Password Recovery Procedure for the Cisco 2600 and 2800 Series Routers

Document ID: 22188

Introduction

This document describes how to recover the **enable password** and the **enable secret** passwords. These passwords protect access to privileged EXEC and configuration modes. The **enable password** password can be recovered, but the **enable secret** password is encrypted and must be replaced with a new password. Use the procedure described in this document in order to replace the **enable secret** password.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

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

- Cisco 2600 Series Router
- Cisco 2800 Series Router

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.

Related Products

Refer to Password Recovery Procedures for information on how to recover passwords for related products.

Conventions

Refer to Cisco Technical Tips Conventions for information on document conventions.

Step−by−Step Procedure

Follow these steps in order to recover your password:

1. Attach a terminal or PC with terminal emulation to the console port of the router.

   Use these terminal settings:

   - 9600 baud rate
   - No parity
   - 8 data bits
   - 1 stop bit
   - No flow control

   Refer to these documents for information on how to cable and connect a terminal to the console port or the AUX port:

   - Cabling Guide for Console and AUX Ports
   - Connecting a Terminal to the Console Port on Catalyst Switches
   - Connect a Terminal to Catalyst 2948G−L3, 4908G−L3, and 4840G Series Switches

2. If you can access the router, type **show version** at the prompt, and record the configuration register setting. See Example of Password Recovery Procedure in order to view the output of a **show version** command

   Note: The configuration register is usually set to 0x2102 or 0x102. If you can no longer access the router (because of a lost login or TACACS password), you can safely assume that your configuration register is set to *0x2102*.

3. Use the power switch in order to turn off the router, and then turn the router back on.

   Important Notes:

   - In order to simulate this step on a Cisco 6400, pull out and then plug in the Node Route Processor (NRP) or Node Switch Processor (NSP) card.
   - In order to simulate this step on a Cisco 6x00 with NI−2, pull out and then plug in the NI−2 card.

4. Press **Break** on the terminal keyboard within 60 seconds of power up in order to put the router into ROMMON.

   If the break sequence does not work, refer to Standard Break Key Sequence Combinations During Password Recovery for other key combinations.

5. Type **confreg 0x2142** at the `rommon 1>` prompt in order to boot from Flash.

   This step bypasses the startup configuration where the passwords are stored.

6. Type **reset** at the `rommon 2>` prompt.

   The router reboots, but ignores the saved configuration.

7. Type **no** after each setup question, or press **Ctrl−C** in order to skip the initial setup procedure.

8. Type **enable** at the `Router>` prompt.

   You are in enable mode and should see the `Router#` prompt.

9. Type **configure memory** or **copy startup−config running−config** in order to copy the nonvolatile RAM (NVRAM) into memory.

Important: Do *not* type **copy running−config startup−config** or **write**. These commands erase your startup configuration.

10. Type **show running−config**.

    The **show running−config** command shows the configuration of the router. In this configuration, the **shutdown** command appears under all interfaces, which indicates all interfaces are currently shut down. In addition, the passwords (enable password, enable secret, vty, console passwords) are in either an encrypted or unencrypted format. You can reuse unencrypted passwords. You must change encrypted passwords to a new password.

11. Type **configure terminal**.

    The `hostname(config)#` prompt appears.

12. Type **enable secret <*password*>** in order to change the **enable secret** password. For example:

        hostname(config)#**enable secret *cisco***

13. Issue the **no shutdown** command on every interface that you use.

    If you issue a **show ip interface brief** command, every interface that you want to use should display *up up*.

14. Type **config−register <*configuration_register_setting*>**. Where ***configuration_register_setting*** is either the value you recorded in step 2 or **0x2102** . For example:

        hostname(config)#**config−register *0x2102***

15. Press **Ctrl−z** or **end** in order to leave the configuration mode.

    The `hostname#` prompt appears.

16. Type **write memory** or **copy running−config startup−config** in order to commit the changes.

Example of Password Recovery Procedure

This section provides an example of the password recovery procedure. This example was created with a Cisco 2600 Series Router. Even if you do not use a Cisco 2600 Series Router, this output provides an example of what you should experience on your product.

```
Router>enable
Password:
Password:
Password:
% Bad secrets

Router>show version
Cisco Internetwork Operating System Software
IOS (tm) C2600 Software (C2600-IS-M), Version 12.0(7)T, RELEASE SOFTWARE (fc2)
Copyright (c) 1986-1999 by cisco Systems, Inc.
Compiled Tue 07-Dec-99 02:21 by phanguye
Image text-base: 0x80008088, data-base: 0x80C524F8

ROM: System Bootstrap, Version 11.3(2)XA4, RELEASE SOFTWARE (fc1)

Router uptime is 3 minutes
System returned to ROM by abort at PC 0x802D0B60
System image file is "flash:c2600-is-mz.120-7.T"

cisco 2611 (MPC860) processor (revision 0x202) with 26624K/6144K bytes of memory.
Processor board ID JAB031202NK (3878188963)
```

```
M860 processor: part number 0, mask 49
Bridging software.
X.25 software, Version 3.0.0.
Basic Rate ISDN software, Version 1.1.
2 Ethernet/IEEE 802.3 interface(s)
2 Serial(sync/async) network interface(s)
1 ISDN Basic Rate interface(s)
32K bytes of non-volatile configuration memory.
8192K bytes of processor board System flash partition 1 (Read/Write)
8192K bytes of processor board System flash partition 2 (Read/Write)

Configuration register is 0x2102

Router>



!--- The router was just powercycled, and during bootup a
!--- break sequence was sent to the router.



!

*** System received an abort due to Break Key ***

signal= 0x3, code= 0x500, context= 0x813ac158
PC = 0x802d0b60, Vector = 0x500, SP = 0x80006030
rommon 1 > confreg 0x2142

You must reset or power cycle for new config to take effect

rommon 2 > reset

System Bootstrap, Version 11.3(2)XA4, RELEASE SOFTWARE (fc1)
Copyright (c) 1999 by cisco Systems, Inc.
TAC:Home:SW:IOS:Specials for info
C2600 platform with 32768 Kbytes of main memory


program load complete, entry point: 0x80008000, size: 0x6fdb4c

Self decompressing the image : ###############################
################################################################
################################################################
################################################################
############################### [OK]


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 cisco Systems, Inc.
 170 West Tasman Drive
 San Jose, California 95134-1706

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8192K bytes of processor board System flash partition 2 (Read/Write)


 --- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

00:00:19: %LINK-3-UPDOWN: Interface BRI0/0, changed state to up
00:00:19: %LINK-3-UPDOWN: Interface Ethernet0/0, changed state to up
00:00:19: %LINK-3-UPDOWN: Interface Ethernet0/1, changed state to up
00:00:19: %LINK-3-UPDOWN: Interface Serial0/0, changed state to down
00:00:19: %LINK-3-UPDOWN: Interface Serial0/1, changed state to down
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0,
changed state to down
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
 changed state to up
Router>
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1,
changed state to up
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0,
changed state to down
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1,
changed state to down
00:00:50: %SYS-5-RESTART: System restarted --
Cisco Internetwork Operating System Software
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Copyright (c) 1986-1999 by cisco Systems, Inc.
Compiled Tue 07-Dec-99 02:21 by phanguye
00:00:50: %LINK-5-CHANGED: Interface BRI0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Serial0/0,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/1,
changed state to administratively down
00:00:52: %LINK-5-CHANGED: Interface Serial0/1,
changed state to administratively down
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
changed state to down
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1,
changed state to down
Router>
Router>enable
Router#copy startup-config running-config
Destination filename [running-config]?
1324 bytes copied in 2.35 secs (662 bytes/sec)
Router#
```

```
00:01:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:1,
changed state to down
00:01:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:2,
changed state to down
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#enable secret < password >
Router(config)#^Z
00:01:54: %SYS-5-CONFIG_I: Configured from console by console
Router#show ip interface brief

Interface    IP-Address      OK? Method   Status                    Protocol
Ethernet0/0 10.200.40.37    YES TFTP     administratively down     down
Serial0/0   unassigned      YES TFTP     administratively down     down
BRI0/0      193.251.121.157 YES unset    administratively down     down
BRI0/0:1    unassigned      YES unset    administratively down     down
BRI0/0:2    unassigned      YES unset    administratively down     down
Ethernet0/1 unassigned      YES TFTP     administratively down     down
Serial0/1   unassigned      YES TFTP     administratively down     down
Loopback0   193.251.121.157 YES TFTP     up                        up
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Ethernet0/0
Router(config-if)#no shutdown
Router(config-if)#
00:02:14: %LINK-3-UPDOWN: Interface Ethernet0/0, changed state to up
00:02:15: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0,
changed state to up
Router(config-if)#interface BRI0/0
Router(config-if)#no shutdown
Router(config-if)#
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0:1, changed state to down
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0:2, changed state to down
00:02:26: %LINK-3-UPDOWN: Interface BRI0/0, changed state to up
00:02:115964116991: %ISDN-6-LAYER2UP: Layer 2 for Interface BR0/0,
TEI 68 changed to up
Router(config-if)#^Z
Router#
00:02:35: %SYS-5-CONFIG_I: Configured from console by console
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#show version
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1 ISDN Basic Rate interface(s)
32K bytes of non-volatile configuration memory.
8192K bytes of processor board System flash partition 1 (Read/Write)
8192K bytes of processor board System flash partition 2 (Read/Write)

Configuration register is 0x2142

Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#config-register 0x2102
Router(config)#^Z
00:03:20: %SYS-5-CONFIG_I: Configured from console by console

Router#show version
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Configuration register is 0x2142 (will be 0x2102 at next reload)

Router#
```

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Related Information

- **Password Recovery Procedures**
- **Cabling Guide for Console and AUX Ports**
- **Connecting a Terminal to the Console Port on Catalyst Switches**
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- **Standard Break Key Sequence Combinations During Password Recovery**
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