



Logging to Local Nonvolatile Storage (ATA Disk)

First Published: August 26, 2003

Last Updated: June 28, 2007

The Logging to Local Nonvolatile Storage (ATA Disk) feature enables system logging messages to be saved on an advanced technology attachment (ATA) flash disk. Messages saved on an ATA drive persist after a router is rebooted.

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 Logging to Local Nonvolatile Storage \(ATA Disk\)”](#) section on [page 9](#).

Finding Support Information for Platforms and Cisco IOS and Catalyst OS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

Contents

- [Restrictions for Logging to Local Nonvolatile Storage \(ATA Disk\)](#), page 2
- [Information About Logging to Local Nonvolatile Storage \(ATA Disk\)](#), page 2
- [How to Configure Logging to Local Nonvolatile Storage \(ATA Disk\)](#), page 3
- [Configuration Examples for Logging to Local Nonvolatile Storage \(ATA Disk\)](#), page 4
- [Additional References](#), page 5
- [Command Reference](#), page 6
- [Feature Information for Logging to Local Nonvolatile Storage \(ATA Disk\)](#), page 9



Americas Headquarters:

Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

© 2003, 2006, 2007 Cisco Systems, Inc. All rights reserved.

Prerequisites for Logging to Local Nonvolatile Storage (ATA Disk)

The logging buffered Command Must Be Enabled

Before the Logging to Local Nonvolatile Storage (ATA Disk) feature can be enabled with the **logging persistent** command, you must enable the logging of messages to an internal buffer with the **logging buffered** command. For additional information, refer to the [“Writing Logging Messages to an ATA Disk”](#) section on page 3, and to the [“Related Documents”](#) section on page 5.

Restrictions for Logging to Local Nonvolatile Storage (ATA Disk)

Available ATA Disk Space Constrains the Size and Number of Stored Log Files

The amount of ATA disk space allocated to system logging messages constrains the number of logging files that can be stored. When the allocation threshold is passed, the oldest log file in the directory is deleted to make room for new system logging messages. To permanently store system logging messages, you must archive them to an external device. For more information, refer to the [“Copying Logging Messages to an External Disk”](#) section on page 4.

Information About Logging to Local Nonvolatile Storage (ATA Disk)

The Logging to Local Nonvolatile Storage (ATA Disk) feature adds a router’s ATA flash disk as a storage destination for logging messages. When using this feature, be sure to understand the following concepts:

- [System Logging Messages, page 2](#)
- [ATA Flash Disks, page 2](#)

System Logging Messages

System logging messages include error and debug messages generated by application programming interfaces (APIs) on the router. Typically, logging messages are stored in a router’s memory buffer; when the buffer is full, older messages are overwritten by new messages. All logging messages are erased from the memory buffer when the router reboots.

ATA Flash Disks

ATA flash disks are PC cards included with some Cisco routers, which are used to provide nonvolatile data storage. The greater the capacity of the ATA flash disk, the more data, such as logging messages, it can hold. Logging messages written to an ATA flash disk persist when the router reboots.

How to Configure Logging to Local Nonvolatile Storage (ATA Disk)

This section contains the following procedures:

- [Writing Logging Messages to an ATA Disk, page 3](#) (required)
- [Copying Logging Messages to an External Disk, page 4](#) (optional)

Writing Logging Messages to an ATA Disk

Perform this task to enable the Logging to Local Nonvolatile Storage (ATA Disk) feature and write logging messages to an ATA flash disk:

SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `logging buffered` [*buffer-size* | *severity-level*]
4. `logging persistent` [*url* {**disk0:**/*directory* | **disk1:**/*directory*}] [**size** *filesystem-size*] [*filesize* *logging-file-size*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code>	Enables privileged EXEC mode. • Enter your password if prompted.
	Example: Router> <code>enable</code>	
Step 2	<code>configure terminal</code>	Enables global configuration mode.
	Example: Router# <code>configure terminal</code>	

	Command or Action	Purpose
Step 3	logging buffered [<i>buffer-size</i> <i>severity-level</i>] Example: Router(config)# logging buffered	Enable system message logging to a local buffer and limits messages logged to the buffer based on severity. - The optional <i>buffer-size</i> argument specified the size of the buffer from 4096 to 4,294,967,295 bytes. The default size varies by platform. - The optional <i>severity-level</i> argument limits the logging of messages to the buffer to those no less severe than the specified level.
Step 4	logging persistent [<i>url</i> { <i>disk0:/directory</i> <i>disk1:/directory</i> }] [<i>size filesystem-size</i>] [<i>filesize logging-file-size</i>] Example: Router(config)# logging persistent url disk0:/syslog size 134217728 filesize 16384	Writes logging messages from the memory buffer to the specified directory on the router's ATA disk. - Before logging messages are written to a file on the ATA disk, the Cisco IOS software checks to see if there is sufficient disk space. If not, the oldest file of logging messages (by timestamp) is deleted, and the current file saved. - The filename format is <i>log_month:day:year::time</i>. For example: log_08:10:2003::07:42:14.

Copying Logging Messages to an External Disk

Perform this task to copy logging messages from the ATA flash disk to an external disk:

SUMMARY STEPS

1. enable
2. copy

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	copy Example: Router# copy disk0:/syslog ftp://myuser/mypass@192.168.1.129/syslog	Copies the specified file or directory on the ATA flash disk via FTP to the specified URL.

Configuration Examples for Logging to Local Nonvolatile Storage (ATA Disk)

This section provides the following configuration examples:

- [Writing Logging Messages to an ATA Disk: Example, page 5](#)

- [Copying Logging Messages to an External Disk: Example, page 5](#)

Writing Logging Messages to an ATA Disk: Example

The following example shows how to write up to 134217728 bytes (128 MB) of logging messages to the syslog directory of disk 0, specifying a file size of 16384 bytes:

```
Router(config)# logging buffered
Router(config)# logging persistent url disk0:/syslog size 134217728 filesize 16384
```

Copying Logging Messages to an External Disk: Example

The following example shows how to copy logging messages from the router's ATA flash disk to an external disk:

```
Router# copy disk0:/syslog ftp://myuser/mypass@192.168.1.129/syslog
```

Additional References

The following sections provide references related to the Logging to Local Nonvolatile Storage (ATA Disk) feature.

Related Documents

Related Topic	Document Title
<code>copy</code> command	Cisco IOS Configuration Fundamentals Command Reference , Release 12.4
<code>logging buffered</code> command	Cisco IOS Network Management Command Reference , Release 12.4T

Standards

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

MIBs

MIBs	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

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

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/techsupport

Command Reference

This section documents only commands that are new or modified.

- [logging persistent](#)

logging persistent

To enable the storage of logging messages on the router's advanced technology attachment (ATA) disk, use the **logging persistent** command in global configuration mode. To disable logging message storage on the ATA disk, use the **no** form of this command.

logging persistent [**url** {**disk0:/directory** | **disk1:/directory**}] [**size** *filesystem-size*]
[**filesize** *logging-file-size*]

no logging persistent

Syntax Description	
url	(Optional) Any supported local Cisco IOS file system location. The default URL is disk0:/syslog.
disk0:/directory	Directory on disk 0 where syslog messages are saved.
disk1:/directory	Directory on disk 1 where syslog messages are saved.
size <i>filesystem-size</i>	(Optional) Amount of disk space allocated to syslog messages in bytes. - Minimum value is 16384. - Maximum value is the total amount of available disk space. - Default value is 10% of total disk space.
filesize <i>logging-file-size</i>	(Optional) Size of individual logging files in bytes. - Minimum value is 8192. - Maximum value is the total amount of available disk space. - Default value is 262144.

Command Default The logging messages are not stored in the router's ATA memory.

Command Modes Global configuration (config)

Command History	Release	Modification
	12.0(26)S	This command was introduced.
	12.2(25)S	This command was integrated into Cisco IOS Release 12.2(25)S.
	12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB and implemented on the Cisco 10000 series router.
	12.2(33)SRB	This command was integrated into Cisco IOS Release 12.2(33)SRB.
	12.4(15)T	This command was integrated into Cisco IOS Release 12.4(15)T.

Usage Guidelines The **logging persistent** command enables the storage of syslog data on the router's ATA Flash disk. Because the syslog data must be copied from the router's internal memory buffer, you must enable the **logging buffered** command prior to enabling the **logging persistent** command.

■ logging persistent



Note

Any filtering of syslog messages written to the router’s internal memory buffer results in filtering of syslog messages written to the router’s ATA Flash disk.

Examples

The following example shows how to write up to 134217728 bytes (128 MB) of logging messages to the syslog directory of disk 0, with a file size of 16384 bytes:

```
Router(config)# logging buffered
Router(config)# logging persistent url disk0:/syslog size 134217728 filesize 16384
```

Related Commands

Command	Description
logging buffered	Saves syslog messages in router memory.

Feature Information for Logging to Local Nonvolatile Storage (ATA Disk)

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.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

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

Table 1 Feature Information for Logging to Local Nonvolatile Storage (ATA Disk)

Feature Name	Releases	Feature Information
Logging to Local Nonvolatile Storage (ATA Disk)	12.0(26)S 12.2(25)S 12.2(28)SB 12.2(33)SRB 12.4(15)T	The Logging to Local Nonvolatile Storage (ATA Disk) feature enables system logging messages to be saved on an advanced technology attachment (ATA) flash disk. Messages saved on an ATA drive persist after a router is rebooted. This feature was introduced in Cisco IOS Release 12.0(26)S. This feature was integrated into Cisco IOS Release 12.2(25)S. This feature was integrated into Cisco IOS Release 12.2(28)SB and implemented on the Cisco 10000 series router. This feature was integrated into Cisco IOS Release 12.2(33)SRB. This feature was integrated into Cisco IOS Release 12.4(15)T and renamed from “SYSLOG Writing to Flash” to “Logging to Local Nonvolatile Storage (ATA Disk).”

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

© 2003, 2006, 2007 Cisco Systems, Inc. All rights reserved.