How RME Handles Configuration Archive and Modification

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Introduction

Configuration management is one of the major functions of CiscoWorks Resource Manager Essentials (RME). It provides easy access to the configuration files for all Cisco IOS Software−based devices and Catalyst switches, FastSwitches, and Cisco routers in your Essential inventory. RME very effectively archives configuration files from network devices. However, many users are unsure how to make modifications to those configuration files and push the new changes out to network devices. The **cwconfig** program supplied with RME can be used to easily accomplish these tasks. This document explains how to use **cwconfig** on both Windows NT− and UNIX−based systems to restore configuration files.

Before you begin, remember:

- The devices you configure must exist in the RME database as Managed Devices.
- You must have a valid RME login (that is, login "admin" and password "admin," unless it has been changed) for the operation to work properly.
- The **cwconfig** program is typically located in the /opt/CSCOpx/bin directory on UNIX systems and in the C:\CSCOpx\bin directory on Windows NT systems.
- The online help feature for the **cwconfig** program is extensive. Choose **Help > Index** from the menu and scroll down to the **cwconfig command** heading (located under section C). Refer to the online help for specific issues.
- Make sure to test these procedures on a single device before you make modifications to many devices on the network.
- These procedures are very basic and use only the "import" feature of **cwconfig**. Refer to the **cwconfig** online documentation for greater details.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on CiscoWorks RME (all versions).

Conventions

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

Basic Overview

This section provides an overview of the procedures described in subsequent sections.

Update a Single Device

Complete these steps:

1. Create a temporary file with the new or modified commands to push out.
2. Push the file out to the device with the **cwconfig** program.
3. Verify that the changes have been made.

Update Multiple Devices

Complete these steps:

1. Create a temporary file with the new or modified commands to push out.
2. Create a temporary file which lists each device to be modified.
3. Push the file out to the device with the **cwconfig** program.
4. Verify that the changes have been made.

Issue the cwconfig Command to Change Startup and Running Configuration Files

Note: RME must have the target devices in its inventory for **cwconfig** to work properly.

1. Create a partial configuration like this one in a file (for example, in the **ioscmd** file):

   ```
   no enable password paswd

   enable secret scrt
   ```

2. Create a second file (for example, the **infile** file) that contains the names of the target devices and the name of the configuration file created in Step 1 (**ioscmd**, in this example). The **−save** option in the commands below tell cwconfig to edit the startup and running configurations of devices. The syntax of the configCommands file (**infile**) is shown here:

   ```
   −f ioscmd −device dev1.cisco.com −save
   −f ioscmd −device dev2.cisco.com −save
   −f ioscmd −device dev3.cisco.com −save
   ......
   ```

3. Verify that both files belong to group **bin** and owner **bin**.
4. To make sure that both files have full permissions, issue the **chmod 777 ioscmd** command.
5. Issue the **cwconfig import −u** *username in RME* **−p** *password in RME* **−input infile** command to push the new configuration information from **ioscmd** out to the devices.

Note: Use the **−d 5** option if you need debug turned on to help troubleshoot if the configuration does not change.

Scenarios for Microsoft Windows NT

Scenario 1 − I loaded RME on my Windows NT machine and need to change the system location information on a router in my network.

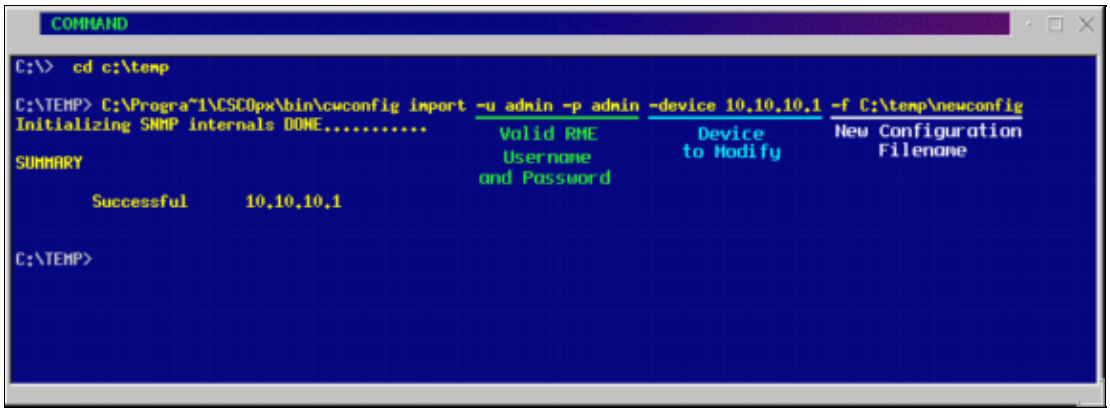
Complete these steps:

1. Determine the name or IP address of the device name to be modified. This example uses the IP address **10.10.10.1**.
2. Open a command prompt.
3. Go to a directory to store the temporary files, such as C:\temp.
4. Use a text editor such as Notepad to create a temporary file that contains the additions and modifications. This example uses the filename **newconfig**.
5. Add the necessary information to the file. Make sure the commands are valid commands for the device. If not, the device ignores the statements. For example:

   ```
   snmp-server location 1st-floor
   ```
6. Save the file and exit the text editor.
7. Run the **cwconfig** program with the necessary command line options to push the new configuration out to the device. Here is an example of the correct syntax:

   ```
   dos-prompt# C:\progra~1\CSCOpx\cwconfig import -u admin -p admin -device 10.10.10.1
   ```

   This is an example of **cwconfig** program output:



8. Make a Telnet connection to the device and verify the configuration has been updated with the new information.

Scenario 2 − I loaded RME on my Windows NT machine and need to change the system location and system contact information on five routers in my network.

Complete these steps:

1. Determine the names or IP addresses of the devices to be modified. This example uses these IP addresses:

   ```
   10.10.10.1

   10.10.10.2
   ```

```
10.10.10.3

10.10.10.4

10.10.10.5
```

2. Open a command prompt.
3. Go to a directory to store the temporary files, such as C:\temp.
4. Use a text editor such as Notepad to create a temporary file that contains the additions and modifications. This example uses the filename **newstuff**.
5. Add the necessary device commands to the file. Place additional commands on separate lines. Make sure the commands are valid commands for the device. If not, the device ignores the statements.

   Here is an example:

   ```
   snmp-server location 1st-floor

   snmp-server contact William Gimp
   ```

6. Save the file and exit the text editor.
7. Create a temporary file that contains the list of devices you want to modify.

   The syntax of each line should be:

   -device *IP_Address* -f *Config_File_to_Use*

   This example uses the filename **c:\temp\devices**.

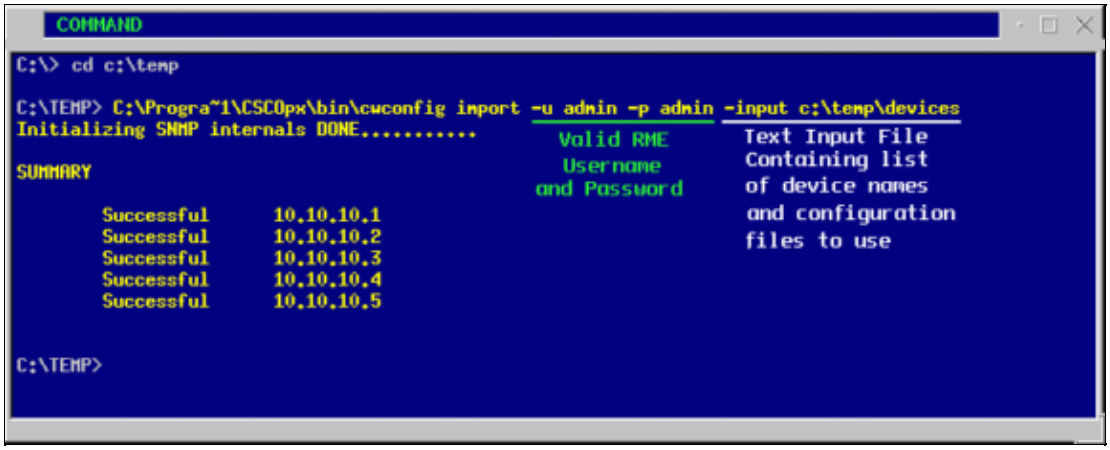
   The file contents are shown here:

   ```
   -device 10.10.10.1 -f newstuff

   -device 10.10.10.2 -f newstuff

   -device 10.10.10.3 -f newstuff

   -device 10.10.10.4 -f newstuff

   -device 10.10.10.5 -f newstuff
   ```

8. Save the file and exit the text editor.
9. Use the **cwconfig** program with the **-input** option to push the changes to the devices. (The **-input** option is used to specify the filename that contains the list of devices to modify.) Here is an example:

   ```
   dos-prompt# C:\progra~1\CSCOpx\cwconfig import -u admin -p admin -input c:\temp\devi
   ```

   Here is an example of **cwconfig** program output:



10. Make a Telnet connection to each of the devices and verify the configuration has been updated with the new information.

Scenarios for UNIX

Scenario 1 − I loaded RME on my Solaris machine and need to change the hostname on a router in my network.

Complete these steps:

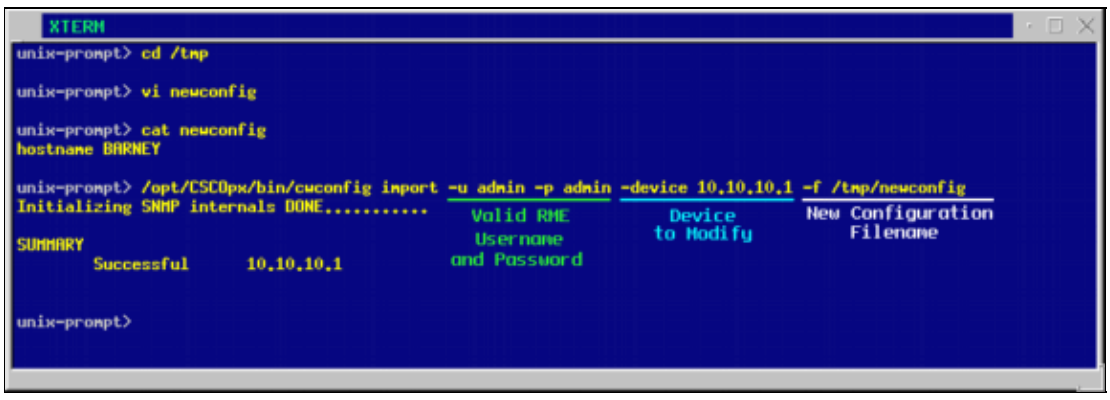
1. Determine the name or IP address of the device name to be modified. This example uses the IP address **10.10.10.1**.
2. Open an XTerm window.
3. Go to a directory, such as /tmp, in which to store the temporary files.
4. Use a text editor such as vi to create a temporary file that contains the additions and modifications. This example, uses the filename **newconfig**.
5. Add the necessary information to the file. Make sure the commands are valid commands for the device. If not, the device ignores the statements. Here is an example:

   ```
   hostname BARNEY
   ```

6. Save the file and exit the text editor.
7. Run the **cwconfig** program with the necessary command line options to push the new test out to the device. Here is an example:

   ```
   unix-prompt# /opt/CSCOpx/bin/cwconfig import -u admin -p admin -device 10.10.10.1 -f
   ```

   An example of this process is shown here:



8. Make a Telnet connection to the device and verify the configuration has been updated with the new information.

Scenario 2 − I loaded RME on my Solaris machine and need to change the system location and system contact information on five routers in my network.

Complete these steps:

1. Determine the name or IP address of the device name to be modified. This example uses these IP addresses:

   ```
   10.10.10.1

   10.10.10.2

   10.10.10.3

   10.10.10.4

   10.10.10.5
   ```
2. Open an XTerm window.
3. Go to a directory, such as /tmp, in which to store the temporary files.
4. Use a text editor such as vi to create a temporary file that contains the additions and modifications. This example uses the filename **newstuff**.
5. Add the necessary information to the file. Make sure the commands are valid commands for the device. If not, the device ignores the statements. Also, make sure each command is entered on a separate line. Here is an example:

   ```
   snmp−server location 1st−floor

   snmp−server contact William Gimp
   ```
6. Save the file and exit the text editor.
7. Create a temporary file that contains the list of devices to be modified. The syntax of each line should be:

   −device *IP ADDRESS* **−f** *Config−File_to_Use*

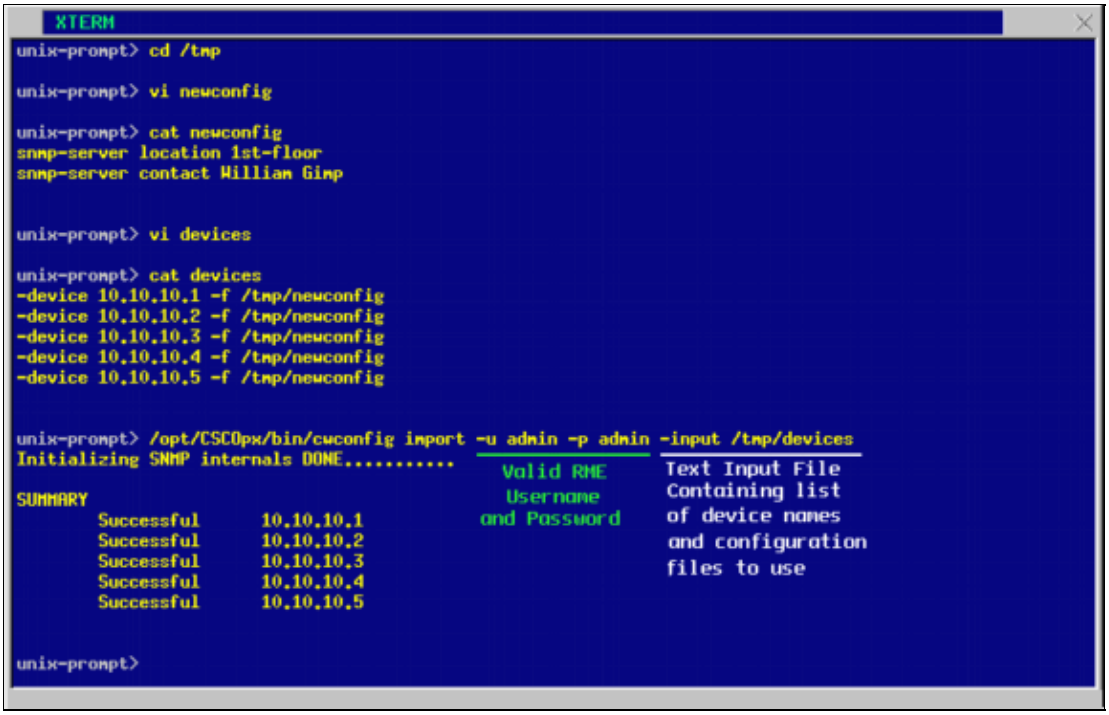
   This example uses the filename **/tmp/devices**.

   The file contents are shown here:

   ```
   −device 10.10.10.1 −f /tmp/newstuff
   −device 10.10.10.2 −f /tmp/newstuff
   −device 10.10.10.3 −f /tmp/newstuff
   −device 10.10.10.4 −f /tmp/newstuff
   −device 10.10.10.5 −f /tmp/newstuff
   ```
8. Save the file and exit the text editor.
9. Use the **cwconfig** program with the **−input** option to push the changes to the devices. (The **−input** option is used to specify the filename that contains the list of devices to modify.)

   unix−prompt# **/opt/CSCOpx/bin/cwconfig import −u admin −p admin −input /tmp/devices**

   An example of this process is shown here:



10. Make a Telnet connection to each of the devices and verify the configuration has been updated with the new information.

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Related Information

- **CiscoWorks Resource Manager Essentials Tech Notes**
- **Technical Support − Cisco Systems**

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