Software Content Repository Tool 6.1 Guide

Software Content Repository Tool 6.1

vRealize Configuration Manager 5.8.1

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About This Book

The *VMware vRealize Configuration Manager Software Content Repository Tool Guide* provides information about the following topics.

- Preparing the host machine for components and tools.

- Installing and configure components and tools.

- Using the tool to download patch content.

- Troubleshooting errors that might occur.

Intended Audience

This document contains information intended for system administrators who must patch machines in their network.

To use this information effectively, you must have a basic understanding of how to configure network resources. You also must fully understand your network's topology and resource naming conventions.

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Introduction to the Software Content Repository Tool 1

The Software Content Repository (SCR) Tool is a standalone Java client software application that builds a repository of Linux and UNIX patches and downloads operating system (OS) vendor patch content to the repository.

The SCR Tool downloads patch content from vendor Web sites, which you use to patch Linux and UNIX machines. These files include patch signature files (`.pls`), and OS vendor patch content files (`.rpm`, `.gz`, `.tar`, `.zip`) used in the patching background processes. Deployment package files (`.plp`) are included and used for patch deployment on Mac OS X. The `.plp` files contain the vendor patch, which is extracted based on the properties file settings.

You run the SCR Tool on a Red Hat machine and use the VCM Patching functionality in VMware vRealize Configuration Manager (VCM) to deploy patches to the VCM managed machines.

To ensure that all patch dependencies are met when VCM deploys the patches, the SCR Tool downloads all of the necessary patches, except for patches that have been superseded. VCM Patching handles all the dependencies when the patches are deployed. If the patch was available when the SCR Tool was installed and configured, the patch downloads. If the patch was not available when the SCR Tool was last run, the patch will not be available. If the patch is still available from the OS vendor, it will be available for download using the SCR Tool patch replication process.

The SCR Tool is not used to run patch assessments or deployments. The SCR Tool also does not assess the machine configuration or the downloaded patch content that is used for patch deployment.

The SCR Tool downloads the patch signature files and OS-vendor patch content from the Content Download Network (CDN), and downloads subscription-only content from the OS Vendor Content Web sites. The patches must be accessible to the VCM managed machines through an NFS mount to the repository on the machine that hosts the SCR Tool. For a diagram of the components and workflow, see .

Figure 1–1. How to Download Patches with the SCR Tool
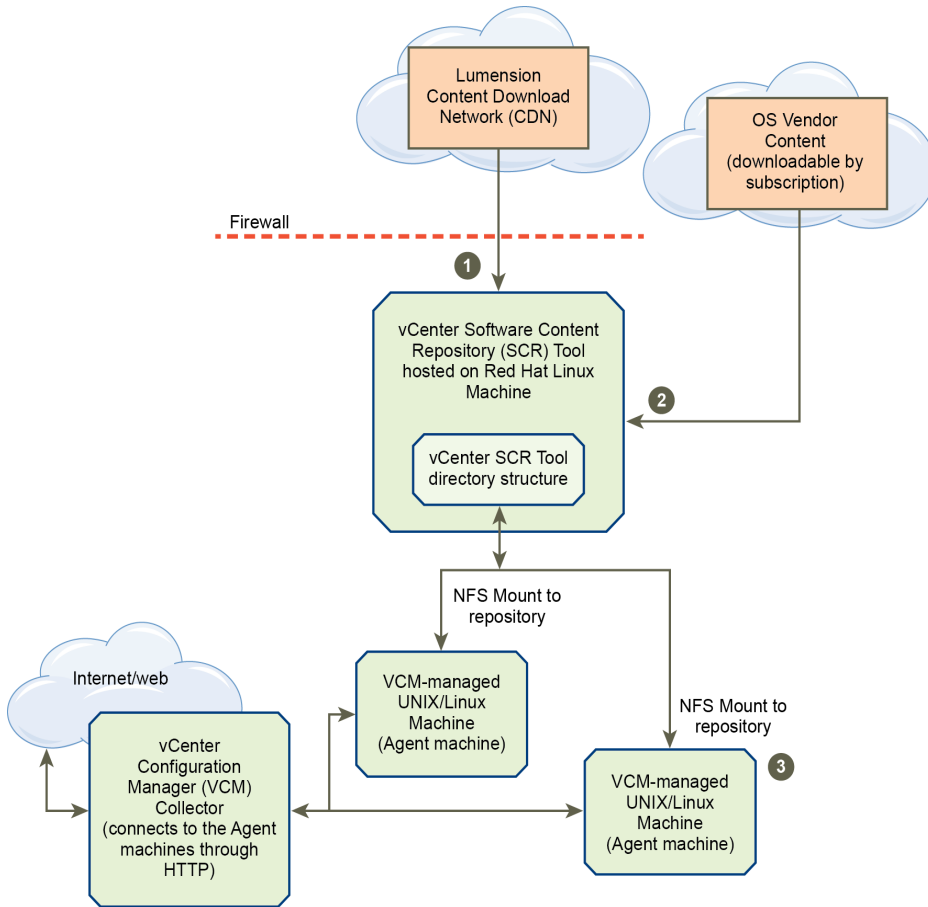
After you download patches from the vendor Web site, you must use VCM to assess your Linux and UNIX machines and deploy the patches using the machine group mapping in VCM Patching. For information about assessments, see the *VCM Administration Guide* and the VCM online Help.

Preparing for SCR Tool Installation

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Before you install the SCR Tool, you must complete several prerequisite tasks.

This chapter includes the following topics:

Installing the VCM Agent on the Linux and UNIX Machines to be Managed

VCM managed machines use an NFS mount to connect to the host machine where the SCR Tool is installed, to obtain the Linux and UNIX patches for deployment to the managed machines. After the managed machines obtain the patches, VCM can deploy the patches to those managed machines.

The following VCM managed machines can connect to the SCR Tool host machine.

- AIX
- CentOS
- HP-UX
- Mac OS X
- Oracle Enterprise Linux (OEL)
- Red Hat
- Solaris
- SUSE

Verify that the Linux and UNIX machines to be managed by VCM meet the system requirements. See the *VCM Installation Guide*. Then review the VCM Agent installation procedures and install the VCM Agent on the platform as described in the *VCM Administration Guide*

Selecting and Preparing the Host Machine

Install the SCR Tool on supported host machines. After the host machine meets all of the requirements, it can run as a guest in a virtualized environment.

You can install the SCR Tool on a 64-bit Red Hat Enterprise Linux Server machine running version 6.0.

You can also install the SCR Tool on a 64-bit Red Hat Enterprise Linux Server machine running version 7.0.

IMPORTANT   Use the host machine exclusively to run the SCR Tool and serve as the patch repository.

To download content for each supported platform for patch deployment, the minimum recommended storage is 950 GB.

Table 2–1. Estimated Host Support for Patch Storage on Platforms

Supported Platform	Minimum Storage Required for Patch Content Files and Payload
AIX	130 GB
CentOS	80 GB
HP-UX	15 GB
Mac OS X	210 GB
Oracle Enterprise Linux (OEL)	80 GB
Red Hat	80 GB
Solaris	325 GB
SUSE	75 GB

Prerequisite

■ If you install the SCR Tool on a 64-bit Red Hat machine, verify that 64-bit Java is installed. If it is not installed, you must install it.

Procedure

1. Select a 64-bit Red Hat Enterprise Linux Server machine to use as the host machine for the SCR Tool.

2. Remove any non-Oracle Java versions.

3. Verify that the host machine has Internet access.

4. Verify that the host machine has adequate storage to download the patch content for each platform to support patch deployment to all of the machines.

5. Verify that the host machine has Oracle Java Runtime Environment (JRE) version 1.6 or later, 64-bit only, installed.

6. Ensure that your `JAVA_HOME` and `PATH` environments are set to the correct Java instance.

   For example:

   ```
   export PATH=/usr/java/jdk1.6.0_
   24/jre/bin:/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin

   export JAVA_HOME=/usr/java/jdk1.6.0_24/jre
   ```

7. Verify that the SCR Tool host machine has Oracle Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files corresponding to the JRE version installed.

   The JCE is required for the encryption of credentials to the OS vendor sites.

8. If you download Red Hat content, verify that the Red Hat Network (RHN) Management and Update entitlements are available and associated with the credentials so that SCR can download the RHN content.

9. Verify that the SCR Tool host machine has sufficient memory for the replicated files.

    Linux files require up to 2 GB of memory. All other machines require 1 GB by default.

10. Allow additional memory for the overhead of host OS operations, which vary depending on your environment.

What to do next

■ As your patch content increases because of downloads and storing patch content files and payload, you must monitor the available disk space on the SCR Tool host machine to avoid disk space problems. The patch content grows over time as vendors release new patches and content.

■ Verify that the Linux and UNIX machines to be managed by VCM meet the system requirements. See the *VCM Installation Guide*.

Establish User Credentials

To download OS-vendor subscription-only content for AIX, HP-UX, Red Hat, Solaris, and SUSE machines, you must establish user credentials to the OS vendor sites.

Procedure

1. Contact the vendor to obtain a subscription to the patch content.

2. Establish your login and password to the vendor site.

Place Trusted Certificates in the Key Store

The Software Content Repository (SCR) Tool requires authentication to the HP-UX Software Assistant Web site. For the SCR Tool to download recommended patches, and before you use VCM to deploy patches to HP-UX managed machines, you must follow the HP recommendation to install the trusted certificate to the key store.

The HP-UX Software Assistant site checks certificates to ensure a secure connection, and validates authentication by using a trusted certificate. If you do not install the trusted certificate, the HP-UX service authentication fails, which causes the patch download to fail.

To install intermediate certificates for Software Assistant, see http://kb.vmware.com/kb/2051577.

Verifying Access to External Sites

Depending on the supported platform, the SCR Tool must have access to vendor sites from which to download patches and payloads.

For sites that are hosted by Akamai, use the URL instead of the resolved IP address. Sites hosted by Akamai might change IP addresses based on location.

The following sites are hosted by Akamai.

```
http://configuresoft.cdn.lumension.com/configuresoft
http://novell.cdn.lumension.com/
https://a248.e.akamai.net/f/60/59258/2d/
```

Table 2–2. Access from SCR Tool to External Sites

Platform	SCR Tool must Access

All platforms	`http://configuresoft.cdn.lumension.com/configuresoft`
	`http://novell.cdn.lumension.com/`
	`https://a248.e.akamai.net/f/60/59258/2d/`
	`http://vmware.cdn.lumension.com/`

AIX	`http://www7b.software.ibm.com/`

CentOS	`http://vault.centos.org`
	You can also use the mirrors returned from the Web service at:
	`http://mirrorlist.centos.org`

HP-UX	`https://itrc.hp.com/service/` `https://ftp.itrc.hp.com/wpsl`
Mac OS X	`http://vmware.cdn.lumension.com/`
Oracle Enterprise Linux (OEL)	`http://public-yum.oracle.com`
Red Hat	`http://xmlrpc.rhn.redhat.com/XMLRPC`
Solaris	`https://getupdates.oracle.com/`
SUSE	`https://you.novell.com/update/` `https://nu.novell.com/repo/$RCE/`

Installing the Prerequisite Software for the SCR Tool

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The SCR Tool uses several types of software. You must install and test the required software on a supported host machine, then you install the Software Content Repository Tool on the host machine.

This chapter includes the following topics:

To support the downloads and storing the patch files and payload, and patch deployment, you must install and test the following software.

- SCR Tool software

- Java Runtime Environment

- (Optional) Java Cryptography Extension

Install the SCR Tool Software

After you install the supporting software, you can install the Software Content Repository Tool software on the host machine.

Prerequisites

- Complete the preparatory tasks. See "Preparing for SCR Tool Installation" on page 9.

Procedure

1. Access the Download VMware vRealize Configuration Manager Web site at http://downloads.vmware.com.

2. Click VMware vRealize Configuration Manager.

3. Click the **Drivers & Tools** tab.

4. Click **VMware vRealize Configuration Manager - Tools** for 5.8 or later.

5. In the Components section, click **Show Details** and verify that the version of the SCR Tool is 6.1.

6. Click **Download**.

7. Unzip the SCR Tool files from `SCR-vmware-6.1.21.tar.gz` to the directory where the application files will reside on the host machine.

After you extract the SCR Tool files, a root directory contains the subdirectories and files for the supported Linux and UNIX platforms. This information refers to the root directory as *scr_root*.

Download the Java Runtime Environment

You download the Java Runtime Environment (JRE) to support the SCR Tool on the host machine.

Prerequisites

- Verify that you can access http://www.java.com.

Procedure

1. Access the Java Web site.
2. Click **Downloads**.
3. Locate and install Java Runtime Environment (JRE) version 1.6 or later.
4. Use the platform-specific link to display detailed installation instructions for your platform.

Test the Java Runtime Environment Installation

To verify that the Java Runtime Environment installation on the Red Hat host machine works properly, you can test it.

Prerequisites

- Locate the article titled, "How do I test whether Java is working on my computer?" at http://www.java.com.

Procedure

1. Verify that the JRE is installed.
2. (Optional) Display the currently installed version of Java.
   a. Open a terminal session on the SCR Tool host machine.
   b. Run the command `java -version`.

Download the Java Cryptography Extension

The Java Cryptography Extension (JCE) is required for AIX, HP-UX, Red Hat, Solaris, and SUSE. You must download and install the JCE installation on the SCR Tool host machine. The JCE encrypts passwords when you use third party credentials in the properties files used to download patch content.

IMPORTANT If multiple Java SE (Standard Edition) Development Kit (JDK) or JRE installations exist on the same machine, make sure that you update the correct JDK or JRE instance.

Prerequisites

- Locate the Java SE downloads page at http://www.oracle.com.

Procedure

1. Locate and download the Java Cryptography Extension.

   If the download page does not detect your Java version, manually locate the correct JCE package.

2. In the JCE zip file, locate the `README.txt` file.

3. Follow the instructions in the `README.txt` file to install the JCE on the SCR Tool host machine.

Configuring the Red Hat Host Machine 4

Configuring the Red Hat machine to host the SCR Tool includes reviewing the directory structure, granting permission to the patch repository, updating the properties file, connecting the VCM managed machines to the SCR Tool, and setting the logging levels and output file names.

This chapter includes the following topics:

Review the Directory Structure

Subdirectories are created and organized based on platform type and payload. Verify that the subdirectories exist in the SCR Tool root directory.

Because running the replications is based on relative paths under the root directory, you can modify the root directory name.

To determine which `.pls` files to use for patch assessments, the SCR Tool processes the file named `VMware58.xml`, which contains the `.lst` files used in the assessments.

IMPORTANT   Do not delete the patch signature (`.pls`) files, because they confirm whether the patches are available. Patch signature files are stored in the platform subdirectories defined by the property parameter *SCR_output_folder*.

The SCR Tool downloads patch content based on your established schedule.

Prerequisites

- After the SCR Tool downloads the content from the Content Download Network (CDN), verify that the individual payload directories contain the patch content.

Procedure

1. Open the SCR Tool root directory.

   This is the directory where you unzipped the `.tar.gz` file.

2. Verify that the `.pls` files are stored in the subdirectories for each platform.

   The subdirectories include `./aix`, `./centos-nca-*`, `./hpux`, `./oracle-nca-*`, `./osx`, `./redhat-nca`, `./solaris`, and `./suse-nca`.

   The `platform`-nca directories indicate new content architecture directories that have alternative locations.

3. In the `payload` directory, verify that the subdirectories contain the platform vendor patch files and the `.plp` files.

   The new content architecture places some patches in alternative locations.

Patches	Location
CENTOS	`CentOS/rpm`
OracleLINUX	`Oracle/rpm`
Red Hat 5,6	`RedHat/getPackage/`
Red Hat 7	`RedHat/rpm/`
SUSE	`SUSE/rpm/`

4. In the payload directory, verify that the Mac OS X payload folders contain only `.plp` files, which embed the vendor patches.

   If `extractOSX=true` is defined in the properties file for Mac OS X, the physical vendor patch appears.

Grant Permission to the Repository

The host machine must have execute permission for all of the repository application files to access and update the properties files. To grant this permission, you run a command on the host machine.

Procedure

1. Go to the `scr_root` directory on the host machine.

2. Open a terminal session.

3. Change directories to the SCR root directory.

4. To change the mode, run the `chmod -R a+x **/*` command.

5. Change the working directory to `scr_root`/bin.

Update the Properties Files

User credentials and environment settings are stored in the properties files that the SCR Tool uses to download the patch content for each supported platform. The download process uses the properties files to determine how to replicate the patch content on the SCR Tool host machine for each platform.

The format for the properties file names is `platform`-rt.properties.

Each downloaded replication file requires between 512 MB of RAM (minimum) and 2 GB (maximum).

For Red Hat: If files differ between a Red Hat client and a Red Hat server, such as x86 versus x64, you must generate a separate *scr_root*/conf/.properties file for each.

Prerequisites

- Review the properties file parameters in preparation to update the properties files. See "Properties File Parameters" on page 20.

- For Red Hat: When files differ between a Red Hat client, a Red Hat server, and architectures, such as x86 and x64 versions, you must generate individual properties files for the client, server, and each architecture in the SCR root directory. For example: *scr_root*/conf/*RedHat_version_or_arch*.properties.

Procedure

1. Access the directory named *scr_root*/conf and locate the Linux and UNIX properties files.

Platform	Properties File Name
AIX	*scr_root*/conf/aix-rt.properties
CentOS	*scr_root*/conf/centos-rt.properties
HP-UX	*scr_root*/conf/hp-rt.properties
Mac OS X	*scr_root*/conf/osx-rt.properties
Oracle Enterprise Linux (OEL)	*scr_root*/conf/oracle-rt.properties
Red Hat	*scr_root*/conf/redhat-rt.properties
Solaris	*scr_root*/conf/solaris-rt.properties
SUSE	*scr_root*/conf/suse-rt.properties

2. Create an encrypted password.

   a. At the *scr_root*/bin directory prompt, type # ./lumension_encryptor_tool.sh.

   The encryptor tool returns the string, "MyPassword".

   b. Enter your password twice, and ignore any strings returned by the encryptor tool.

   c. When the encryptor tool returns the encrypted password string, open the *scr_root*/conf/*platform*-rt.properties file and copy the string into the encrypted password field.

   The entries appear as follows.

   pwd=*encryption_string*

   user=*user_name*

What to do next

- Update the properties file parameters for the platforms to patch. See "Properties File Parameters" on page 20.

- To automate a process to run the scripts using OS schedulers, such as cron or at, see "Managing Patch Content with the SCR Tool" on page 29.

Properties File Parameters

You can use the properties file parameters to customize the download process that replicates the patch content on the SCR Tool host machine.

The following parameters are available.

platform

The `platform` parameter specifies the type of patch content to download.

```
platform=platform_name
```

arch

The `arch` parameter must include one or more valid architecture strings for the specified platform. Multiple values must be comma separated without spaces.

```
arch=arch_type1,arch_type2,...
```

dist

```
dist=distribution_name
```

For Red Hat and SUSE platforms, the `dist` parameter is required. Multiple values must be comma separated without spaces.

Table 4–1. Property Parameters for Platforms, Distributions, and Architecture

platform	dist	arch
AIX		POWERPC
LINUX	CENTOS	X86, X86_64
HP_UX		PA_RISC, ITANIUM
LINUX	ORACLE	X86, X86_64
OSX		X86, PPC
LINUX	REDHAT	X86, X86_64
LINUX	SUSE	X86, X86_64
SOLARIS		X86, SPARC

folder

Defines the root folder where the SCR Tool output is stored. By default, this folder is `/tmp/SCR/download`.

```
folder=SCR_output_folder
```

The SCR Tool creates the subdirectory tree under the root output folder.

- The platform architecture directory `SCR_output_folder/platform/architecture` contains the `.pls` files.

- The payload platform architecture directory `SCR_output_folder/payload/platform/architecture` contains the patch content files, such as `.plp`, `.zip`, `.rpm`, `.htm`, and `.jar` files.

keyfile

```
keyfile=string
```

Do not modify.

key

```
key=string
```

Do not modify.

index

```
index=VMware58.xml
```

Do not modify.

program

```
program="."
```

Do not modify.

extractOSX

For the Mac OS X platform only. If the value is true, PLP files for the Mac OS X content are extracted.

When run, this parameter specifies to extract the embedded `.dmg` vendor patch files from the corresponding `.plp` files. When used with any other platform, this parameter has no effect.

```
extractOSX=true or false
```

thirdparty

Set the value to true to support third party downloads for CentOS, Oracle Linux, Red Hat, Solaris, and SUSE.

```
thirdparty=true or false
```

The SCR Tool first attempts to download payload from Lumension's CDN. If the patch is not found in the CDN, the SCR Tool downloads it from the vendor Web site, such as Red Hat, SUSE, or Solaris, using the credentials provided in `user` and `pwd`.

user

User ID for third party vendor downloads, such as Solaris or HP UX.

```
user=string
```

pwd

Encrypted password for the third party vendor downloads. This password is generated using the `lumension_encryptor_tool.sh` script.

```
pwd=string
```

configlog

This parameter specifies an output file, which contains a list of parameters and values. These values reflect the parameter configuration used during the last or current execution of the SCR Tool, and can be used to troubleshoot problems.

```
configlog=config_log_file_path/filename.log
```

checkPayload

```
checkPayload=true or false
```

Enables the SCR Tool to audit and verify payload content for `.pls` files. If the `.pls` files do not match the `.pls` or `.plp` files, this option causes the SCR Tool to download or replace the payload files.

This parameter defaults to false if not included in the properties file or not explicitly set to true. The value is set to true by default in each properties file.

- If the value is true, the SCR Tool validates every payload file for every `.pls` file, whether it is new, modified, or unchanged.

- If the value is false, or not provided, the SCR Tool downloads and loops through each new or modified `.pls` file. The process downloads any payload data, which includes `.plp` files and vendor patch files that correspond to each downloaded `.pls` file.

dependencyCheck

Turns off dependent RPM download for Linux platforms.

```
dependencyCheck=true or false
```

When the value is true, the SCR Tool downloads all of the dependent RPMs recursively. During the initial replication, which is performance intensive, this process downloads each package and dependencies.

When the value is false, the SCR Tool downloads only the RPMs declared in the OS vendor errata. This process might cause the SCR Tool to miss some dependent packages during the replication from the OS vendor. This option is the default value.

channels

Specifies the channels of content to download so that you can manage content according to environment needs. Multiple values must be comma separated without spaces.

```
channels=channel1,channel2,...
```

For example, for Red Hat: `channels=es-4,server-5`

By default, excluding this switch enables all channels. By adding this switch, you can limit the duplication of content during the download by specifying only the patches or packages that apply to your environment. Duplicate content primarily affects Linux distributions.

Table 4–2. Property File Channels

Platform	Channel
AIX	6_1
	7_1
	technologylevel_aix61
	technologylevel_aix71
CentOS	cent5, cent6, cent7
HP-UX	11_11
	11_23
	11_31

Platform	Channel
Oracle Enterprise Linux (OEL)	orae5, orae6, orae7
OSX	10_6
	10_7
	10_8
	applications
Red Hat	client-5
	server-5
	workstation-6
	server-6
	client-7
	workstation-7
	server-7
Solaris	sol10
SUSE	SLES10-Updates
	SLES10-SP1
	SLES10-SP2
	SLES10-SP3
	SLES10-SP4
	SLES11-Updates
	SLES12-Updates
	SLES11-SP1
	SLES11-SP2
	SLES11-SP3

downloadPayload

If the value is true, all patches are downloaded. If the value is false, only the patches with UIDs that are included in the cache request folder are downloaded. If the value is false and there is no cache request XML, the content is processed but no patches are downloaded.

```
downloadPayload=true or false
```

cacheRequestFolder

```
cacheRequestFolder=path/CacheRequest.xml
```

The cache request XML file is used to limit the downloaded patches to only those for which you obtain UIDs from the ecm_sysdat_patch_pls table in the VCM database.

Extract the .pls UIDs from the database and create an XML file similar to the one below, then update the cacheRequestFolder path to the file location.

To obtain the UID of a patch, run the following command where the name is required to find the patch for the architecture and version, and the identifier is the name of the bulletin to download the patch using the UID. In this example, the identifier value is RHBA-2007:0622-02.

```
select name, [uid]
```

```
from ecm_sysdat_patch_pls

where identifier = 'RHBA-2007:0622-02'
```

To include the prerequisites for the patch, use the following queries.

```
select name, [uid],prerequisite_uids

from ecm_sysdat_patch_pls

where identifier = 'RHBA-2007:0622-02'
```

To include the prerequisites for the prerequisite patches, use the following query where {13A7294C-2D7C-4CA2-AD7D-10592D79C9B9} is a prerequisite for RHBA-2007:0622-02.

```
select name, prerequisite_uids

from ecm_sysdat_patch_pls

where [uid] = '{13A7294C-2D7C-4CA2-AD7D-10592D79C9B9}'
```

Here is a sample cache request file.

```
<CacheRequests>

<Request>

<PatchID type="UID">

{8E4D5C21-51A6-43B0-AA63-DBB5B51DD9D2}

</PatchID>

</Request>

<Request>

<PatchID type="UID">

{DD1A967A-CB04-4C30-A18F-6C46A5568019}

</PatchID>

</Request>

<Request>

<PatchID type="UID">

{E3A8AF68-58EA-4B71-B6E2-173230C3EF64}

</PatchID>

</Request>

</CacheRequests>
```

proxyServer

Proxy server IP address.

```
proxyServer=IP_address
```

proxyPort

Proxy server port.

```
proxyPort=port_number
```

proxyUser

User ID for proxy server authentication.

```
proxyUser=string
```

proxyPwd

Encrypted password for the proxy server. This password is generated using the `lumension_encryptor_tool.sh` script.

```
proxyPwd=string
```

tmpDir

Temporary working directory that the AIX patch replication script uses to download and create `.tar.gz` files. Although the AIX patches are comprised of files, the SCR Tool and VCM depend on the `.tar.gz` files for patch deployment. The patch replication process downloads individual files into `/tmpDir`, which are compressed into a `.tar.gz` file that VCM uses for bulletin information in the deployment script. The user who runs the SCR Tool must have read and write permissions to this directory.

```
tmpDir=/tmp/
```

Certificate

The file containing your RedHat entitlement certificate. This file is created in `/etc/pki/entitlement` by subscription-manager when you attach a subscription to your registered RedHat system. The filename of the certificate varies but is always in the form `XXXXXXXXXXXXXXXXXXX.pem` where X is a decimal digit. If there are multiple certificates in this location, you can view their contents with OpenSSL by running `openssl x509 -in cert-file.pem -noout-text`, substituting the actual filename of your certificate.

If you attempt to download RedHat 7 RPMs without setting a certificate, the following error message appears

```
java.lang.IllegalArgumentException: certificate cannot be null or not a file
```

For example

```
certificate=/etc/pki/entitlement/5280746408908734973.pem

privateKey=/etc/pki/entitlement/5280746408908734973-key.pem
```

The following command is used to register RHEL7 with Red Hat Subscription Management:

```
subscription-manager register --username <User_Name> --password <Pass_Word> -
-auto-attach
```

sles12User

sles12User=SCC_ba7……db1

sles12Pwd

sles12Pwd=167…..871

SuSE12 specification

sles12User and **sles12 Pwd** parameters are required for SLES12 platform.

1. New credentials are now needed to access SUSE12 content and is through subscription management at https://scc.suse.com, the SUSE Customer Center (SCC).

   a. Create an account if you do not have one created.

   b. Purchase the appropriate subscription (SUSE Enterprise Desktop or Server) from https://www.suse.com/shop/.

   Note: SCC processes new subscription purchases usually within a few days.

   c. Register any one SUSE12 host(s) from the host or VM through SUSE Customer Center Configuration application under YaST Administration Settings. The SCR repository host registration is not mandatory for SCR executions.

2. Enter subscription credentials in the SCR repository machine at ../conf/suse-rt.properties for **sles12User** or **sles12Pwd** properties.

For example, new Suse-rt.properties:

```
...
#SUSE12 Customer Center (SCC) Credentials
sles12User=SCC_ba7……db1
sles12Pwd=167…..871
```

Once you register the SLES12 Hosts to SCC , SCCcredentails file is created under `/etc/zypp/credentials.d/SCCcredentials`. Enter appropriate values for **sles12User** and **sles12Pwd** available at `/etc/zypp/credentials.d/SCCcredentials.`

Connect the VCM Managed Machines to the SCR Tool

To establish communication between the managed machines and the host machine, connect the VCM managed machines to the SCR Tool.

Procedure

Connect the managed machines to the SCR Tool. You must take this action for each platform type.

- Create a mount point to the respective platform directory on the SCR Tool machine that contains the patch payload for the platform.

- Use a remote command to mount the VCM managed machine at the time of patch deployment.

- Use a remote command to FTP the files to the managed machine when the patches are deployed.

Set Logging Levels and Output File Names

The SCR Tool provides flexible logging settings and properties to customize your logging levels.

The logging levels and output file names reside in the individual `<platform>-rt.properties` file for each platform type.

Table 4–3. Property Files with Logging Levels and Output File Names

Platform	Properties File Name
AIX	*scr_root*/conf/aix-rt.properties
CentOS	*scr_root*/conf/centos-rt.properties

Platform	Properties File Name
HP-UX	*scr_root*/conf/hp-rt.properties
Mac OS X	*scr_root*/conf/osx-rt.properties
Oracle Enterprise Linux (OEL)	*scr_root*/conf/oracle-rt.properties
Red Hat	*scr_root*/conf/redhat-rt.properties
Solaris	*scr_root*/conf/solaris-rt.properties
SUSE	*scr_root*/conf/suse-rt.properties

You can set the custom logging levels and output file names in these properties files for each run of the SCR Tool. You can use specific logging parameters for each specific patch distribution.

Procedure

1. Locate and open an individual *<platform>*-rt.properties file.

2. Set the following properties to the required level of logging.

   java.util.logging.FileHandler.level

   java.util.logging.ConsoleHandler.level

   com.lumension.level

   By default, all scripts log data to the same file name pattern at the INFO logging level. The logging values include several levels.

   - SEVERE

   - WARNING (valid, but not used)

   - INFO (recommended for production)

   - CONFIG (valid, but not used)

   - FINE (debug)

   - FINER (debug)

   - FINEST (debug)

3. To customize log file names, change the output java.util.logging.FileHandler.pattern=*path* parameter.

a. Verify that the `java.util.logging.FileHandler.pattern=`*`path`* entry includes the path.

For example: `../logs/scr-messages-rh-%g.log`

b. To generate distinct file names, use special substitution variables.

Variable	Description
/	Local path name separator.
%t	System temporary directory.
%h	Value of the `user.home` system property.
%g	Generated number to distinguish rotated logs.
%u	Unique number to resolve conflicts.
%%	Translates to a single percent sign `%`.

4. To select where the log stream is written, change the `handlers=`*`handler_name`* property.

Valid values are written to the file handler log file or the console handler stderr output.

Option	Description
`java.util.logging.FileHandler`	If you use this handler, the SCR Tool generates logs in the file specified in the `<platform>-rt.properties` file.
`java.util.logging.ConsoleHandler`	If you use this handler, the SCR Tool generates logs in the console.

5. To increase or decrease the number of bytes written to the log files before a new log is started, update the `java.util.logging.FileHandler.limit=`*`bytes`* value.

6. To set the maximum number of log files to retain before overwriting the oldest, update the `java.util.logging.FileHandler.count=`*`log_file_count`* value.

7. To append logging entries to the last used log file, configure `java.util.logging.FileHandler.append=true`.

If the value is false, the SCR Tool writes to a new log file.

Managing Patch Content with the SCR Tool 5

The SCR Tool downloads patch content files from the Content Download Network (CDN), which is managed by Akamai, the hosted content service provider. The SCR Tool obtains any additional patches from the AIX (IBM), CentOS, HP-UX, Mac OS X, Oracle Enterprise Linux (OEL), Red Hat, SUSE, and Solaris vendor Web sites, and saves those patches in your defined directories.

The SCR Tool performs delta downloads. After the first download, successive downloads retrieve only the differences in patch content that occurred since the last download. When the files download, the patch source, CDN, vendor, and other information is written to the log files.

IMPORTANT Do not delete the patch signature (`.pls`) files, because they confirm whether the patches are available. Patch signature files are stored in the platform subdirectories defined by the property parameter *SCR_output_folder*.

This chapter includes the following topics:

Download the Patch Content

You download patch content to the SCR Tool machine so that you can deploy the patches to the supported VCM managed machines.

Prerequisites

- If you run multiple replication processes simultaneously on a single SCR Tool host machine, verify that the host machine has sufficient memory to support each process. Insufficient memory might cause errors.

Procedure

1. To specify a schedule to run the shell commands, use a `crontab` command to run the updated properties files.

2. From the directory defined as *SCR_output_folder*, open a terminal session.

3. Run the following commands to interactively track the progress of the download.

   ```
   date; df -k ; du -k | grep -i Vendor_Name
   ```

When the patch download process is finished, use VCM to patch the Linux and UNIX managed machines.

Schedule Downloads

You can use OS schedulers, such as `cron` or `at`, to automate the process to replicate the patches. Automating the patch replication process is preferable, because the download process might require you to run the startup file more than once to retrieve all of the content for a particular vendor.

The SCR Tool does not provide embedded scheduling. If you connect multiple platforms to the same repository, you must schedule the startup script to run separately for each platform.

Prerequisites

- Complete at least one replication for each operating system before you add the startup script to a scheduling service. The initial replication might take longer than one day for each operating system.

Procedure

1. On the SCR Tool machine, go to the *scr_root*/bin directory.

2. Create a file that contains a list of all platforms for which you have a content subscription.

3. Comment out the platforms that are not necessary or for which you do not have a subscription, and save the file.

4. Use the following command to create a file to schedule the replication download.

   ```
   vim start_all_nix_replication.sh
   ```

5. To replicate all platforms, add the following content to the file, omit entries for unused platforms, and save the file.

   ```
   #!/bin/sh
   echo Running startup.sh aix-rt
   ./startup.sh aix-rt
   echo Running startup.sh centos-rt
   ./startup.sh centos-rt
   echo Running startup.sh hp-rt
   ./startup.sh hp-rt
   echo Running startup.sh oracle-rt
   ./startup.sh oracle-rt
   echo Running startup.sh osx-rt
   ./startup.sh osx-rt
   echo Running startup.sh redhat-rt
   ./startup.sh redhat-rt
   echo Running startup.sh solaris-rt
   ./startup.sh solaris-rt
   echo Running startup.sh suse-rt
   ./startup.sh suse-rt
   ```

6. Set the mode of the script to executable.

   ```
   chmod +x start_all_nix_replication.sh.
   ```

7. Change directory to `/etc/cron.daily`.

8. Use the following command to create a new file.

   ```
   vim SCR
   ```

9. Add the following content to the file to begin the patch replication process, and save the file.

   ```
   #!/bin/sh
   cd scr_root/bin
   echo "### Get all new unix content"
   ./start_all_nix_replication.sh
   ```

10. Set the mode of the file to executable.

    ```
    chmod +x SCR
    ```

The script runs daily and synchronizes your patch content.

Maintain the Software Content Repository

You can monitor the log files and activities to maintain the patch repository and its performance.

Prerequisite

- Before you run or schedule patch content downloads, verify that the SCR Tool host machine has adequate disk space available. See "Selecting and Preparing the Host Machine" on page 9.

Procedure

1. Monitor the size of the log files.

   - If you specified a rotation in the log file properties, the log file content does not require cleanup.

   - If you did not specify a rotation, you must clean up the log file content so that it does not consume unnecessary amounts of memory.

2. Review the activities logged in the platform specific property files named `<platform>-rt.properties`.

Troubleshooting the SCR Tool 6

The SCR Tool troubleshooting information provides procedures to diagnose and fix problems that you might encounter when you use the SCR Tool or download patch content.

This chapter includes the following topics:

Out of Memory Error

Insufficient memory on the SCR Tool host machine might cause the SCR Tool to report that the system is out of memory.

Problem

The SCR Tool reports the error OutofMemoryErrorChange.

Cause

If you run multiple batch files simultaneously on a single SCR Tool host machine, the machine might not have sufficient RAM to support each process.

Solution

Verify that the SCR Tool host machine has enough memory to run the patch replications, or run fewer concurrent replications. Each patch replication is configured to require between 512 MB of RAM minimum and 2 GB maximum.

Content Download Network Connection Error

The connection between the SCR Tool and the Content Download Network (CDN) might disconnect occasionally.

Problem

The SCR Tool cannot connect to the CDN.

Cause

The SCR Tool host machine cannot connect to the Internet.

Solution

1. Verify that the SCR Tool host machine can connect to the Internet.

2. Ping the address of the CDN server, which is contained in the logs.

3. If the ping to the server is not successful, determine whether a host resolution problem exists, or determine if blocks exist in your firewall, then take the appropriate action to resolve the problem.

Cannot Connect to Red Hat Account

When account information changes for Red Hat, you must resynchronize the Software Content Repository Tool with the Red Hat repository and update the startup script to use the new account information.

Problem

The SCR Tool connection to the Red Hat repository fails.

Cause

Red Hat account information changed.

Solution

Synchronize the SCR Tool with the Red Hat repository.

1. Select the SCR Tool output folder and delete all of the `SystemId*.xml` files.

   For example:

   ```
   cd PatchRepo/Repos/unix
   ```

   ```
   rm SystemId*.xml
   ```

   The path to the `unix` folder is located in the properties file, and is defined using the `folder=value` parameter. For example: `folder=/PatchRepo/Repos`.

2. Log in to your Red Hat network content download site.

3. Locate any systems that were created by the SCR Tool whose names begin with `redhat-nca*`, and

delete them.

4. On the SCR Tool host machine, from the `scr_root`/conf directory, open the properties file and verify that it is updated with the new username and encrypted password.

5. Run the replication process again.

Session Login to Red Hat Fails

An incorrect entry in the Red Hat `.properties` file causes the session login from the Software Content Repository (SCR) Tool to fail.

Problem

When you attempt a patch download from the Red Hat vendor site, the following error occurs.

```
SEVERE: Failed to establish login session with RHN
```

Cause

The `unix` directory is defined in the `folder` property file parameter in your `RedHat`-rt.properties file.

If all entitlements are exhausted, the SCR Tool reports similar errors and additional log messages.

Solution

The property file parameter of `folder` defines the root folder to store the SCR Tool output.

1. Open the `RedHat`-rt.properties file and remove the `unix` directory from the defined `folder` property, and save the file.

   The entry in the properties file resembles: folder=`SCR_output_folder`

2. Verify that the user defined in the `RedHat`-rt.properties file is not a shared user account that is used on multiple managed machines or by many individuals.

   The entry in the properties file resembles: user=string

3. Verify that the SCR Tool host machine is not using native OS tools to update the operating system.

Download from Red Hat Fails

If you change or delete source machine information at Red Hat Network, patch download fails until you reset the SCR Tool so that the correct source machine information is synchronized with the Red Hat repository.

Problem

The log in to Red Hat succeeds, but the patch download fails with an error. For example:

```
FINE: Login Response XML is Server ID = Auth User ID = Auth Server Time =
Auth Expire = Auth = Channel = []
Aug 17, 2011 3:45:19 PM com.lumension.scr.pojo.SCPackage download
FINE: Downloading filegetPackage/mailman-2.1.5.1-34.rhel4.6.i386.rpm
Aug 17, 2011 3:45:19 PM com.lumension.scr.rhn.RHNRPMFile download
FINE: Downloading RPM file /patchRepo/repos2/RedHat/getPackage/mailman-
2.1.5.1-34.rhel4.6.i386.rpm
Aug 17, 2011 3:45:19 PM com.lumension.scr.client.StandaloneSCRepositoryClient
download
SEVERE: Package Download Exception
com.lumension.scr.exception.SCRException: Primary patch file failed download:
```

```
RHSA-2007:0779-04 getPackage/mailman-2.1.5.1-34.rhel4.6.i386.rpm
  at com.lumension.scr.pojo.SCPackage.download(SCPackage.java:472)
  at com.lumension.scr.client.StandaloneSCRepositoryClient .download
(StandaloneSCRepositoryClient.java:389)
  at com.lumension.scr.client.StandaloneSCRepositoryClient .process
(StandaloneSCRepositoryClient.java:328)
  at com.lumension.scr.client.StandaloneSCRepositoryClient .main
(StandaloneSCRepositoryClient.java:429)
```

Cause

Source machine information was changed or deleted on the Red Hat Network (RHN).

Solution

Resynchronize the SCR Tool with the Red Hat repository.

1. Select the SCR Tool output folder and delete all of the `SystemId*.xml` files.

   For example:

   `cd PatchRepo/Repos/unix`

   `rm SystemId*.xml`

   The path to the `unix` folder is located in the properties file, and is defined using the `folder=value` parameter. For example, `folder=/PatchRepo/Repos`.

2. Run the replication process manually or allow it to run on schedule.

HP-UX Service Authentication Fails

The HP-UX service validates authentication through the use of a trusted certificate.

Problem

The HP-UX Software Assistant performs checks for published security issues, installed patches that have warnings, and missing patches that have critical fixes. The HP-UX Software Assistant checks certificates to ensure a secure connection. When you use the SCR Tool to download recommended patches, if a trusted certificate does not exist when the HP-UX Software Assistant validates the connection, the following error occurs.

```
Failed to authenticate with HpUx Service

com.lumension.scr.exception.UnableToAccesURL:
javax.net.ssl.SSLHandshakeException:
```

Cause

A trusted certificate does not exist or a change in HP-UX authentication occurred.

Solution

If you encounter this error with the HP-UX Software Assistant, install a trusted certificate in the key store based on HP's recommendation. See the online HP information about installing intermediate certificates for Software Assistant.

To install intermediate certificates for Software Assistant, see http://kb.vmware.com/kb/2051577.

Download from HP Fails

HP-UX downloads require proprietary authentication.

Problem

You cannot access or download patch content from the HP Web site using the SCR Tool.

Cause

A change in HP-UX authentication occurred.

Solution

An internal VMware Knowledge Base article exists. Contact VMware Technical Support to open a service request, and refer to KB article 2008242.

Proxy Server Configuration Fails

Failure to configure a proxy server properly for platform-specific patch content downloads with the SCR Tool might generate proxy connection errors.

Problem

When you use the SCR Tool to download patch content for a specific Linux or UNIX platform, the proxy server configuration fails. The *scr_root*/logs/*scr-messages-0.log* file displays a `No Proxy connection` error, and the SCR Tool cannot process the request for the platform.

For example:

```
Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info
```

```
INFO: Starting Standalone Repository Client

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: Using runtime profile : solariskarl-rt

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: System Configuration: ( {keyFile=./vmware.plk, folder=/SCR/download,
platform=SOLARIS, configlog=../logs/Solaris-Config.log,
user=you@yourdomain.com, dependencyCheck=false, program=".", thirdparty=true,
channels=sol10, arch=SPARC, downloadPayload=true, index=VMware57.xml,
cacheResponseFolder=/SCR/bin/../cacherequest,
cacheRequestFolder=/SCR/bin/../cacherequest, checkPayload=true} )

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: Decrypting Password

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: Creating Repositoryconfig

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging infoexit

INFO: SunSolve Configuration setup

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: Lumension Content Processing begin

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: Processing Architecture SPARC

Mar 12, 2013 6:19:48 AM com.lumension.scr.log.CommonsLogging info

INFO: No Proxy connection

Mar 12, 2013 6:22:57 AM com.lumension.scr.log.CommonsLogging error

SEVERE: Error processing architecture SPARC

Mar 12, 2013 6:22:57 AM com.lumension.scr.log.CommonsLogging error

SEVERE: com.lumension.scr.exception.UnableToProcessContentXMLException:
com.lumension.scr.exception.UnableToAccesURL: java.net.ConnectException:
Connection timed out

Mar 12, 2013 6:22:57 AM com.lumension.scr.log.CommonsLogging info

INFO: Lumension Content Processing end

Mar 12, 2013 6:22:57 AM com.lumension.scr.log.CommonsLogging info

INFO: System Configuration: ( {keyFile=./vmware.plk, folder=/SCR/download,
platform=SOLARIS, configlog=../logs/Solaris-Config.log,
user=you@yourdomain.com, dependencyCheck=false, program=".", thirdparty=true,
channels=sol10, arch=SPARC, downloadPayload=true, index=VMware57.xml,
cacheResponseFolder=/SCR/bin/../cacherequest,
cacheRequestFolder=/SCR/bin/../cacherequest, checkPayload=true} )
```

Cause

The proxy server parameters in the platform-specific properties file are not correct.

Solution

Review and correct the proxy server parameters in the properties file used to download patch content for the Linux or UNIX platform, including the IP address, port, user ID for authentication, and encrypted password.

Mismatch in Number of Patches

The number of patches on the vendor download site exceeds the number of patches verified by the SCR Tool host machine.

Problem

A mismatch appears to exist in the number of patches available to the SCR Tool versus the number of patches listed by the vendor.

Cause

The SCR Tool host machine verifies the security patches recommended by the vendor. Because not all of the patches on the vendor download site are for security, the patches available to the SCR Tool are a subset of the total number of patches available.

If a patch signature list (.pls) file was downloaded, but the startup script stopped running before the payload finished downloading, a true mismatch can occur.

Solution

1. Run the startup script again.

2. If a patch appears to be missing, delete the corresponding .pls file for the missing patch, and download the content again.

OS Vendor Does Not Accept Credentials

When you attempt to connect to the Content Download Network, the OS vendor does not accept your login credentials.

Problem

The OS vendor does not accept your credentials.

Cause

Your credentials might be outdated or the password might have changed.

Solution

1. Contact the vendor and verify that your credentials to the vendor's site are valid.

2. Review the content of the /conf/*distribution*-rt.properties file, and verify that the correct user is defined.

3. If the password has changed, update the password in the /conf/*distribution*-rt.properties file.

OS Vendor Errors

When you attempt to connect to the Content Download Network, the OS vendor download Web site reports an error.

Problem

When you attempt to download patch content, an error occurs on the OS vendor download Web site. For example:

```
Mar 24, 2011 3:33:19 PM sun.net.www.protocol.http.HttpURLConnection
getInputStream

FINE: HYPERLINK "mailto:sun.net.www.MessageHeader@1a4e8a118"
sun.net.www.MessageHeader@1a4e8a118 pairs: {null: HTTP/1.1 401 Authorization
Required}{Date: Thu, 24 Mar 2011 21:35:03 GMT}{Server: Apache}{X-RHN-Fault-Code:
-33}
```

Cause

Errors might occur in the following cases.

- You attempted to use the #channels parameter in a properties file but you are not entitled to use the command.

- At the time of download, an excessive number of concurrent logins are accessing the OS vendor site.

Solution

- If multiple users in your environment are manually connected to the download Web sites, wait until they are finished before you connect again.

- Limit user connections to the OS vendor download Web site during patch replication, and restart the patch replication process.

Patch Download Errors

When you run the startup script, the source of the problem does not appear when an error occurs.

Problem

A failure in the patch download process might occur because of various problems, but the source of the problem is not obvious. When the patch content downloads, a severe error recorded in the logs might not indicate an actual error. For example, if the CDN does not have the requested package, the non-entitled content might display a SEVERE error.

Cause

The patch download process failed, and no message appeared to indicate the cause of the problem.

Solution

1. On the SCR Tool host machine, access the *scr_root*/logs directory.

2. View the platform specific log file.

3. Check the log file to confirm whether any SEVERE entries are logged.

   Various types of errors can occur. For example:

   ```
   Feb 23, 2011 4:42:45 PM com.lumension.scr.pojo.SCPackage download

   SEVERE: Payload file URL to download
   http://novell.cdn.lumension.com/novell/aix/ppc/IY76827.tar.gz

   Mar 29, 2011 12:59:01 PM com.lumension.scr.util.Utils downloadFromURL
   ```

```
SEVERE: com.lumension.scr.exception.UnableToAccesURL: Unable to access URL
```

4. Use the message results in the log file to resolve the error, then attempt to download the patch content from the entitled OS vendor site again.

Obsolete Patches Cause the Download to Fail

Solaris patches that are no longer available cause the patch download to fail.

Problem

Solaris patch downloads fail on patches with names that begin with SUN. These errors resemble the following entries.

- `SEVERE: Failed to download payload file`

- `SEVERE: Payload download`
  `/tmp/SCR/download/payload/solaris/x86/SUN10RPC20110304.zip failed`

Cause

Solaris patches with names that begin with SUN are obsolete. This content is no longer provided by the vendor.

Solution

Ignore errors related to these obsolete patches.

HTTP Errors Are Not Marked as SEVERE

Using the SEVERE error message to troubleshoot HTTP 404/503 errors might cause you to miss the errors.

Problem

HTTP 404/503 errors might be logged as FINE, and do not contain the phrase SEVERE in the message, which can cause problems when using the SEVERE message to troubleshoot the problem. These error types resemble the following messages:

```
Apr 8, 2011 2:20:52 PM com.lumension.scr.rhn.RHNRegister postXMLRPCRequest
FINE: RHN HTTP Response 404

Apr 8, 2011 2:20:52 PM com.lumension.scr.rhn.RHNRegister postXMLRPCRequest
FINE: RHN HTTP Response 404

Apr 11, 2011 2:28:29 PM com.lumension.scr.rhn.RHNManager getSession
FINE: Getting RHN session

Apr 11, 2011 2:28:29 PM com.lumension.scr.rhn.RHNRegister postXMLRPCRequest
FINE: RHN HTTP Response 503
```

Cause

These types of errors typically indicate that a problem exists with the connection to the external Red Hat download site.

Solution

If these HTTP 404/503 response codes occur from the Red Hat download site, attempt to replicate the patch content later.

Connection Refused Errors

A Java error indicates that the connection from the SCR Tool to the vendor download site was refused.

Problem

When you interactively run a replication process, or in the `cron` logs when you use `cron`, a `Connection refused` error can occur. This type of error resembles the following message.

```
java.net.ConnectException: Connection refused
at java.net.PlainSocketImpl.socketConnect(Native Method)
at java.net.PlainSocketImpl.doConnect(PlainSocketImpl.java:351)
at java.net.PlainSocketImpl.connectToAddress(PlainSocketImpl.java:213)
at java.net.PlainSocketImpl.connect(PlainSocketImpl.java:200)
at java.net.SocksSocketImpl.connect(SocksSocketImpl.java:366)
at java.net.Socket.connect(Socket.java:529)
at java.net.Socket.connect(Socket.java:478)
at sun.net.NetworkClient.doConnect(NetworkClient.java:163)
at sun.net.www.http.HttpClient.openServer(HttpClient.java:394)
at sun.net.www.http.HttpClient.openServer(HttpClient.java:529)
at sun.net.www.http.HttpClient.<init>(HttpClient.java:233)
at sun.net.www.http.HttpClient.New(HttpClient.java:306)
at sun.net.www.http.HttpClient.New(HttpClient.java:323)
at sun.net.www.protocol.http.HttpURLConnection.getNewHttpClient
(HttpURLConnection.java:970)
at sun.net.www.protocol.http.HttpURLConnection.plainConnect
(HttpURLConnection.java:911)
at sun.net.www.protocol.http.HttpURLConnection.connect
(HttpURLConnection.java:836)
at sun.net.www.protocol.http.HttpURLConnection.getOutputStream
(HttpURLConnection.java:1014)
at com.lumension.scr.rhn.RHNRegister.postXMLRPCRequest(RHNRegister.java:435)
at com.lumension.scr.rhn.RHNRegister.loginToRHN(RHNRegister.java:526)
at com.lumension.scr.rhn.RHNManager.getSession(RHNManager.java:82)
at com.lumension.scr.pojo.SCPackage.download(SCPackage.java:439)
at com.lumension.scr.client.StandaloneSCRepositoryClient.download
(StandaloneSCRepositoryClient.java:389)
at com.lumension.scr.client.StandaloneSCRepositoryClient.process
(StandaloneSCRepositoryClient.java:328)
at com.lumension.scr.client.StandaloneSCRepositoryClient.main
(StandaloneSCRepositoryClient.java:429)
```

Cause

An undetermined number of reasons can cause this error.

Solution

You can typically ignore these errors. The script continues to run and replicate patch data. To verify that the script continues to run, open the individual *<platform>*-rt.properties file and view the content for logged error information.

Null Pointer Exception Errors

An error occurs while the SCR Tool processes the content download request.

Problem

When you run a replication process interactively, or in the `cron` logs when you use `cron`, a null pointer error can occur. This type of error resembles the following message.

```
Apr 8, 2011 8:51:13 PM com.lumension.scr.client.StandaloneSCRepositoryClient
process
SEVERE: Error Processing Content Download Request.
java.lang.NullPointerException
at com.lumension.scr.pojo.SCPackage.download(SCPackage.java:416)
at com.lumension.scr.client.StandaloneSCRepositoryClient.download
(StandaloneSCRepositoryClient.java:389)
at com.lumension.scr.client.StandaloneSCRepositoryClient.process
(StandaloneSCRepositoryClient.java:328)
at com.lumension.scr.client.StandaloneSCRepositoryClient.main
(StandaloneSCRepositoryClient.java:429)
```

Cause

An undetermined number of reasons can cause this error.

Solution

Restart the replication process to continue downloading the patch content, and use `cron` to start the script again the following day and resume replication. If persistent failures continue, log a ticket with VMware Technical Support.

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VCM Patching **7**