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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'mcelog.triggers.5' command

\$ man mcelog.triggers.5

mcelog.triggers(5) File Formats Manual mcelog.triggers(5)

NAME

mcelog.triggers - mcelog trigger scripts reference

SYNOPSIS

/etc/mcelog/bus-error-trigger
/etc/mcelog/cache-error-trigger
/etc/mcelog/dimm-error-trigger
/etc/mcelog/iomca-error-trigger
/etc/mcelog/page-error-trigger
/etc/mcelog/socket-memory-error-trigger
/etc/mcelog/unknown-error-trigger

DESCRIPTION

mcelog(8) maintains thresholds of errors using a leaky-bucket algorithm. When the number of errors in a specific time window exceeds a pre-configured threshold a trigger will be executed. Triggers are usually shell scripts in the /etc/mcelog directory but can be also other internal actions. Thresholds and triggers can be configured in mcelog.conf(5)

Trigger will run as the user configured for mcelog in mcelog.conf, by default root. The default trigger action can be overridden by specifying a different trigger script in the configuration file. Actions in addition to the default trigger (like notifying an administrator) can be put into the respective /etc/mcelog/*.local script which is executed

after the default action. This allows updating the default scripts without overriding local actions. All trigger actions are also logged to syslog.

The DIMM and socket memory error triggers

The `/etc/mcelog/dimm-error-trigger` and `/etc/mcelog/socket-memory-error-trigger` scripts are executed when a DIMM or a CPU socket exceeds a configured corrected or uncorrected memory error threshold. The thresholds are configured in the `mcelog.conf` `[dimm]` and `[socket]` sections.

The default triggers log a warning message in the system log. The triggers are only executed when `mcelog` runs as a daemon.

Arguments are passed as environment variables

`THRESHOLD` human readable threshold status

`MESSAGE` Human readable consolidated error message

`TOTALCOUNT` total corrected or uncorrected count of errors for current DIMM depending on what triggered the event

`LOCATION` Consolidated location as a single string

`DMI_LOCATION` DIMM location from DMI/SMBIOS if available

`DMI_NAME` DIMM identifier from DMI/SMBIOS if available

`DIMM` DIMM number reported by hardware

`CHANNEL` Channel number reported by hardware

`SOCKETID` Socket ID of CPU that includes the memory controller with the DIMM

`CECOUNT` Total corrected error count for DIMM

`UCCOUNT` Total uncorrected error count for DIMM

`LASTEVENT` Time stamp of event that triggered threshold (in `time_t` format, seconds)

`THRESHOLD_COUNT` Total number of events in current threshold time period of specific type

After the default action local actions in `/etc/mcelog/dimm-error-trigger.local` or respective `/etc/mcelog/socket-memory-error-trigger.local` are executed.

The page error trigger

The `/etc/mcelog/page-error-trigger` script is executed by `mcelog` in daemon mode when a page in memory exceeds a pre-configured corrected or uncorrected error threshold. `mcelog` internally also implements offlining the page through the kernel. This is configured through the

[page] section of mcelog.conf(5)

The environment arguments are the same as for the dimm-error-trigger script

After the default action local actions in /etc/mcelog/page-error-trigger.local are executed.

The cache error trigger

The /etc/mcelog/cache-error-trigger shell script is called for cache error handling in daemon mode when a CPU reports excessive corrected cache errors. This could be a indication for future uncorrected errors.

This trigger is configured through the [cache] section in the mcelog.conf(5) configuration file. The threshold is defined by the CPU.

The default trigger offlines the affected CPU cores, unless it is the last core running.

Arguments are passed as environment variables

MESSAGE Human readable error message

CPU Linux CPU number that triggered the error

LEVEL Cache level affected by error

TYPE Cache type affected by error (Data,Instruction,Generic)

AFFECTED_CPUS List of CPUs sharing the affected cache

SOCKETID Socket ID of affected CPU

After the default action local actions in /etc/mcelog/cache-error-trigger.local are executed.

The bus-uc-threshold-trigger

The bus-uc-threshold-trigger runs on uncorrected errors on a IO bus. It is configured through the bus-uc-threshold-trigger and bus-uc-threshold-trigger-threshold options in /etc/mcelog.conf(5). By default it logs a message with the error location to the system log. After the default action local actions in /etc/mcelog/bus-uc-error-trigger.local are executed.

Arguments are passed as environment variables

MESSAGE Human readable consolidated error message.

LOCATION Consolidated location as a single string

SOCKETID Socket ID of CPU that includes the memory controller with the DIMM

LEVEL Interconnect level

PARTICIPATION Processor Participation (Originator, Responder or Observer)

REQUEST Request type (read, write, prefetch, etc.)

ORIGIN Memory or IO

TIMEOUT The request timed out or not

The iomca-error-trigger

The iomca-error-trigger runs when a socket receives bus or interconnect errors. It is configured through the iomca-error-trigger and iomca-error-trigger-threshold options in /etc/mcelog.conf. By default it logs a message with the error location to the system log. After the default action local actions in /etc/mcelog/iomca-error-trigger.local are executed.

Arguments are passed as environment variables

MESSAGE Human readable consolidated error message

LOCATION Consolidated location as a single string

SOCKETID Socket ID of CPU that includes the memory controller with the DIMM

CPU Linux CPU number that triggered the error

SET PCI segment number

BUS PCI bus number

DEVICE PCI device number

FUNCTION PCI function number

The unknown-error-trigger

The unknown-error-trigger runs on any errors not otherwise categorized. It is configured through the unknown-error-trigger and unknown-error-trigger-threshold options in /etc/mcelog.conf. By default it logs a message to the system log. After the default action local actions in /etc/mcelog/unknown-error-trigger.local are executed.

Arguments are passed as environment variables

MESSAGE Human readable consolidated error message

LOCATION Consolidated location as a single string

SOCKETID Socket ID of CPU that includes the memory controller with the DIMM

CPU Linux CPU number that triggered the error

STATUS IA32_MCi_STATUS register value

ADDR IA32_MCi_ADDR register value

MISC IA32_MCi_MISC register value

MCGSTATUS IA32_MCG_STATUS register value

MCGCAP IA32_MCG_CAP register value

SEE ALSO

<http://www.mcelog.org>

mcelog(8), mcelog.conf(5)

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