Reserve Memory for Console Access

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The Reserve Memory for Console Access feature implements command-line interface (CLI) and software enhancements that allow you to reserve sufficient memory to log in to the router console and perform administrative tasks and troubleshooting. These enhancements give administrators the ability to log in to the router in any situation even when the router is running low on memory.

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the "Feature Information for Reserve Memory for Console Access" section on page 8.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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Information About Reserve Memory for Console Access

Before you increase the amount of memory reserved for console access, you should understand the following concepts:

More Reserved Memory for Console Access Benefit

Before the release of Cisco IOS 12.0(22)S software, you could not access the router console if a router was low on memory or was heavily fragmented. To maintain routers at optimum performance levels, you need to be able to access the console and perform troubleshooting when necessary.

With the release of the Reserve Memory for Console Access feature, the benefit is that you can reserve sufficient memory to log in to the router console and perform administrative tasks and troubleshooting in any situation, even when the router is running low on memory or is heavily fragmented.

Guidelines for Increasing Reserved Memory for Console Access

Cisco IOS software reserves a default of 256 kilobyte (KB) of memory for console access. You can increase the reserved memory through the use of the **memory reserved console** command provided by the Reserve Memory for Console Access feature.

The guideline we suggest for using the command is to configure a value greater than three times the number of the used bytes in NVRAM. You can obtain the number of used bytes in NVRAM from the output of the **dir nvram:** command. For example, if the total number of used bytes of NVRAM displayed in the command **dir nvram:** output is 129016 bytes, the nearest kilobyte value rounded off is 129 KB. This value multiplied by 3 is 387 KB. Following the guideline, you would enter 387 as the value for the *number-of-kilobytes* argument in the **memory reserved console** command. You can increase the reserved memory for console access to a maximum of 4096 KB.

To display the current operational size of the memory reserved for the console, you can use the **show memory console reserved** command.

How to Configure Reserve Memory for Console Access

This section provides contains the following procedure:

Configuring Reserve Memory for Console Access

Perform this task to configure reserve memory for console access. You may need to increase the amount of memory reserved for console access if the router is low on memory or is heavily fragmented. Increasing the memory allows console access to perform troubleshooting or other administrative tasks to maintain routers at optimum performance levels.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **memory reserve console** *number-of-kilobytes*
4. **exit**
5. **show memory console reserved**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**enable** **Example:** `Router> enable`	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Router# configure terminal`	Enters global configuration mode.
Step 3	**memory reserved console** *number-of-kilobytes* **Example:** `Router(config)# memory reserved console 512`	Increases the amount of memory reserved for console access. • The *number-of-kilobytes* argument is the amount of memory to be reserved in kilobytes. Valid values are 1 to 4096 KB.
Step 4	**exit** **Example:** `Router(config)# exit`	Exits to privileged exit mode.
Step 5	**show memory console reserved** **Example:** `Router# show memory console reserved`	Displays the actual amount of memory that has been reserved.

Examples

The following is sample output from the **show memory console reserved** command:

```
Router# show memory console reserved

Memory reserved for console is 201400
```

Configuration Examples for Reserve Memory for Console Access

This section provides the following configuration example:

- Configuring Reserve Memory for Console Access: Example.

Configuring Reserve Memory for Console Access: Example

The following example shows how to increase the reserve memory for console access to 1024 KB:

```
enable
!
configure terminal
!
memory reserved console 1024
end
```

The following example shows how to disable the increase in reserved memory for the console access:

```
enable
!
configure terminal
!
no memory reserved console
end
```

Additional References

The following sections provide references related to the Reserve Memory for Console Access feature.

Related Documents

Related Topic	Document Title
Cisco IOS Configuration Fundamentals commands	*Cisco IOS Configuration Fundamentals Command Reference*, Release 12.2
Cisco IOS Configuration Fundamentals configuration tasks and concepts	*Cisco IOS Configuration Fundamentals Configuration Guide*, Release 12.2

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified for this feature.	—

Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Command Reference

This section documents modified commands only.

- **memory reserved console**
- **show memory console reserved**

memory reserved console

To set the amount of memory reserved for console access, use the **memory reserved console** command in global configuration mode. To disable the change in memory reserved for console access, use the **no** form of this command.

memory reserved console *number-of-kilobytes*

no memory reserved console

Syntax Description

number-of-kilobytes	Amount of memory to be reserved in kilobytes. Minimum value is 1 KB and the maximum is 4096 KB.

Command Default

256 KB of memory is reserved for console use.

Command Modes

Global configuration

Command History

Release	Modification
12.0(22)S	This command was introduced.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.

Usage Guidelines

Use the **memory reserved console** command to give a value greater than three times the number of used bytes in NVRAM. Use the **dir nvram:** command to compute the number of used bytes in NVRAM.

Examples

The following example shows how to increase the memory from the default 256 KB to 387 KB:

```
configure terminal
memory reserved console 387
```

Related Commands

Command	Description
dir	Displays a list of files on a file system.
show memory console reserved	Displays the actual amount of memory that is reserved for router console use.

show memory console reserved

To display the actual amount of memory that is reserved for the router console, use the **show memory console reserved** command in user EXEC mode or privileged EXEC mode.

show memory console reserved

Syntax Description

This command has no arguments or keywords.

Command Modes

User EXEC
Privileged EXEC

Command History

Release	Modification
12.0(22)S	This command was introduced.
12.2(28)SB	This command was integrated into the Cisco IOS 12.2(28)SB release.

Examples

The following is sample output from the **show memory console reserved** command:

```
Router# show memory console reserved

Memory reserved for console is 262144 bytes
```

The output shows that approximately 262 KB of memory is reserved for console use.

Related Commands

Command	Description
memory reserved console	Sets the amount of memory reserved for console access.

Feature Information for Reserve Memory for Console Access

Table 1 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Cisco IOS software images are specific to a Cisco IOS software release, a feature set, and a platform. Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at http://www.cisco.com/go/fn. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

Note Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release. Unless noted otherwise, subsequent maintenance releases of that Cisco IOS software release also support that feature.

Table 1 Feature Information for Reserve Memory for Console Access

Feature Name	Releases	Feature Information
Reserve Memory for Console Access	12.0(22)S 12.2(28)SB	The Reserve Memory for Console Access feature implements command-line interface (CLI) and software enhancements that allow you to reserve sufficient memory to log in to the router console and perform administrative tasks and troubleshooting. These enhancements give administrators the ability to log in to the router in any situation even when the router is running low on memory. In 12.0(22)S, this feature was introduced. In 12.2(28)SB, this feature was integrated into a Cisco IOS 12.2SB release. The following sections provide information about this feature: • More Reserved Memory for Console Access Benefit, page 2 • Guidelines for Increasing Reserved Memory for Console Access, page 2 • Configuring Reserve Memory for Console Access, page 2 The following commands were modified by this feature: **memory reserved console**, **show memory console reserved**.