

Hexdump Module Configuration Mode Commands

Command Modes

The Hexdump Module Configuration Mode is used to configure how hexdump records generated from the **monitor subscriber** and **monitor potocol** commands are handled.

Exec > Global Configuration > Context Configuration > Hexdump Module Configuration

configure > context *context_name* **> hexdump-module**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-hexdump)#
```

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

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do show

Executes all **show** commands while in Configuration mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

```
do show
```

Usage Guidelines

Use this command to run all Exec mode **show** commands while in Configuration mode. It is not necessary to exit the Config mode to run a **show** command.

The pipe character **|** is only available if the command is valid in the Exec mode.

Caution There are some Exec mode **show** commands which are too resource intensive to run from Config mode. These include: **do show support collection**, **do show support details**, **do show support record** and **do show support summary**. If there is a restriction on a specific **show** command, the following error message is displayed:

```
Failure: Cannot execute 'do show support' command from Config mode.
```

end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **exit**

Usage Guidelines Use this command to return to the parent configuration mode.

file

Sets the format and handling characteristics of hexdump files.

Product ePDG

SaMOG

Privilege Administrator

Command Modes Exec > Global Configuration > Context Configuration > Hexdump Module Configuration

configure > context *context_name* **>hexdump-module**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-hexdump)#
```

Syntax Description

file [compression { gzip | none } | current-prefix *prefix* **| delete-timeout** *seconds* **| directory** *directory_name* **| exclude-checksum-record | field-separator { hyphen | omit | underscore } | headers | name** *file_name* **| reset-indicator | rotation { num-records** *number* **| tariff-time minute** *minutes* **hour** *hours* **| time** *seconds* **| volume** *bytes* **} | sequence-number { length** *length* **| omit | padded | padded-six-length | unpadded } | storage-limit** *limit* **| time-stamp { expanded-format | rotated-format | unix-format } | trailing-text** *string* **| trap-on-file-delete | xor-final-record | monitor-subscriber-file-name {none | imsi | username | call_id}] +**

default file [compression | current-prefix | delete-timeout | directory | field-separator | headers | name | reset-indicator | rotation { num-records | tariff-time | time | volume } | sequence-number | storage-limit | time-stamp | trailing-text | trap-on-file-delete]+

default

Configures the default setting for the specified keyword(s).

compression { gzip | none }

Specifies the compressions of hexdump files.

- **gzip**: Enables GNU zip compression of the hexdump file at approximately 10:1 ratio.
- **none**: Disables Gzip compression.

current-prefix *prefix*

Specifies a string to add at the beginning of the hexdump file that is currently being used to store records.

prefix must be an alphanumeric string of 1 through 31 characters. Default: **curr**

delete-timeout *seconds*

Specifies a time period, in seconds, after which the hexdump files are deleted. By default, files are never deleted.

seconds must be an integer from 3600 through 31536000. Default: Disabled

directory *directory_name*

Specifies a subdirectory in the default directory in which to store hexdump files.

directory_name must be an alphanumeric string of 1 through 191 characters. Default: **/records/hexdump**

exclude-checksum-record

Excludes the final record containing #CHECKSUM followed by the 32-bit Cyclic Redundancy Check (CRC) of all preceding records from the hexdump file.

Default: Disabled, a checksum record is included in the hexdump file header.

field-separator { hyphen | omit | underscore }

Specifies the type of separators between two fields of a hexdump file name:

- **hyphen**: Specifies the field separator as a "-" (hyphen) symbol between two fields.
- **omit**: Omits the field separator between two fields.
- **underscore**: Specifies the field separator as an "_" (underscore) symbol between two fields.

headers

Includes a file header summarizing the record layout.

name *file_name*

Specifies a string to be used as the base file name for hexdump files.

file_name must be an alphanumeric string from 1 through 31 characters.

reset-indicator

Specifies the inclusion of the reset indicator counter (value from 0 through 255) in the hexdump file name. The counter is incremented whenever any of the following conditions occur:

- A peer chassis has taken over in compliance with Interchassis Session Recovery (ICSR).
- The sequence number (see **sequence-number** keyword) has rolled over to zero.

rotation { num-records *number* | tariff-time minute *minutes* hour *hours* | time *seconds* | volume *bytes* }

Specifies when to close a hexdump file and create a new one.

- **num-records** *number* : Specifies the maximum number of records that should be added to a hexdump file. When the number of records in the file reaches this value, the file is complete.

  number must be an integer from 100 through 10240. Default: 1024

- **tariff-time minute** *minutes* **hour** *hours* : Specifies to close the current hexdump file and create a new one based on the tariff time (in minutes and hours).

  minutes must be an integer from 0 through 59.

  hours must be an integer from 0 through 23.

- **time** *seconds* : Specifies the period of time to wait (in seconds) before closing the current hexdump file and creating a new one.

  seconds must be an integer from 30 through 86400. Default: 3600



Important It is recommended to set the rotation time to 30 seconds.

- **volume** *bytes* : Specifies the maximum size of the hexdump file (in bytes) before closing it and creating a new one.

bytes must be an integer from 51200 through 62914560. Note that a higher setting may improve the compression ratio when the compression keyword is set to gzip. Default: 102400

sequence-number { length *length* | omit | padded | padded-six-length | unpadded }

Specifies to exclude or include the sequence number with a specified format in the file name.

- **length** *length*: Includes the sequence number with the specified length.

  length must be the file sequence number length with preceding zeroes in the file name, and must be an integer from 1 through 9.

- **omit**: Excludes the sequence number from the file name.
- **padded**: Includes the padded sequence number with preceding zeros in the file name. This is the default setting.
- **padded-six-length**: Includes the padded sequence number with six preceding zeros in the file name.
- **unpadded**: Includes the unpadded sequence number in the file name.

storage-limit *limit*

Files will be deleted when the specified amount of space (in bytes) is reached.

limit must be an integer from 10485760 through 268435456.

time-stamp { expanded-format | rotated-format | unix-format }

Specifies the format of the file creation timestamp to be included in the file name.

- **expanded-format**: Specifies the UTC (Universal Time Coordinated) MMDDYYYYHHMMSS format.
- **rotated-format**: Specifies the time stamp format to YYYYMMDDHHMMSS format.
- **unix-format**: Specifies the UNIX format of *x.y*, where *x* is the number of seconds since 1/1/1970 and *y* is the fractional portion of the current second that has elapsed.

trailing-text *string*

Specifies the inclusion of an arbitrary text string in the file name as an alphanumeric string of 1 through 30 characters.

string must be an alphanumeric string from 1 through 30 characters.

trap-on-file-delete

Instructs the system to send an SNMP notification (trap) when a hexdump file is deleted due to lack of space.

Default: Disabled

xor-final-record

Specifies to insert an exclusive OR (XOR) checksum (instead of a CRC checksum) into the hexdump file header, if the **exclude-checksum-record** is left at its default setting. Default: Disabled

monitor-subscriber-file-name

The monitor-subscriber-file-name option controls the naming of captured PCAP files. This option specifies if the filename includes the IMSI, Call ID, or Username. This setting applies only to PCAP files, not traditional hexdump files. Default: IMSI.

+

More than one of the previous keywords can be entered within a single command.

Usage Guidelines

Use this command to configure hexdump file characteristics.

Example

The following command sets a time-based storage limit of 30 seconds, rotation volume to 51200 bytes and compression to gzip format for hexdump record files:

```
file rotation volume 51200 rotation time 30 compression gzip
```

The following command sets the base file name to *Hexdumpfile*:

```
file name Hexdumpfile
```

hexdump

Sets the method and destination for transferring hexdump files.

Product

ePDG

SaMOG

Privilege

Administrator

Command Modes

Exec > Global Configuration > Context Configuration > Hexdump Module Configuration

configure > **context** *context_name* >**hexdump-module**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-hexdump)#
```

Syntax Description

hexdump { purge { storage-limit *megabytes* **| time-limit** *seconds* **} [max-files** *max_records* **] | push-interval** *interval* **| push-trigger space-usage-percent** *trigger_percent* **| remove-file-after-transfer | transfer-mode { pull [module-only] | push primary { encrypted-url | url }** *url* **[secondary { encrypted-secondary-url | secondary-url }** *secondary_url* **] [via local-context] [max-files** *files* **] [max-tasks** *max_tasks* **] [module-only] } | use-harddisk | monitor-subscriber-poll-timeout** *poll_timer_val_milliseconds***}**

default hexdump [purge | push-interval | push-trigger [space-usage-percent] | remove-file-after-transfer | transfer-mode [module-only] | use-harddisk] +

no hexdump [purge | remove-file-after-transfer | use-harddisk] +

default

Configures the default setting for the specified keyword(s):

- **purge**: Not enabled.
- **push-interval**: 60 seconds
- **push-trigger**: 80 percent
- **remove-file-after-transfer**: Disabled
- **transfer mode**: Push
- **use-harddisk**: Disabled
- **monitor-subscriber-poll-timeout**: 30 seconds

no

Disables the configured hexdump file storage and processing in this mode:

- **purge**: Disables the deleting of record files on the hard disk based on a storage limit or a time limit.
- **remove-file-after-transfer**: Retains a copy of the file even after it has been pushed or pulled to another server.
- **use-harddisk**: Disables data storage on the system's hard disk.

purge { storage-limit *bytes* | time-limit *seconds* } [max-files *max_records*]

Configures parameters for deleting hexdump records from the hard drive. This command is not enabled by default.

- **storage-limit** *megabytes* : Specifies that hexdump records are to be deleted from the hard drive upon reaching a storage limit defined in megabytes.

  bytes must be an integer from 10 through 143360.

- **time-limit** *seconds* : Specifies that hexdump records are to be deleted from the hard drive upon reaching a time limit defined in seconds.

  seconds must be an integer from 600 through 2592000.

- **max-files** *max_records* : Specifies the maximum number of files to purge. If configured to 0, all records will be purged until the limit is reached.

  max_records must be an integer that is of value 0, or from 1000 through 10000.

push-interval *interval*

Specifies the transfer interval (in seconds) when hexdump files will be pushed to an external file server.

interval must be an integer from 30 through 3600. Default: 60

push-trigger space-usage-percent *trigger_percent*

Specifies the disk space utilization percentage threshold at which an automatic push is triggered and files are transferred to the external server.

trigger_percentage must be an integer from 10 through 80. Default: 80

remove-file-after-transfer

Specifies that the system must delete hexdump files after they have been transferred to the external file server.



Important The **remove-file-after-transfer** keyword must be enabled for hexdump records.

Default: Disabled

transfer-mode { pull [module-only] | push primary { encrypted-url | url } *url* [secondary { encrypted-secondary-url | secondary-url } *secondary_url*] [via local-context] [max-files *files*] [max-tasks *max_tasks*] [module-only] }

Specifies the transfer mode to be used when transferring hexdump files to an external file server.

- **pull**: Specifies that the destination server (external storage) will pull the hexdump files.
- **push**: Specifies that the system will push hexdump files to the destination server. This is the default mode.
- **primary encrypted-url** *url*: Specifies the primary URL location to which the system pushes the files in encrypted format.

  url must be an alphanumeric string of 1 through 8192 characters.
- **primary url** *url*: Specifies the primary URL location to which the system pushes the hexdump files.

  url must be an alphanumeric string of 1 through 1024 characters in the format: *//user:password@host:[port]/direct*.
- **secondary encrypted-secondary-url** *secondary_url*: Specifies the secondary URL location to which the system pushes the files in encrypted format.

  secondary_url must be an alphanumeric string of 1 through 8192 characters.
- **secondary secondary-url** *secondary_url*: Specifies the secondary URL location to which the system pushes the hexdump files.

  secondary_url must be an alphanumeric string of 1 through 1024 characters in the format: *//user:password@host:[port]/direct*.
- **via local-context**: Specifies that the local context, and, subsequently, the SPIO management ports, will be used to pull or push hexdump files.
- **max-files** *files* : Specifies the maximum number of files that can be transferred per push.

  files must be an integer from 4 to 4000.
- **max-tasks** *max_tasks* : Specifies the maximum number of files per push.

  max_tasks must be an integer from 4 through 8.

- **module-only**: Specifies that the transfer of hexdump records is to be applied only to the module type for which the configuration was originally created. If this option is not enabled, the transfer will occur for all record types.

use-harddisk

Specifies that the hard disk drive on the SMC is to be used to store hexdump records.



Important The **use-harddisk** keyword must be enabled for hexdump records.

Default: Disabled

monitor-subscriber-poll-timeout

poll_timer_val_milliseconds must be within 10 milliseconds to 60 seconds.

Default: 30 seconds

Usage Guidelines

Use this command to configure how the hexdump records are moved and stored. By default, records are stored in the PSC RAM where the CDRMOD instance is running.

The **hexdump use-harddisk** command can be run only in a context where CDRMOD is running. Configuring in any other context will result in failure with the message "Failure: Please Check if CDRMOD is running in this context or not."

If push transfer mode is configured, the server URL to which the hexdump files will be transferred must be specified.

When changing the transfer-mode from pull to push, disable the pull setting before changing the transfer mode to push. The push to server URL must be accessible from the local context. Also, make sure that its base directory contains an **hexdump** subdirectory.

After changing the transfer mode from push to pull, enable pull on the destination server. Any ongoing push activity will continue until all the file transfers are completed. If there is no ongoing push activity at the time of this configuration change, the push-related configuration is nullified immediately.

Example

The following command enables file removal operation after hexdump file transfer.

```
hexdump remove-file-after-transfer
```