Cisco CMX Commands

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Using the Command-Line Interface

Starting from Cisco CMX 10.3.1, you can use the **Tab** key to auto complete any Cisco CMX command on the command line interface. If you enter **cmxos** and then click the **Tab** key, the CLI displays the available keywords. If you enter a partial string and then click the **Tab** key, the CLI then displays the complete string.

cassandraexport

To export Cisco CMX history data from Cassandra to a CSV file, use the **cassandraexport** command.

cassandraexport {**--date** *<yyyy/mm/dd>*} [**--table** *<tablename>*| **--file** *<filename>*| **--sql** *<sql statement>*| **--rowsperfetch** *<rows per fetch>*]

Syntax Description

--date *<yyyy/mm/dd>*	Date on which the export is to be performed. This is required.
--table *<table name>*	(Optional) Name of the table to export.
--file *<filename>*	(Optional) Name of the CSV file. The default is /tmp/CassandraExport_sql.csv.
--sql *<sql statement>*	This option is not currently supported.
--rowsperfetch *<rows per fetch>*	(Optional) The default is 1000 rows.

Command Default   None.

Command Modes   cmxadmin (non-root) user

Command History

Release	Modification
Cisco CMX Release 10.3.0	This command was introduced.

Usage Guidelines   This command extracts a maximum of only one day of data, starting from midnight of the date given to the time when the command is issued.

You can use these methods to export Cisco CMX data from Cassandra:

- The method that we most recommend is through the Notifications feature (**Manage > Notifications> New Notification**). For more information, see the "Managing Notifications from Applications" section in the *Cisco Connected Mobile Experiences Configuration Guide* for this release at: http://www.cisco.com/c/en/us/support/wireless/mobility-services-engine/products-installation-and-configuration-guides-list.html

- An alternative method is to use the **cassandraexport** command, and to export daily. We recommend that you schedule the export during a quiet period of the day, for example 2:00 A.M. If you use this method during a time when the system is continuously changing, a timeout can occur.

- Use the Cisco CMX History API only if your export does not exceed 2000 records, for example 100 floors.

Examples   The following example shows how to export Cisco CMX data from Cassandra to a CSV file:

```
[cmxadmin]$ /opt/cmx/bin/cassandraexport --date 2017/06/14
```

```
Data exported into the file /tmp/CassandraExport_201706150220-02.csv
```

cmxctl checkdb

To check the database for schema integrity, use the **cmxctl checkdb** command.

cmxctl checkdb { **cassandra | postgres** }

Syntax Description

cassandra	Checks the cassandra schema.
postgres	Checks the postgres schema.

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Examples   The following example shows how to the schemen integrity for cassandra and postgres database:

```
[root@server]# cmxctl checkdb cassandra

Schema passed analytics
Schema passed loc
Schema passed mse
Cassandra passed schema validation

[root@server]# cmxctl checkdb postgres
Schema passed analytics
Schema passed loc
Schema passed mse
Postgres passed schema validation
```

cmxctl checklogs

To check logs and generate a report, use the **cmxctl checklogs** command.

cmxctl checklogs

Command Default

None

Usage Guidelines

After a report is generated, the specific log that shows the error can be viewed for additional details. For example, /opt/cmx.var.log.cmxjobs.log.3 has 108 errors, use the command **more /opt/cmx.var.log.cmxjobs.log.3** to view the corresponding file.

Examples

The following example shows how to check logs and generate a report:

```
[root@server]# cmxctl checklogs

****************************************************************************
Checking /opt/cmx/var/log/cmxjobs.log.3 for errors..
/opt/cmx/var/log/cmxjobs.log.3 has 108 errors
****************************************************************************
Checking /opt/cmx/var/log/system-cron.log for errors..
/opt/cmx/var/log/system-cron.log has 0 errors
****************************************************************************
Checking /opt/cmx/var/log/cmxjobs.log for errors..
/opt/cmx/var/log/cmxjobs.log has 81 errors
****************************************************************************
Checking /opt/cmx/var/log/collectd.log for errors..
/opt/cmx/var/log/collectd.log has 0 errors
****************************************************************************
Checking /opt/cmx/var/log/consul.log for errors..
/opt/cmx/var/log/consul.log has 0 errors
****************************************************************************
Checking /opt/cmx/var/log/qless-py-worker.log for errors..
/opt/cmx/var/log/qless-py-worker.log has 0 errors
****************************************************************************
Checking /opt/cmx/var/log/influxdb.log for errors..
/opt/cmx/var/log/influxdb.log has 0 errors
****************************************************************************
Checking /opt/cmx/var/log/cmxjobs.log.4 for errors..
/opt/cmx/var/log/cmxjobs.log.4 has 108 errors
****************************************************************************
```

cmxctl config analytics

To configure general analytics settings, use the **cmxctl config analytics** command:

cmxctl config analytics {**cleanRedis**| **enableMinDwellFilter**| {**True**| **False**}| **setMinDwellFilter <value>**| **setNumMonthsRepeatHistory <value>**| **view**}

Syntax Description

cleanRedis	Removes old, invalid Redis bloom filters.
enableMinDwellFilter {True|False}	• **True**—Enables the minimum dwell filter. • **False**—Disables the minimum dwell filter. This is the default.
setMinDwellFilter *<value>*	Sets the minimum dwell filter value [0-1440]. The default is 0.
setNumMonthsRepeatHistory *<value>*	Sets the number of months [0-6] to retain the repeat history. The default is 6.
view	Displays the general analytics settings.

Command Default

None.

Command Modes

Admin root user

Command History

Release	Modification
Cisco CMX Release 10.3.1	This command was introduced.

Usage Guidelines

You can set a minimum dwell filter to filter out visitors whose dwell at the root campus level is less than a specified amount. The root campus level encompasses all campuses; it represents the root of the heterarchy. This affects the aggregated data, so once the filter is enabled, it applies to all reports for that day moving forward (until it is disabled again). This filter does not affect the raw visits.

If you configure the minimum dwell filter setting, you must restart Cisco CMX for the change to take effect. Use the **cmxctl restart** command to restart Cisco CMX.

Note

Use the minimum dwell filter only if you never want to see devices that do not spend that time represented in the reports.

Repeat history is kept for the current month and the set number of previous months. This set number of months must be in the range of 0 to 6 months. You do not need to restart Cisco CMX to put this setting effect.

Note   If you use the **setNumMonthsRepeatHistory** command, all current repeat history is deleted.

Examples   The following example shows how to display the current general analytics settings:

```
[root@server]# cmxctl config analytics view

+--------------------------+------+
| enableMinimumDwellFilter | True |
+--------------------------+------+
| minimumDwellFilter | 30 |
+--------------------------+------+
| numMonthsRepeatHistory | 6 |
+--------------------------+------+
[root@server]#
```

The following example shows how to enable the minimum dwell filter setting:

```
[root@server]# cmxctl config analytics setMinDwellFilter 30

+--------------------------+-------+
| enableMinimumDwellFilter | False |
+--------------------------+-------+
| minimumDwellFilter | 0 |
+--------------------------+-------+
| numMonthsRepeatHistory | 6 |
+--------------------------+-------+
[root@server]# cmxctl config analytics enableMinDwellFilter True
+--------------------------+-------+
| enableMinimumDwellFilter | True |
+--------------------------+-------+
| minimumDwellFilter | 30 |
+--------------------------+-------+
| numMonthsRepeatHistory | 6 |
+--------------------------+-------+
[root@server]# cmxctl analytics restart
```

The following example shows how to disable the minimum dwell filter setting:

```
[root@server]# cmxctl config analytics enableMinDwellFilter False

+--------------------------+-------+
| enableMinimumDwellFilter | False |
+--------------------------+-------+
| minimumDwellFilter | 0 |
+--------------------------+-------+
| numMonthsRepeatHistory | 6 |
+--------------------------+-------+
[root@server]# cmxctl analytics restart
```

The following example shows how to set the repeat history setting:

```
[root@server]# cmxctl config analytics setNumMonthsRepeatHistory 5

Doing this will delete current history for ALL months. This will affect aggregated report
data but will NOT affect raw visits data. Do you want to continue? [y/N]: y
Successfully change the number of months tracked for repeat history.
+--------------------------+-------+
| enableMinimumDwellFilter | False |
+--------------------------+-------+
| minimumDwellFilter | 0 |
+--------------------------+-------+
| numMonthsRepeatHistory | 5 |
+--------------------------+-------+
[root@server]# #
```

cmxctl config controllers

To manage Cisco Wireless Controllers (Cisco WLC), use the **cmxctl config controllers** command.

cmxctl config controllers {**activeaps**| **add** | **delete** | **floors** *<wlc-ip-address>*| **import** | **missingaps**| **show** }

Syntax Description

activeaps	Displays active access points.
add	Adds a Cisco WLC.
delete	Deletes a Cisco WLC.
floors*<wlc-ip-address>*	Displays floors managed by Cisco WLCs.
import	Imports a Cisco WLC from Cisco Prime Infrastructure by providing the corresponding credentials, or by placing an exported Cisco PrimeInfrastructure MAP file in the /opt directory of the Cisco CMX server and providing the path to the exported MAP file.
missingaps	Lists the access points from which Cisco CMX has received data, but the access points are not yet placed on a map.
show	Displays information pertaining to a Cisco WLC.

Command Default

None.

Command History

Release	Modification
Cisco CMX Release 10.3.1	The **missingaps** and **floors** keywords were added.
Cisco CMX Release 10.3.0	This command was introduced.

Usage Guidelines

After a Cisco WLC is added, the following message is displayed: "controller added successfully". Note that this refers only to the correct parsing of the command. You should issue a cmxctl controllers show command to ensure that the Cisco WLC is not active.

In Cisco CMX Release 10.3.1, the missingaps keyword was added. The MAC addresses of the AP is retrieved from the access point's configuration cache, which is retrieved from the controller every 6 hours through SNMP. If the AP MAC address is not present, it will be displayed as NA on the CLI.

In addition, the AP MAC address will be displayed only if you have enabled the configuration.apimport feature flag by using the cmxctl config featureflags configuration.apimport: true command. For example:

```
[root@server]# cmxctl config featureflags configuration.apimport true

+----------------------------------+-------+
| location.compactlocationhistory | false |
+----------------------------------+-------+
| configuration.apimport | true |
```

The AP MAC address import occurs every 6 hours, so for new APs added to the controller, the AP MAC value for missingap will be available only after the next job run.

Starting from Cisco CMX Release 10.3.1, you can specify SNMP settings when you use the **cmxctl config controllers** add command. For example:

```
[root@server]# cmxctl config controllers add

Please enter controller type [WLC / NGWC] [WLC]: WLC
Please enter controller ip: 0.0.0.0
Please enter the controller version [Optional]:
Please enter controller SNMP version [v1 / v2c / v3] [v2c]: v2c
Please enter controller SNMP write community [private]:
.................................................................
Controller Added 0.0.0.0
[root@server]#
```

Examples   The following example shows how to display the Cisco WLC information:

```
[root@server]# cmxctl config controllers show

+--------------+------+------------+----------------+------+--------+
| IP Address | Type | Version | Device Version | SHA2 | Status |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.65 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.44 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.46 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.70 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.93 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.97 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.35 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.58 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.82 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.84 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
| 30.30.30.53 | WLC | 8.0.72.141 | - | No | ACTIVE |
+--------------+------+------------+----------------+------+--------+
```

cmxctl config featureflags

To list and toggle feature flags, use the **cmxctl config featureflags** command.

cmxctl config featureflags {*feature name*} {**true**| **false**}

Syntax Description

service.featurename	Name of the Cisco CMX service and feature.
	• analytics.areatransition
	• configuration.apimport:
	• monit
	• container.influxdbreporter
	• halo
	• analytics.queuetime
true	Enables the feature of the service.
false	Disables the feature of the service

Command Default None

Command History

Release	Modification
Cisco CMX Release 10.2.2	This command was changed. The display default for analytics.sma was changed to false.
Cisco CMX Release 10.2.0	This command was introduced.

Examples

The following example shows how to list the feature flags:

```
[root@server]# cmxctl config featureflags

+----------------------------+-------+
| analytics.areatransition | true |
+----------------------------+-------+
| configuration.apimport | true |
+----------------------------+-------+
| monit | false |
+----------------------------+-------+
| container.influxdbreporter | true |
+----------------------------+-------+
| halo | true |
+----------------------------+-------+
| analytics.queuetime | false |
+----------------------------+-------+
```

cmxctl config import

To import a map and Cisco Wireless Controller (Cisco WLC) from Cisco Prime Infrastructure,, use the **cmxctl config import** command.

cmxctl config import { **prime** | **status** }

Syntax Description

prime	Imports maps from Cisco Prime Infrastructure.
status	Shows import status.

Command Default   None.

Examples   The following example shows how to import a map and Cisco WLC from Cisco Prime Infrastructure:

```
[root@server]# cmxctl config import prime

Please enter PI ip address: x.x.x.x
Please enter PI username [root]: root
Please enter PI password [Public123]:
Import successfully started from PI x.x.x.x. Check import status using cmxctl config
import status.
```

cmxctl config maps

To import and manage maps, use the **cmxctl config maps** command.

cmxctl config maps { **address**| **buildings**| **campuses**| **delete** | **floors**| **import** | **reprocessimage**| **zones**}

Syntax Description

address	Imports addresses for the maps.
buildings	Lists buildings in a campus or all buildings.
campuses	Lists all campuses.
delete	Deletes the campus map.
floors	Lists floors in a building or all floors.
import	Imports map from the Cisco Prime Infrastructure.
reprocessimage	Sumits a job to reprocess floor image tiles.
zones	Lists zones in a buliding or all floors.

Command Default

None.

Usage Guidelines

Starting from Cisco CMX Release 10.3.1, you must provide the full (absolute) path to the tar file when using the cmxctl config maps import command. For example:

```
[root@server]# cmxctl config maps import

Please specify import type [PI/FILE] [FILE]:
Delete & replace existing maps & analytics data. [yes/no] [no]: yes
Delete & replace existing zones & analytics data. [yes/no] [no]: yes
Please enter map import path: /opt/ImportExport_fdff57880aabd650.tar.gz
```

Command History

Release	Modification
Cisco CMX Release 10.3.1	The **import** keyword was modified.
Cisco CMX Release 10.3.0	This command was introduced.

Examples

The following example shows how to import and manage maps:

```
[root@server]# cmxctl config maps import

Please specify import type [PI / FILE] [FILE]: PI
Please enter PI ip address: x.x.x.x
Please enter PI username [root]: root
```

```
Please enter PI password [Public123]:
Import successfully started from PI 173.37.206.3. Check import status using cmxctl config
import status.

[root@server]# cmxctl config maps reprocessimage --imagename domain_0_1477533583241.PNG
[root@server]# cmxctl config maps campuses

+----------------+--------------------+--------------------+
| Campus Name    | Location Campus ID | Analytics Campus ID |
+----------------+--------------------+--------------------+
| Nortech Campus | 727001546461544473 | 49                 |
+----------------+--------------------+--------------------+
[root@server]# cmxctl config maps buildings

+--------------------------------+--------------------+----------------------+
| Building Name                  | Location Building ID | Analytics Building ID |
+--------------------------------+--------------------+----------------------+
| Nortech Campus>Nortech Building | 727001546461544629  | 48                   |
+--------------------------------+--------------------+----------------------+
[root@server]# cmxctl config maps floors

+-----------------------------------------------+------------------+-------------------+
| Floor Name                                    | Location Floor ID | Analytics Floor ID
 |
+-----------------------------------------------+------------------+-------------------+
| Nortech Campus>Nortech Building>Security Floor | 727001546461544650 | 47
 |
+-----------------------------------------------+------------------+-------------------+


[root@server]# cmxctl config maps zones

+-----------------------------------------------+-----------+------------------+
| Floor Name                                    | Zone Name | Analytics Zone ID |
+-----------------------------------------------+-----------+------------------+
| Nortech Campus>Nortech Building>Security Floor | zone1     | 53               |
+-----------------------------------------------+-----------+------------------+
| Nortech Campus>Nortech Building>Security Floor | zone2     | 54               |
+-----------------------------------------------+-----------+------------------+
| Nortech Campus>Nortech Building>Security Floor | zone3     | 55               |
+-----------------------------------------------+-----------+------------------+
```

cmxctl config reload

To forcefully generate a configuration file, use the **cmxctl config reload** command.

cmxctl config reload

Command Default None

Examples The following example shows how to forcefully generate a configuration file:

```
[root@server]# cmxctl config reload

2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: WARNING Skipping confd config file.
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/analytics.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/cassandra/cassandra-env.sh in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/cassandra/cassandra.yaml in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/collectd.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/configuration.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/connect.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/halo.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/haproxy.cfg in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/influxdb.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/location.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/matlabengine.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/nmsplb.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/nmspproxy.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/postgresql.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/redis_6379.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/redis_6380.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: INFO Target config
/opt/cmx/etc/redis_6381.conf in sync
2015-03-10T17:45:50Z cmx-vmdev117 -verbose[17174]: ERROR template:
redis.template.conf:15:20: executing "redis.template.conf" at <getv ($tag | printf ...>:
error calling getv: key does not exist
```

cmxctl config rfid timeout

To set the timeout for maintaining RFID tags in Cisco CMX, use the **cmxctl config rfid timeout** command.

cmxctl config rfid timeout {**get**| **set <value>**}

Syntax Description

get	Displays the timeout value.
set *<value>*	Sets the timeout value that Cisco CMX maintains RFID tags before expiring them.The time range is 600 to 10800 seconds. The default value is 900 seconds

Command Default

None.

Command Modes

Admin root user

Command History

Release	Modification
Cisco CMX Release 10.3.1	This command was introduced.

Usage Guidelines

We recommend that the RFID tag timeout is as long as your longest RFID tag's chirp interval. Otherwise, the tag will not be on the map or active clients because it timed out of the Cisco CMX cache.

Examples

The following example shows how to set the timeout for RFID tags, and then verify the setting:

```
[root@server]# cmxctl config rfid timeout set

need to include a timeout within 600 to 10800 seconds
[root@server]# cmxctl config rfid timeout set 600
[root@server]# cmxctl config rfid timeout get
600 seconds
```

cmxctl config sma

To manage social media analytics (SMA), use the **cmxctl config sma** command.

cmxctl config sma { **proxy** | **twitter** }

Syntax Description

proxy	Sets HTTP proxy.
twitter	Sets Twitter credentials.

Command Default   None.

Usage Guidelines   After setting the SMA proxy, restart the qlesspyworker for the changes to take effect.

Examples   The following example shows how to manage SMA:

```
[root@server]# cmxctl config sma proxy
Please enter value for http proxy: http://proxy.cisco.com:80
Please enter value for https proxy: http://proxy.cisco.com:80
SMA Proxies have been set. Please restart qlesspyworker for the changes to take effect.
```

cmxctl config verify

To verify the Cisco Connected Mobile Experiences (Cisco CMX) installation and configuration, use the **cmxctl config verify** command.

cmxctl config verify

Command Default   None.

Command Modes

Examples   The following example shows how to verify the Cisco CMX installation and configuration:

```
[root@server]# cmxctl config verify
Verifying node configuration...
NetworkManager: unrecognized service
Consul v0.4.1
Consul Protocol: 2 (Understands back to: 1)
confd 0.6.0
+----------------+------------------------------+------------+------------------------+
| module | check | passed | msg
|
+================+==============================+============+========================+
| netman_stopped | NetworkManager service is not | Success |
|
| | running | |
|
+----------------+------------------------------+------------+------------------------
--+
| matlabengine | http://matlabengine.service.co | Failed | check the log files
under |
| | nsul:5577/api/services/matlabe | | /opt/cmx/var/log
|
| | ngine/status | |
|
+----------------+------------------------------+------------+------------------------+
| database | connect to database port:5432 | Success |
|
+----------------+------------------------------+------------+------------------------+
| consul_dns | 127.0.0.1 (consul) is present | Success |
|
| | as dns server in | |
|
| | /etc/resolv.conf | |
|
+----------------+------------------------------+------------+------------------------
--+
| etchost_hacks | consul service hostnames not | Success |
|
| | static in /etc/hosts | |
|
+----------------+------------------------------+------------+------------------------+
| analytics | http://analytics.service.consu | Failed | check the log files
under |
| | l:5556/api/services/analytics/ | | /opt/cmx/var/log
|
| | status | |
|
+----------------+------------------------------+------------+------------------------+
| hostname_ping | ping to hostname:cmx-master-1 | Success |
|
+----------------+------------------------------+------------+------------------------
--+
```

```
| location | http://location.service.consul | Failed | check the log files
under |
| | :5555/api/services/location/st | | /opt/cmx/var/log
|
| | atus | |
|
+----------------+-------------------------------+------------+------------------------
--+
| confd_installed | Confd is installed | Success |
|
+----------------+-------------------------------+------------+------------------------+
| consul_installe | Consul is installed | Success |
|
| d | | |
|
+----------------+-------------------------------+------------+------------------------
--+
| nmsplb | http://nmsplb.service.consul:6 | Failed | check the log files
under |
| | 001/api/services/nmsplb/status | | /opt/cmx/var/log
|
+----------------+-------------------------------+------------+------------------------+
| configuration | http://configuration.service.c | Failed | check the log files
under |
| | onsul:6000/api/services/config | | /opt/cmx/var/log
|
| | uration/status | |
|
+----------------+-------------------------------+------------+------------------------+
| cassandra | connect to cassandra port:9042 | Success |
|
+----------------+-------------------------------+------------+------------------------+
```

cmxctl debug

To create a debug tarball in the current directory, use the **cmxctl debug** command.

cmxctl debug

Command Default

None.

Usage Guidelines

The debug tarball that is created will be approximately 300 MB in size, and takes at 90 seconds to complete. This command should to be run using the cmxadmin (non-root) account.

Examples

The following example shows how to create a debug tarball in the current directory:

```
[cmxadmin@10.10.10.10:~]$ cmxctl debug
running locally
Dumping debug information...
[localhost] Executing task 'dump_config'
cp: cannot stat `/opt/cmx/share/upgrade.answers': No such file or directory
[localhost] Executing task 'dump_state'
running 'ps aux'
running 'ifconfig -a'
running 'cmxctl status'
running 'ulimit -a'
running 'ps -u root,postgres -o %cpu,%mem,cmd'
running 'netstat -o -n -a'
running 'df -h'
running 'ntpdate -d 172.19.28.250'
running 'consul members'
[localhost] Executing task 'dump_apis'
getting /api/config/v1/clusters
getting /api/config/v1/nodes
[localhost] Executing task 'dump_hosts'
pinging configuration.service.consul
pinging location.service.consul
pinging 6379.cache.service.consul
pinging 6380.cache.service.consul
pinging 6381.cache.service.consul
pinging database.service.consul
pinging analytics.service.consul
pinging halo.service.consul
Done.
```

cmxctl disable

To disable a service, use the **cmxctl disable** command.

cmxctl disable { **analytics** | **agent** | **cache_6378** | **cache_6379** | **cache_6380**| **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **configuration** | **confd** | **consul** | **database** | **haproxy** | **location** | **matlabengine** | **metrics** | **nmsplb** | **influxdb** | **iodocs** | **qlesspyworker** }

Syntax Description

analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.
matlabengine	Provides access point heatmap for location service.

metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Command Default   None

Examples   The following example shows how to disable the cassandra database service:

```
[root@server]# cmxctl disable cassandra
Done
The nodeagent service is currently running with PID: 31776
Stopping cassandra process...
Done
Successfully shutdown cassandra Process.
```

cmxctl dump

To create a configuration tarball in the current directory, use the **cmxctl dump** command.

cmxctl dump

Command Default   None

Examples   The following example shows how to create a configuration tarball in the current directory:

```
[root@server]# cmxctl dump
running locally
Dumping configuration information...
[localhost] Executing task 'dump_config'
Done.
```

cmxctl enable

To enable a service, use the **cmxctl enable** command.

cmxctl enable { **analytics** | **agent** | **cache_6378** | **cache_6379** | **cache_6380**| **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **configuration** | **confd** | **consul** | **database** | **haproxy** | **location** | **matlabengine** | **metrics** | **nmsplb** | **influxdb** | **iodocs** | **qlesspyworker** }

Syntax Description

analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.
matlabengine	Provides access point heatmap for location service.

metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Command Default   None.

Examples   The following example shows how to enable analytics service:

```
[root@server]# cmxctl enable analytics
The nodeagent service is not running.
Agent is not running, starting it now.
Starting nodeagent Process...
Retrying..
Done
Started nodeagent service with PID: 31027
```

cmxctl heterarchy

To manage the deployment hierarchy, use the **cmxctl heterarchy** command.

cmxctl heterarchy {**backup**| **rebuild**| **repair**| **restore**| **retire** | **verify**}

Syntax Description

backup	Backs up the deployment hierarchy.
rebuild	Rebuilds the deployment hierarchy.
repair	Repairs the deployment hierarchy.
restore	Restores the deployment hierarchy.
retire	Retires the deployment hierarchy.
verify	Verifies the deployment hierarchy.

Command Default   None

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Examples   The following example shows how to verify the heterarchy:

```
[root@server]# cmxctl heterarchy verify
Verifying heterarchy...
Checking user levels
Heterarchy is healthy.
```

cmxctl influxdb wipe

To wipe the influx database, use the **cmxctl influxdb wipe --silent** command.

cmxctl influxdb wipe --silent

Syntax Description

silent	Silently wipe the influx database

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Examples   The following example shows how to wipe the influx database:

```
[root@server]# cmxctl influxdb wipe
This command will wipe the Influx database. All system metric data will be erased.
Do you want to continue?: y
Stopping influxdb Process...
executing shutdown
Retrying..
Retrying...
Retrying....
Done
Successfully shutdown influxdb Process.
Cleaning Influx database directories
Configuring InfluxDB
```

cmxctl jobs

To configure recurring background jobs, use the **cmxctl jobs** command.

cmxctl jobs { **cancel** | *jobname* | **list** | **run** | *jobname* | **runnow** | *jobname*}

Syntax Description

cancel *jobname*	Cancels a scheduled job.
list	Lists all the scheduled jobs.
run *jobname*	Runs a job at a specified time.
runnow *jobname*	Triggers a one-time run of the job.

Command Default

None.

Usage Guidelines

The Apache Cassandra database stores location history data. Pruning should be performed to maintain disk usage. Cisco CMX 10.2 introduces the option to prune database size. The default disk-pruning task runs at an interval of 90 days. You can also use the cmxctl jobs runnow cleanupcassandra command to run an on-demand job of cleaning up the Cassandra database, which is a normal scheduled task that runs once every two days.

Examples

The following example shows how to run a background job:

```
[root@server]# cmxctl jobs run LocationIndexCleanup
submitted the job, verify using cmxctl jobs list.
```

cmxctl metrics notification

To generate notification metrics for a Cisco Connected Mobile Experiences (Cisco CMX) file, use the **cmxctl metrics notification** command.

cmxctl metrics notification

Command Default

None

Usage Guidelines

The notification keyword provides metrics for notification.

Examples

The following example shows how to generate metrics for a Cisco CMX file:

```
[root@server]# cmxctl metrics notification
+-------------------------------+------------+------------+-----------------+------------+
| EndPoint | Success | Failure | SuccessRate |
FailureRate |
+===============================+============+============+=================+============+
+-------------------------------+------------+------------+-----------------+------------+
```

cmxctl node

To manage node installation, use the **cmxctl node** command.

cmxctl node { **addswap** | **configure** | **install** | **reinstall** | **sslmode** | {**enable**| {**--key** *key-file-location*| **--pem** *pem-file-location*}| **disable**}| **uninstall** | **upgrade** | **verify** }

Syntax Description

addswap	Adds a 10 GB swap space to the node.
configure	Confirms node specifications.
install	Installs Cisco Connected Mobile Experiences (Cisco CMX) for the first time.
reinstall	Reinstalls the existing installation.
sslmode	Enables or disables Secure Sockets Layer (SSL).
enable	Enables Secure Sockets Layer (SSL).
--key *key-file-location*	Location of the SSL key file.
--pem *pem-file-location*	Location of the SSL pem file.
disable	Disables Secure Sockets Layer (SSL).
uninstall	Uninstalls the software.
upgrade	Upgrades the Cisco CMX from a URL or a file. Upgrading using a URL consists of two steps: 1 Downloading the file (Red Hat Package Manager [RPM])—Requires HTTP or FTP link to download the image. 2 Installing the RPM.
verify	Verifies node configuration.

Command Default   None.

Usage Guidelines   Before initiating the import process, ensure that you have a self-signed or a Certificate Authority (CA)-signed certificate and the key file. The certificate and the key file must have minimum global read permissions (0644). Starting from Cisco CMX Release 10.3.1, you can install a new Cisco CMX certificate by using the key and pem keywords. For example:

```
[root@server]# cmxctl node sslmode enable --pem /home/cmxadmin/cert.pem --key
/home/cmxadmin/host.key
```

Command History	Release	Modification
	Cisco CMX Release 10.3.1	This command was modified. The **sslmode enable** keyword was modified.
	Cisco CMX Release 10.3.0	This command was introduced.

Examples

The following example shows how to manage node installation:

```
[root@server]# □ cmxctl node sslmode enable --pem <pem-file-location> --key
<key-file-location>
enabling ssl
ssl enabled
```

cmxctl restart

To restart a Cisco Connected Mobile Experiences (Cisco CMX) service, use the **cmxctl restart** command.

cmxctl restart { **analytics** | **agent** | **cache_6378** | **cache_6379** | **cache_6380**| **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **configuration** | **confd** | **consul** | **database** | **haproxy** | **location** | **matlabengine** | **metrics** | **nmsplb** | **influxdb** | **iodocs** | **qlesspyworker** }

Syntax Description		
analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.
matlabengine	Provides access point heatmap for location service.

metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Command Default   None

Examples   The following example shows how to restart a Cisco CMX service:

```
[root@server bin]# cmxctl restart database
Done
The nodeagent service is currently running with PID: 16718
Stopping postgres Process...
Successfully shutdown postgres Process.
Starting postgres Process...
Done
Started postgres service with PID: 25702
Exception while notifying CE
```

cmxctl stack

To generate the jstack for a java service, use the **cmxctl stack** command.

cmxctl stack {**cmx_service**}

Syntax Description

cmx_service	Lists all Cisco CMX services. The services include: location, analytics, configuration, matlabengine, and nmsplb.

Command Default   None

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Examples   The following example shows how to generate jstack for location services:

cmxctl start

To start a Cisco Connected Mobile Experiences (Cisco CMX) service, use the **cmxctl start** command.

cmxctl start { **analytics** | **agent** | **cache_6378** | **cache_6379** | **cache_6380**| **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **configuration** | **confd** | **consul** | **database** | **haproxy** | **location** | **matlabengine** | **metrics** | **nmsplb** | **influxdb** | **iodocs** | **qlesspyworker** }

Syntax Description

analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.
matlabengine	Provides access point heatmap for location service.

metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Command Default None

Examples The following example shows how to display the status for the consul service:

```
[root@server]# cmxctl start consul
Done
The nodeagent service is currently running with PID: 16718
Done
The analytics service is already running with pid: 1099
Done
Exception while notifying CE
Done
The location service is already running with pid: 16005
Done
Exception while notifying CE
Done
The configuration service is already running with pid: 16165
Done
Exception while notifying CE
Done
The matlabengine service is already running with pid: 1251
Done
Exception while notifying CE
Done
The nmsplb service is already running with pid: 1377
Done
Exception while notifying CE
```

cmxctl status

To view the status of one or all Cisco Connected Mobile Experiences (Cisco CMX) services,, use the **cmxctl status** command.

cmxctl status { **analytics** | **agent** | **cache_6378**| **cache_6379** | **cache_6380** | **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **confd** | **configuration** | **connect** | **consul** | **database** | **haproxy** | **hyperlocation**| **influxdb** | **iodocs** | **location** | **matlabengine** | **metrics** | **nmsplb** | **qlesspyworker** }

Syntax Description

analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.

matlabengine	Provides access point heatmap for location service.
metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Usage Guidelines After installing the ISO file on the Cisco MSE 3355 or 3365, use the **cmxctl status** command to check if the CMX services are running. If they are not running, use the **cmxctl start** command.

Examples The following example shows how to display the status for the consul service:

```
[root@server]# cmxctl status consul
Done
The nodeagent service is currently running with PID: 6190
+---------------+---------------+---------+---------------+
| Host          | Service       | Status  | Uptime (HH:mm) |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Analytics     | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6378    | Running | 5 days, 05:52  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6379    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6380    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6381    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6382    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6383    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cache_6385    | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Cassandra     | Running | 5 days, 05:51  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Confd         | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Configuration | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Connect       | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Consul        | Running | 5 days, 05:52  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Database      | Running | 5 days, 05:52  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Haproxy       | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Hyperlocation | Running | 5 days, 05:47  |
+---------------+---------------+---------+---------------+
| CMX-LowEnd-200 | Influxdb      | Running | 5 days, 05:49  |
+---------------+---------------+---------+---------------+
```

```
| CMX-LowEnd-200 | Iodocs        | Running | 5 days, 05:50 |
+---------------+--------------+---------+---------------+
| CMX-LowEnd-200 | Location      | Running | 5 days, 05:49 |
+---------------+--------------+---------+---------------+
| CMX-LowEnd-200 | Matlabengine  | Running | 5 days, 05:48 |
+---------------+--------------+---------+---------------+
| CMX-LowEnd-200 | Metrics       | Running | 5 days, 05:49 |
+---------------+--------------+---------+---------------+
| CMX-LowEnd-200 | Nmsplb        | Running | 5 days, 05:47 |
+---------------+--------------+---------+---------------+
| CMX-LowEnd-200 | Qlesspyworker | Running | 5 days, 05:50 |
+---------------+--------------+---------+---------------+
```

cmxctl stop

To shut down a Cisco Connected Mobile Experiences (Cisco CMX) service, use the **cmxctl stop** command.

cmxctl stop { **analytics** | **agent** | **cache_6378** | **cache_6379** | **cache_6380**| **cache_6381** | **cache_6382**| **cache_6383**| **cache_6385**| **cassandra** | **configuration** | **confd** | **consul** | **database** | **haproxy** | **location** | **matlabengine** | **metrics** | **nmsplb** | **influxdb** | **iodocs** | **qlesspyworker** }

Syntax Description

analytics	Performs analytics on calculated location data.
agent	Manages Cisco CMX system lifecycle. starts, stops, and monitors all the services running in Cisco CMX.
cache_6378	Caches the service used by location service.
cache_6379	Caches the service used by location service.
cache_6380	Caches the service used by analytics service.
cache_6381	Caches the service used by analytics service.
cache_6382	Caches the service used by analytics service.
cache_6383	Caches the service used by analytics service.
cache_6385	Caches the service used by analytics service.
cassandra	Enables cassandra database service used by the location service for historical data.
confd	Internal service.
configuration	Configures nodes and clusters.
connect	Enables connect services.
consul	Internal service.
database	Enables the database service used by analytics and configuration service.
haproxy	Enables the TCP or HTTP load balancer gateway to all service APIs.
hyperlocation	Enables hyperlocation.
location	Enables location service to compute location.
matlabengine	Provides access point heatmap for location service.

metrics	Collects system metrics.
nmsplb	Enables the load balancer service used for distributing Network Mobility Services Protocol (NMSP) messages to location services.
influxdb	Enables database services used for storing statistics from various services.
iodocs	Enables online document service for REST API offered by various services.
qlesspyworker	Internal service.

Command Default   The services are running.

Usage Guidelines

Examples   The following example shows how to stop the analytics service:

```
[root@server]# cmxctl stop analytics
Done
The nodeagent service is currently running with PID: 16987
Stopping analytics Process...
Service analytics with pid: 19095
Retrying..
Done
Successfully shutdown analytics Process.
```

cmxctl trace mac

To enable MAC address tracing, use the **cmxctl trace mac** command.

cmxctl trace mac { **add** | **delete** | **status** } **mac** *mac-address*

Syntax Description

add	Add MAC address for tracing
delete	Delete MAC address for tracing
status	Display MAC address tracing settings
mac *mac-address*	MAC address to be configured

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Usage Guidelines

Examples
```
[cmxadmin@CMX-LowEnd-200 ~]$ cmxctl trace mac status
+------------------+
| MAC Address      |
+------------------+
| 3c:a9:f4:6c:ee:44 |
+------------------+
| ac:37:43:4b:cc:2f |
+------------------+
| 3c:a9:f4:6c:5a:ac |
```

cmxctl trace status

To display current trace levels of each CMX service, use the **cmxctl trace status** command.

cmxctl trace status

Command Default None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Usage Guidelines

Examples The following example shows how to display current tarce levels:

```
[root@server]# cmxctl trace mac status
+------------------+
| MAC Address      |
+------------------+
| 00:01:02:03:04:05 |
+------------------+
```

cmxctl trace update

To update the trace level of a CMX service, use the **cmxctl trace update** command.

cmxctl trace update

Syntax Description		
	service *service-to-update*	Configure service to update
	leval *travelevel*	Configure trace level [INFO|DEBUG]

Command Default   None.

Command History

Release	Modification
	This command was introduced.

Usage Guidelines

Examples

Related Commands

Command	Description

cmxctl users

To list or to configure Cisco Connected Mobile Experiences (Cisco CMX) users using the CLI, use the **cmxctl users** command.

cmxctl users { **list** | **passwd** | *username*}

Syntax Description

list	Lists all the current users.
passwd	Sets the password for a user.
username	Username of a user in Cisco CMX.

Command Default   None.

Examples   The following example shows how to list Cisco CMX users using the CLI:

```
[root@server]# cmxctl users list
+---------+--------------+-----------+
| Username | Full Name | Roles |
+=========+==============+===========+
| monitor | Monitor User | Read Only |
+---------+--------------+-----------+
| admin | Admin User | Admin |
+---------+--------------+-----------+
```

cmxctl version

To know the Cisco Connected Mobile Experiences (Cisco CMX) version, use the **cmxctl version** command.

cmxctl version

Command Default   None.

Examples   The following example shows how to display version information for Cisco CMX:

```
[root@server]# cmxctl version
Build Version : 10.1.0-27
Build Time : 2015-05-05 03:06:45.437430
----------------------------------------------------------------------
Name : cmx-ng-container
Commit Count : 17
Short Hash : bf20ec1
----------------------------------------------------------------------
Name : cmx-ng-location
Commit Count : 5
Short Hash : efc84fa
----------------------------------------------------------------------
Name : cmx-ng-ui
Commit Count : 5
Short Hash : d793df7
----------------------------------------------------------------------
Name : cmx-ova
Build Time : Fri Feb 20 06:34:38 UTC 2015
----------------------------------------------------------------------
```

cmxos addswap

To add a 10 GB space to the operating system,, use the **cmxos addswap** command.

cmxos addswap

Command Default   This command has no arguments or keywords.

Usage Guidelines   This command should be run at the root user level.

Examples   The following example shows how to increase disk space in the operating system:

```
[root@server]# cmxos addswap
10485760+0 records in
10485760+0 records out
10737418240 bytes (11 GB) copied, 29.6845 s, 362 MB/s
Setting up swapspace version 1, size = 10485756 KiB
no label, UUID=2734f069-e687-4635-b2d6-9381241bc7ee
swap added, run system info to verify
[root@cmx-vmdev146 ~]#
```

cmxos adminui

To start, stop, and restart the administrator UI, use the **cmxos adminui** command.

cmxos adminui {**start**| **stop**| **restart**}

Syntax Description

start	Starts the administrator UI.
stop	Stops the administrator UI.
restart	Restarts the administrator UI.

Command Default   None

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Examples   The following example shows how to stop the administrator UI:

```
[root@server]# cmxos adminui stop
Stopping adminui...
```

cmxos backup

To back up a node, use the **cmxos backup** command.

cmxos backup{**path**| **i**| **all**| **help**}

Syntax Description

--path DIRECTORY	Path where the backup file will be created.
-i, --include_only TEXT	Backups selected parts only. Options are database, cache, cassandra, influxdb, consul, floormaps, licenses, setup, and connectimages.
--all	Includes InfluxDB data in backup bundle. If specific options are not selected, only the following services are included in the backup bundle: confd, database, cache, cassandra, floormaps, licenses, setup, and connectimages.
--HELP	Shows the help content.

Command Default   None.

Usage Guidelines   This command should to be run using the cmxadmin (non-root) account.

Examples   The following example shows how to back up a node:

```
[cmxadmin@10.10.10.10:~]$ cmxos backup
Please enter the path for backup file [/tmp]:
[17:43:50] Preparing for backup...
[17:43:50] Backup Database...
[17:43:51] Backup Cache...
[17:43:51] Backup Cassandra...
[17:43:53] Backup InfluxDb...
[17:43:53] Backup Consul...
[17:43:53] Backup Floormaps...
[17:43:53] Backup node configuration...
[17:43:59] Creating tar file..
[17:43:59] Done Backup. Created backup file
/tmp/cmx_backup_cmx-vmdev117_2015_03_10_17_43.tar.gz
```

cmxos benchmark disk

To benchmark disk performance, use the **cmxos benchmark disk** command.

cmxos benchmark disk [**--verbose**]

Syntax Description

--verbose	Prints full output.

Command Default

None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Usage Guidelines

You must manually stop all Cisco CMX services before executing this command.

Examples

The following example shows how to verify the disk performance:

```
[root@server]# cmxos benchmark disk
This process will check disk performance on /opt/cmx/srv/
You must stop all CMX services manually before running this command
Do you want to continue?: yes
Running disk performance...this may take a while...please wait...
READ IOPS: 6085, WRITE IOPS: 2024
```

cmxos checkpostgresdatasize

To display postgres data size, use the **cmxos checkpostgresdatasize** command.

cmxos checkpostgresdatasize

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Examples

```
[root@server]# cmxos checkpostgresdatasize
651488 /opt/cmx/srv/postgres
```

cmxos clean

To clean up files on CMX, use the **cmxos clean** command.

cmxos clean {**find**| **normal**| {**delete**}}

Syntax Description

find	Find files over 1 Gigabyte in size.
normal	List files which can be cleaned.
delete	Remove the files listed.

Command Default

None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

Examples

The following example shows how to search for large files:

```
[root@server]# cmxos clean find
Starting search for large files
Size: 1.96G File: /tmp/cmx_backup_CMX-LowEnd-200_2017_01_18_17_56.tar.gz
Size: 2.36G File: /tmp/cmx_backup_CMX-LowEnd-200_2017_03_14_11_16.tar.gz
Size: 2.43G File: /tmp/cmx_backup_CMX-LowEnd-200_2017_03_20_14_36.tar.gz
Size: 2.32G File: /tmp/cmx_backup_CMX-LowEnd-200_2017_01_18_18_00.tar.gz
Size: 1.45G File: /var/log/maillog-20170212.gz
Size: 2.63G File: /var/log/maillog-20170205.gz
Size: 6.84G File: /home/cmxadmin/cmx_backup_CMX-LAC-210_2017_03_23_22_09.tar.gz
Size: 1.17G File: /home/cmxadmin/CISCO_CMX-10.3.0-58.cmx
Completed search for large files
[root@server]# cmxos clean normal
Files which can be removed in: /opt/cmx/var/log
/opt/cmx/var/log/adminui/adminui.pid
/opt/cmx/var/log/adminui/webui.ans
/opt/cmx/var/log/agent/server.log.3
/opt/cmx/var/log/agent/server.log.1
/opt/cmx/var/log/agent/server.log.5
/opt/cmx/var/log/agent/server.log.2
/opt/cmx/var/log/agent/server.log.4
/opt/cmx/var/log/backup.log.2
/opt/cmx/var/log/backup.log.3
/opt/cmx/var/log/setup.log.8
/opt/cmx/var/log/setup.log.7
/opt/cmx/var/log/cmxjobs.log.1
/opt/cmx/var/log/cmxjobs.log.5
[root@server]# cmxos clean normal --delete
Are you sure you wish to remove files? [y/N]: y
Removing files in: /opt/cmx/var/log
Remove: /opt/cmx/var/log/agent/server.log.2
Remove: /opt/cmx/var/log/agent/server.log.1
Remove: /opt/cmx/var/log/cmxjobs.log.5
Remove: /opt/cmx/var/log/cmxjobs.log.2
```

```
Remove: /opt/cmx/var/log/cmxjobs.log.4
Remove: /opt/cmx/var/log/cmxjobs.log.1
Remove: /opt/cmx/var/log/cmxjobs.log.3
```

cmxos configure

To configure the network and operating system parameter, use the **cmxos configure** command.

cmxos configure

Command Default   None

Usage Guidelines   This command should to be run at the root user level. You can use the --force option to force a fresh configuration if the device is already configured.

Examples   The following example shows how to configure the network and operating system parameters:

```
[root@server]# cmxos configure --force
*** The system is already configured
******************************************************************************
Checking if the machine meets required specification...
******************************************************************************

+----------+------------------------+--------------+--------+
| Check | expected | actual | Result |
+==========+========================+==============+========+
| memory | 8GB | 25GB | ? |
+----------+------------------------+--------------+--------+
| cpu | 4 | 8 | ? |
+----------+------------------------+--------------+--------+
| disk | 50GB | 51GB | ? |
+----------+------------------------+--------------+--------+
| hostname | rfc compliant hostname | cmx-vmdev146 | ? |
+----------+------------------------+--------------+--------+
```

cmxos etchosts

To configure etc hosts, use the **cmxos etchosts** command.

cmxos etchosts

Syntax Description   This command has no arguments or keywords.

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Usage Guidelines   This command will run and returns no status.

Examples
```
[root@server]# cmxos etchosts
[root@cmx-vmdev185 cmxadmin]# cmxos etchosts --help
Usage: __main__.py etchosts [OPTIONS]
  Configure /etc/hosts properly
Options:
  --help  Show this message and exit.
```

cmxos firstboot

To set up the Cisco Connected Mobile Experiences (Cisco CMX) again, use the **cmxos firstboot** command.

cmxos firstboot

Command Default   None.

Usage Guidelines   This command should be run at the root user level. You can use the --force option to force a fresh configuration if the device is already configured.

Examples   The following example shows how to set up Cisco CMX again:

```
[root@server]# cmxos firstboot
Not first boot....Exiting...
```

cmxos fixhaproxy

To verify the HA proxy permissions on Cisco Connected Mobile Experiences (Cisco CMX), use the **cmxos fixhaproxy** command.

cmxos fixhaproxy

Command Default   None.

Usage Guidelines   This command should be run at the root user level.

Examples   The following example shows how to verify HA proxy permissions:

```
[root@server]# cmxos fixhaproxy
Raising haproxy setcap...
```

cmxos health

To check health of Cisco CMX system, use the **cmxos health** command.

cmxos health filedescriptors

Syntax Description

filedescriptors	Checks file descriptors.

Command Default

None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Usage Guidelines

This command returns the total number of file descriptors in open status.

Examples

The following examples shows how to check health of Cisco CMX system:

```
[root@server]#  cmxos health filedescriptors
2195 total file descriptors open
```

cmxos inventory

To show full inventory of a node, use the **cmxos inventory** command.

cmxos inventory

Command Default None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Examples The following example shows how to view the inventory details:

```
[root@server]# cmxos inventory
UDI: AIR-MSE-3365-K9 Serial Number -  FCH1904V055

State of the RAID array: Healthy and working normally
Capacity of the RAID array: 1.088 TB
Type of disks in RAID array: Spinning Disk Drive
All chassis fans operating normally
One of the power supplies in the chassis has failed or it has not been installed/connected
Disk Capacity: 1.0T
Disk space used: 33.2G
Memory installed: 63.00G
CPUs  installed: 20
CPU Type:  Intel(R) Xeon(R) CPU E5-2650 v3 @ 2.30GHz
Server uptime: 6 Hours, 59 Minutes, 44 Seconds
Server boot time: Mon, 27 Mar 2017 16-44-36
Number of server reboots: 1
```

Cisco CMX Commands

cmxos kill

cmxos kill

To kill services, use the **cmxos kill** command.

cmxos kill silent

Syntax Description

--silent	Slinetly kills services without confirmation.

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Usage Guidelines

Examples

```
[root@cmx-vmdev185 cmxadmin]# cmxos kill
This command will force kill all CMX processes, for dev use only
Do you want to continue?:
```

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cmxos monit

To manage the monitoring of Cisco CMX services, use the **cmxos monit** command.

cmxos monit {**configure**| **start**| **stop**| **wipe**}

Syntax Description

configure	Configures the default monitor settings.
start	Enables monitored services.
stop	Enables monitored services.
wipe	Deletes the default monitoring settings. **Note** To reset to the default monitoring settings, use the **cmxos monit** configure command

Command Default Disabled.

Command History

Release	Modification
Release 10.2.0	This command was introduced.

Examples The following example shows how to display the monitoring settings:

```
[cmxadmin]$ cmxos monit configure
Deleting all monit configurations....
Configuring monit mail settings...
Configuring monit OS settings...
Configuring monit CMX services settings...
```
The following example shows how to enable monitoring of Cisco CMX services:

```
[cmxadmin]$ cmxos monit start
Starting monit:
```

cmxos openports

To open ports, based on a node rule, use the **cmxos openports** command.

cmxos openports { **analytics** | **location** | **database** }

Syntax Description

analytics	Adds a 10-GB swap space to a node.
location	Configures the network and operating system parameters.
database	Sets up the Cisco Connected Mobile Experiences (Cisco CMX) database again.

Command Default   None.

Usage Guidelines   This command should be run at the root user level.

Examples   The following example shows how to open ports based on a node:

```
[root@server]# cmxos openports analytics
Opened port 6541
Opened port 6542
Successfully opened all ports. Saving iptables info...
```

cmxos reconfigure

To change network configuration information after deployment, use the **cmxos reconfigure** command.

cmxos reconfigure

Command Default None

Usage Guidelines This command, which should be run at the root user level, also allows you to change the IP address, netmask, default gateway, and DNS server information. Changing the hostname through command line is not supported. Use the **cmxos reconfigure** command to chnage a hostname, IP address, or any of the network parameters.

Note Do not execute the **cmxos reconfigure** command when Cisco CMX services are not installed. This will prevent execution failures.

Examples The following example shows how to reconfigure the network after Cisco CMX installation:

```
[root@server]# cmxos reconfigure
```

Note This command opens the Device Configuration window, where you can take the appropriate action, thatis reconfigure the device or the DNS.

cmxos restore

To restore a node, use the **cmxos restore** command.

cmxos restore {**file**| **path**| **i**| **help**}

Syntax Description		
	--file PATH	Path where the restore file is located.
	--path DIRECTORY	Path where the restore file will be created.
	-i, --include_only TEXT	Restore selected parts only. Options are database, cache, cassandra, influxdb, consul, floormaps, licenses, setup, connectimages.
	--HELP	Shows the help content.

Command Default   None.

Usage Guidelines   By default, this command performs restoration of all services excluding the InfluxDB data service. If you want to restore InfluxDB data, explicitly enter the InfluxDB service name along with other services by using *--include_only* while running the command.

Examples   The following example shows how to restore a node:

```
[root@server]# cmxos restore
Please enter the backup file path: /tmp/cmx_backup_cmx-vmdev117_2015_03_10_17_43.tar.gz
[17:44:12] Preparing for restore...
[17:44:12] Untarring backup file...
[17:44:13] Stopping all services...
[17:44:16] Restoring Database...
Restarting database...
[17:44:26] Restoring Cache...
Stopping cache_6379...
Restarting cache_6379...
Stopping cache_6381...
Restarting cache_6381...
Stopping cache_6380...
Restarting cache_6380...
[17:44:55] Restoring Cassandra...
Stopping Cassandra...
Restarting Cassandra...
...............
[17:45:19] Restoring Influxdb...
[17:45:19] Restoring consul...
[17:45:19] Restoring floormaps...
[17:45:19] Running Post Restore Tasks...
[17:45:19] Migrating Schemas...
[17:45:19] Migrating Cassandra schemas...
[17:45:20] Restarting all services...
[17:45:23] Done
```

cmxos sslcert

To replace default haproxy certificate, use the **cmxos sslcert** command.

cmxos sslcert

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.2	This command was introduced.

Examples

cmxos sysproxy

To enable an outbound proxy on your Cisco CMX server, use the **cmxos sysproxy** command.

cmxos sysproxy {**clear**| **disable**| **enable**| **no_proxy**| **proxy**| **show**| **restart**}

Syntax Description

clear	Removes the proxy settings.
disable	Disables the use of the proxy settings.
enable	Enables the use of the proxy settings.
no_proxy	Sets the no_proxy environment variable.
proxy	Sets the proxy environment variables for http_proxy, https_proxy, ftp_or proxy.
show	Displays the proxy settings.
restart	Restarts Cisco CMX for these proxy settings (clear, disable, enable, no_proxy, or proxy) to take effect.

Command Default

Proxy is disabled.

Command Modes

Admin root user

Command History

Release	Modification
Cisco CMX Release 10.3.1	This command was introduced.

Usage Guidelines

This command supersedes the information from this post: https://communities.cisco.com/docs/DOC-70904.

Use this command for environments where an outbound proxy is required on the Cisco CMX server. For example, if you happen to be in a secure internal network where even outbound traffic via HTTPS requires that it move through a proxy server.

If you set the **proxy** setting on the Cisco CMX server, make sure to use the **no_proxy** setting on the attached controllers to avoid interference with the NMSP Network Mobility Services Protocol (NMSP).

If you change the Cisco CMX proxy settings, you must restart Cisco CMX for the change to take effect. Use the **cmxctl restart** command to restart Cisco CMX.

Examples The following example shows how to set a proxy on the Cisco CMX server, and then verify the change and restart Cisco CMX:

```
[root@server]# cmxos sysproxy proxy https://proxy-wsa.esl.cisco.com:80

[root@server]# cmxos sysproxy show
USE_PROXY=1
PROXY_URL=http://proxy-wsa.esl.cisco.com:80
NO_PROXY_LIST=""
[root@server]# cmxctl restart
```

The following example shows how to enable a proxy on the Cisco CMX server, and then verify the change and restart Cisco CMX:

```
[root@server]# cmxos sysproxy enable

[root@server]# cmxos sysproxy show
USE_PROXY=1
PROXY_URL=http://proxy-wsa.esl.cisco.com:80
NO_PROXY_LIST=""
[root@server]# cmxctl restart
```

The following example shows how to disable a proxy on the Cisco CMX server, and then verify the change and restart Cisco CMX:

```
[root@server]# cmxos sysproxy disable

[root@server]# cmxos sysproxy show
USE_PROXY=0
PROXY_URL=http://proxy-wsa.esl.cisco.com:80
NO_PROXY_LIST=""
[root@server]# cmxctl restart
```

The following example shows how to clear proxy settings, and then verify the change and restart Cisco CMX:

```
[root@server]# cmxos sysproxy clear

[root@server]# cmxos sysproxy show
USE_PROXY=0
PROXY_URL=""
NO_PROXY_LIST=""
[root@server]# cmxctl restart
```

cmxos techsupport

To collect technical support information, use the **cmxos techsupport** command.

cmxos techsupport { **all** | **cmx** | **location** | **map** | **network** | **services** | **system** }

Syntax Description

all	Collect all technical support information
cmx	Collect CMX information
location	Collect location support information
map	Collect map support information
network	Collect network information
services	Collect CMX services information.
system	Collect system information
silent	Silently run with prompting

Command Default   None.

Usage Guidelines   This command will return all CLI command outputs helpful for debugging.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

cmxos techsupport dump

To dump all technical support information, use the **cmxos techsupport dump** command.

cmxos techsupport dump

Command Default   None.

Command History

Release	Modification
Cisco CMX Release 10.3	This command was introduced.

cmxos upgrade

To upgrade Cisco Connected Mobile Experiences (Cisco CMX) with a new Red Hat Package Manager (RPM) or package, use the **cmxos upgrade** command.

cmxos upgrade

Command Default None.

Usage Guidelines This command should be run at the root user level. The CLI accepts either a local file or an HTTP URL. This command works only when you have a later version than the existing one to upgrade.

Examples The following example shows how to upgrade the Cisco CMX using RPM or package:

```
[root@server]# cmxos upgrade
The nodeagent service is not running.
Agent is not running, starting it now.
Starting nodeagent Process...
Stopping nodeagent Process...
Done
Successfully shutdown nodeagent Process.
Stopping consul Process...
Successfully shutdown consul Process.
Stopping qlesspyworker Process...
Successfully shutdown qlesspyworker Process.
Stopping cassandra Process...
Successfully shutdown cassandra Process.
Stopping iodocs Process...
The iodocs service is not running.
Stopping redis6383 Process...
Successfully shutdown redis6383 Process.
Stopping redis6380 Process...
Successfully shutdown redis6380 Process.
Stopping redis6381 Process...
Successfully shutdown redis6381 Process.
Stopping influxdb Process...
The influxdb service is not running.
Stopping collectd Process...
The collectd service is not running.
Stopping confd Process...
The confd service is not running.
Stopping redis6379 Process...
Successfully shutdown redis6379 Process.
Stopping redis6378 Process...
Successfully shutdown redis6378 Process.
Stopping haproxy Process...
Stopping postgres Process...
Successfully shutdown postgres Process.
Stopping analytics Process...
The analytics service is not running.
Stopping location Process...
The location service is not running.
Stopping configuration Process...
The configuration service is not running.
Stopping halo Process...
The halo service is not running.
Stopping matlabengine Process...
The matlabengine service is not running.
Stopping nmsplb Process...
The nmsplb service is not running.
Shutting down
```

cmxos verify

To verify the virtual machine configuration, use the **cmxos verify** command.

cmxos verify

Command Default   None.

Examples   The following example shows how to verify the virtual machine configuration:

```
[root@server]# cmxos verify
+----------+-----------------------+--------------+--------+
| Check | expected | actual | Result |
+==========+=======================+==============+========+
| memory | 8GB | 25GB | ? |
+----------+-----------------------+--------------+--------+
| cpu | 4 | 8 | ? |
+----------+-----------------------+--------------+--------+
| disk | 50GB | 51GB | ? |
+----------+-----------------------+--------------+--------+
| hostname | rfc compliant hostname | cmx-vmdev146 | ? |
+----------+-----------------------+--------------+--------+
```