
Contents

[Introduction](#)

[Step-by-Step Procedure](#)

[Example of Password Recovery Procedure](#)

[Related Information](#)

Introduction

This document describes the procedure for recovering an **enable password** or **enable secret** passwords. These passwords are used to protect access to privileged EXEC and configuration modes. The **enable password** password can be recovered but the **enable secret** password is encrypted and can only be replaced with a new password using the procedure below.

Note: This password recovery procedure works for the following Cisco products:

- Cisco 827
- Cisco uBR900
- Cisco 1003
- Cisco 1004
- Cisco 1005
- Cisco 1400
- Cisco 1600
- Cisco 1700
- Cisco 2600
- Cisco 3600
- Cisco 4500
- Cisco 4700
- Cisco AS5x00
- Cisco 6x00
- Cisco 7000 (RSP7000)
- Cisco 7100
- Cisco 7200
- Cisco 7500
- Cisco uBR7100
- Cisco uBR7200
- Cisco uBR10000
- Cisco 12000
- Cisco LS1010
- Catalyst 2948G-L3
- Catalyst 4840G
- Catalyst 4908G-L3
- Catalyst 5500 (RSM)
- Catalyst 8510-CSR
- Catalyst 8510-MSR
- Catalyst 8540-CSR
- Catalyst 8540-MSR
- Cisco MC3810
- Cisco NI-2
- Cisco VG200 Analog Gateway
- Route Processor Module

Step-by-Step Procedure

1. Attach a terminal or PC with terminal emulation to the console port of the router. Use the following terminal settings:

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

The required console cable specifications are described in the [Cabling Guide for RJ-45 Console and](#)

AUX Ports (Cisco's 1000 series, 2500 series, and AS5100).

2. If you still have access to the router, type **show version** and record the setting of the configuration register; it is usually 0x2102 or 0x102. [Click here](#) to see the output of a **show version** command.
3. If you don't have access to the router (because of a lost login or tacacs password), you can safely consider that your configuration register is set to 0x2102.
4. Using the power switch, turn off the router and then turn it back on.

Important: To simulate step 4 on a Cisco 6400, pull out and then replace the Node Route Processor (NRP) or Node Switch Processor (NSP) card.

Important: To simulate step 4 on a Cisco 6x00 using NI-2, pull out and then replace the NI-2 card.

5. Press **Break** on the terminal keyboard within 60 seconds of the power-up to put the router into ROMMON.

If the break sequence doesn't work, see [Possible Key Combinations for Break Sequence During Password Recovery](#) for other key combinations.

6. Type **confreg 0x2142** at the `rommon 1>` prompt to boot from Flash without loading the configuration.
7. Type **reset** at the `rommon 2>` prompt.

The router reboots but ignores its saved configuration.

8. Type **no** after each setup question or press **Ctrl-C** to skip the initial setup procedure.
9. Type **enable** at the `Router>` prompt.

You'll be in enable mode and see the `Router#` prompt.

10. **Important:** Type **configure memory** or **copy startup-config running-config** to copy the nonvolatile RAM (NVRAM) into memory. Do *not* type **configure terminal**.
11. Type **write terminal** or **show running-config**.

The **show running-config** and **write terminal** commands show the configuration of the router. In this configuration you see under all the interfaces the **shutdown** command, which means all interfaces are currently shutdown. Also, you can see the passwords (enable password, enable secret, vty, console passwords, and so on) either in encrypted or unencrypted format. The unencrypted passwords can be re-used, the encrypted ones will have to be changed with a new one.

12. Type **configure terminal** and make the changes.

The prompt is now `hostname(config)#`.

13. Type **enable secret <password>** to change the **enable secret** password, for example.

14. Issue the **no shutdown** command on every interface that is used. If you issue a **show ip interface brief** command, every interface that you want to use should be "up up".
15. Type **config-register 0x2102**, or the value you recorded in [step 2](#).
16. Press **Ctrl-z** or **end** to leave the configuration mode.

The prompt is now hostname#.

17. Type **write memory** or **copy running-config startup-config** to commit the changes.

Example of Password Recovery Procedure

The example below presents an actual password recovery procedure. We created this example using a Cisco 2600. Even if you are not using a Cisco 2600, this example will be almost exactly what you 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]
```

Restricted Rights Legend

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c) of the Commercial Computer Software - Restricted Rights clause at FAR sec. 52.227-19 and subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS sec. 252.227-7013.

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

```
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
```

```
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)
```

--- 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 t
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0, changed st
Router>
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1, changed st
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0, changed stat
00:00:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed stat
00:00:50: %SYS-5-RESTART: System restarted --
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
00:00:50: %LINK-5-CHANGED: Interface BRI0/0, changed state to administratively dc
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/0, changed state to administrative
00:00:52: %LINK-5-CHANGED: Interface Serial0/0, changed state to administratively
00:00:52: %LINK-5-CHANGED: Interface Ethernet0/1, changed state to administrative
00:00:52: %LINK-5-CHANGED: Interface Serial0/1, changed state to administratively
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0, changed st
00:00:53: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1, changed st
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
00:01:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface BRI0/0:2, changed state
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#enable secret cisco
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          Prot
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 st
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
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**

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 **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**

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 0x2142 (will be **0x2102** at next reload)

Router#

Related Information

- [Password Recovery Procedures Index](#)
 - [Standard Break Key Sequence Combinations During Password Recovery](#)
 - [Cabling Guide for RJ-45 Console and AUX Ports \(Cisco's 1000 series, 2500 series, and AS5100\)](#)
-

[HOME](#) [WHAT'S NEW](#) [LOGIN](#) [PROFILE](#) [FEEDBACK](#) [NAVIGATE](#) [SEARCH](#) [HELP](#)

All contents are Copyright © 1992--2001 Cisco Systems Inc. All rights reserved. [Important Notices](#) and [Privacy Statement](#).