



MTX- rev02

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# Contents

<b>1 Appendixes.....</b>	<b>4</b>
System Log Configuration Files.....	4
logrotate_mtx.conf File.....	4
rotate_mtx_logs.py.....	8
<b>Index.....</b>	<b>a</b>

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# Appendices

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This chapter includes the following topics:

[System Log Configuration Files](#)

## System Log Configuration Files

Use the system log scripts and configuration files to configure log rotation, gather system logs, set object tracing, and change the log level dynamically.

### **logrotate\_mtx.conf File**

Use the `logrotate_mtx.conf` file to configure system log rotation behavior for either a MATRIXX Engine or a Traffic Routing Agent (TRA) server. By default, the log volume is checked on a daily basis to determine if log rotation is needed, based on the settings defined in this file.

#### **Example 1: Example MTX logrotate\_mtx.conf File**

The following example `logrotate_mtx.conf` file shows the default values for MATRIXX Engine log rotation. It describes the values set for the system log, debug log, command log, and process control log.

Depending on your workload and the log level configured for your system, you might need to change the rotation time period and the log file volume in these files. Typically, you do not need to change any other parameter values.

After specifying the configuration parameters, copy this file from the `/opt/mtx/data` directory to the `/etc/logrotate.d/mtx` directory. For more information about the configuring log rotation, see the discussion about configuring log rotation.

```
#  
# /etc/logrotate.d/mtx  
#  
# This is a sample logrotate configuration for mtx.  
#  
# The default configuration for mtx.log will  
# (1) Rotate 30 times before being removed.  
# (2) The log file is created immediately after rotation (before the  
#     postrotate script is run).  
# (3) Log files are rotated every day.  
# (4) If the log file is missing, go on to the next one without an error.  
# (5) Do not rotate the log if it is empty.  
# (6) Old versions of log files are compressed with gzip.  
# (7) Postpone compression of the previous log file to the next rotation  
#     cycle.  
# (8) Log file is rotated when it grows bigger than 100M.  
# (9) Reload rsyslog to create a new mtx.log file and file permission  
#     of mtx.log file to be readable by 'mtx' user after the log file is  
#     rotated.  
#  
# The default configuration for mtx_cmd.log will  
# (1) Rotate 7 times before being removed.  
# (2) The original log file is truncated to zero size in place after  
#     creating a copy. Note: There is a very small time slice between  
#     copying the file and truncating it, so some logging data might be
```

```

#      lost.

# (3) Log files are rotated every day.
# (4) If the log file is missing, go on to the next one without an error.
# (5) Do not rotate the log if it is empty.
# (6) Old versions of log files are not compressed.
# (7) Log file is rotated when it grows bigger than 100M.
#
# The default configuration for mtx_debug.log will
# (1) Rotate 7 times before being removed.
# (2) The log file is created immediately after rotation (before the
#     postrotate script is run).
# (3) Log files are rotated every day.
# (4) If the log file is missing, go on to the next one without an error.
# (5) Do not rotate the log if it is empty.
# (6) Old versions of log files are not compressed.
# (7) Log file is rotated when it grows bigger than 500M.
# (8) Send USR2 signal to mtx servers so that it can start using new log
#     log file after the log file is rotated.
#
# The default configuration for mtx_process_ctrl.log will
# (1) Rotate 30 times before being removed.
# (2) The original log file is truncated to zero size in place after
#     creating a copy. Note: There is a very small time slice between
#     copying the file and truncating it, so some logging data might be
#     lost.
# (3) Log files are rotated every day.
# (4) If the log file is missing, go on to the next one without an error.
# (5) Do not rotate the log if it is empty.
# (6) Old versions of log files are compressed with gzip.
# (7) Postpone compression of the previous log file to the next rotation
#     cycle.
# (8) Log file is rotated when it grows bigger than 100M.
# (9) Change file permission of mtx_process_ctrl.log file to be readable by
#     'mtx' user after the log file is rotated.
#
# Note: Do the following to allow mtx.log file rotation, which requires
# 'root' privileges.
# (1) copy and rename this file to /etc/logrotate.d/mtx (i.e.
#     'cp logrotate_mtx.conf /etc/logrotate.d/mtx')
# (2) [Optional] If need to check log file size more often than daily,
#     copy and rename cron-hourly-logrotate-mtx to
#     /etc/cron.hourly/logrotate-mtx (i.e. 'cp cron-hourly-logrotate-mtx
#     /etc/cron.hourly/logrotate-mtx')
# (3) restart cron service (i.e. 'systemctl restart crond' on RedHat 7)
#
# Note: [Optional] Log files can be offloaded at the postrotate step.
#
#
# The path for mtx.log must match with the value specified in
# /etc/rsyslog.d/20-mtx.conf file.
#
/var/log mtx/mmtx.log "mtx.log"
{
    rotate 30
    create
    daily
    missingok

```

```

notifempty
compress
delaycompress
maxsize 100M
sharedscripts
dateext
dateformat _%Y_%m_%d_%H_%s
extension .log
postrotate
    /etc/init.d/rsyslog reload >/dev/null 2>&1 || true
    chmod 644 /var/log mtx/mtx.log
endscript
}

#
/var/log/mtx/mtx_cmd.log "mtx_cmd.log"
{
    rotate 7
    copytruncate
    daily
    missingok
    notifempty
    nocompress
    maxsize 100M
    sharedscripts
    dateext
    dateformat _%Y_%m_%d_%H_%s
    extension .log
    postrotate
        chmod 644 /var/log/mtx/mtx_cmd.log
    ends脆
}

#
# The path for mtx_debug.log must match with the value specified inside of
# <log_file_name> in mtx_config.xml file.
#
/var/log/mtx/mtx_debug.log "mtx_debug.log"
{
    rotate 7
    create
    daily
    missingok
    notifempty
    nocompress
    maxsize 500M
    sharedscripts
    dateext
    dateformat _%Y_%m_%d_%H_%s
    extension .log
    postrotate
        if killall -q -s0 -umtx mtx; then
            killall -q -USR2 -umtx mtx
        fi
    ends脆
}

```

```

#
# The path for mtx_process_ctrl.log must match with the value specified in
# /etc/rsyslog.d/20-mtx.conf file.
#
/var/log mtx/mtx_process_ctrl.log "mtx_process_ctrl.log"
{
    rotate 30
    copytruncate
    daily
    missingok
    notifempty
    compress
    delaycompress
    maxsize 100M
    sharedscripts
    dateext
    dateformat _%Y_%m_%d_%H_%s
    extension .log
    postrotate
        chmod 644 /var/log mtx/mtx_process_ctrl.log
    endscript
}

```

## Example 2: Example TRA logrotate\_mtx.conf File

This example logrotate\_mtx.conf file shows the default values for a TRA server, which logs messages in the mta\_debug.log file.



**Note:** Some of the file rotation tools are shared with the mtx user. For example both the mtx and tra users use log files that are named with mtx prefixes.

After specifying the configuration parameters, copy this file from the /opt/tra/data directory to the /etc/ logrotate.d/tra directory. For more information about the configuring TRA Log rotation, see the discussion about configuring TRA log rotation.

```

#
# /etc/logrotate.d/tra
#
# This is a sample logrotate configuration for tra.
#
# The default configuration for mta_debug.log will
#   (1) Rotate 7 times before being removed.
#   (2) The log file is created immediately after rotation (before the
#       postrotate script is run).
#   (3) Log files are rotated every day.
#   (4) If the log file is missing, go on to the next one without an error.
#   (5) Do not rotate the log if it is empty.
#   (6) Old versions of log files are not compressed.
#   (7) Log file is rotated when it grows bigger than 500M.
#   (8) Send USR2 signal to mtx servers so that it can start using new log
#       log file after the log file is rotated.
#
# The path for mta_debug.log must match with the value specified inside of
# <log_file_name> in mta_config.xml file.

```

```

#
/var/log/tra mtx_debug.log
{
    rotate 7
    create
    daily
    missingok
   notifempty
    nocompress
    maxsize 500M
    sharedscripts
    postrotate
        if killall -q -s0 -utra mtx; then
            killall -q -USR2 -utra mtx
        fi
    endscript
}

```

## rotate\_mtx\_logs.py

The rotate\_mtx\_logs.py script executes the logrotate command from \$MTX\_LOG\_DIR.

### Syntax

```
rotate_mtx_logs.py [-h] [ -c LOGROTATECONFIGFILE] [ -i TIMEINTERVALINSECS] [-s LOGROTATESTATUSFILE]
```

### Options

The rotate\_mtx\_logs.py script has the following command line options:

#### **-h, --help**

Show this help message and exit.

#### **-c LOGROTATECONFIGFILE, --logrotate\_config\_file=LOGROTATECONFIGFILE**

Configuration file used by logrotate. Default is /opt/mtx/conf/logrotate\_mtx.conf

#### **-i TIMEINTERVALINSECS, --time\_interval\_in\_seconds=TIMEINTERVALINSECS**

Time interval in seconds to run logrotate. Default is 3600 seconds.

#### **-s LOGROTATESTATUSFILE, --logrotate\_status\_file=LOGROTATESTATUSFILE**

Status file used by logrotate. Default is ./logrotate.status.

To pass a different command line option, you can add the below in the process\_ctrl\_cfg\_sed.extra file. For example, the below runs logrotate every 5 seconds and uses a different logrotate configuration file.



**Note:** The custom logrotate file can be put into the sideloader and the filename pattern must be \*logrotate\*.conf.

```
s@service \(.*)\ rotate_mtx_logs.py@service \1 rotate_mtx_logs.py -i 5 -c /opt/mtx/conf/my_logrotate_mtx.conf@
```

To disable this function, the user can add the below in process\_ctrl\_cfg\_sed.extra file:

```
s@service \(.*)\ rotate_mtx_logs.py#@#service \1 rotate_mtx_logs.py@
```

# Index

## L

logrotate\_mtx.conf file 4

## R

rotate\_mtx\_logs.py 8

## S

scripts

    rotate\_mtx\_logs.py 8

system logs

    rotation

        logrotate\_mtx.conf 4

## T

Traffic Routing Agent

    logrotate\_mtx.conf 4

    rotating log files 4