkd)

At the end of this chapter, you will:

- Be familiar with Object-Based publishing.
- Understand `SCMAdapt.tkd` command line parameters.
- Understand the `SCMAdapt.cfg` parameters.

Using Object-Based Publishing

Object-based publishing is accomplished through the use of `SCMAdapt.tkd`, a file included with your installation of the Publishing Adapter. Using `SCMAdapt.tkd`, the Publishing Adapter takes the input or output objects from one of the Novadigm legacy Source Control Management adapters (EDMPVCS or EDMATRIA), and publishes the specified files to Radia. This is done using command line arguments. Command line parameters are described in Table 4 below and the configuration file parameters are described in The SCMADAPT Configuration File on page 63.

Execute `SCMAdapt.tkd` on a command line from the directory where you installed the Publishing Adapter (default is `C:\Novadigm\PublisherAdapter`). Once executed, `SCMADapt.tkd` uses the supplied arguments to determine the location of the objects and configuration file for the publishing session.

Example

```
nvdkit scmadapt.tkd -objdir <Object Directory> -cfg
<scmadapt.cfg>-user <userid> -pass <password> -phase input
```

Table 4 Command-Line Parameters for scmadapt.tkd

Parameter	Description
`-objdir` *`object directory`*	If a valid set of objects is not found, `SCMAdapt` will terminate. This parameter is required.
`-cfg` *`filename`*	Specifies the file that contains the configuration options for this execution of the Publishing Adapter. This parameter is optional. If not present, the `scmadapt.cfg` file in the current working directory will be used. If `scmadapt.cfg` is not found, `SCMAdapt` will terminate. This file can be re-named. You can maintain multiple configuration files to facilitate a variety of publishing jobs. This parameter is required. See Table 4.3 for a description of the configuration file parameters.
`-user` *`userid`*	Radia administrator user ID. The default is `RAD_MAST`. This parameter is optional.

Parameter	Description
`-pass` *`password`*	Radia administrator password. The default is " " (no password). This parameter is optional.
`-phase` *`input`*	Optional parameter. If present and the value is `input` (not case-sensitive), the database will be created, but the files will not be published. This is useful for testing filters, debugging, and verifying that your selected criteria are producing the expected results (the results are sent to the log and displayed on the screen). Note: Any value other than `input` will be ignored.

Input Objects

SCMAdapt requires an input of two objects, ZPROMDFT, and one of the others as detailed below. All of these objects are from a Novadigm legacy SCM Adapter.

- ZPROMDFT Object
  default values for the adapter.

and

- ZINPUT Object
  input to the adapter. (Use the Radia Screen Painter or the Radia Client Explore to build input to `SCMAdapt`.)

or

- ZPROMDFT Object
  default values for the adapter.

and

- ZPROMOTE Object
  output of the adapter (output from a Novadigm legacy SCM Adapter).

If the secondary input object is ZINPUT, no SCM access is done. Only the file or application defined in the heap will be published.

ZPROMDFT Variables

Table 5 below shows the variables of the ZPROMDFT object. Although all the variables listed might appear in a Novadigm legacy SCM adapter object, those marked N/A are not used by the Publishing Adapter. Using an object editor (such as the Radia Client Explorer), open the ZPROMDFT object to ensure that the required variables are present.

Table 5 ZPROMDFT Variables

Variable	Description
UNIQUE	N/A
ZADMCLAS	N/A
ZADMDOMN	N/A
ZADMFILE	N/A
ZADMIPRE	N/A
ZADMMLOC	N/A
ZAPPNAME	N/A
ZCOMPRESS	N/A
ZEXETYPE	N/A
ZPACKAGE	The instance name of the package. This variable is required. If this variable is suffixed with "*", the value will be used as a prefix. The instance names will contain this prefix, followed by the date and a sequence number.
ZPKGDESC	A description of the package. This variable is required.
ZPKGNAME	The friendly name of the package. This variable is required.
ZPROMDIR	N/A
ZPROMOTE	N/A

Variable	Description
ZSERVICE	Contains the instance name of the service to which the published package should be attached. Note: If the instance name does not conform to instance naming rules, an error will be generated.
ZSVCCNCT	Defines whether a service is to be connected. If `Y`, attach (connect) the package to the service. This requires that ZSERVICE and ZSVCNAME be present for the service to be connected. If `N`, do not attach the package to the service.
ZSVCNAME	The friendly name of the service. This variable must exist if ZSERVICE exists.
ZTRACEL	N/A
ZVLBLTYP	N/A
ZSERVICE	Contains the instance name of the service to which the published package should be attached. Note: If the instance name does not conform to instance naming rules, an error will be generated.
ZSVCCNCT	Defines whether a service is to be connected. If `Y`, attach (connect) the package to the service. This requires that ZSERVICE and ZSVCNAME be present for the service to be connected. If `N`, do not attach the package to the service.
ZSVCNAME	The friendly name of the service. This variable must exist if ZSERVICE exists.
ZTRACEL	N/A
ZVLBLTYP	N/A

ZSERVICE, ZSVCNAME and ZSVCCNCT are not *required* variables.

However, they all must be present in order for a package to be connected to a service. If either of these variables is missing, a notice is sent to the log and the console, and the package will be created and the resources published, but the package will not be connected to a service.

ZINPUT Variables

These variables have to be added to the ZINPUT object:

- **ZSPLIT**
  The position in the ZPRPCFIL value where to split the file name into a root and a stem.

  The value of the root becomes the PATH instance value, and the FILE instance value adopts the value of the stem. For example:

  ```
  ZPRPCFIL: F:\intstage\s054ptest\test\bin\TESTING.TXT
  ZSPLIT: 2
  ```

  The root is: `F:\intstage\.`

  The stem is: `s054ptest\test\bin\TESTING.TXT`

  A PATH instance is created with a value of:
  `F:\intstage\.`

  A FILE instance is created with a value of:
  `s054ptest\test\bin\TESTING.TXT`.

- **ZDSTROOT**
  The deployment location. This variable is equivalent to ZLOCCLNT in EDM.

  If present, the PATH instance will be set to this value.

  If not present, the PATH instance will be set to the root directory of the promoted resource (for example, `&(ZRSCCDRV)&(ZRSCCDIR)`).

The ZDSTROOT value will be retrieved from the ZINPUT object, if it is present.

If ZDSTROOT is not specified, the path from where the resource was published will be assumed.

- **ZCLASS**
  This variable identifies the file type specified in the heap. The acceptable values are FILE, DESKTOP, and REGISTRY. The default is FILE.

  If ZCLASS is not present, a message indicating that the variable is being defaulted will be printed in the log and on the console.

  ZCLASS is only honored on ZINPUT heaps that specify a file, not an application (such as, when ZAPPLIC=N).

- **ZAPPLIC**
  The flag that states whether the ZINPUT heap is an application.

  If Y, ZPRPCFIL will be the base directory (root) from where to start the file scan, and all its files and subdirectories will be published.

  If N, ZPRPCFIL will be the file to be published.

The SCMADAPT Configuration File

The following two sections present detailed information on the SCMADAPT configuration file. The first section, The SCMADAPT Configuration File, presents a table in the format of the configuration file. The second section, The SCMADAPT Configuration File Sample, presents a sample `scmadapt.cfg`, showing the standard defaults.

Table 6 The SCMADAPT Configuration File Parameters

Option	Description
compress	Tells the Publishing Adapter whether to use compression. `1` = Use compression. `0` = Do not use compression.
intype	Defines the type of the input source. `OBJ` is the only valid value.
mgrdiff	Reserved for future use. `1` = to activate comparison with existing resources for service. `0` = to turn off.
loglvl	Defines the log tracing level. A value of `3` will show informational log messages. A value greater than `3` will show debugging log messages.
logfile	Specifies the name of log file.
host	Defines the name and port (in URL format) of the host Radia Configuration Server, for example, `radia://localhost:3464`.
path	Defines the Radia Database path to the file and domain to which the package will be published, for example, `PRIMARY.SOFTWARE`.
fileclass	Sets the file class name. This command is specific to SCMAdapt, and will override the defaults of FILE (Win32) and UNIXFILE (UNIX).
expression	The ZSTOP expression to be used in the PACKAGE class instance. Multiple expressions are supported, but should be arranged one per line. This parameter is optional. Although the expression is optional, the variable expression must be specified in the `*.cfg` file. Its value will be set in ZSTOP in the published package.

The SCMADAPT Configuration File Sample (`scmadapt.cfg`)

It should not be necessary to modify the default configuration file (except for the *host* value) unless the name of the *fileclass* is to be changed. The following table presents the commands of the Configuration File, as well as a description with guidelines for specifying.

A sample configuration file is shown below:

```
scmadapt.cfg
# Publishing Adapter Default Options
#
# compress  1 to request compression
# intype    source type for list of resources (OBJ)
# insource  This field must be present, but must not be
specified
# mgrdiff   Reserved for future use.
            1 - to activate comparison with existing resources
for service
            0 – to turn off
# fileclass File class name - defaults to FILE in Win
Platforms
#                             defaults to UNIXFILE on UNIX
platforms
    compress 1
    intype   OBJ
    insource " "

    mgrdiff  0

    loglvl    3
    logfile   SCMAdapt.log
    host      radia://localhost:3464
    path      PRIMARY.SOFTWARE
    fileclass " "
    expression {
    }
```

Summary

- Execute object-based publishing from the command line.
- Edit `SCMAdapt.cfg` to include your required publishing parameters.

5 Radia Native Packaging

At the end of this chapter, you will:

- Be familiar with Radia Native Packaging.
- Understand Radia Native Packaging system requirements.
- Understand the Radia Native Packaging command-line interface.
- Know how to publish using Radia Native Packaging.

What is Radia Native Packaging?

Version 3.1.2 of the Publishing Adapter supports HP-UX native packaging only.

Radia Native Packaging is a feature of the Publishing Adapter specifically designed for UNIX environments. Radia Native Packaging is a command-line driven content-publishing tool supporting native HP-UX software; it is neither a graphical publishing tool nor a mainstream publisher tool. Radia Native Packaging is installed during the regular installation of the Publishing Adapter on a UNIX system.

Radia Native Packaging explores UNIX native software depots, searches for available native packages and publishes wrapped native packages to the Radia Configuration Server. Radia Native Packaging will publish all necessary information that will allow you immediate installation of native software to end clients.

Additionally, Radia Native Packaging publishes information about native package dependencies and will optionally include them with a published package.

Why use Radia Native Packaging?

Radia Native Packaging supports HP-UX (SD) software package formats. With the use of Radia Native Packaging you can easily publish wrapped native UNIX software, updates, and patches without any need for re-packaging. Wrapped UNIX native software enables policy-based centralized software management of your UNIX clients.

This document assumes that the system administrator using the Radia Native Packager possesses packaging/publishing knowledge for a Radia infrastructure database.

Overview

Radia Native Packaging creates the standard instances of ZSERVICE, PACKAGE, and PATH in the SOFTWARE domain of the Radia Database. Radia Native Packaging creates instances of SD classes for each published wrapped native package depending on the operating system (HP-UX).

For each native software package selected, Radia Native Packaging will create an instance of SD class. This instance holds actual content (software depot) and native method calls that will do actual install/removal/update on the client. Additionally it will create an instance of the PACKAGE class that will contain the newly created SD instance and an instance of ZSERVICE class that contains the new PACKAGE instance.

Publish native packages from the specific UNIX platform to which you will be deploying. For example, you can't use Radia Native Packaging on HP to promote Solaris SVR4 packages and or Solaris Patches – Radia Native Packaging would be unable to use the native UNIX utilities to interrogate details of the package.

Radia Native Packaging System Requirements

Radia Native Packaging is available for the HP-UX operating systems. It has these system requirements:

- Root permissions are required to use Radia Native Packaging.
- Network connectivity to the Radia Configuration Server.
- Space on `/tmp` file system for temporary depot files used for publishing.

Response files are not supported for HP-UX SD native software packages.

Required Classes

Radia Native Packaging requires specific classes for each operating system. Make sure your Radia Database includes these SOFTWARE domain classes before using Radia Native Packaging.

Table 7 Required SOFTWARE Domain Classes

Operating System	Class
HP-UX	SD Packages (SD) SD Product Bundles (SD)

Radia Native Packaging and the Radia Client

During the installation of the Radia Client, a Tcl script is installed into the IDMSYS directory along with the Radia Client components. This script is required for deployment of packages published using Radia Native Packaging. The actual Tcl script installed depends on your UNIX operating system. The scripts (`sd.tcl` for HP-UX) contain native command calls to deploy the software.

A common helper Tcl script `method_utils.tcl` is also installed with the Radia client, on all platforms where Radia Native Packaging is supported.

Radia client version 4.2i or higher is required to deploy packages published to the database using Radia Native Packaging. Contact your HP sales representative for more information.

Supported Native Package Types

Table 8 on page 71 lists the native package types supported by Radia Native Packaging and their expected formats.

Table 8 Native Package and Supported Formats

Native Package	Supported Format
HP-UX SD Product	File system format (extracted to disk, the software depot contains subdirectories reflecting the SD Product tag as well as the SD depot catalog).
HP-UX SD Product/Patch Bundle	File system format (extracted to disk, the software depot contains sub-directories reflecting the SD Product tag as well as the SD depot catalog).

Radia Native Packaging Command-Line Interface

Radia Native Packaging is run from the command line. The base input parameter for Radia Native Packaging is the source depot containing HP-UX software. The native packages must be in a disk depot format (the native software packages are resident on disk in a format which can be immediately utilized by the native operating system's software management tools). Radia Native Packaging is capable of publishing one or more packages in a single publishing session.

In addition, you can specify the selection of the software you want to publish, and in the event Radia Database user verification is enabled, an optional user ID and password can be designated. Here's an example of command line usage for Radia Native Packaging:

```
Usage: rnp -d depot_path -m manager_ip:manager_port
           [-v] [-debug type] [-tmp dir]
           [-user user_id] [-pass password]
           [-domain domain] [-l logfile] [-help]
                       [-i] [-coreq] [-I] [-M] [-S]
                       [-a | -A type | -p
package1[,r=revision][,a=arch][,v=vendor]
                       -p
package2[,r=revision][,a=arch][,v=vendor]...]
                       [-P] [-r] [-f prefix]
                       [-s] [-t svc_type] [-c flag]
```

The table below contains the description of the command line arguments for Radia Native Packaging.

Table 9 Command-Line Parameters

Parameter	Description
`-a`	Specifies to publish all native software available in the depot. This parameter is optional. You cannot use this parameter together with `-p`.

`-A type`	Select and publish all packages of specific *`type`*.
	`type` can also be one of the following:
	`help` or
	for a list of valid types for the running platform.
	`all`
	to select all package types. This option would then behave like the –a option.
	`none`
	to select none of the package types. This would then behave like having neither the –a or –A options specified.
	Multiple package types can be specified and separated by commas.
	This parameter is optional.

`-c flag`	This option enables or disables compression on all packages to be published. *`flag`* can be one of the following: • `yes` Enable compression for all packages • `no` Disables compression for all packages Default behavior is dependent on each package type being published. This parameter is optional.
`-coreq`	Includes co-requisite (on HP-UX) packages promoted into a “mini-depot”.
`-d depot` *`path`*	Specifies the path to the depot directory containing SD native software Packages. Software contained in this depot, will serve as an input to Radia Native Packaging. This parameter is required.

Parameter	Description
`-debug type`	Specify the level of debugging desired. *type* can be one of the following: `init` for initialization data `func` for detailed function debugging `trace` for function tracing `cmd` for native command executions `pub` for publishing information `rapi` for RAPI details `all` for all the above `none` to disable debugging Multiple types can be specified and separated by commas. The default behavior is that debugging is disabled. This parameter is optional.
`-domain domain`	Specify which Configuration Server domain the packages are to be published to. The default domain used is PRIMARY.SOFTWARE. This parameter is optional.
`-f prefix`	Instructs Radia Native Packaging to prefix the package class and service class instance names used for the new published package with this prefix. This parameter is optional.
`-help`	Display help on the command-line usage and the `rnp.cfg` configuration file format.
`-i`	Instructs Radia Native Packaging to include prerequisite software package with the package you have selected if prerequisite software is present in the source depot. Dependency information is published regardless of this parameter. This parameter is optional.
`-I`	Interactive mode. Allows user to select additionally required packages (dependency). Ignored if neither –i nor –coreq are present or no additional package is required.

Parameter	Description
`-l logfile`	Instructs Radia Native Packaging to store the log details in the *`logfile`* specified. If this option is omitted, the default log file created is `publish.log`. This parameter is optional.
`-m ip:port`	Specifies the host name or IP address and port of the Radia Configuration Server to which you intend to publish software. This parameter is required.
`-M`	Multiple. If –i or –coreq is present (so additional packages are required), and there are several versions of an additional package, then all of them will be displayed in the additional packages menu. Otherwise, only one version of each additional package will be displayed (default). It is ignored if –I is not present.
`-p package [,r=revision] [,a=arch] [,v=vendor]`	Specifies a software package to publish to the Configuration Server. Specify the following: an SD product software selection on HP-UX (software selection with optional revision, architecture and vendor. Specifying the software selection alone will work, but if there are multiple products with the same identifier, they will all be published). This parameter is optional. You can specify multiple `-p package` parameters for multiple package selections. On HP-UX the following parameters can be used to define more specific package selection: `r` = Revision number of software being published `a` = Architecture `v` = Operating System Vendor Note: If a package is not specified on the command line, you will be presented with a list of all available packages within the specified depot.
`-P`	Not applicable
`-pass password`	Radia administrator password. This parameter is optional.
`-r`	Not applicable

Parameter	Description
-s	Instructs Radia Native Packaging to skip the creation of services for the packages to be published.
-S	Strict mode. If any requirements for a package are not met (for example, if –i or –coreq option are present and not all additionally required packages are in the depot), the package will not be promoted. It is ignored if –I option is present.
-t *svc_type*	Use this option to specify the type of service to create. Available values: M for Mandatory O for Optional Default Service type created is M. This parameter is ignored when the -s option is specified.
-tmp *dir*	Specify an alternative temporary directory to use when creating packages. The default value is /tmp. This parameter is useful when */tmp* on the machine where publishing is performed has limited available disk space. This parameter is optional.
-user *user ID*	Radia administrator user ID. The default is RAD_MAST. This parameter is optional.
-v	Displays the version and build number of the Radia Native Packager rnp command. This parameter is optional.

When no packages are specified with the –p option or by selecting all packages with the –a or –A options, the Radia Native Packaging command will present a text based menu of native packages found in the depot directory specified. You can then select individual or all packages from the menu to be published.

Radia Native Packaging Options File (rnp.cfg)

If you usually use the same source depot or publish to the same Radia Configuration Server you can create a file, rnp.cfg, in the same directory

where you have the Radia Native Packaging components installed. Use of this configuration file provides a means to preset default option values in the following format:

parameter=value

Example:

```
depot=<depot path>
manager_ip=<Radia configuration server IP or hostname>
manager_port=<port number that the Radia configuration
server uses>
```

By default, `rnp.cfg` is not supplied.

Table 10 Supported `rnp.cfg` Settings and Default Values

Setting	Expected Values	Default Value
`depot`	Fully qualified path to the depot directory	None
`manager_ip`	IP address or hostname of the Configuration Server	None
`manager_port`	Port number of the Radia Configuration Server	`manager_port=3464`
`create_service`	`create_service=[yes/no]` A value of `yes` will create a ZSERVICE instance for each of the promoted packages. A value of `no` will not automatically create a ZSERVICE instance for each of the promoted packages	`create_service=yes`
`service_type`	`service_type=[M/O]` A value of `M` will cause the promoted ZSERVICE instance to be set as a mandatory service. A value of `O` will cause the promoted ZSERVICE instance to be set as an optional service.	`service_type=M`

Setting	Expected Values	Default Value
select_patches	select_patches=[yes/no] A value of yes shall set the default publishing behavior on Solaris to be for the publishing of patches.	select_patches=no
include_responses	include_responses=[yes/no]	include_responses=no
include_dependencies	include_dependencies=[yes/no] A value of yes will attempt to publish SD dependent packages if they are in the specified depot. A value of no will not attempt to publish SD dependent packages.	include_dependencies=no
include_corequisites	include_corequisites=[yes/no] A value of yes will attempt to publish SD dependent packages if they are in the specified depot. A value of no will not attempt to publish SD dependent packages.	include_corequisites=no
select_types	select_types=[type1,type2,…] Publish all packages of specific type(s) found in the depot directory. Run rnp with the –A help option to get a complete list of supported types for the running platform.	select_types=none
debug	debug=[type1,type2,…] List specific types of debugging to enable. valid types are: init, func, trace, cmd, pub, rapi, all or none.	debug=none

Setting	Expected Values	Default Value
temp_dir	temp_dir=[dir] Specify an alternate temporary directory to use for creating the packages to publish.	temp_dir=/tmp
user	user=userid Administrator ID used for authentication with the Radia Configuration Server.	User=RAD_MAST
domain	domain=FILE.DOMAIN Specify the target FILE.DOMAIN in the RCS database where to publish the packages.	domain=PRIMARY.SOFTWARE
compress	compress=[yes/no] Enable or disable compression for all packages to be published. The default behavior is that compression depends on the package type being published.	Package Dependent
password	password=pass Administrator password, used for authentication with the Radia Configuration Server.	Blank
interactive	interactive=[yes/no] Publish using interactive mode. Interactive mode allows you to choose whether or not to include required packages.	interactive=no
strict	strict=[yes/no] Publish using strict mode. Strict mode will not publish packages missing required components.	strict=no

Setting	Expected Values	Default Value
`multiple`	multiple=[yes/no] Display multiple versions of additional required packages,	multiple=no

Publishing with Radia Native Packaging

Examples

See Table 9 on page 72 for an explanation of the Radia Native Packager command-line parameters.

To publish SD product SD_PROD from default depot on HP-UX

1. Change your current working directory to the Publishing Adapter directory (default /opt/Novadigm/PublisherAdapter/).
2. On the command line, type:

```
./rnp -user rad_mast -pass radia -d /var/spool/sw -p
SD_PROD,r=1.0,v=HP
```

If a package is not supplied on the command line via the –p parameter, you will be presented with a list of all available packages within the specified depot.

Publishing with Interactive Mode

Specifying the parameter`-I` on the command line invokes the Radia Native Packager's interactive mode. This allows you to select which of the *available* required software you would like to include with your current package. Additionally, you will see which required prerequisite software is not available in the current depot.

The interactive mode option is ignored if neither the –I nor –coreq or -i parameters are specified on the command-line (indicating prerequisite

software is required for the current package). Here's an example of Interactive Mode:

```
Processing additional software required for dev-2.7.18-3.i386.rpm
Following required prereqs are not found in software depot
and cannot be included in to promote package:
        mktemp
        textutils
Following additionally required software is found in software depot
       and selected to be included in to promote package:
     1. prereqs:  - shadow-utils-19990827-8.i386.rpm - included
     2. prereqs:  - grep-2.4-3.i386.rpm - included
     3. prereqs:  - sed-3.02-6.i386.rpm - included
     4. prereqs:  - fileutils-4.0-21.i386.rpm - included
Please toggle the selection:
select (a)ll; (d)eselect all; (c)ontinue; (s)kip current package; (q)uit entire session:
```

You can choose to exclude any of the required software by entering the corresponding number. A message at the end of each line (included or not included) lets you know whether or not the required software will be included with the current package.

- Enter the number of the required software or type another option available in the interactive mode menu and press **Enter** to continue the native packaging process.

Table 11 Interactive Mode Selections

Selection	Description
a	Selects all available required software to include with the current package. Available required software is included by default. (Set all available required software to included)
c	Continue the native packaging process.
d	Deselects all included software. (Set all available required software to not included)
q	Quit the Radia Native Packaging process.
s	Skip the current package.

Wrapped Native Packages

The following section lists all Radia Database class instances and their attributes that are created when you publish native UNIX software with Radia Native Packaging.

Radia Native Packaging utilizes a **method harness** to invoke client methods, therefore when a package is published to the Radia Database, populated method attributes such as ZCREATE, ZDELETE, ZUPDATE, ZVERIFY, and ZREPAIR will contain the text "hide nvdkit method".

The supplied client methods are designed to invoke the native software management utilities, therefore, the methods are not interchangeable between client platforms. For example: The file `sd.tcl` supplied with HP-UX Radia clients invokes native HP-UX package management utilities and therefore the successful execution of this method on an operating system other than HP-UX is not possible.

When publishing native Unix packages using the Radia Native Publisher, the software packages are published to the Radia Database (in compressed format) specifically to the class SD. The depot containing native software in compressed format is promoted to SD class (class is similar to UNIXFILE class). The tables below list the modified attributes:

Table 12 SD Class Instance Attributes Modified

Attribute	Description
ZRSCNAME	Specifies a string that is used by native methods to identify software contained in the published depot. This is the complete software spec on HP-UX (tag, version, architecture and vendor).
ZRSCCFIL	Specifies the path to the file that is included in this instance. This file contains the native packaged software.
AUTOBOOT	This Boolean variable is set to Y in case the wrapped SD software contains a reboot file set.

Attribute	Description
ZCREATE	Uses method "Harness" call. The Radia client method sd.tcl script contains a native command call to install the software package: `hide nvdkit method` Note: If all the file systems listed in `/etc/fstab` are not mounted, ZCREATE (swinstall) will fail. This default behavior assures that later installations will work correctly.
ZDELETE	Uses method "Harness" call. The Radia client method sd.tcl script contains a native command call to remove the software package: `hide nvdkit method` Note: When a native software application is removed, the application files are deleted, but the directory structure will remain.
ZUPDATE	Uses method "Harness" call. The Radia client method sd.tcl script contains a native command call to update the software package: `hide nvdkit method`
ZVERIFY	Uses method "Harness" call. The Radia client method sd.tcl script contains a native command call to verify the installed software package: `hide nvdkit method`
ZREPAIR	Uses method "Harness" call. The Radia client method sd.tcl script contains a native command call to repair the installed software package(reinstall): `hide nvdkit method`
ADDDEPS	Auto-select dependencies. Set to N by default.
PREREQ	Software spec of prerequisite SD product. Note that SD's dependencies are on the fileset level. Since Radia Native Packaging wraps SD products, dependencies are elevated to product level. Informational attribute only.
COREQ	Software spec of corequisite SD product. Informational attribute only.

Attribute	Description
EXREQ	Software spec of exrequisite SD product. Informational attribute only.
CONTENTS	Required Packages Included in Tar. Note: If the promoted package is a bundle, CONTENTS will contain the value BUNDLE, and the attributes PREREQ, COREQ and EXREQ will contain no value.
INSTOPTS	Package installation options. (For example, -xenforce_dependencies=true -xallow_downdate=true)

An instance of PACKAGE class is created that contains the instance of SD class. Table 13 below describes how Radia Native Packaging maps native package information into PACKAGE class attributes.

Table 13 PACKAGE Class Attributes

Attribute	Description
Instance Name	On HP-UX Radia Native Packaging will take SD product tag, prefix `SD_` and append a date and sequence number to guarantee uniqueness (`SD_<tag>_yyyymmddn`). Note: When instance names generated are longer than 32 characters, the package/patch names parts of the instance names shall be truncated.
RELEASE	SD revision version native attributes are mapped into RELEASE.
NAME	On HP-UX, NAME is composed from SD_ and SD product's software spec (`SD_<software_spec>`).
DESCRIPT	SD's title is mapped into DESCRIPT.
ZSTOP000	Contains an expression that contains target operating system information.
ZSTOP001	On HP-UX possibly contains SD products target OS release.
FILE	Holds reference to respective instance of `SD` class.

Radia Native Packaging also creates an instance of ZSERVICE class holding previously created instance of PACKAGE class. Table 14 above lists the modified attributes.

Table 14 ZSERVICE Class Attributes

Attribute	Description
Instance Name	On HP-UX, the Radia Native Packager will take the SD product or bundle tag, prefix SD_ and append a date and sequence number to guarantee uniqueness (`SD_<TAG>_yyyymmddn`). Note: When instance names generated are longer than 32 characters, the package/patch names parts of the instance names shall be truncated.
VERSION	SD revision version native attributes are mapped into VERSION.
NAME	On HP-UX NAME is composed from SD_ and SD product's software spec (`SD_<software_spec>`).
ZSVCNAME	SD's title name attributes are mapped into ZSVCNAME.
VENDOR	Specifies vendor of the native UNIX package.
ZSVCMO	Service is set to mandatory by default. Valid values of this attribute are: • `M` for mandatory • `O` for optional
ALWAYS	Holds reference to the respective instance of PACKAGE class.

In version 4.2i, the radskman command line parameter to enable a system reboot is set to Y by default, therefore, if you wish to suppress a system reboot you must pass the radskman command line option hreboot=n.

Refer to the *Installation and Configuration Guide for the HP OpenView Application Manager Using Radia for UNIX (Application Manager Guide)*, for more information.

If a package requires a system reboot after a Client Connect, make sure the `hreboot radskman` parameter is set to `Y`. Refer to the *Application Manager Guide* for more information.

Automatic Inclusion of Required Packages

If you specify the `-i` command line option, Radia Native Packaging will include prerequisite packages into the depot with the (main) package you are publishing to Radia. The prerequisite package needs to exist in the depot Radia Native Packaging is using as a source.

The `-coreq` command option will include corequisite packages for SD (COREQ).

When using the –i or –coreq options, the promotion of native software packages will not fail because of a missing prerequisite or corequisite package (unless the –S option is specified). Installation will fail only if prerequisite or corequisite packages are missing from both the promoted native software package *and* from the target machine.

Alternatively, if a prerequisite or corequisite package is already installed on the target machine, including these in a native software package for promotion will result only in using more network bandwidth and disk space than necessary.

Troubleshooting Radia Native Packaging

Should you encounter problems publishing native UNIX Software Packages, please perform the following steps before contacting technical support:

- Enable full diagnostic tracing by appending the text `-debug all` to your command line and re-run the publishing session.
- Have the log file produced by the rnp publishing readily accessible to provide to support. By default, the log file would be called `publish.log` located in the directory where you installed the Publishing Adapter.

The command line option `-debug all` should only be used to diagnose publishing problems.

Operational Notes

The following describes the operations involved during the publishing and deployment of native packages. This is provided to give a better understanding of the current processes and capabilities provided to manage these packages

Publishing

1. All packages are selected from the software depot specified by using the -d option.

2. Dependency checking is performed on the target (selected) package or patch.

3. Dependencies are not checked when processing certain package formats that contain multiple entries (such as HP-UX bundles). This process is typically performed when these 'bundles' are created.

4. Use the –S (strict) option to ensure that all identified dependencies are included in the deployment. If required dependencies are not found in the software depot, an error message will be displayed and publishing will be terminated.

5. Using Interactive mode allows you to:

   - See all packages in the software depot available for selection
   - Review all dependencies found for a selected package or patch
   - Select / de-select dependencies. This allows the administrator who has knowledge of his target machines to tailor the deployment to fit his environment and needs. Some dependencies can be large, and rather than waste bandwidth and client processing, if not needed, it can be removed from the deployment.

Deployment

1. If the target package is already installed on the machine and is newer than the one to be deployed, no further processing is done, and the deployment is viewed as successful. However, since it was not deployed, it will not be removed when the service is deleted. NOTE: If back-leveling of the package is required, this behavior can be overridden by specifying the appropriate native command line option in the attribute INSTOPTS for HP-UX. This requires the use of the Systems Explorer.

2. If the target package already exists and is the same release level, it is first verified. If verification fails, it will be re-installed. Subsequent verify or delete processing would occur as usual.

3. During verify, only the target package is verified and not its dependencies.

4. After installation, the native package database is queried to make sure the target package was properly installed and registered in the database.

5. When installing an HP-UX (SD) patch, the method will first check to see if it has been superseded. If so, no further processing is performed, as it is regarded as obsolete.

6. During removal, the package is checked to make sure it exists (as it may have been upgraded or superseded). If it does not exist, no attempt to delete it is made, and the process is viewed as successful. Only the target package is deleted. Dependent packages are not deleted, as they may be required for other packages.

7. If the verify attribute (ZRSCVRFY) of the package instance is set to N, the source depot (file actually deployed from server) is deleted after a successful installation. If a subsequent verification of the installed target package fails, this file is again downloaded and used to repair the damaged package.

Event Reporting

The RNPEVENT object is used for reporting events to the Radia Configuration Server. Similar to the APPEVENT object, RNPEVENT uses the same variable set and is created if the Radia Administrator has enabled the reporting flags for a particular event in the EVENTS variable of the ZSERVICE class. The RNPEVENT variables are listed in the table below.

Table 15 RNPEVENT Variables

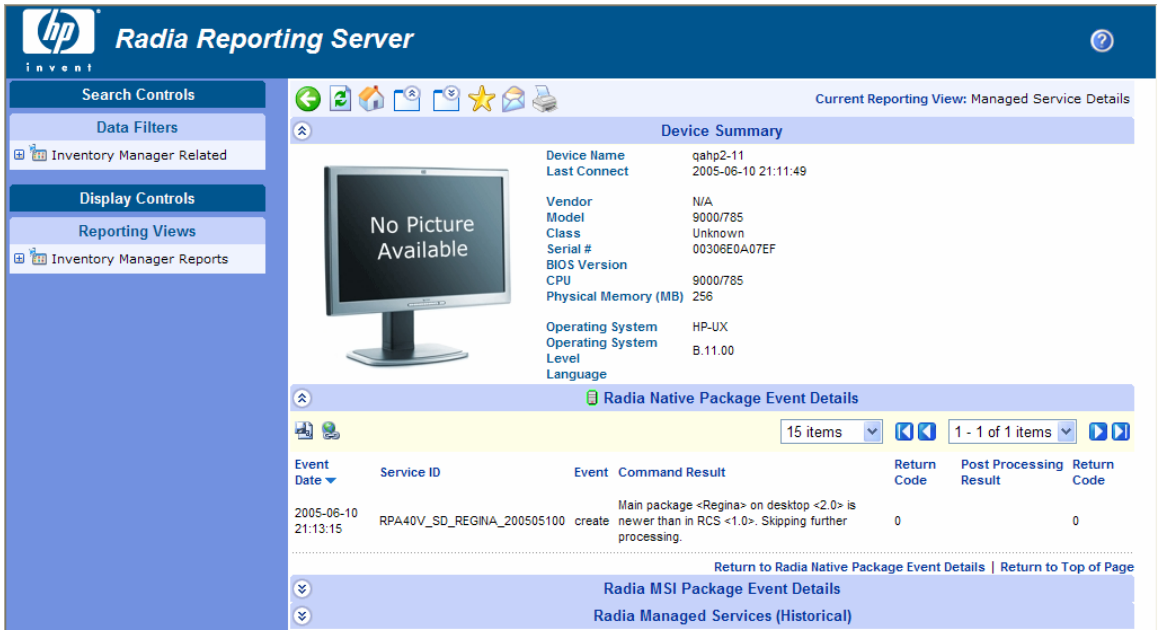
Variable	Description	Sample Value
EVENT	Text description of the current event.	create
STATUS	Error messages.	Successful
CMDRC	Return code from native command.	0
CMDMSG	Message from native command.	Main package <Regina> on desktop <2.0> is newer than in RCS <1.0>. Skipping further processing.
POSTRC	Return code from RNP post-processing check.	0
POSTMSG	Message from RNP post-processing check	Post installation is successful for gaim
ZOBJDOMN	The domain name for the application.	SOFTWARE
ZOBJCLAS	The class name for the application.	ZSERVICE
ZOBJNAME	The instance name for the application.	RPM_GAIM_200504123
ZOBJID	The objects id for the instance.	D123ACD45F67
ZUSERID	Radia user that installed the application.	RPMUSER_LINUX

Variable	Description	Sample Value
DELDATE	ISO8601 date time when the delete event occurred.	2005-05-10T16:45:00Z
VERDATE	ISO8601 date time when the verify event occurred.	2005-06-10T16:47:00Z
INSTDATE	ISO8601 date time when the install event occurred.	2005-07-10T16:44:00Z
FIXDATE	ISO8601 date time when the repair event occurred.	2005-08-10T16:43:00Z
UPGDATE	ISO8601 date time when the update event occurred.	2005-09-10T16:42:00Z
JOBID	Session identifier	MachineConnect
CJOBID	Session identifier	11122:3

Viewing Event Details

Use the Radia Reporting Server to view the details of your Radia Native Package Events. View the details of the Radia Managed Service, then select the Radia Native Package Events report. Refer to the Reporting Server guide for details on using the HP OpenView Reporting Server Using Radia.

Figure 1 Radia Native Package Event Details report



Summary

- Radia Native Packaging is a feature of the Publishing Adapter specifically designed for UNIX environments.
- Radia Native Packaging requires specific classes for each operating system.

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