

Troubleshooting RME Inventory Importing

Document ID: 13483

Introduction

Prerequisites

Requirements

Components Used

Conventions

Checklist for Remote NMS Import

Troubleshooting Remote NMS Import

The DataPrep.pl Tool

Examples

Troubleshooting Local NMS Import

Importing Devices Into Your Network Inventory Using CSV and DIF Files

Comma-Separated Values (CSV) File

Device Integration File (DIF)

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction

In the initial process of adding devices to the inventory, there can be issues that prevent a successful import. There are different types of inventory import that can be done:

- Remote Network Management Systems (NMS) Import
- Local NMS Import
- Comma-Separated Values (CSV) and Device Integration File (DIF) file import

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- RME 2.x
- RME 3.x

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Checklist for Remote NMS Import

- For RME 2.x Table 2–3 in Installing Essentials shows the table of supported NMS applications for Remote Import along with their versions.
- For RME 3.x Table 1–6 in Installing Essentials for 3.x shows the table of supported NMS applications for Remote Import along with their versions.

For a successful remote inventory import, verify the following:

- The TCP/IP connectivity to the remote Network Management System.
- Your device read community strings are accurate.
- Your local RME server has remote access to the remote username. You must be able to run the remote shell as the specified user on the remote host.
- Both your local and remote machines are in your Name Resolution Service (such as Domain Name System (DNS) or Network Information Service (NIS)).
- The remote NMS has the appropriate services and daemons loaded. This is different for each application.
- The remote NMS is supported for Remote Import. The following are supported:
 - ◆ CiscoWorks for Switched Internetworks (CWSI) v2.x
 - ◆ HP Open View (HPOV)
 - ◆ Tivoli NetView (AIX remote host only)
 - ◆ CiscoWorks
 - ◆ Cisco WAN Manager (CWM)

Note: Windows NT/2000 is not supported on any platform application as a source for a remote import.

If you are using RME 3.0 – RME 3.2:

- Check to see that user bin can log in to the UNIX Server. Use the following process to check login and directory permission:

On UNIX:

- ◆ **%su bin**
- ◆ **%remsh** *host name -l remote login ls directory name*

On Windows NT/2000 (must be logged on as user bin):

- ◆ **%SystemRoot%\system32\rsh.exe** *host name -l remote login Ls directory name*

- Verify that the remote server is configured as follows:
 - ◆ A .rhosts file is in the remote user's home directory and contains an entry for the RME server. The username entry should be bin.
 - ◆ The /etc/hosts.equiv file on the remote server does not contain any statements that disallow access by the RME server.
 - ◆ For CiscoWorks, the remote user is a member of the CiscoWorks group. On UNIX, the remote user ID is part of cscworks (or the group entered when CiscoWorks was installed) in /etc/group.
 - ◆ For CiscoWorks, the Sybase server is running on the remote host and the Sybase database uses the default query server name CW_SYBASE.
 - ◆ For CWSI 2.x, the remote user is a member of the group bin and a member of the CWSI "Known Network" database group. This database group must have write access to the "Known Network" database.

- ◆ For HP Open View (HPOV), HPOV is running on the remote host.
- ◆ For Tivoli NetView, Tivoli NetView is running on the remote host.
- ◆ For Cisco WAN Manager, the default user name is svplus.

If you are using RME 3.3, 3.4, or 3.5, make sure that the remote server is configured as follows:

- A `.rhosts` file is in the remote user's home directory and contains an entry for the RME server.
- For the RME NT server, the username entry should be: `hostnameSYSTEM`, where `hostname` is the name of the RME NT server and `SYSTEM` is the user.
- For the RME SOLARIS server, the username entry should be: `hostnameecasuser`, where `hostname` is the name of the RME SOLARIS server and `casuser` is the user.
- The `/etc/hosts.equiv` file on the remote server does not contain any statements that disallow access by the RME server.
- For CiscoWorks, the remote user is a member of the `CiscoWorks` group. On UNIX, the remote user ID is part of `cscworks` (or the group entered when CiscoWorks was installed) in `/etc/group`.
- For CiscoWorks, the Sybase server is running on the remote host and the Sybase database uses the default query server name `CW_SYBASE`.
- For CWSI, the remote user is a member of the group `bin` and a member of the CWSI "Known Network" database group. This database group must have write access to the "Known Network" database.
- For HP OpenView, HP OpenView is running on the remote host.
- For Tivoli NetView, Tivoli NetView is running on the remote host.
- For Cisco WAN Manager, the default user name is svplus.

Troubleshooting Remote NMS Import

To troubleshoot a failed NMS import, try the tips described here.

Note: Words in angle brackets represent variables that you supply in a command statement, for example, `<host name>`. Enter the correct information for your system.

- Verify that your device read community strings are accurate.
- Increase the SNMP timeout values for devices.
- Check the `DPERR_*` (error message) files in the Essentials directory for temporary files. On UNIX, this is the `/tmp` directory. On Windows NT, this is the `install dir\Temp` directory. The number at the end of the file name is the process ID. The file with the latest created date is probably the file that contains the error messages for your most recent import attempt.
- On the RME navigation tree, select **CiscoWorks2000 Server > Diagnostics > Collect Server Info**. In the Collect Server Information dialog box, select the latest report and click **Display** (or, if necessary, create the report). Examine the resulting information for errors.
- When importing from a local CiscoWorks database, verify that the CiscoWorks database query server is `CW_SYBASE DSQUERY=CW_SYBASE`.

Note: Make sure to add `bin` to the `cscworks` group in `/etc/group` before you start RME.

- For a remote import, make sure you can access the correct remote directory using the remote shell.
- Verify that only one RME web server is running as user `root`. This server should be the parent process for all of the other web servers. If you edited the `/etc/group` after RME was started:

- ◆ Log in as `su root`.
- ◆ Stop RME using one of the following commands, depending on your hardware platform:

- ◇ Windows NT/2000 → `net stop crmdmgt`
- ◇ Solaris → `/etc/init.d/dmgt stop`

◇ HP-UX -> /sbin/init.d/dmgttd stop

◇ AIX -> /etc/rc.dmgttd stop

- ◆ Verify that no RME web server is running by entering:

```
ps -efa | grep web_serv
```

- ◆ If any RME web servers are running, stop them by entering:

```
kill -9 process ID
```

- ◆ Restart Essentials using one of the following commands, depending on your hardware platform:
 - If devices appear in Cisco WAN Manager, but have not been imported to the remote RME, have your system administrator verify that any routing information linking the WAN subnet address to the gateway node has also been added to the routers that connect the RME host to the gateway node.

If you still cannot import from the Essentials GUI, run the DataPrep.pl script from the command line instead.

The DataPrep.pl Tool

The DataPrep.pl tool is located in the %NMSROOT%\cgi-bin\import\pimport directory. It must be executed with the Perl command. The command directory location must be specified because the script is not in the same directory as the Perl executable. The syntax is displayed along with an explanation of the command's parameters. If the command is run on a remote database, it must be located on a UNIX host. The script tries to open a console connection to the host using the information provided in the command.

- On UNIX, you must be logged in as root or bin or a group member of bin.
- On Windows NT/2000, you must enter the following to run DataPrep: perl install directory\cgi-bin\import\pimport\DataPrep.pl

Description

The DataPrep.pl command is a front end for the RME and is used to extract device seed information from CiscoWorks, CiscoWorks for Switched Internetworks (CWSI), HP OpenView (HPOV), Tivoli NetView, and Cisco WAN Manager.

It exports the device table, administrative domains and annotation tables from these databases to create a readable ASCII file that contains the seed information that RME needs to add a device to its inventory. If the data is taken from CiscoWorks, HP OpenView or Tivoli NetView, it is possible to apply filtering on Cisco devices.

Dependencies

The following must be up and running: Perl, the Sybase isql (not the SQLAnywhere isql), the Sybase dataserver (CiscoWorks export), HP OpenView (HPOV export), Tivoli NetView (NetView export), CWSI's AniServer, the Informix isql, and the Informix date server (Cisco WAN Manager export). The CWSI AniServer name defaults to "AniServer."

During a local import, the user "bin" (Essentials on UNIX only) must have sufficient credentials to access the exporting system and databases.

During a remote database export, a valid entry in the rhosts database for the user (current uid or provided with the -U option) must exist on the remote machine, and the used account must have sufficient credentials to access the databases of the exporting systems.

In case of a remote import, rshd must be running on the remote machine and the required port/protocol must be allowed over the network.

Return Value

If the dependency check fails or the CiscoWorks admin password is incorrect, no output is generated and DataPrep.pl exits with a non-zero exit status. Otherwise, DataPrep.pl exits with zero status if all requests succeed.

Diagnostics

The tool "complains" if:

- it cannot log into the CiscoWorks database
- HP OpenView is not running
- Tivoli NetView is not running
- CWSI's AniServer is not running
- the credentials are insufficient
- the import file is invalid

Usage

```
DataPrep.pl [-a] [-p] [-x]
             [-d<src>] [-H<host>] [-D<sysdir>]
             [-S[<host>:]<insep>] [-A<admin>] [-b<db>] [-u<user>]
             [-K[<host>:]<knet>] [-r<cty>] [-w<cty>] [-c<ctyfile>]
             [-U<ruser>] [-E<ani>]
             ] | [-f<importfile>]
             [-s<sep>] [-N<NIL>] [-L<file>] [-l<level>]
             [+|-F] [-V<result>] [-P<pwd>] [<target>]
```

or

```
DataPrep.pl [-h]
```

where: (Default values in brackets [])

-h	Print
-a	Deselect administrative domains from CiscoWorks data base (CWDB)
-p	Deselect "telnet" and "console (enable)" passwords from CWDB
-x	Use dB column information and produce extended output
+F	Turn device import filter on [default]
-F	Turn device import filter off
-Vresult	Validate command-line arguments & write results to file <i>result</i>
-dsrc	dB source is <i>src</i> = {cw ov cws1 cws12 snmpc cr cwm};
-Hhost	dB host is <i>host</i> ; [localhost]

<code>-Dsysdir</code>	System directory <i>sysdir</i> ; [computed]
<code>-Uruser</code>	Remote user ID for <i>host</i> is <i>ruser</i> ; [current user id]
<code>-S[host:]inqep</code>	CWDB inquiry engine path is <i>inqep</i> (on <i>host</i>)
<code>-Aadmin&</code>	CWDB administrator is <i>admin</i>
<code>-bdB</code>	CWDB name is <i>dB</i>
<code>-uuser</code>	CWDB user is <i>user</i>
<code>-K[host:]knet</code>	CWSI 1.3 known network is <i>knet</i> (on <i>host</i>)
<code>-fimportfile</code>	Use prepared <i>importfile</i> as dB source [STDIN]
<code>-ssep</code>	Set one-character field delimiter to <i>sep</i> ; ['']
<code>-NNIL</code>	Set one-character SQL NULL replacement to <i>NIL</i> ; ['-']
<code>-Lfile</code>	Message logging in file <i>file</i> ; [STDERR]
<code>-llevel</code>	Logging level of details is <i>level</i> , ranges from 0..7; [0]
<code>-Eani</code>	CWSI 2.x AniServer to contact for import; [AniServer]
<code>-rcty</code>	CWSI 1.3 read-community <i>cty</i> ; [public]
<code>-wcty</code>	CWSI 1.3 write community <i>cty</i> ; [private]
<code>-cctyfile</code>	CWSI 1.3 community file <i>ctyfile</i>
<code>-Ppwd</code>	CWDB password <i>pwd</i> to grant admin access
output: <i>target</i>	Generate output file <i>target</i> ; [STDOUT]

Examples

- **DataPrep.pl -d ov -H myhost -U myuser**

Exports HPOV data from remote host "myhost" and uses the remote account "myuser" for the remote shell access.

- **DataPrep.pl -d cw -a -p -N "" -x**

Selects administration domains, telnet and console passwords, and produces an extended output on stdout. An additional SQL NULL translation takes place.

The output looks like this:

```

o o o
; Here are the columns of the table.
;
Col#=1; Name=Row#;
Col#=2; Name=Device name;
Col#=3; Name=Domain; NULL=-; Empty permitted;
Col#=4; Name=RO community string; NULL=-; Empty permitted;
Col#=5; Name=RW community string; NULL=-; Empty permitted;
Col#=6; Name=Telnet password; NULL=-; Empty permitted;
Col#=7; Name=Enable password; NULL=-; Empty permitted;
;

```

```
; Here are the rows of data.
;
000001|router1|cisco.com|public|public|-|-|
000002|router2|cisco.com|public|public|-|-|
000003|router3|cisco.com|public|public|-|-|
o o o
```

Troubleshooting Local NMS Import

A local import is a less complex process than a remote data import. The database and services for the other NMS reside on the same machine as CW2000, so there is no need for a remote shell protocol (RSH) to the remote server, and troubleshooting is simpler.

There are only a few things to do when troubleshooting a local import. First, remember that local imports do not happen from older versions of CiscoWorks. The older versions are removed prior to installation and the install process upgrades the data during the upgrade. What you can initially do is:

- Verify the correct application services are running for the NMS that is the data source.
- Verify the correct user name and permissions to be used by RME to log in to the NMS.
- Use the DataPrep.pl script. The script uses the same parameters locally as it does remotely. The host defaults to local host if no host is specified.

Once information is added successfully to the inventory, troubleshooting moves to the process of managing the devices themselves.

- For RME 2.x Table 2–3 at Installing Essentials shows the table of supported NMS applications for Local RME Import along with their versions.
- For RME 3.x Table 1–5 at Installing Essentials shows the table of supported NMS applications for Local RME Import along with their versions.

Importing Devices Into Your Network Inventory Using CSV and DIF Files

Two methods are available for importing devices into your network inventory (applicable for RME 3.x only):

- Comma–Separated Values (CSV) File
- Device Integration File (DIF)

For ease of use, it is strongly recommended to use the CSV format. Samples of each type of file are found at the bottom of this document.

Note: The information in each file type must be entered in the order shown.

Comma–Separated Values (CSV) File

You can create a CSV file to import devices. Go to RME→Administration→Inventory→File Import to import the CSV file you created. The CSV format provides the following device information:

- Full device name or IP address (required)
- Read–only community string (required)
- Read–write community string (optional)
- Serial number (optional)
- User Field 1 (optional)

- User Field 2 (optional)
- User Field 3 (optional)
- User Field 4 (optional)
- Telnet password, enable password, enable secret, TACACS user, TACACS password, TACACS enable user, TACACS enable password, local user, local password, RCP user, and RCP password (optional)

The following is a sample of a CSV-formatted file:

```

; The following header line is mandatory - only the value of the
; source attribute can be modified (e.g. source = My Excel spreadsheet).
cisco Systems NM data import, source = Hand edit; Version = 2.0; Type = Csv
;
; Here are the columns of the table.
;
;Col# = 1; Name = Device name (include domain unless your site has
;      unqualified device names registered in the name services
;      - or -
;      IP address in dotted decimal notation
;Col# = 2; Name = RO community string
;Col# = 3; Name = RW community string
;Col# = 4; Name = Serial Number
;Col# = 5; Name = User Field 1
;Col# = 6; Name = User Field 2
;Col# = 7; Name = User Field 3
;Col# = 8; Name = User Field 4
;Col# = 9; Name = Telnet password
;Col# = 10; Name = Enable password
;Col# = 11; Name = Enable secret
;Col# = 12; Name = Tacacs user
;Col# = 13; Name = Tacacs password
;Col# = 14; Name = Tacacs enable user
;Col# = 15; Name = Tacacs enable password
;Col# = 16; Name = Local user
;Col# = 17; Name = Local password
;Col# = 18; Name = Rcp user
;Col# = 19; Name = Rcp password; Comment = not used, leave blank
;
; Here are the rows of data.
;
bigrouter.yourcompany.com,public,private,,
dev-2501.yourcompany.com,"Not so, " public as, thought",private,sn2501,
dev-2502.yourcompany.com,public,"private",sn2502,
dev-2503.yourcompany.com,public,private,sn2503,""
dev-2504.yourco.com,public,private,sn2504,us1,us2,us3,us4,tPass,ePass,eSecret,tUsr,tPass,t
eUsr,tePass,LUsr,LPass,rUsr,rPass
dev-2505.yourco.com,public,private,sn2505,usr1,,,usr4,,,esecret,,tUsr,tPass,,,LUsr,lPass
dev-2507.yourcompany.com,public,private,sn2507,
dev-2509.yourcompany.com,public,private,sn2509,
dev-2510.yourcompany.com,public,private,sn2510,
dev-2511.yourcompany.com,public,private,sn2511,
dev-2512.yourcompany.com,public,private,sn2512,
dev-2513.yourcompany.com,public,private,sn2513,
dev-2514.yourcompany.com,public,private,sn2514,
dev-2515.yourcompany.com,public,private,sn2515,
dev-2516.yourcompany.com,public,private,sn2516,
dev-4000.yourcompany.com,public,private,,Big Boys
dev-4500.yourcompany.com,public,private,,Big Boys
dev-7000.yourcompany.com,public,private,,Big Boys
dev-7010.yourcompany.com,public,private,,Big Boys
dev-2517.yourcompany.com,public,private,,nm 25xx
dev-2518.yourcompany.com,public,private,,,mylabel2
dev-2520.yourcompany.com,public,private,,,mylabel2
dev-2521.yourcompany.com,public,private,,,mylabel2

```

```

dev-2522.yourcompany.com,public,private,,,mylabel2
dev-2523.yourcompany.com,public,private,,,mylabel2
dev-2524.yourcompany.com,public,private,,,mylabel2
dev-2525.yourcompany.com,public,private,,,mylabel2
dev-4700.yourcompany.com,public,private,,yourlabel1,,yourlabel3,yourlabel4
dev-7206.yourcompany.com,public,private,,
dev-7505.yourcompany.com,public,private,,,,yourlabel4
dev-7507.yourcompany.com,public,private,,
dev-7513.yourcompany.com,public,private,,
dev-1200.yourcompany.com,public,private,,
dev-2900.yourcompany.com,public,private,,
dev-3000.yourcompany.com,public,private,,
dev-5000.yourcompany.com,public,private,,
111.222.33.44,public,public,,

```

Device Integration File (DIF)

You can create a DIF to import devices. Select RME->Administration->Inventory->File Import to import the DIF file you created. The DIF is currently encoded in the ISO Latin-1 character set using an extended "Backus Naur Form" (BNF) notation as described in the RME online help. The DIF specifies the following characteristics of each device:

```

Generic format
  Generic attributes
  Header
  Table area
    Generic table attributes
    Device table
    Group table
    User annotation table
    Serial number table
    TACACS table

```

The following is a sample DIF, incorporating these characteristics. The sample file was imported from CiscoWorks.

```

!--- First, the DIF is defined.

cisco Systems NM data import, source=CW; Version = 1.0;

!--- The device table is defined.

Table name = Device basic inventory; Version = 1.0; Column count = 7;
Separator = |;

!--- Columns for the device table are defined.

Col# = 1; Name = Row#;
Col# = 2; Name = Device name;
Col# = 3; Name = Domain;
Col# = 4; Name = RO community string;
Col# = 5; Name = RW community string;
Col# = 6; Name = Telnet password;
Col# = 7; Name = Enable password;

!--- Rows of data for the device table are defined.

000001|111.22.333.4|||foeey|more
000002|landfall|cisco.com|public|private||
000003|yet_another_router||read|write|main|charlie
000004|Pinpointed_router|organized.org|read|write|viper|eric
999999

```

!--- An administrative domain table is defined.

Table name = Device grouping; Version = 1.0;
Column count = 4; Separator = \$

!--- Columns for the domains table are defined.

Col# = 1; Name = Row#
Col# = 2; Name = Group
Col# = 3; Name = Device name
Col# = 4; Name = Domain

!--- Rows of data for the domain table are defined.

000001\$CW_World\$111.22.333.4\$
000002\$CW_World\$yet_another_router\$
000003\$CW_World\$landfall\$cisco.com\$
000004\$CW_Smaller than world\$yet_another_router\$
999999

!--- The user annotation table is defined.

Table name = Device annotations; Version = 1.0; Column count = 7;
Separator = \$

!--- Columns for the annotation table are defined.

Col# = 1; Name = Row#
Col# = 2; Name = Device name
Col# = 3; Name = Domain
Col# = 4; Name = Annotation 1
Col# = 5; Name = Annotation 2
Col# = 6; Name = Annotation 3
Col# = 7; Name = Annotation 4

*!--- Rows of data for the annotations table are defined (the first annotation holds location
!--- the second annotation holds the contact name).*

000001\$111.22.333.4\$\$San Jose: Bldg F\$Joe Smith
000002\$yet_another_router\$\$San Jose: Bldg A\$Jill Jones
000003\$landfall\$cisco.com\$San Jose: Bldg F\$Joe Smith
000004\$yet_another_router\$Santa Clara: Bldg 1\$George Black
999999

!--- The serial number table is defined.

Table name = Device serial numbers; Version = 1.0; Column count = 4;
Separator = \$

Col# = 1; Name = Row#
Col# = 2; Name = Device name
Col# = 3; Name = Domain
Col# = 4; Name = Serial number

!--- RCP data is provided.

000001\$111.22.333.4\$\$jsmith\$lasdf8
000002\$yet_another_router\$\$jjones\$lruf7dhgd
000003\$landfall\$cisco.com\$jsmith\$lasdf8
000004\$yet_another_router\$gblack\$7fghs4
999999

!--- The TACACS table is defined.

Table name = Device Tacacs access data; Version = 1.0; Column count =

```
7;
Separator = $
Col# = 1; Name = Row#
Col# = 2; Name = Device name
Col# = 3; Name = Domain
Col# = 4; Name = Tacacs user
Col# = 5; Name = Tacacs password
Col# = 6; Name = Tacacs Enable User;
Col# = 7; Name = Tacacs Enable Password;
```

!--- TACACS data is provided.

```
000001$111.22.333.4$$jsmith$3dfg6$stillJsmith$butNot3dfg6
000002$yet_another_router$$jjones$adf6789
000003$landfall$cisco.com$jsmith$3dfg6
000004$yet_another_router$gblack$jh3df7
999999
```

NetPro Discussion Forums – Featured Conversations

Networking Professionals Connection is a forum for networking professionals to share questions, suggestions, and information about networking solutions, products, and technologies. The featured links are some of the most recent conversations available in this technology.

NetPro Discussion Forums – Featured Conversations for Network Management
Network Infrastructure: Network Management
Virtual Private Networks: Network and Policy Management

Related Information

- **RME Inventory: Frequently Asked Questions**
- **Resource Manager Essentials**
- **Technical Support – Cisco Systems**

[Contacts & Feedback](#) | [Help](#) | [Site Map](#)

© 2008 – 2009 Cisco Systems, Inc. All rights reserved. [Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks of Cisco Systems, Inc.](#)

Updated: Jan 31, 2006

Document ID: 13483