

Cisco Connected Mobile Experiences REST API Guide, Release 11.0.0

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Preface

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- Communications, services, and additional information, on page 5

Audience

This document is for network administrators who configure Cisco Connected Mobile Experiences (Cisco CMX) services.

Cisco CMX is the on-premise location service that is provided as part of the Cisco Spaces overall location as a platform service.

Conventions

This document uses the following conventions:

Table 1: Conventions

Convention	Indication
bold font	Commands and keywords and user-entered text appear in **bold** font.
italic font	Document titles, new or emphasized terms, and arguments for which you supply values are in *italic* font.
[ ]	Elements in square brackets are optional.
{x | y | z }	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string. Otherwise, the string will include the quotation marks.
`courier` font	Terminal sessions and information the system displays appear in `courier` font.
<>	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note Means reader take note. Notes contain helpful suggestions or references to material not covered in the manual.

Tip Means the following information will help you solve a problem.

Caution Means reader be careful. In this situation, you might perform an action that could result in equipment damage or loss of data.

Related Documentation

For more information on coding and specific assistance, see:

https://developer.cisco.com/site/cmx-mobility-services/

For more information about Cisco Mobility Services Engine and related products, see:

http://www.cisco.com/c/en/us/support/wireless/mobility-services-engine/tsd-products-support-series-home.html

For more information about Cisco Connected Mobile Experiences (Cisco CMX), see:

http://www.cisco.com/c/en/us/solutions/enterprise-networks/connected-mobile-experiences/index.html

For more information about Cisco Spaces, see Cisco Spaces support page.

Communications, services, and additional information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions, and services, visit Cisco DevNet.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

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Cisco CMX API

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- API field updates, on page 9

Cisco CMX API

The Cisco Connected Mobile Experiences (CMX) API is designed to provide programmatic access to location and visitor data collected via Cisco wireless infrastructure. It enables developers to configure CMX, retrieve real-time location information, analytics, presence data, and user session details. The API facilitates the creation of applications that leverage Wi-Fi-based location intelligence to enhance customer experiences and venue operations.

The API is RESTful and supports standard HTTP methods (GET, PUT, POST, DELETE). It is also supported by Cisco DevNet, where developers can find resources and community support for building on CMX APIs.

The primary users are network administrators, developers, integrators, and partners who want to build applications or integrations that leverage CMX data and services. It is aimed at those who need to programmatically interact with CMX for configuration, analytics, and location services.

It solves the challenge of accessing and utilizing location-based data and analytics in a standardized, scalable way. It allows businesses to deliver personalized content, improve space utilization, and gain insights into visitor behavior without manual intervention.

Use cases

- **Retail and Venue Analytics**: Tracking visitor movement and dwell times to optimize layouts and marketing.
- **Personalized Customer Engagement**: Delivering location-based promotions and notifications to mobile devices.
- **Space Utilization**: Monitoring occupancy and usage patterns in buildings or campuses.
- **Asset Tracking**: Locating devices or assets within a Wi-Fi environment.
- **User Session Management**: Managing and analyzing user sessions for network access and engagement.

API field updates

This summary highlights the key changes that may impact compatibility and integration between the two Cisco CMX API versions. Between API versions 10.6.3 and 11.0.0, a total of 55 fields were identified with changes.

Of these, two fields showed a **Difference in Value (Conversion error)**, indicating potential discrepancies during data conversion, while 53 fields were marked as **Removed from release 11.x.x**, suggesting they are absent in the latest API version's output.

Table 2: Field updates

Fields	Release 10.6.3	Release 11.x.x	Data Type
affectedBand	Null	Removed from release 11.x.x	Not applicable
affectedChannels	Null	Removed from release 11.x.x	Not applicable
areaGlobalidList	Not Null	Removed from release 11.x.x	Array
bleTagInfo	Null	Removed from release 11.x.x	Not applicable
bssid	Null	Removed from release 11.x.x	Not applicable
bytesReceived	0	Removed from release 11.x.x	Not applicable
bytesSent	0	Removed from release 11.x.x	Not applicable
classification	Null	Removed from release 11.x.x	Not applicable
classifiedByAP	Empty	Removed from release 11.x.x	Not applicable
classifiedRSSI	0	Removed from release 11.x.x	Not applicable
className	Empty	Removed from release 11.x.x	Not applicable
clientMacs	Null	Removed from release 11.x.x	Not applicable
containmentLevel	Null	Removed from release 11.x.x	Not applicable

Fields	Release 10.6.3	Release 11.x.x	Data Type
controllerClusterMac	Null	Removed from release 11.x.x	Not applicable
currentlyTracked	Not Null	Removed from release 11.x.x	Not applicable
detectingControllers	Not Null	Removed from release 11.x.x	Not applicable
deviceKey	Null	Removed from release 11.x.x	Not applicable
deviceType	Null	Removed from release 11.x.x	Not applicable
dot11Status	Not Null	Removed from release 11.x.x	Not applicable
dutyCycle	0	Removed from release 11.x.x	Not applicable
floorId	Not Null	Difference in Value (Conversion error)	Not applicable
guestUser	Not Null	Removed from release 11.x.x	Not applicable
gwMacAddr	Null	Removed from release 11.x.x	Not applicable
hiddenSSID	0	Removed from release 11.x.x	Not applicable
hierarchyDetails.id	Not Null	Difference in Value (Conversion error)	Not applicable
hierarchyDetails.zones	Null	Removed from release 11.x.x	Not applicable
ipAddress	Not Null	Removed from release 11.x.x	Not applicable
lastUpdated	Null	Removed from release 11.x.x	Not applicable
macAddress	Not Null	Removed from release 11.x.x	Not applicable
mapInfo	Not Null	Removed from release 11.x.x	Not applicable
maxDetectingAPMacAddress	Null	Removed from release 11.x.x	Not applicable

Fields	Release 10.6.3	Release 11.x.x	Data Type
maxRssiRadioType	0	Removed from release 11.x.x	Not applicable
networkStatus	Not Null	Removed from release 11.x.x	Not applicable
notificationTime	Not Null	Removed from release 11.x.x	Not applicable
numOfDetectingAPs	0	Removed from release 11.x.x	Not applicable
rogueClChBy	Null	Removed from release 11.x.x	Not applicable
rogueStChBy	Null	Removed from release 11.x.x	Not applicable
rssiEntries	Not Null	Removed from release 11.x.x	Array
severity	0	Removed from release 11.x.x	Not applicable
severityCategory	Null	Removed from release 11.x.x	Not applicable
sourceNotification	Not Null	Removed from release 11.x.x	Not applicable
sourceNotificationKey	Not Null	Removed from release 11.x.x	Not applicable
state	Null	Removed from release 11.x.x	Not applicable
statistics	Not Null	Removed from release 11.x.x	Object of JSON
subscriptionName	Not Null	Removed from release 11.x.x	Not applicable
switchPortShutdown	Not Null	Removed from release 11.x.x	Not applicable
tagBatteryInfo	Null	Removed from release 11.x.x	Not applicable
tagLastBeaconSequenceNumber	0	Removed from release 11.x.x	Not applicable
tagLastBeaconTime	Null	Removed from release 11.x.x	Not applicable

Fields	Release 10.6.3	Release 11.x.x	Data Type
tagTelemetryList	Null	Removed from release 11.x.x	Not applicable
tagVendorData	Null	Removed from release 11.x.x	Not applicable
totalClients	0	Removed from release 11.x.x	Not applicable
tracedWiredRogue	Not Null	Removed from release 11.x.x	Not applicable
type	Null	Removed from release 11.x.x	Not applicable
zoneOfImpact	0	Removed from release 11.x.x	Not applicable



Analytics

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- Network State API, on page 35
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Overview API

POST: Overview Data for Target Areas for Brochure View

Description

This task retreives overview Data for Target Areas for Brochure View

Table 3: Parameter Details

JSON body parameter	Description	Allowable values/formats
type	The type of data requested	• deviceCount • deviceDwell • grossShopping • deviceCrossover • connectedDetected • dwellBreakdown
period	The period of interest, either specified as a date range, or one of the predefined names	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day	• HH:mm-HH:mm
areas	The list of areas of interest. If none are given, all are considered	A comma-separated list of area ids, or heterarchy levels

JSON body parameter	Description	Allowable values/formats
durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440
includeStationary	Whether to include stationary devices (default=false)	• true • false

JSON body parameter	Description	Allowable values/formats
entirePeriod	Whether to include device visits that occur any time during the entire period or only within a single day (default=false). Applicable only to crossover; ignored for the other metrics.	• true • false
connectionState	Whether to restrict to either connected or detected devices (default=all). For Connected/Detected metric, this setting is ignored, and "all" is presumed	• connected • detected • all
percentageOf	If set, does not report absolute numbers, but relative percentage. Ignored for Crossover report	Heterarchy level
dwellLimits	The dwell time limits that specifies how dwellers should be grouped together. Values are comma seperated as key:value pairs. Key is the series name and value is the upper dwell time limit of the series. For example, Light:5,Medium:20,Heavy:100 would mean that you consider devices that dwell for less than 5 minutes to be Light; from 5 minutes to 20 minutes to be Medium; and from 20 minutes to 100 to be Heavy. If you want to consider all dwells, pass in -1 as the value.	• default • minute • Light:<limit>,Medium:<limit>,Heavy:<limit> • comma separated limit label:limit value

HTTP Method

POST

Resource URI

/api/analytics/v1/overview

Requires Basic Auth

N

Parameters

Table 4: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters

Content Type

application/json

Sample Input (JSON)

```
{
 "period": "today",
 "timeRange": "00:00-23:59",
 "areas": "52",
 "type": "deviceCount"
}
```

Sample Output (JSON)

```
{
  "startTime": "00:00",
  "previousEndDate": null,
  "startDate": "2017-03-16",
  "title": "Visitors",
  "executionTime": 32,
  "value": {
    "primary": {
      "title": "Total Visitors",
      "value": 0,
      "peakValue": 0,
      "breakdown": [
        {
          "title": "Repeat Visitors",
          "value": 0
        },
        {
          "title": "New Visitors",
          "value": 0
        }
      ]
    },
    "average": {
      "title": "Total Visitors",
      "value": 0,
      "peakValue": 0,
      "breakdown": [
        {
          "title": "Repeat Visitors",
          "value": 0
        },
        {
          "title": "New Visitors",
          "value": 0
        }
```

```
        ]
      },
      "previousTimeRange": {
        "title": "Total Visitors",
        "value": 0,
        "peakValue": 0,
        "breakdown": [
          {
            "title": "Repeat Visitors",
            "value": 0
          },
          {
            "title": "New Visitors",
            "value": 0
          }
        ]
      }
    },
    "areas": [
      {
        "id": 52,
        "name": "f0:25:72:3c:f8:10"
      }
    ],
    "previousStartDate": "2017-03-15",
    "endDate": null,
    "endTime": "23:59"
}
```

Path API

POST: Paths for a Given Period and Areas

Description

The only parameter (body) is a JSON array containing the parameters. The parameters are described below:

Table 5: Parameter Details

JSON parameter	Description	Allowable values/formats
period	The period of interest, either specified as a date range, or one of the predefined names	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day.	• HH:mm-HH:mm
targetArea	The ID of the target area for the paths.	The ID of the target area for the paths.
allAreas	The list of areas of interest.	A comma-separated list of area IDs `<areaId-1>,<areaId-2>,<areaId-3>`
granularity	The desired geographical granularity. This will replace the areas listed in 'allAreas' with their progeny on the appropriate level.	Heterarchy level

JSON parameter	Description	Allowable values/formats
durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440

HTTP Method

POST

Resource URI

/api/analytics/v1/path

Requires Basic Auth

N

Parameters

Table 6: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters.

Content Type

application/json

Sample Input (JSON)

```
 {
                "period": "today",
                "timeRange": "00:00-23:59",
                "granularity": "Building",
                "allAreas": "52,75,80"
}
```

Sample Output (JSON)

```
/* Path Output */
{
    "startTime": "00:00",
    "startDate": "2017-03-07",
    "results": [
        {
            "id": 75,
            "total": 0,
            "medianTransitionTime": 0,
            "ancestry": [
                {
                    "level": "Campus",
                    "name": "TagTest_Campus_1"
                }
            ],
            "area": "TagTest_Building_1",
            "direction": -1,
            "value": 0,
            "averageTransitionTime": 0
        },
        {
            "id": 80,
            "total": 0,
            "medianTransitionTime": 0,
            "ancestry": [
                {
                    "level": "Campus",
                    "name": "TagTest_Campus_1"
                }
            ],
```

```
            "area": "TagTest_Building_2",
            "direction": -1,
            "value": 0,
            "averageTransitionTime": 0
        },
        {
            "id": 75,
            "total": 0,
            "medianTransitionTime": 0,
            "ancestry": [
                {
                    "level": "Campus",
                    "name": "TagTest_Campus_1"
                }
            ],
            "area": "TagTest_Building_1",
            "direction": 1,
            "value": 0,
            "averageTransitionTime": 0
        },
        {
            "id": 80,
            "total": 0,
            "medianTransitionTime": 0,
            "ancestry": [
                {
                    "level": "Campus",
                    "name": "TagTest_Campus_1"
                }
            ],
            "area": "TagTest_Building_2",
            "direction": 1,
            "value": 0,
            "averageTransitionTime": 0
        }
    ],
    "executionTime": 88,
    "requestTruncated": false,
    "target": {
        "ancestry": [
            {
                "level": "Campus",
                "name": "campus"
            }
        ],
        "total": 0,
        "id": 52,
        "area": "Building_0",
        "pathsEnded": 0,
        "totalVisits": 0,
        "pathsStarted": 0,
        "avgDwellPerDevice": 0,
        "avgDwellPerVisit": 0,
        "totalDevices": 0
    },
    "insights": {},
    "endDate": "2017-03-07",
    "endTime": "23:59",
    "dataFreshness": {
        "dayOfYear": 66,
        "dayOfMonth": 7,
        "dayOfWeek": 2,
        "era": 1,
        "year": 2017,
```

```
            "minuteOfDay": 1277,
            "hourOfDay": 21,
            "weekyear": 2017,
            "monthOfYear": 3,
            "yearOfEra": 2017,
            "yearOfCentury": 17,
            "centuryOfEra": 20,
            "millisOfSecond": 782,
            "millisOfDay": 76673782,
            "secondOfMinute": 53,
            "secondOfDay": 76673,
            "minuteOfHour": 17,
            "weekOfWeekyear": 10,
            "millis": 1488921473782,
            "zone": {
                "fixed": true,
                "id": "Etc/UTC"
            },
            "chronology": {
                "zone": {
                    "fixed": true,
                    "id": "Etc/UTC"
                }
            },
            "afterNow": false,
            "beforeNow": false,
            "equalNow": true
        }
    }
```

Device Count API

POST: Device Count for a Given Period and Areas

Description

This API retreives the device count for a given period and areas.

The only parameter (body) is a JSON array containing the parameters. The parameters are described below

Table 7: Parameter Details

JSON array parameter	Description	Allowable values/formats
granularity	The desired granularity. One can limit to top n results (i.e. the n values with highest count) by adding "[n]", or the n bottom results by adding "[-n]". If granularity null is specified, all heterarchy types covered by the areas are returned.	• hourly • daily • weekly • monthly • yearly • tag • tag-name • heterarchy level • null
period	The period of interest, either specified as a date range, or one of the predefined names	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day.	• HH:mm-HH:mm

JSON array parameter	Description	Allowable values/formats
aggregate	Whether to aggregate the dwell time by granularity; e.g. showing a total for each day of the week, instead of individual dates	• none • sum • avg
areas	The list of areas of interest. If none are given, all are considered	A comma-separated list of area ids, or heterarchy levels
durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440

JSON array parameter	Description	Allowable values/formats
includeStationary	Whether to include stationary devices (default=false)	• true • false
connectionState	Whether to restrict to either connected or detected devices (default=all)	• connected • detected • all
percentageOf	If set, does not report absolute numbers, but relative percentage	Heterarchy level
areaFilter	If set, restricts the results to areas matching the filter. Use 'descendantOf' to restrict the area selection. This option is used for drill down reports. Use 'subsetOf' to restrict the granularity. This option is used with tag granularity. For example: descendantOf: Campus C1 has Building B1 which zone Z1 and Z2 Campus C2 has Building B2 which zone Z3 query area=Z1,Z2,Z3 and granularity=Building and areaFilter=descendantOf:C1 will return only Building B1 For example: subsetOf: Tag T1,T2 assigned to F1, T2,T3 to F2, T3,T4 to F3 query area=F1,F2,F3 and granularity=tag and areaFilter=subsetOf:T1,T2 will return only T1,T2.	• descendantOf • subsetOf:comma separated ids
expandAll	Include all of the elements descendants in the result	• true • false

HTTP Method

POST

Resource URI

/api/analytics/v1/deviceCount

Requires Basic Auth

N

Parameters

Table 8: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters

Content Type

application/json

Sample Input (JSON)

```
{
 "period": "today",
 "timeRange": "00:00-23:59",
 "granularity": "Building",
 "areas": "52,75,80"
}
```

Sample Output (JSON)

```
{
  "startTime": "00:00",
  "startDate": "2017-03-16",
  "connectionState": "all",
  "results": [
    {
      "id": -1,
      "ancestry": [],
      "series": [],
      "hasChildren": false,
      "level": "SUPERZONE",
      "area": "Unknown area",
      "data": []
    }
  ],
  "interval": null,
  "executionTime": 23,
  "minValue": 2147483647,
  "endDate": "2017-03-16",
  "endTime": "23:59",
  "dataFreshness": "2017-03-16T03:00:28.833-07:00",
  "maxValue": 0
}
```

Analytics Summary Metrics API

GET: All summary KPI

Description

This API retrieves summary of all KPI.

HTTP Method

GET

Resource URI

/api/analytics/v1/summary

Requires Basic Auth

N

Parameters

None.

Sample Output (JSON)

```
{
    "Top Building dwell": {
        "title": "Top Building dwell",
        "value": {
            "primary": "Nortech-1 (5572.52 min)",
            "secondary": [
                "SJC23 (0.00 min)",
                "SJC24 (0.00 min)",
                "Shell- CBuilding (0.00 min)"
            ],
            "supplementary": "SJC23 (0.00 min)<br/>SJC24 (0.00 min)<br/>Shell- CBuilding
(0.00 min)<br/>"
        }
    },
    "Notifications Received": {
        "title": "Notifications Received Rate (5 min avg)",
        "value": {
            "primary": "2.04 notifications/s",
            "secondary": [
                "1 min avg: 2.07",
                "15 min avg: 1.84",
                "Avg since boot: 4.23",
                "Total number of events: 3774166"
            ],
            "supplementary": "1 min avg: 2.07</br>15 min avg: 1.84</br>Avg since boot:
4.23</br>Total number of events: 3774166"
        }
    },
    "RSSI experience": {
        "title": "RSSI experience",
```

```
            "value": {
                "primary": "No devices detected",
                "secondary": [
                    "No devices detected"
                ],
                "supplementary": "No devices detected"
            }
        },
        "Uptime": {
            "title": "Uptime",
            "value": {
                "primary": "10 days, 07:35",
                "secondary": [
                    "Processors: 20",
                    "Max mem: 4528 MiB",
                    "Memory:  2849/4528 MiB",
                    "Threads: 169"
                ],
                "supplementary": "Processors: 20<br/>Max mem: 4528 MiB<br/>Memory:  2849/4528
MiB<br/>Threads: 169"
            }
        },
        "Connected": {
            "title": "Connected",
            "value": {
                "primary": "1916.33%",
                "secondary": [
                    "Total: 392",
                    "Detected: -7120 (-1816.33%)",
                    "Connected: 7512 (1916.33%)"
                ],
                "supplementary": "Total: 392</br>Detected: -7120 (-1816.33%)</br>Connected:
7512 (1916.33%)</br>"
            }
        },
        "Aggregation performance": {
            "title": "Aggregation performance",
            "value": {
                "primary": "534930964.29 / 0",
                "secondary": [
                    "API misses (rate): 166(0) / 0(0) <br/>",
                    "API misses as % of total API calls: 9.22/□<br/>",
                    "Background updates (rate): 0(0) / 0(0) <br/>"
                ],
                "supplementary": "API misses (rate): 166(0) / 0(0) <br/><br/>API misses as %
of total API calls: 9.22/□<br/><br/>Background updates (rate): 0(0) / 0(0) <br/>"
            },
            "recordRefreshCounts": {
                "pathRecordsRefreshed": 0,
                "repeatRecordsRefreshed": 0,
                "derivedRecordsRefreshed": 0,
                "hourVisitsUpdated": 121942,
                "areaVisitsUpdated": 119586,
                "crossoverRecordsRefreshed": 0
            }
        },
        "Top Campus count": {
            "title": "Top Campus count",
            "value": {
                "primary": "Nortech Campus (356)",
                "secondary": [
                    "Shell (0)",
                    "System Campus (0)"
                ],
```

```
            "supplementary": "Shell (0)<br/>System Campus (0)<br/>"
        }
    },
    "Database I/O": {
        "title": "Database I/O Rate (5 min avg)",
        "value": {
            "primary": "0.57 operations/s",
            "secondary": [
                "1 min avg: 0.07",
                "15 min avg: 0.53",
                "Avg since boot: 0.46",
                "Total number of events: 409932"
            ],
            "supplementary": "1 min avg: 0.07</br>15 min avg: 0.53</br>Avg since boot:
0.46</br>Total number of events: 409932"
        }
    },
    "Top Floor dwell": {
        "title": "Top Floor dwell",
        "value": {
            "primary": "1st Floor (5572.53 min)",
            "secondary": [
                "1st floor (CCW remodel) (0.00 min)",
                "2nd floor (Area Addition) (0.00 min)",
                "2nd floor (CCW remodel) (0.00 min)"
            ],
          "supplementary": "1st floor (CCW remodel) (0.00 min)<br/>2nd floor (Area Addition)
 (0.00 min)<br/>2nd floor (CCW remodel) (0.00 min)<br/>"
        }
    },
    "Active devices": {
        "title": "Active devices",
        "value": {
            "primary": 356,
            "secondary": [
                "Most recent detection: 17s ago"
            ],
            "supplementary": "Most recent detection: 17s ago"
        }
    },
    "Top Campus dwell": {
        "title": "Top Campus dwell",
        "value": {
            "primary": "Nortech Campus (5572.53 min)",
            "secondary": [
                "Shell (0.00 min)",
                "System Campus (0.00 min)"
            ],
            "supplementary": "Shell (0.00 min)<br/>System Campus (0.00 min)<br/>"
        }
    },
    "Analysis API calls": {
        "title": "Analysis API calls",
        "value": {
            "primary": "Meter not active yet",
            "secondary": [
                "Please wait while data is being collected."
            ],
            "supplementary": "Please wait while data is being collected."
        }
    },
    "Zone API Calls": {
        "title": "Zone API Calls",
        "value": {
```

```
            "primary": "Meter not active yet",
            "secondary": [
                "Please wait while data is being collected."
            ],
            "supplementary": "Please wait while data is being collected."
        }
    },
    "Top Zone dwell": {
        "title": "Top Zone dwell",
        "value": {
            "primary": "CMX Bar (5959.07 min)",
            "secondary": [
                "School (5763.90 min)",
                "Tm (4175.67 min)",
                "CMX Clinic (1783.57 min)"
            ],
            "supplementary": "School (5763.90 min)<br/>Tm (4175.67 min)<br/>CMX Clinic
(1783.57 min)<br/>"
        }
    },
    "Top Manufacturer": {
        "title": "Top Manufacturer",
        "value": {
            "primary": "Cisco Systems, Inc (310)",
            "secondary": [
                "Aeroscout Ltd. (78)",
                "G2 Microsystems (44)",
                "Hon Hai Precision Ind. Co.,Ltd. (21)"
            ],
            "supplementary": "Aeroscout Ltd. (78)</br>G2 Microsystems (44)</br>Hon Hai
Precision Ind. Co.,Ltd. (21)</br>"
        }
    },
    "Top Zone count": {
        "title": "Top Zone count",
        "value": {
            "primary": "CMX Clinic (106)",
            "secondary": [
                "Tm (86)",
                "CMX Bar (44)",
                "School (20)"
            ],
            "supplementary": "Tm (86)<br/>CMX Bar (44)<br/>School (20)<br/>"
        }
    },
    "Top Building count": {
        "title": "Top Building count",
        "value": {
            "primary": "Nortech-1 (356)",
            "secondary": [
                "SJC23 (0)",
                "SJC24 (0)",
                "Shell- CBuilding (0)"
            ],
            "supplementary": "SJC23 (0)<br/>SJC24 (0)<br/>Shell- CBuilding (0)<br/>"
        }
    },
    "Overall Analytics API Calls": {
        "title": "Overall Analytics API Calls Rate (5 min avg)",
        "value": {
            "primary": "0.00 calls/s",
            "secondary": [
                "1 min avg: 0.00",
                "15 min avg: 0.00",
```

```
                "Avg since boot: 0.00",
                "Total number of events: 0"
            ],
            "supplementary": "1 min avg: 0.00</br>15 min avg: 0.00</br>Avg since boot:
0.00</br>Total number of events: 0"
        }
    },
    "Notification processing time": {
        "title": "Notification processing time (avg duration)",
        "value": {
            "primary": "2.13 ms",
            "secondary": [
                "Min: 0 ms",
                "Max: 9 ms",
                "StDev: 0.94"
            ],
            "supplementary": "Min: 0 ms</br>Max: 9 ms</br>StDev: 0.94"
        }
    },
    "Location API Calls": {
        "title": "Location API Calls",
        "value": {
            "primary": "Meter not active yet",
            "secondary": [
                "Please wait while data is being collected."
            ],
            "supplementary": "Please wait while data is being collected."
        }
    },
    "Paths API Calls": {
        "title": "Paths API Calls",
        "value": {
            "primary": "Meter not active yet",
            "secondary": [
                "Please wait while data is being collected."
            ],
            "supplementary": "Please wait while data is being collected."
        }
    },
    "Age of updated aggregation records": {
        "title": "Age of updated aggregation records",
        "value": {
            "primary": "Meter not active yet",
            "secondary": [
                "Please wait while data is being collected."
            ],
            "supplementary": "Please wait while data is being collected."
        }
    },
    "Top Floor count": {
        "title": "Top Floor count",
        "value": {
            "primary": "1st Floor (356)",
            "secondary": [
                "1st floor (CCW remodel) (0)",
                "2nd floor (Area Addition) (0)",
                "2nd floor (CCW remodel) (0)"
            ],
            "supplementary": "1st floor (CCW remodel) (0)<br/>2nd floor (Area Addition)
(0)<br/>2nd floor (CCW remodel) (0)<br/>"
        }
    },
    "Heterarchy": {
        "title": "Heterarchy",
```

```
        "value": {
            "primary": "199 active elements",
            "secondary": [
                "Elements: 199/54 [act/inact]",
                "APs: 158/39",
                "POIs: 0/0",
                "PATHs: 0/0",
                "Floors: 8/1",
                "Tags: 19/0",
                "Userlevels: 4/0",
                "Zones: 5/12"
            ],
            "supplementary": "Elements: 199/54 [act/inact]<br/>APs: 158/39<br/>POIs:
0/0<br/>PATHs: 0/0<br/>Floors: 8/1<br/>Tags: 19/0<br/>Userlevels: 4/0<br/>Zones: 5/12"
        }
    }
}
}
```


GET: Specific set of Summary KPIs or a list of available ones

Description

This API retrieves a specific set of summary KPIs or a list of available ones.

HTTP Method

GET

Resource URI

/api/analytics/v1/summary/:summaryItem

Requires Basic Auth

N

Parameters

Table 9: Parameter Details

Name	Required	Default	Type	Location	Description
summaryItem	Y	—	String	pathReplace	A comma-separated list of summary KPI to return, or 'availableMetrics' to see the list of metrics available. Use the title parameter.

Content Type

application/json

Sample Output (JSON)


```
{
    "Top Building dwell": {
        "title": "Top Building dwell",
        "value": {
            "secondary": [],
            "supplementary": "",
            "primary": "Nortech Building (0.00 min)"
        }
    }
}
```

Network State API

POST: Breakdown of Connected and Detected Devices for a Given Period and Areas

Description

This API gives a breakdown of connected and detected devices for a given period and areas. The only parameter (body) is a JSON array containing the parameters. The parameters are described below

Table 10: Parameter Details

JSON array parameter	Description	Allowable values/formats
granularity	The desired granularity. One can limit to top n results (i.e. the n values with highest count) by adding "[n]", or the n bottom results by adding "[-n"]. If granularity null is specified, all heterarchy types covered by the areas are returned.	• hourly • daily • weekly • monthly • yearly • tag • tag-name • heterarchy level • null
period	The period of interest, either specified as a date range, or one of the predefined names	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day.	• HH:mm-HH:mm
aggregate	Whether to aggregate the dwell time by granularity; e.g. showing a total for each day of the week, instead of individual dates	• none • sum • avg

JSON array parameter	Description	Allowable values/formats

areas	The list of areas of interest. If none are given, all are considered	A comma-separated list of area ids, or heterarchy levels
		`<areaId>`
		`<areaId-1>,<areaId-2>,<areaId-3>`

durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440
includeStationary	Whether to include stationary devices (default=false)	• true • false

JSON array parameter	Description	Allowable values/formats
percentageOf	If set, does not report absolute numbers, but relative percentage	Heterarchy level
areaFilter	If set, restricts the results to areas matching the filter. Use 'descendantOf' to restrict the area selection. This option is used for drill down reports. Use 'subsetOf' to restrict the granularity. This option is used with tag granularity. For example: descendantOf: Campus C1 has Building B1 which zone Z1 and Z2 Campus C2 has Building B2 which zone Z3 query area=Z1,Z2,Z3 and granularity=Building and areaFilter=descendantOf:C1 will return only Building B1 For example: subsetOf: Tag T1,T2 assigned to F1, T2,T3 to F2, T3,T4 to F3 query area=F1,F2,F3 and granularity=tag and areaFilter=subsetOf:T1,T2 will return only T1,T2.	• descendantOf • subsetOf:comma separated ids
expandAll	Include all of the elements descendants in the result	• true • false

HTTP Method

POST

Resource URI

/api/analytics/v1/connectedDetected

Requires Basic Auth

N

Parameters

Table 11: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters.

Content Type

application/json

Sample Input (JSON)

```
{
 "period": "today",
 "timeRange": "00:00-23:59",
 "granularity": "hourly",
 "areas": "5786"
}
```

Sample Output (JSON)

```
{
  "startTime": "00:00",
  "startDate": "2017-03-16",
  "results": [
    {
      "id": 5786,
      "ancestry": [
        {
          "level": "Campus",
          "name": "Nortech Campus"
        }
      ],
      "startDate": "2017-03-16",
      "series": [
        "datetime"
      ],
      "hasChildren": true,
      "area": "Nortech-1",
      "data": [
        {
          "dwell": null,
          "values": {
            "connected": 0,
            "detected": 0
          },
          "name": null
        },
        {
          "dwell": null,
          "values": {
            "connected": 0,
            "detected": 0
          },
          "name": null
        },
        {
          "dwell": null,
          "values": {
            "connected": 0,
            "detected": 0
          },
          "name": null
        },
        {
          "dwell": null,
          "values": {
            "connected": 0,
            "detected": 0
          },
          "name": null
        },
        {
          "dwell": null,
          "values": {
            "connected": 0,
            "detected": 0
          },
          "name": null,
          "incomplete": true
        }
      ]
```

```
    }
  ],
  "interval": "hourly",
  "executionTime": 18,
  "insights": {
    "summary": {},
    "connected": {
      "ancestry": [
        {
          "level": "Campus",
          "name": "Nortech Campus"
        }
      ],
      "id": 5786,
      "index": 0,
      "maxDate": "2017-03-16",
      "name": "Nortech-1",
      "maxTime": "00:00",
      "maxValue": 0
    },
    "detected": {
      "ancestry": [
        {
          "level": "Campus",
          "name": "Nortech Campus"
        }
      ],
      "id": 5786,
      "index": 0,
      "maxDate": "2017-03-16",
      "name": "Nortech-1",
      "maxTime": "00:00",
      "maxValue": 0
    }
  },
  "endDate": "2017-03-16",
  "maxValues": {
    "connected": 0,
    "detected": 0
  },
  "endTime": "23:59",
  "dataFreshness": "2017-03-16T02:53:55.919-07:00",
  "minValues": {
    "connected": 0,
    "detected": 0
  }
}
```

Now API

GET: Retrieve the count of active clients on a floor or multiple floors right now.

Description

The only parameter (body) is a JSON array containing the parameters.

HTTP Method

GET

Resource URI

/api/analytics/v1/now/clientCount

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "total": {
        "total": 103,
        "totalNumFloors": 8
    },
    "connectionState": "all",
    "failedFloorIds": [],
    "missingFloorIds": [],
    "executionTime": 147,
    "minValue": 0,
    "data": [
        {
            "floorName": "2nd floor (CCW remodel)",
            "floorId": 207,
            "value": 0
        },
        {
            "floorName": "3rd floor (CCW remodel)",
            "floorId": 157,
            "value": 0
        },
        {
            "floorName": "3rd floor (CCW remodel)",
            "floorId": 232,
            "value": 0
```

```
            },
            {
                "floorName": "1st floor (CCW remodel)",
                "floorId": 106,
                "value": 0
            },
            {
                "floorName": "1st floor (CCW remodel)",
                "floorId": 184,
                "value": 0
            },
            {
                "floorName": "1st Floor",
                "floorId": 11,
                "value": 103
            },
            {
                "floorName": "2nd floor (CCW remodel)",
                "floorId": 132,
                "value": 0
            },
            {
                "floorName": "2nd floor (Area Addition)",
                "floorId": 185,
                "value": 0
            }
        ],
        "date": "2017-12-17",
        "nonFloorIds": [],
        "maxValue": 103
}
```


API History

Table 12: API history

Release	Modification
Cisco CMX Release 10.3	This API is introduced.

POST: Retrieve the count of active clients on a floor or multiple floors right now

Description

This API retrieves the count of active clients on a floor or multiple floors right now. The only parameter (body) is a JSON array containing the parameters.

Parameters

Table 13: Parameter Details

JSON array parameter	Description	Allowable values/formats	
floors	The list of floors of interest. If none are given, all are considered.	A comma-separated list of floor ids. <floorId1>,<floorId2>,..	
connectionState	Whether to restrict to either connected or detected devices (default = all)	• connected • detected • all	

HTTP Method

POST

Resource URI

/api/analytics/v1/now/clientCount

Requires Basic Auth

N

Parameters

Table 14: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters.

Content Type

application/json

Sample Input

```
{
```

```
 "floors": "17",
 "connectionState": "all"
}
```

Sample Output


```
{
  "total": {
    "total": 0,
    "totalNumFloors": 0
  },
  "connectionState": "all",
  "failedFloorIds": [],
  "missingFloorIds": [
    "17"
  ],
  "executionTime": 1,
  "minValue": 2147483647,
  "data": [],
  "date": "2017-03-16",
  "nonFloorIds": [],
  "maxValue": -2147483648
}
```


API History

Table 15: API history

Release	Modification
Cisco CMX Release 10.3	This API is introduced.

POST: Retrieve the breakdown of connected and detected devices for a floor right now.

Description

This API retrieve the breakdown of connected and detected devices for a floor right now.

HTTP Method

POST

Resource URI

/api/analytics/v1/now/connectedDetected

Requires Basic Auth

N

Parameters

Table 16: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y		JSON array	body	JSON array containing parameters

Content Type

application/json

Sample Input (JSON)

```
{
 "floors": "17"
}
```

Sample Output (JSON)

```
{
  "total": {
    "totalDetected": 0,
    "totalNumFloors": 0,
    "totalAll": 0,
    "totalConnected": 0
  },
  "startTime": "03:22",
  "startDate": "2017-03-16",
  "failedFloorIds": [],
  "missingFloorIds": [
    "17"
  ],
  "results": [],
  "interval": null,
  "executionTime": 2,
  "endDate": "2017-03-16",
  "endTime": "03:22",
  "nonFloorIds": []
}
```

API History

Table 17: API history

Release	Modification
Cisco CMX Release 10.3	This API is introduced.

GET: Retrieve the breakdown of connected and detected devices for a floor right now

Description

The API retrieves the breakdown of connected and detected devices for a floor right now.

HTTP Method

GET

Resource URI

/api/analytics/v1/now/connectedDetected

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "total": {
        "totalDetected": 98,
        "totalNumAreas": 1,
        "totalAll": 98,
        "totalConnected": 0
    },
    "startDate": "2017-12-17",
    "interval": null,
    "executionTime": 158,
    "endDate": "2017-12-17",
    "endTime": "22:36",
    "startTime": "22:36",
    "invalidLevelIds": [],
    "missingAreaIds": [],
    "results": [
        {
            "ancestry": [],
            "id": 1,
            "series": [
                "dwell"
            ],
            "hasChildren": true,
            "area": "Campus",
            "data": [
                {
                    "dwell": "0-1440",
                    "values": {
```

```
                        "connected": 0,
                        "detected": 98,
                        "all": 98
                    },
                    "name": null
                }
            ]
        }
    ],
    "failedAreaIds": [],
    "maxValues": {
        "connected": 0,
        "detected": 98
    },
    "minValues": {
        "connected": 0,
        "detected": 98
    }
}
```


API History

Table 18: API history

Release	Modification
Cisco CMX Release 10.3	This API is introduced.

GET: Retrieve the count of active clients on a single or on multiple campuses/buildings/floors right now

Description

The only parameter (body) is a JSON array containing the parameters.

HTTP Method

GET

Resource URI

/api/analytics/v1/now/clientCount/areas

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "invalidLevelIds": [],
    "total": {
        "total": 103,
        "totalNumAreas": 1
    },
    "missingAreaIds": [],
    "connectionState": "all",
    "failedAreaIds": [],
    "executionTime": 147,
    "minValue": 103,
    "data": [
        {
            "areaName": "Campus",
            "value": 103,
            "areaId": 1
        }
    ],
    "date": "2017-12-17",
    "maxValue": 103
}
```


API History

Table 19: API history

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

POST: Retrieve the count of active clients on a single or on multiple campuses/buildings/floors right now

Description

The only parameter (body) is a JSON array containing the parameters.

HTTP Method

POST

Resource URI

/api/analytics/v1/now/clientCount/areas

Requires Basic Auth

N

Parameters

Table 20: Parameter Details

Name	Required	Default	Type	Location	Description
areas	N		string	body	The list of areas of interest. If none are given, If none are given, the root level campus is considered.
connectionState	N	all	string	body	Whether to restrict to either connected or detected devices.

Content Type

application/json

Sample Output (JSON)

```
{
    "invalidLevelIds": [],
    "total": {
        "total": 104,
        "totalNumAreas": 1
    },
    "missingAreaIds": [],
    "connectionState": "all",
    "failedAreaIds": [],
    "executionTime": 124,
    "minValue": 104,
    "data": [
        {
            "areaName": "Campus",
            "value": 104,
            "areaId": 1
        }
    ],
    "date": "2017-12-17",
    "maxValue": 104
}
```

API History

Table 21: API history

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

POST: Retrieve the breakdown of connected and detected devices on a single or on multiple campuses/buildings/floors right now

Description

This API retrieves the breakdown of connected and detected devices on a single or on multiple campuses/buildings/floors right now. The only parameter (body) is a JSON array containing the parameters.

HTTP Method

POST

Resource URI

/api/analytics/v1/now/connectedDetected/areas

Requires Basic Auth

N

Parameters

Table 22: Parameter Details

Name	Required	Default	Type	Location	Description
areas	N		string	body	The list of areas of interest. If none are given, the root level campus is considered.

Content Type

application/json

Sample Output (JSON)

```
{
    "total": {
        "totalDetected": 105,
        "totalNumAreas": 1,
        "totalAll": 105,
        "totalConnected": 0
    },
    "startDate": "2017-12-20",
    "interval": null,
    "executionTime": 160,
    "endDate": "2017-12-20",
    "endTime": "00:08",
    "startTime": "00:08",
    "invalidLevelIds": [],
    "missingAreaIds": [],
```

```
    "results": [
        {
            "ancestry": [],
            "id": 1,
            "series": [
                "dwell"
            ],
            "hasChildren": true,
            "area": "Campus",
            "data": [
                {
                    "dwell": "0-1440",
                    "values": {
                        "connected": 0,
                        "detected": 105,
                        "all": 105
                    },
                    "name": null
                }
            ]
        }
    ],
    "failedAreaIds": [],
    "maxValues": {
        "connected": 0,
        "detected": 105
    },
    "minValues": {
        "connected": 0,
        "detected": 105
    }
}
```


API History

Table 23: API history

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: Retrieve the breakdown of connected and detected devices on a single or on multiple campuses/buildings/floors right now

Description

This API retrieves the breakdown of connected and detected devices on a single or on multiple campuses/buildings/floors right now.

HTTP Method

GET

Resource URI

/api/analytics/v1/now/connectedDetected/areas

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "total": {
        "totalDetected": 97,
        "totalNumAreas": 1,
        "totalAll": 97,
        "totalConnected": 0
    },
    "startDate": "2017-12-20",
    "interval": null,
    "executionTime": 158,
    "endDate": "2017-12-20",
    "endTime": "00:15",
    "startTime": "00:15",
    "invalidLevelIds": [],
    "missingAreaIds": [],
    "results": [
        {
            "ancestry": [],
            "id": 1,
            "series": [
                "dwell"
            ],
            "hasChildren": true,
            "area": "Campus",
            "data": [
                {
                    "dwell": "0-1440",
                    "values": {
                        "connected": 0,
                        "detected": 97,
                        "all": 97
                    },
                    "name": null
                }
            ]
        }
    ],
    "failedAreaIds": [],
    "maxValues": {
        "connected": 0,
        "detected": 97
    },
    "minValues": {
        "connected": 0,
        "detected": 97
    }
}
```

API History

Table 24: API history

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

Dwell Breakdown API

POST: Breakdown of Dwell Times Spent by Devices for a Given Period and Areas

Description

The only parameter (body) is a JSON array containing the parameters. The parameters are described below:

Table 25: Parameter Details

JSON Array Parameter	Description	Allowable Values/Formats
granularity	The desired granularity.	• hourly • daily • weekly • monthly • yearly • tag • tag-name • heterarchy level. One can limit to top "n" results (that is, the "n" values with highest count) by adding "[n]", or the "n" bottom results by adding "[n]"
period	The period of interest, specified as either a date range, or one of the predefined names.	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day.	• HH:mm-HH:mm

JSON Array Parameter	Description	Allowable Values/Formats
aggregate	Aggregate the dwell time by granularity, for example, showing the total dwell time for each day of the week, instead of individual dates.	• none • sum • avg
areas	The list of areas of interest. If none are provided, all are considered.	A comma-separated list of area IDs, or hierarchy levels.
durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440

JSON Array Parameter	Description	Allowable Values/Formats
includeStationary	Whether to include stationary devices (default=false).	• true • false
connectionState	Whether to restrict connection to either connected or detected devices (default=all).	• connected • detected • all
percentageOf	If set this parameter, does not report absolute numbers, only relative percentage.	Heterarchy level
dwellLimits	The dwell time limit that specifies how dwellers should be grouped together. Pass -1 to catch all. Example: Light: 100, Medium: 200, Heavy:-1.	• default • minute • comma separated limit label:limit value
areaFilter	If set this parameter, restricts the results to areas matching the filter. Use descendantOf to restrict the area selection. This option is used for drill-down reports. Use 'subsetOf' to restrict the granularity. This option is used with tag granularity. For example: descendantOf: Campus C1 has Building B1 which zone Z1 and Z2 Campus C2 has Building B2 which zone Z3 query area=Z1,Z2,Z3 and granularity=Building and areaFilter=descendantOf:C1 will return only Building B1 For example: subsetOf: Tag T1,T2 assigned to F1, T2,T3 to F2, T3,T4 to F3 query area=F1,F2,F3 and granularity=tag and areaFilter=subsetOf:T1,T2 will return only T1,T2.	• descendantOf • subsetOf:comma separated ids
expandAll	Include all the elements descendants in the result.	• true • false

HTTP Method

POST

Resource URI

/api/analytics/v1/dwellBreakdown

Requires Basic Auth

N

Parameters

Table 26: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters.

Content Type

application/json

Sample Input (JSON)

```
{
 "period": "today",
 "timeRange": "00:00-23:59",
 "granularity": "hourly",
 "areas": "52,75"
}
```

Sample Output (JSON)

```
{
  "startTime": "00:00",
  "startDate": "2017-03-16",
  "results": [
    {
      "id": 53,
      "ancestry": [
        {
          "level": "Building",
          "name": "REQ"
        },
        {
          "level": "Campus",
          "name": "Richfield"
        }
      ],
      "series": [
        "datetime",
        "dwell"
      ],
      "hasChildren": false,
      "area": "2nd Floor",
      "data": []
    },
    {
      "id": 75,
```

```
      "ancestry": [
        {
          "level": "Floor",
          "name": "Site 4"
        },
        {
          "level": "Building",
          "name": "Site 4"
        },
        {
          "level": "Campus",
          "name": "San Jose Outdoor"
        }
      ],
      "series": [
        "datetime",
        "dwell"
      ],
      "hasChildren": false,
      "area": "f4:0f:1b:1a:82:90",
      "data": []
    }
  ],
  "interval": "hourly",
  "executionTime": 0,
  "insights": {
    "summary": {}
  },
  "endDate": "2017-03-16",
  "maxValues": {},
  "endTime": "23:59",
  "dataFreshness": "2017-03-16T02:53:58.054-07:00",
  "minValues": {}
}
```

Dwelltime API

POST: Dwell Time for a Given Period and Areas

Description

This API retrevies dwell Time for a given period and areas.The only parameter is a JSON array containing the parameters. The parameters are described below

Table 27: Parameter Details

JSON array parameter	Description	Allowable values/formats
granularity	The desired granularity. One can limit to top n results (i.e. the n values with highest count) by adding "[n]", or the n bottom results by adding "[-n"]. If granularity null is specified, all heterarchy types covered by the areas are returned.	• hourly • daily • weekly • monthly • yearly • tag • tag-name • heterarchy level • null
period	The period of interest, either specified as a date range, or one of the predefined names	• yyyy-mm-dd • yyyy-mm-dd;yyyy-mm-dd • today • yesterday • this week • last week • last 2 weeks • this month • last month • last 3 months • this year • last year • forever
timeRange	The time window of interest on each day	• HH:mm-HH:mm
aggregate	Whether to aggregate the dwell time by granularity; e.g. showing a total for each day of the week, instead of individual dates	• none • sum • avg

JSON array parameter	Description	Allowable values/formats

areas	The list of areas of interest. If none are given, all are considered	A comma-separated list of area ids, or heterarchy levels
		`<areaId>`
		`<areaId-1>,<areaId-2>,<areaId-3>`

durationCategories	Filter devices by dwell times for which device visits specified areas. If a device's dwell time falls outside of the range, it is filtered out and not considered a visit.	Time (in minutes) in the form nn-mm where nn is the lower limit and mm the upper limit. The maximum upper limit is 1440 minutes; which is 24 hours, or a full day. Accepted Values: • 0-240 • 0-480 • 0-1440 • 5-240 • 5-480 • 5-1440 • 10-240 • 10-480 • 10-1440 • 15-240 • 15-480 • 15-1440 • 30-240 • 30-480 • 30-1440 • 45-240 • 45-480 • 45-1440 • 60-240 • 60-480 • 60-1440
includeStationary	Whether to include stationary devices	• true • false

JSON array parameter	Description	Allowable values/formats
connectionState	Whether to restrict to either connected or detected devices (default=all)	• connected • detected • all
percentageOf	If set, does not report absolute numbers, but relative percentage	Heterarchy level
areaFilter	If set, restricts the results to areas matching the filter. Use 'descendantOf' to restrict the area selection. This option is used for drill down reports. Use 'subsetOf' to restrict the granularity. This option is used with tag granularity. For example: descendantOf: Campus C1 has Building B1 which zone Z1 and Z2 Campus C2 has Building B2 which zone Z3 query area=Z1,Z2,Z3 and granularity=Building and areaFilter=descendantOf:C1 will return only Building B1 For example: subsetOf: Tag T1,T2 assigned to F1, T2,T3 to F2, T3,T4 to F3 query area=F1,F2,F3 and granularity=tag and areaFilter=subsetOf:T1,T2 will return only T1,T2.	• descendantOf • subsetOf:comma separated ids
expandAll	Include all of the elements descendants in the result	• true • false

HTTP Method

POST

Resource URI

/api/analytics/v1/deviceDwell

Requires Basic Auth

N

Parameters

Table 28: Parameter Details

Name	Required	Default	Type	Location	Description
body	Y	—	JSON array	body	JSON array containing parameters.

Content Type

application/json

Sample Input (JSON)

```
{
 "period": "today",
 "timeRange": "00:00-23:59",
 "granularity": "hourly",
 "areas": "52,75"
}
```

Sample Output (JSON)

```
{
  "startTime": "00:00",
  "startDate": "2017-03-16",
  "connectionState": "all",
  "results": [
    {
      "id": 53,
      "ancestry": [
        {
          "level": "Building",
          "name": "REQ"
        },
        {
          "level": "Campus",
          "name": "Richfield"
        }
      ],
      "series": [
        "datetime"
      ],
      "hasChildren": false,
      "level": "FLOOR",
      "area": "2nd Floor",
      "data": []
    },
    {
      "id": 75,
      "ancestry": [
        {
          "level": "Floor",
          "name": "Site 4"
        },
        {
          "level": "Building",
          "name": "Site 4"
        },
        {
          "level": "Campus",
          "name": "San Jose Outdoor"
        }
      ],
      "series": [
        "datetime"
      ],
      "hasChildren": false,
      "level": "AP",
      "area": "f4:0f:1b:1a:82:90",
      "data": []
```

```
      }
    ],
    "interval": "hourly",
    "executionTime": 0,
    "minValue": 2147483647,
    "endDate": "2017-03-16",
    "endTime": "23:59",
    "dataFreshness": "2017-03-16T02:58:04.319-07:00",
    "maxValue": 0
}
```



Configuration

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Notification subscription API

GET: All Notification Subscriptions

Description

This API returns all notification subscriptions.

HTTP Method

GET

Resource URI

/api/config/v1/notifications

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
[
    {
        "name": "operational-insights-tag",
        "userId": "admin",
        "rules": [
            {
                "conditions": [
                    {
                        "condition": "locationupdate.deviceType == tag"
                    }
                ]
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri": "https://opinsights.cisco.com:443/api/am/v1/events",
                        "messageFormat": "JSON",
                        "headers": {
                            "Authorization": "JWT
[illegible]"
                        },
                        "qos": "AT_MOST_ONCE"
```

```
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": true,
        "cloud": true,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "notificationType": "LocationUpdate"
    },
    {
        "name": "gateway-blemgmtadmin-feedback-io89bg",
        "userId": "local-user",
        "rules": [
            {
                "conditions": []
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri":
"https://os2rfc8puk.execute-api.us-west-2.amazonaws.com:443/stage/listener/5f5967a8-a0df-4674-92c5-8651c0e72cc3?cmxidentifier=a199c130-8cf1-11e7-b51c-b123d888f94b",

                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": true,
        "cloud": true,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "notificationType": "LodestarConfigUpdate"
    },
    {
        "name": "gateway-blemanager.cmxcis.co-feedback-io89bg",
        "userId": "local-user",
        "rules": [
            {
                "conditions": []
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri":
"https://io89bg.cmxcis.co:443/api/ble/v1/beacon/xy?jwttoken=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJ0ZW5hbnRUZCI6Im1vOTliZyJ9.09iVaIFI7NlUwHpZUb26lGID9zI09gBBmMNg",

                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": true,
```

```
            "cloud": true,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "LodestarConfigUpdate"
        },
        {
            "name": "Harvey Updates",
            "userId": "admin",
            "rules": [
                {
                    "conditions": []
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                            "uri": "http://54.203.15.211:9094/api/v1/notify",
                            "messageFormat": "JSON",
                            "headers": null,
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": false,
            "cloud": false,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "LocationUpdate"
        },
        {
            "name": "gateway-blemanager.cmxcis.co-mapChange-io89bg",
            "userId": "local-user",
            "rules": [
                {
                    "conditions": []
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                            "uri":
"https://io89bg.cmxcis.co:443/api/ble/v1/beacon/xy?jwttoken=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJ0ZWFhbnRJZCI6ImlvOTliZyJ9.09iVoaIFTNdUWH2UbzGGD9dU09gBBmdNJg",

                            "messageFormat": "JSON",
                            "headers": null,
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": true,
            "cloud": true,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "NetworkDesignChanged"
        },
        {
            "name": "CMX_Api_Server_Notification_1",
            "userId": "admin",
```

```
            "rules": [
                {
                    "conditions": [
                        {
                            "condition": "locationupdate.deviceType == client"
                        }
                    ]
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                            "uri": "http://127.0.0.1:9094/api/notify/v1/location",
                            "messageFormat": "JSON",
                            "headers": null,
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": true,
            "cloud": false,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "LocationUpdate"
        },
        {
            "name": "Nbound Notification",
            "userId": "admin",
            "rules": [
                {
                    "conditions": [
                        {
                            "condition": "locationupdate.deviceType == client"
                        }
                    ]
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                         "uri": "https://data.cmxappsandbox.com:443/api/sdk/v1/notifications",

                            "messageFormat": "JSON",
                            "headers": {
                                "x-jwt-token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0ZW5hbnRpZCI6MTUsInRlbmFudElkIjoxNX0.2S28kXWDSg-GPNfpIxYCKuI_ZnvHLR0oN9XLl9DaRm4",

                                "Content-Type": "application/json"
                            },
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": false,
            "cloud": false,
            "enableMacScrambling": false,
            "macScramblingSalt": "secret",
            "notificationType": "LocationUpdate"
```

```
    },
    {
        "name": "gateway-blemgmtadmin-bleinfo-io89bg",
        "userId": "local-user",
        "rules": [
            {
                "conditions": [
                    {
                        "condition": "bletagupdate.isBle == true"
                    },
                    {
                        "condition": "bletagupdate.deviceType == tag"
                    }
                ]
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri":
"https://ce2rfc8puk.execute-api.us-west-2.amazonaws.com:443/stage/listener/5f5967a8-a0df-4674-92b5-86510ce72cc3?mxidentifier=a991c30-8cfd-11e7-b5bc-bb23b88f84d",

                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": true,
        "cloud": true,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "notificationType": "BleTagUpdate"
    },
    {
        "name": "gateway-blemgmtadmin-mapChange-io89bg",
        "userId": "local-user",
        "rules": [
            {
                "conditions": []
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri":
"https://ce2rfc8puk.execute-api.us-west-2.amazonaws.com:443/stage/listener/5f5967a8-a0df-4674-92b5-86510ce72cc3?mxidentifier=a991c30-8cfd-11e7-b5bc-bb23b88f84d",

                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": true,
        "cloud": true,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
```

```
            "notificationType": "NetworkDesignChanged"
        },
        {
            "name": "gateway-blemanager.cmxcis.co-bleinfo-io89bg",
            "userId": "local-user",
            "rules": [
                {
                    "conditions": [
                        {
                            "condition": "bletagupdate.isBle == true"
                        },
                        {
                            "condition": "bletagupdate.deviceType == tag"
                        }
                    ]
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                            "uri":
"https://io89bg.cmxcis.co:443/api/ble/v1/beacon/xy?jwttoken=eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJ0WFhbnRXT6ImlvOli2yJ9.09iVaIFTNdUWt2U1b26GD9zU09gBBmdNg",

                            "messageFormat": "JSON",
                            "headers": null,
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": true,
            "cloud": true,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "BleTagUpdate"
        },
        {
            "name": "CMX_Api_Server_Notification_2",
            "userId": "admin",
            "rules": [
                {
                    "conditions": []
                }
            ],
            "subscribers": [
                {
                    "receivers": [
                        {
                            "uri": "http://127.0.0.1:9094/api/notify/v1/absence",
                            "messageFormat": "JSON",
                            "headers": null,
                            "qos": "AT_MOST_ONCE"
                        }
                    ]
                }
            ],
            "enabled": true,
            "internal": true,
            "cloud": false,
            "enableMacScrambling": false,
            "macScramblingSalt": "",
            "notificationType": "Absence"
```

```
},
{
    "name": "PythonAW",
    "userId": "admin",
    "rules": [
        {
            "conditions": [
                {
                    "condition": "locationupdate.macAddressList == 98:07:2d:8d:75:e8;"
                },
                {
                    "condition": "locationupdate.deviceType == tag"
                }
            ]
        }
    ],
    "subscribers": [
        {
            "receivers": [
                {
                    "uri": "http://dsladden.pythonanywhere.com:80",
                    "messageFormat": "JSON",
                    "headers": null,
                    "qos": "AT_MOST_ONCE"
                }
            ]
        }
    ],
    "enabled": true,
    "internal": false,
    "cloud": false,
    "enableMacScrambling": false,
    "macScramblingSalt": "",
    "notificationType": "LocationUpdate"
},
{
    "name": "PythonAWN",
    "userId": "admin",
    "rules": [
        {
            "conditions": []
        }
    ],
    "subscribers": [
        {
            "receivers": [
                {
                    "uri": "http://taibrahi.pythonanywhere.com:80",
                    "messageFormat": "JSON",
                    "headers": null,
                    "qos": "AT_MOST_ONCE"
                }
            ]
        }
    ],
    "enabled": false,
    "internal": false,
    "cloud": false,
    "enableMacScrambling": true,
    "macScramblingSalt": "",
    "notificationType": "NetworkDesignChanged"
},
{
    "name": "HeaderDone",
```

```
        "userId": "admin",
        "rules": [
            {
                "conditions": []
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri": "http://10.41.32.235:8000",
                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": false,
        "internal": false,
        "cloud": false,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "notificationType": "LocationUpdate"
    }
]
```


GET: Notifications by Name

Description

This API returns a notification subscription by name.

HTTP Method

GET

Resource URI

/api/config/v1/notifications/:name

Requires OAuth

N

Parameters

Table 29: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.

Content Type

application/json

GET: Notification Subscription Availability

Description

This API checks if a notification subscription exiets. It returns FOUND(302) if exists, 404 is not found.

HTTP Method

GET

Resource URI

/api/config/v1/notifications/exists/:name

Requires OAuth

N

Parameters

Table 30: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.

Content Type

application/json

PUT: Add Notification Subscription

Description

This API allows you to add a notification subscription.

HTTP Method

PUT

Resource URI

/api/config/v1/notification

Requires OAuth

N

Parameters

Table 31: Parameter Details

Name	Required	Default	Type	Location	Description
userId	Y	—	string	body	User ID.
rules	Y	—	text	body	List of rules.
subscribers	Y	—	text	body	Subscribers

Name	Required	Default	Type	Location	Description
notificationType	Y	—	enumerated	body	Choose one of the following notification types: • Any • Absence • AreaChange • Association • BatteryLife • Chokepoint • Containment • Emergency • Movement • Presence • LocationUpdate • Zone • Location • ServiceStatus • NetworkDesignChanged • CpuUsage • MemoryUsage • DiskUsage • BeaconMovement • BeaconAbsence • Update • InOut • PasserbyDetected • PasserbyBecameVisitor • VisitorWentAway • SiteEntryChanged
enabled	N	—	enumerated	body	enabled • true • false

Name	Required	Default	Type	Location	Description
enableMacScrambling	N	—	enumerated	body	enableMacScrambling • true • false

Content Type

application/json

Sample Input (JSON)

application/json

```
 {
        "name": "locupdate",
        "userId": "admin",
        "rules": [
            {
                "conditions": [
                    {
                        "condition": "locationupdate.macAddressList ==
00:0c:cc:4f:5f:ba;00:24:d7:37:68:d8;00:24:d7:59:8f:2c;00:0b:6b:a8:56:9f;"
                    }
                ]
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri": "http://172.19.35.203:7123",
                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": false,
        "cloud": false,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "notificationType": "LocationUpdate"
    }
```

DELETE: Notification Subscription by Notification Name

Description

This API allows you to delete a notification subscription.

HTTP Method

DELETE

Resource URI

/api/config/v1/notifications/:name

Requires OAuth

N

Parameters

Table 32: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.

Content Type

application/json

GET: System Alert Subscription

Description

This API returns a system alert notification subscription by name.

HTTP Method

GET

Resource URI

/api/config/v1/notifications/alerts

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
[
    {
        "name": "serviceIsCrashed",
        "userId": "admin",
        "rules": [
```

```
            {
                "conditions": [
                    {
                        "condition": "servicestatus.status == CRASHED"
                    }
                ]
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri": "local://local",
                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": false,
        "cloud": false,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "severity": "Critical",
        "notificationType": "ServiceStatus"
    },
    {
        "name": "serviceIsDown",
        "userId": "admin",
        "rules": [
            {
                "conditions": [
                    {
                        "condition": "servicestatus.status == STOPPED"
                    }
                ]
            }
        ],
        "subscribers": [
            {
                "receivers": [
                    {
                        "uri": "local://local",
                        "messageFormat": "JSON",
                        "headers": null,
                        "qos": "AT_MOST_ONCE"
                    }
                ]
            }
        ],
        "enabled": true,
        "internal": false,
        "cloud": false,
        "enableMacScrambling": false,
        "macScramblingSalt": "",
        "severity": "Info",
        "notificationType": "ServiceStatus"
    }
]
```

GET: Notifications by Name

Description

This API returns a system alert notification subscription by name.

HTTP Method

GET

Resource URI

/api/config/v1/notifications/alerts/:name

Requires OAuth

N

Parameters

Table 33: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.

Content Type

application/json

PUT: System Alert Subscription

Description

This API allows you to add a system alert subscription.

HTTP Method

PUT

Resource URI

/api/config/v1/notifications/alert

Requires OAuth

N

Parameters

Table 34: Parameter Details

Name	Required	Default	Type	Location	Description
severity	Y	—	enumerated	body	Choose one of the following severity levels: • Critical • Major • Minor • Warning • Info • Cleared
userId	Y	—	string	body	User ID.
rules	Y	—	text	body	List of rules.
subscribers	Y	—	text	body	Subscribers

Name	Required	Default	Type	Location	Description
notificationType	Y	—	enumerated	body	Choose one of the following notification types: • Any • Absence • AreaChange • Association • BatteryLife • Chokepoint • Containment • Emergency • Movement • Presence • LocationUpdate • Zone • Location • ServiceStatus • NetworkDesignChanged • CpuUsage • MemoryUsage • DiskUsage • BeaconMovement • BeaconAbsence • Update • InOut • PasserbyDetected • PasserbyBecameVisitor • VisitorWentAway • SiteEntryChanged
enabled	N	—	enumerated	body	enabled • true • false

Name	Required	Default	Type	Location	Description
enableMacScrambling	N	—	enumerated	body	enableMacScrambling • true • false

Content Type

application/json

DELETE: Notification Alert Subscription

Description

This API allows you to delete a system alert notification subscription.

HTTP Method

DELETE

Resource URI

/api/config/v1/notifications/alerts/:name

Requires OAuth

N

Parameters

Table 35: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.

Content Type

application/json

POST: Change status of notification by name

Description

This API enables or disables a notification subscription by name.

HTTP Method

POST

Resource URI

/api/config/v1/notifications/:name/:user

Requires Basic Auth

N

Parameters

Table 36: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y		String	pathReplace	Notification Name
user	Y		String	pathReplace	Name of Notification Owner
action	Y		String	pathReplace	Enable/Disable

Content Type

application/json

API History

Table 37: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

POST: Change Status of Notification by Name

Description

This API enable/disable a notification subscription by name.

HTTP Method

POST

Resource URI

/api/config/v1/notifications/:name/:action

Requires OAuth

N

Parameters

Table 38: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Notification Name.
action	Y	—	String	pathReplace	Enable/Disable

Content Type

application/json

Users API

GET: All Users in the System

Description

This API gets the details of all users in the system.

HTTP Method

GET

Resource URI

/api/config/v1/aaa/users

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output

```
[
    {
        "id": 1,
        "username": "admin",
        "password": "*****",
        "firstname": "Admin",
        "lastname": "User",
        "userGroups": [],
        "roles": [
            {
                "id": 9,
                "name": "Admin",
                "privileges": []
            }
        ],
        "developerkey": "xjPksHwUQm6bUdITCymREKaoShqB2HPQ",
        "lastlogin": 1519852131789
    }
]
```

GET: User by Username

Description

This API retrives user by username.

HTTP Method

GET

Resource URI

/api/config/v1/aaa/users/:username

Requires Basic Auth

N

Parameters

Table 39: Parameter Details

Name	Required	Default	Type	Location	Description
username	Y	—	String	pathReplace	Username

Content Type

application/json

Sample Output (JSON)

10.30.114.188/api/config/v1/aaa/users/admin

```
{
    "id": 102,
    "username": "mika",
    "password": "*****",
    "firstname": "mika",
    "lastname": "mika",
    "userGroups": [],
    "roles": [
        {
            "id": 5,
            "name": "Read Only",
            "privileges": []
        }
    ],
    "developerkey": null,
    "lastlogin": 1507596970322
}
```

GET: All Roles

Description

This API gets all roles.

HTTP Method

GET

Resource URI

/api/config/v1/aaa/roles

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
[
    {
        "id": 1,
        "name": "System",
        "privileges": []
    },
    {
        "id": 2,
        "name": "Manage",
        "privileges": []
    },
    {
        "id": 3,
        "name": "Analytics",
        "privileges": []
    },
    {
        "id": 4,
        "name": "Connect",
        "privileges": []
    },
    {
        "id": 7,
        "name": "Location",
        "privileges": []
    },
    {
        "id": 8,
        "name": "ConnectExperience",
        "privileges": []
    },
```

```
    {
        "id": 9,
        "name": "Admin",
        "privileges": []
    },
    {
        "id": 5,
        "name": "Read Only",
        "privileges": []
    }
]
```

GET: Generate Password for User

Description

HTTP Method

GET

Resource URI

/api/config/v1/aaa/genpassword

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output

```
{
    "generatedPwd": "Qakzw&1uxrwreknu"
}
```

GET: Check for Password expiry

Description

This API checks for password expiry

HTTP Method

GET

Resource URI

/api/config/v1/aaa/evalpassword

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output

```
{
    "isPasswordExpired": "no"
}
```

API History

Table 40: API History

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

GET: Get User Information

Description

This API enables you to retrieve user information from the CMX system.

HTTP Method

GET

Resource URI

/api/config/v1/aaa/getuser/:username

Requires OAuth

N

Parameters

Table 41: Parameter Details

Name	Required	Default	Type	Location	Description
username	Y		String	pathReplace	Username of user

Content Type

application/json

API History

Table 42: API History

Release	Modification
Cisco CMX Release 10.6	This API is introduced.

Opt In Client API

GET: List of Opt-In devices

Description

HTTP Method

GET

Resource URI

/api/config/v1/optInClientParams/:clusterId

Requires Basic Auth

N

Parameters

Table 43: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)

Content Type

application/json

API History

Table 44: API History

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

GET: Hashed MAC for a Given Real Macaddress

Description

This API returns the hashed MAC for a given real macaddress.

HTTP Method

GET

Resource URI

/api/config/v1/optInClientParams/:clusterId/hash

Requires Basic Auth

N

Parameters

Table 45: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)
realMac	Y		String	query	Real macaddress

Content Type

application/json

API History

Table 46: API History

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

POST: Update AnalyticsOptIn for Client Device(s) in the Opt-In list.

Description

This API would update the AnalyticsOptIn for client device(s) in the Opt-In list.

HTTP Method

POST

Resource URI

/api/config/v1/optInClientParams/:clusterId/update

Requires OAuth

N

Parameters

Table 47: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)
macaddresses	Y		array	body	List of real macaddresses separated by comma. Ensure macaddresses are nested within the square brackets [ ] to be considered as list, otherwise this operation would fail
OptInClient	N		array	body	List of OptInClient. When macaddresses are specified, OptInClient list is optional Ensure OptInClient are nested within the square brackets [ ] to be considered as list, otherwise this operation would fail for e.g. [{"macaddress": "aa:bb:cc:dd:ee:ff","analyticsOptIn": true}, {"macaddress": "aa:bb:cc:dd:ee:ff", "analyticsOptIn": true}]

Content Type

application/json

API History

Table 48: API History

Release	Modification
Cisco CMX Release 10.6	This API is introduced.

POST: Add client device(s) to Opt-In List

Description

You can add devices by either specifying macaddresses or OptInClients. When both are specified, API would give preference to macaddresses. When all the Location and Analytics tracked devices are same, input the macaddresses. When some of the Location devices have not given consent for Analytics tracking, then input them through the OptInClients.It performs an append operation i.e. adding given devices to the existing Opt-In list.

HTTP Method

POST

Resource URI

/api/config/v1/optInClientParams/:clusterId

Requires Basic Auth

N

Parameters

Table 49: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)

Name	Required	Default	Type	Location	Description
macaddresses	Y		array	body	List of real macaddresses separated by comma. Ensure macaddresses are nested within the square brackets [ ] to be considered as list, otherwise this operation would fail
OptInClient	N		array	body	List of OptInClient. When macaddresses are specified, OptInClient list is optional Ensure OptInClient are nested within the square brackets [ ] to be considered as list, otherwise this operation would fail for e.g. [{"macaddress": "aa:bb:cc:dd:ee:ff", "analyticsOptIn": true}, {"macaddress": "aa:bb:cc:dd:ee:ff", "analyticsOptIn": true}]

Content Type

application/json

API History

Table 50: API History

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

DELETE: Delete Client Devices from Opt-In List

Description

This API enables you to delete the client device(s) from the Opt-In list.

HTTP Method

DELETE

Resource URI

/api/config/v1/optInClientParams/:clusterId/delete

Requires OAuth

N

Parameters

Table 51: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)
devices	Y		String	query	Single or Comma Separated list of real mac addresses

Content Type

application/json

API History

Table 52: API History

Release	Modification
Cisco CMX Release 10.6	This API is introduced.

DELETE: Remove all Opt-In Devices

Description

This API removes all Opt-In devices.

HTTP Method

DELETE

Resource URI

/api/config/v1/optInClientParams/:clusterId/deleteAll

Requires OAuth

N

Parameters

Table 53: Parameter Details

Name	Required	Default	Type	Location	Description
clusterId	Y	1	String	pathReplace	clusterId (default 1)

Content Type

application/json

API History

Table 54: API History

Release	Modification
Cisco CMX Release 10.6	This API is introduced.

Map resources API

GET: Count of All Map Elements

Description

This API provides count of campuses, buildings, and floors.

HTTP Method

GET

Resource URI

/api/config/v1/maps/count

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "totalCampuses": 2,
    "totalBuildings": 3,
    "totalFloors": 8,
    "totalAps": 158,
    "campusCounts": [
        {
            "campusName": "Nortech Campus",
            "totalBuildings": 1,
            "buildingCounts": [
                {
                    "buildingName": "Nortech-1",
                    "totalFloors": 1,
                    "floorCounts": [
                        {
                            "floorName": "1st Floor",
                            "apCount": 14
                        }
                    ]
                }
            ]
        },
        {
            "campusName": "System Campus",
            "totalBuildings": 2,
```

```
            "buildingCounts": [
                {
                    "buildingName": "SJC23",
                    "totalFloors": 3,
                    "floorCounts": [
                        {
                            "floorName": "1st floor (CCW remodel)",
                            "apCount": 25
                        },
                        {
                            "floorName": "2nd floor (CCW remodel)",
                            "apCount": 25
                        },
                        {
                            "floorName": "3rd floor (CCW remodel)",
                            "apCount": 24
                        }
                    ]
                },
                {
                    "buildingName": "SJC24",
                    "totalFloors": 4,
                    "floorCounts": [
                        {
                            "floorName": "2nd floor (CCW remodel)",
                            "apCount": 21
                        },
                        {
                            "floorName": "2nd floor (Area Addition)",
                            "apCount": 0
                        },
                        {
                            "floorName": "3rd floor (CCW remodel)",
                            "apCount": 24
                        },
                        {
                            "floorName": "1st floor (CCW remodel)",
                            "apCount": 25
                        }
                    ]
                }
            ]
        }
    ]
}
```


GET: List of all Building Names.

Description

This API provides a list of all buildings.

HTTP Method

GET

Resource URI

/api/config/v1/maps/building/list/:name

Requires Basic Auth

N

Parameters

Table 55: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Campus Name

Content Type

application/json

API History

Table 56: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: List of all Building Names

Description

This API provides a list of all buildings.

HTTP Method

GET

Resource URI

/api/config/v1/maps/building/list

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
[
    "Nortech Campus>Nortech-1",
    "System Campus>SJC24",
    "System Campus>SJC23"
]
```

API History

Table 57: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: List of all Floor Names

Description

This API provides a list of all Floors in the system.

HTTP Method

GET

Resource URI

/api/config/v1/maps/floor/list/:name

Requires Basic Auth

N

Parameters

Table 58: Parameter Details

Name	Required	Default	Type	Location	Description
name	Y	—	String	pathReplace	Building Name

Content Type

application/json

API History

Table 59: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: List of all Floor Names

Description

This API provides a list of all floors in the system.

HTTP Method

GET

Resource URI

/api/config/v1/maps/floor/list

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
[
    "System Campus>SJC23>3rd floor (CCW remodel)",
    "System Campus>SJC23>2nd floor (CCW remodel)",
    "Nortech Campus>Nortech-1>1st Floor",
    "System Campus>SJC23>1st floor (CCW remodel)",
    "System Campus>SJC24>2nd floor (CCW remodel)",
    "System Campus>SJC24>3rd floor (CCW remodel)",
    "System Campus>SJC24>2nd floor (Area Addition)",
    "System Campus>SJC24>1st floor (CCW remodel)"
]
```

API History

Table 60: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: All Maps

Description

This API returns all maps.

HTTP Method

GET

Resource URI

/api/config/v1/maps

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
    "version": 0,
    "campuses": [
        {
            "objectVersion": 0,
            "name": "System Campus",
            "dimension": {
                "length": 99999,
                "width": 99999,
                "height": 99999,
                "offsetX": 0,
                "offsetY": 0,
                "unit": "FEET"
            },
            "image": null,
            "buildingList": [
                {
                    "aesUid": -6105692415270583000,
                    "objectVersion": 0,
                    "name": "SJC23",
                    "dimension": {
                        "length": 300,
                        "width": 500,
                        "height": 10,
                        "offsetX": 0,
                        "offsetY": 0,
                        "unit": "FEET"
                    },
                    "image": null,
                    "floorList": [
```

```
{
    "aesUid": -5970502993869536000,
    "calibrationModelId": -5970502993867530000,
    "objectVersion": 0,
    "name": "1st floor (CCW remodel)",
    "dimension": {
        "length": 249.9,
        "width": 299.9,
        "height": 10,
        "offsetX": 0,
        "offsetY": 0,
        "unit": "FEET"
    },
    "isOutdoor": false,
    "floorNumber": 1,
    "image": {
        "imageName": "cadConversion_1463400556649_f.jpg",
        "zoomLevel": 5,
        "width": 3276,
        "height": 2715,
        "size": 3276,
        "maxResolution": 16,
        "colorDepth": 8
    },
    "gpsMarkers": null,
    "zones": null,
    "obstacles": [
        {
            "type": "THICK_WALL",
            "attenuation": 0,
            "obstacleCoordinates": [
                {
                    "x": 2.0488472,
                    "y": 3.2261696,
                    "z": 0,
                    "unit": "FEET"
                },
                {
                    "x": 2.561059,
                    "y": 236.22719,
                    "z": 0,
                    "unit": "FEET"
                }
            ]
        },
        {
            "type": "NORMAL_WALL",
            "attenuation": 0,
            "obstacleCoordinates": [
                {
                    "x": 91.68591,
                    "y": 233.66675,
                    "z": 0,
                    "unit": "FEET"
                },
                {
                    "x": 93.73476,
                    "y": 212.15895,
                    "z": 0,
                    "unit": "FEET"
                }
            ]
        }
    ],
```

```
"accessPoints": [
    {
        "floorId": -5970502993869536000,
        "angle": 1.57,
        "apType": 2,
        "switchName": null,
        "name": "sjc23-11-cap1",
        "radioMacAddress": "00:42:68:a2:2a:80",
        "ethMacAddress": null,
        "ipAddress": null,
        "numOfSlots": 2,
        "mapCoordinates": {
            "x": 12.216251,
            "y": 13.826434,
            "z": 10,
            "unit": "FEET"
        },
        "apMode": "LOCAL",
        "apInterfaces": [
            {
                "band": "IEEE_802_11_B",
                "slotNumber": 0,
                "channelAssignment": 1,
                "channelNumber": 1,
                "txPowerLevel": 8,
                "antennaPattern": "Internal-3700-2.4GHz",
                "antennaAngle": 1.5707964,
                "antennaElevAngle": 0,
                "antennaGain": 8,
                "antennaDiversity": 3,
                "antennaMode": 1,
                "antennaType": 1,
                "txPowerControl": 1,
                "unit": "RADIAN",
                "dualBandSlot": false
            },
            {
                "band": "IEEE_802_11_A",
                "slotNumber": 1,
                "channelAssignment": 1,
                "channelNumber": 36,
                "txPowerLevel": 3,
                "antennaPattern": "Internal-3700-5GHz",
                "antennaAngle": 1.5707964,
                "antennaElevAngle": 0,
                "antennaGain": 8,
                "antennaDiversity": 3,
                "antennaMode": 1,
                "antennaType": 1,
                "txPowerControl": 1,
                "unit": "RADIAN",
                "dualBandSlot": false
            }
        ],
        "floorIdString": "-5970502993869536658",
        "geoCoordinate": null,
        "deviceDetails": null
    },
    {
        "floorId": -5970502993869536000,
        "angle": 1.57,
        "apType": 2,
        "switchName": null,
        "name": "sjc23-11-cap10",
```

```
            "radioMacAddress": "00:42:68:ae:2c:20",
            "ethMacAddress": null,
            "ipAddress": null,
            "numOfSlots": 2,
            "mapCoordinates": {
                "x": 22.229992,
                "y": 100.062416,
                "z": 10,
                "unit": "FEET"
            },
            "apMode": "LOCAL",
            "apInterfaces": [
                {
                    "band": "IEEE_802_11_B",
                    "slotNumber": 0,
                    "channelAssignment": 1,
                    "channelNumber": 1,
                    "txPowerLevel": 8,
                    "antennaPattern": "Internal-3700-2.4GHz",
                    "antennaAngle": 1.5707964,
                    "antennaElevAngle": 0,
                    "antennaGain": 8,
                    "antennaDiversity": 3,
                    "antennaMode": 1,
                    "antennaType": 1,
                    "txPowerControl": 1,
                    "unit": "RADIAN",
                    "dualBandSlot": false
                },
                {
                    "band": "IEEE_802_11_A",
                    "slotNumber": 1,
                    "channelAssignment": 1,
                    "channelNumber": 64,
                    "txPowerLevel": 4,
                    "antennaPattern": "Internal-3700-5GHz",
                    "antennaAngle": 1.5707964,
                    "antennaElevAngle": 0,
                    "antennaGain": 8,
                    "antennaDiversity": 3,
                    "antennaMode": 1,
                    "antennaType": 1,
                    "txPowerControl": 1,
                    "unit": "RADIAN",
                    "dualBandSlot": false
                }
            ],
            "floorIdString": "-5970502993869536658",
            "geoCoordinate": null,
            "deviceDetails": null
        }
            ],
            "floorIdString": "-5970502993869536658",
            "geoCoordinate": null,
            "deviceDetails": null
        }
    ],
    "referenceMarkers": null,
    "exciters": null,
    "filterRegions": [
        {
            "regionType": "OUTSIDE",
            "regionCoordinates": [
                {
```

```
                                        "x": 0,
                                        "y": 0,
                                        "z": 0,
                                        "unit": "FEET"
                                    },
                                    {
                                        "x": 299.9,
                                        "y": 0,
                                        "z": 0,
                                        "unit": "FEET"
                                    },
                                    {
                                        "x": 299.9,
                                        "y": 249.9,
                                        "z": 0,
                                        "unit": "FEET"
                                    },
                                    {
                                        "x": 0,
                                        "y": 249.9,
                                        "z": 0,
                                        "unit": "FEET"
                                    }
                                ],
                                "isDefault": false
                            }
                        ],
                        "filterRails": null,
                       "hierarchyName": "System Campus>SJC23>1st floor (CCW remodel)",

                        "aesUidString": "-5970502993869536658",
                        "geoLocationCapable": "NO_GPS_MARKERS_PRESENT",
                        "mode": null,
                        "floorModeDetails": {
                            "mode": "RSSI",
                            "requestedModeSet": false
                        }
                    }
            ],
            "aesUid": 727035700041482200,
            "aesUidString": "727035700041482262",
            "members": null
        }
    ]
}
```


GET: Campus by Name

Description

This API returns a campus by name.

HTTP Method

GET

Resource URI

/api/config/v1/maps/info/:campusName

Requires OAuth

N

Parameters

Table 61: Parameter Details

Name	Required	Default	Type	Location	Description
campusName	Y	—	String	pathReplace	Campus Name

Content Type

application/json

GET: Building by Name Inside Specific Campus

Description

This API returns a building by name.

HTTP Method

GET

Resource URI

/api/config/v1/maps/info/:campusName/:buildingName

Requires OAuth

N

Parameters

Table 62: Parameter Details

Name	Required	Default	Type	Location	Description
campusName	Y	—	String	pathReplace	Campus Name.
buildingName	Y	—	String	pathReplace	Building Name.

Content Type

application/json

GET: Floor Inside Specific Building and Specific Campus

Description

This API returns a floor by name based on a specific building and campus.

HTTP Method

GET

Resource URI

/api/config/v1/maps/info/:campusName/:buildingName/:floorName

Requires OAuth

N

Parameters

Table 63: Parameter Details

Name	Required	Default	Type	Location	Description
campusName	Y	—	String	pathReplace	Campus Name.
buildingName	Y	—	String	pathReplace	Building Name.
floorName	Y	—	String	pathReplace	Floor Name.

Content Type

application/json

GET: Floor Image

Description

This API returns an image for a given combination of campus, building, and floor name.

HTTP Method

GET

Resource URI

/api/config/v1/maps/image/:campusName/:buildingName/:floorName

Requires Basic Auth

N

Parameters

Table 64: Parameter Details

Name	Required	Default	Type	Location	Description
campusName	Y	—	String	pathReplace	Campus Name.
buildingName	Y	—	String	pathReplace	Building Name.
floorName	Y	—	String	pathReplace	Floor Name.

Content Type

application/json

GET: Image by Name

Description

This API returns an image by image name.

HTTP Method

GET

Resource URI

/api/config/v1/maps/imagesource/:imageName

Requires OAuth

N

Parameters

Table 65: Parameter Details

Name	Required	Default	Type	Location	Description
imageName	Y	—	String	pathReplace	Image Name.

Content Type

application/json

Zone Count Register API

Sites API

GET: All Sites

Description

This API returns all the presence sites.

HTTP Method

GET

Resource URI

/api/config/v1/sites

Requires OAuth

N

Parameters

None.

Content Type

application/json

Example


```
[{"changedOn":0,"aesUId":1487056035936,"name":"PSL
 28, 2017 3:37:50
 28, 2017 3:37:50 PM","objectVersion":0}]
```


GET: Site Details by ID or Name

Description

This API returns the presence site for the specified ID or Name.

HTTP Method

GET

Resource URI

/api/config/v1/sites/:id

Requires OAuth

N

Parameters

None.

Content Type

application/json

Alerts API

GET: Count of Active Alerts

Description

This API returns a count of active alerts.

HTTP Method

GET

Resource URI

/api/config/v1/alerts/count

Requires OAuth

N

Parameters

None.

Content Type

application/json

GET: All Alerts

Description

This API returns all active alerts.

HTTP Method

GET

Resource URI

/api/config/v1/alerts

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
[
  {
    "changedOn": 1490159411911,
    "tenantId": 0,
    "lastNotificationTime": 1490159411918,
    "hashkey": -1446685026,
    "alertType": "NMSP_CONNECTION_STATUS",
    "alertStatus": "Unhandled",
    "severity": "Critical",
    "origin": "cmx-vmdev83 WLC: 10.32.168.50",
    "source": "NMSPLB",
    "alarmDescription": "NMSP connection status is inactive for WLC 10.32.168.50",
    "lastEmail": 0,
    "refId": "NMSPLB"
  }
]
```

Version API

GET: Current CMX Image Version

Description

This API returns the current version of the CMX Image.

HTTP Method

GET

Resource URI

/api/config/v1/version/image

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
{
    "cmx_image_version": "CISCO_CMX-10.4.0-93.cmx",
    "cmx_rpm_versions": [
        "cisco_cmx_connect-10.4.0-18",
        "cisco_cmx_wips-10.2.0-96",
        "cisco_cmx-10.4.0-1234"
    ]
}
```

History alerts API

GET: Unique Alerts by Time Interval

Description

This API returns a list of unique alerts by time interval.

HTTP Method

GET

Resource URI

/api/config/v1/history/alerts/unique

Requires Basic Auth

N

Parameters

Table 66: Parameter Details

Name	Required	Default	Type	Location	Description
startTime	Y	—	Number	query	Specifies the start time in milliseconds.
endTime	Y	—	Number	query	Specifies the end time in milliseconds.

Content Type

application/json

Table 67: API History

Release	Modification
Cisco CMX Release 10.4	This command is deprecated.

Northbound notification types and attributes API

GET: Get Supported Northbound Notifications

Description

This API returns all supported northbound notification types and applicable attributes for the notification rules.

HTTP Method

GET

Resource URI

/api/configuration/v1/attributes

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output


```
{
    "networkdesignchanged": {
        "triggerHeterarchyChanged": {
            "name": "triggerHeterarchyChanged",
            "dataType": "BOOLEAN",
            "needValueCheck": false,
            "evaluateByProvider": false,
            "validValueSet": [],
            "nameSpace": "networkdesignchanged"
        },
        "triggerNetworkDesignChanged": {
            "name": "triggerNetworkDesignChanged",
            "dataType": "BOOLEAN",
            "needValueCheck": false,
            "evaluateByProvider": false,
            "validValueSet": [],
            "nameSpace": "networkdesignchanged"
        }
    },
    "servicestatus": {
        "oldStatus": {
            "name": "oldStatus",
            "dataType": "ENUM",
            "needValueCheck": false,
```

```
                "evaluateByProvider": false,
                "validValueSet": [
                    "STOPPED",
                    "RUNNING",
                    "CRASHED",
                    "DISABLED"
                ],
                "nameSpace": "servicestatus"
            },
            "status": {
                "name": "status",
                "dataType": "ENUM",
                "needValueCheck": true,
                "evaluateByProvider": true,
                "validValueSet": [
                    "STOPPED",
                    "RUNNING",
                    "CRASHED",
                    "DISABLED"
                ],
                "nameSpace": "servicestatus"
            },
            "statusChanged": {
                "name": "statusChanged",
                "dataType": "BOOLEAN",
                "needValueCheck": true,
                "evaluateByProvider": false,
                "validValueSet": [],
                "nameSpace": "servicestatus"
            }
        }
    }
```

Heterarchy API

GET: List of Children Superzone IDs of a Heterarchy Element

Description

The call retrieves children superzone IDs of a heterarchy element and, under them, the AES IDs of the nested children floors. The element is identified by the path of the API call (either the full path or the id of the element- see Add/Update zones or tags for details on obtaining the element id).

HTTP Method

GET

Resource URI

/api/config/v1/heterarchy/:pathSegments/childrenfloors

Requires Basic Auth

N

Parameters

Table 68: Parameter Details

Name	Required	Default	Type	Location	Description
pathSegments	N	—	String	pathReplace	Full path to the element or element id.
validDate	N	—	String	query	Show elements valid at given date (yyyy-mm-dd HH:mm:ss) Allowed values/formats: yyyy-mm-dd HH:mm:ss.

Name	Required	Default	Type	Location	Description
level	N	—	String	query	Level name (SUPERZONE, FLOOR, AP, POI, or ZONE) Allowed values/formats: SUPERZONE FLOOR AP ZONE POI.

Content Type

application/json

API History

Table 69: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: Children Superzone IDs of Hiterarchy Element

Description

The call retrieves children superzone IDs of an heterarchy element and, under them, the counts of all the nested children elements. The element is identified by the path of the API call (either the full path or the ID of the element- see Add/Update zones or tags for details on obtaining the element id). Specifying a level retrieves only children of that level.

HTTP Method

GET

Resource URI

/api/config/v1/heterarchy/:pathSegments/childrencounts

Requires Basic Auth

N

Parameters

Table 70: Parameter Details

Name	Required	Default	Type	Location	Description
pathSegments	N	—	String	pathReplace	Full path to the element or element ID.
validDate	N	—	String	query	Show elements valid from given date (yyyy-mm-dd HH:mm:ss) Allowed values/formats: yyyy-mm-dd HH:mm:ss.
level	N	—	String	query	Level name (SUPERZONE, FLOOR, AP, POI, or ZONE) Allowed values/formats: SUPERZONE FLOOR AP ZONE POI.

Content Type

application/json

API History

Table 71: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

System preferences API

GET: Type of Device

Description

This API gets the type of box.

HTTP Method

GET

Resource URI

/api/config/v1/system/type

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
{
    "num_cpus": 20,
    "box_type": "High-End"
}
```

API History

Table 72: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: System Settings Preferences

Description

This API retreives system settings.

HTTP Method

GET

Resource URI

/api/config/v1/system/preferences/:component/:key

Requires OAuth

N

Parameters

Table 73: Parameter Details

Name	Required	Default	Type	Location	Description
component	Y	—	String	pathReplace	The component.
key	N	—	String	pathReplace	The key to retrieve. If not set, retrieves all keys for the given component.

Content Type

application/json

PUT: System Settings

Description

This API enable you to store system settings. This operation can only be performed by users in the 'Admin' group.

HTTP Method

PUT

Resource URI

/api/config/v1/system/preferences/:component/:key

Requires OAuth

N

Parameters

Table 74: Parameter Details

Name	Required	Default	Type	Location	Description
component	Y	—	String	pathReplace	The component.
key	Y	—	String	pathReplace	The key.
String	Y	—	string	body	Value.

Content Type

application/json

GET: Gets the System Time

Description

HTTP Method

GET

Resource URI

/api/config/v1/system/time

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
{
    "ISO8601Utils": "2017-12-18T08:56:16Z",
    "timeZoneOffset": -28800000,
    "serverTimeUTC": 1513587376429,
    "serverTime": "Mon Dec 18 00:56:16 PST 2017",
    "timeZone": "Pacific Standard Time"
}
```

APIs for Exporting Large Dataset from CMX Cassandra Database

GET: All Available Files

Description

This API returns the list of all history data export archives that are available for download over HTTP. Note that Cisco CMX automatically deletes exported archives eight days after the date of creation.

HTTP Method

GET

Resource URI

/api/config/v1/historydata/export

Requires OAuth

N

Parameters

None.

Content Type

The response is a JSON and contains the URL of all available files.

Sample Output

application/json. The response contains the following:

- A timestamp that indicates when the archive was exported.
- The total size of the file(s) in bytes.
- A URL (or a list of URLs) which serves the file over HTTP.

The file format is '.tar.gz'. You can untar it to convert it to a raw text file. If the file is greater than 400 MB in size, the response is split into a list of files of 400MB each.

```
[{
"lastModified": "Fri Jan 12 01:35:20 UTC 2018",
"totalFileSizeInBytes": 22719368,
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720916/CassandraDataset_1515720916.tar.gz.aa",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720916/CassandraDataset_1515720916.tar.gz.ab",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720916/CassandraDataset_1515720916.tar.gz.ac"
]
},
{
"lastModified": "Fri Jan 12 01:35:40 UTC 2018",
"totalFileSizeInBytes": 132,
```

```
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720939/CassandraDataset_1515720939.tar.gz"
]
},
{
"lastModified": "Fri Jan 12 01:35:26 UTC 2018",
"totalFileSizeInBytes": 22719371,
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720922/CassandraDataset_1515720922.tar.gz.ab",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720922/CassandraDataset_1515720922.tar.gz.aa",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720922/CassandraDataset_1515720922.tar.gz.ac"
]
},
{
"lastModified": "Fri Jan 12 01:35:45 UTC 2018",
"totalFileSizeInBytes": 132,
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720943/CassandraDataset_1515720943.tar.gz"
]
},
{
"lastModified": "Fri Jan 12 01:35:32 UTC 2018",
"totalFileSizeInBytes": 22719368,
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720928/CassandraDataset_1515720928.tar.gz.ab",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720928/CassandraDataset_1515720928.tar.gz.ac",
"https://10.30.114.115/common/data/export/CassandraDataset_1515720928/CassandraDataset_1515720928.tar.gz.aa"
]
},
{
"lastModified": "Fri Jan 12 01:35:42 UTC 2018",
"totalFileSizeInBytes": 132,
"fileUrl": [
"https://10.30.114.115/common/data/export/CassandraDataset_1515720941/CassandraDataset_1515720941.tar.gz"
]
}
]
```


To merge the parts of .tar.gz files, use the following UNIX commands:

```
cat CassandraDataset_1515720916.tar.gz.aa CassandraDataset_1515720916.tar.gz.ab
CassandraDataset_1515720916.tar.gz.ac >> CassandraDataset_1515720916.tar.gz
```

OR

```
cat CassandraDataset_1515720916.tar.gz.* >> CassandraDataset_1515720916.tar.gz
```

API History

Table 75: API history

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

GET: Is Data Export Running

Description

This API returns if the data export utility (Cassandra data extraction process) is currently running or not. Note that CMX allows for only one extraction process to run at a time.

If the process is not running, the API returns FALSE indicating that a new extraction job can be triggered using the POST API.

If the process is running, the API returns TRUE indicating that an instance of the extraction job is already running. You can keep querying this API with an interval of a few minutes to check the status before submitting another job.

HTTP Method

GET

Resource URI

/api/config/v1/historydata/export/isrunning

Requires OAuth

N

Parameters

None.

Content Type

The response is a JSON and contains the URL of all available files.

Sample Output

application/json

```
{"isRunning":false}

{"isRunning":true}
```

API History

Table 76: API history

Release	Modification
Cisco CMX Release 10.5	This API is introduced.

POST: Trigger History data export

Description

This API triggers data export for a given day or date. The API enables you to extract a large amount of raw history data in JSON format from the Cisco CMX's Cassandra database.

When the API is invoked, Cisco CMX spawns a process to extract data from Cassandra. All the history records that match the query parameters are dumped into a data file. This data file can then be downloaded from Cisco CMX server over HTTP and you can perform your own analytics by processing the JSON data. Each line in the data file represents a history record.

Note that you cannot run multiple extraction jobs at a time. If the job is already running, The API returns **HTTP 403 Forbidden**, meaning that the job is already running.

Let us observe how the API works.

The API accepts the *date* for which data needs to exported. This parameter is mandatory.

If you want to export all the history records that are generated on 2017/11/29,

```
POST /api/config/v1/historydata/export?date=2017/11/29
```

Once the extraction is complete, the exported data file can be download over HTTP.

```
GET /api/config/v1/historydata/export
```

You could also mention a specific range of hours for which you want to export the data for a given date. The value of *fromHour* cannot be greater than the value of *toHour*.

If you want to export history data generated on 2017/11/29, starting Midnight to 4 AM.

```
POST /api/config/v1/historydata/export?date=2017/11/29&fromHour=0&toHour=4
```

If you want to export history data generated on 2017/11/29 starting Midnight to 9 AM.

```
HTTP POST /api/config/v1/historydata/export?date=2017/11/29&fromHour=0&toHour=9
```

If you want to export history data generated on 2017/11/29 starting Midnight to 1 PM.

```
POST /api/config/v1/historydata/export?date=2017/11/29&fromHour=0&toHour=13
```

If you want to export history data generated on 2017/11/29 starting 4 PM to 9 PM.

```
POST /api/config/v1/historydata/export?date=2017/11/29&fromHour=16&toHour=21
```

HTTP Method

POST

Resource URI

/api/config/v1/historydata/export

Requires OAuth

N

Parameters

Table 77: Parameter Details

Name	Required	Default	Type	Location	Description
date	Y	—	String	body	The date for which data export needs to be triggered. The expected date format is yyyy/MM/dd .
fromHour	N	—	String	body	This field expects an integer value within the range zero to 23. The field is used to export the data for a specific duration of the day. The API looks at *fromHour* and *toHour* parameters and exports data accordingly.
toHour	N	—	String	body	This field expects an integer value within the range one to 24. This is used to export the data for a specific duration of the day. The API looks at *fromHour* and *toHour* parameters and exports data accordingly.

Content Type

application/json

Sample Input

```
http://<host-ip-address>/api/config/v1/historydata/export?date=2017/11/29&fromHour=0&toHour=1
```

Sample Output

```
Response:

"Cassandra data export utility triggered successfully."
```

Device Count API

GET: Device Count

Description

This API returns the device count for different types of device and also the number of unique devices seen in that day.

HTTP Method

GET

Resource URI

/api/config/v1/location/count/

Requires OAuth

N

Parameters

None.

Content Type

The response is a JSON and contains the count of devices seen for different type of devices.

Sample Output

application/json. The response contains the following:

- Active Count for different device types at that instant.
- Untracked Device Counts for different device types at that instant.
- Total number of Unique Device (Mac address) seen in that day, this count resets to zero at Midnight.


```
{"untrackedCounts":{"INTERFERER":0,"ROGUE":0,"BLE_TAG":0,"ATTACKER":0,"ROGUE_AP":0,"ROGUE_CLIENT":0,
"TAG":0,"CLIENT":3,"WIRED_CLIENT":0},"trackedElementsLimit":300000,"untrackedDueToFilterCounts":{},
"activeElementCount":292,"locallyAdministeredClientCount":0,"activeCounts":
{"INTERFERER":0,"ROGUE":0,"BLE_TAG":0,"ATTACKER":0,"ROGUE_AP":232,"ROGUE_CLIENT":0,"TAG":5,"CLIENT":
{"All":55,"Associated":0,"Probing":55},"WIRED_CLIENT":0},"uniqueDeviceCount":375}
}
```

API History

Table 78: API History

Release	Modification
Cisco CMX Release 10.6.2	This API is introduced.



Location

- Zone Count Poll API, on page 134
- Active Clients V3 API, on page 136
- Northbound notification types and attributes API, on page 143
- Clients History API, on page 146
- Active Rogue Clients V3 API, on page 160
- Active Interferers V3 API, on page 163
- Active Rogue APs V3 API, on page 166
- Active Tags V3 API, on page 169

Zone Count Poll API

GET: Active Clients Count for all Registered Zones

Description

This API expects that registration of zones has been done using the Zone Count Register API (Configuration service /api/config/v1/zoneCountParams/1)

HTTP Method

GET

Resource URI

/api/location/v1/clients/count/byzone

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

API History

Table 79: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: Zone Count with Mac Addresses

Description

This API returns zone count along with macaddresses.

This expects the debug flag turned on in the Zone Count Register API under configuration service /api/config/v1/zoneCountParams/1

HTTP Method

GET

Resource URI

/api/location/v1/clients/count/byzone/detail

Requires Basic Auth

N

Parameters

Table 80: Parameter Details

Name	Required	Default	Type	Location	Description
zoneId	Y		String	query	zoneId

Content Type

application/json

API History

Table 81: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

Active Clients V3 API

GET: Active Clients Count

Description

This API returns active clients count.

This API supports searching by a variety of parameters. If no parameters are given then all active clients are returned.

The API Username is set using the **cmxos apiserver user** command. This will change the username and password just for the Active V3 Clients API.

Here are some examples to illustrate the queries.

Search by IPv4/IPv6: api/location/v3/clients/count?ipAddress=x.x.x.x

Search by Mac Address: api/location/v3/clients/count?macAddress=x:x:x:x

Search by SSID: api/location/v3/clients/count?ssid=someSSID

Search by User Name: api/location/v3/clients/count?username=someUser

Search by Manufacturer: api/location/v3/clients/count?manufacturer=someManufacturer

Search for Only Associated Clients: api/location/v3/clients/count?associatedOnly=true

Search for Only Probing Clients: api/location/v3/clients/count?probingOnly=true

Search by Map Hierarchy: api/location/v3/clients/count?mapHierarchy=someFloorNameMap

Hierarchy string can be partial string matches but any string used must be an exact match.

HTTP Method

GET

Resource URI

/api/location/v3/clients/count

Requires Basic Auth

N

Parameters

Table 82: Parameter Details

Name	Required	Default	Type	Location	Description
ipAddress	N		String	query	Client IP address

Name	Required	Default	Type	Location	Description
macAddress	N		String	query	Client MAC address
mapHierarchy	N		String	query	Clients with MAP hierarchy string
floorId	N		String	query	Clients on floor ID
ssid	N		String	query	Clients associated on SSID
username	N		String	query	Clients with user name
manufacturer	N		String	query	Clients with manufacturer
macAddressSearch	N		String	query	Clients MAC address search
associatedOnly	N		String	query	Associated only clients
probingOnly	N		String	query	Probing only clients

Content Type

application/json

Sample Output (JSON)

http://<cmx-ip-address>/api/location/v3/clients/count

```
{
    "totalCount": 29,
    "associatedCount": 0,
    "probingCount": 29
}
```

API History

Table 83: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: Active Clients

Description

This API supports searching by a variety of parameters. If no parameters are given then all active clients are returned.

The API Username is set using the **cmxos apiserver user** command. This will change the username and password just for the Active V3 Clients API.

Here are some examples to illustrate the queries.

Search by IPv4/IPv6: api/location/v3/clients?ipAddress=x.x.x.x

Search by Mac Address: api/location/v3/clients?macAddress=x:x:x:x

Search by SSID: api/location/v3/clients?ssid=someSSID

Search by User Name: api/location/v3/clients?username=someUser

Search by Manufacturer: api/location/v3/clients?manufacturer=someManufacturer

Search for Only Associated Clients: api/location/v3/clients?associatedOnly=true

Search for Only Probing Clients: api/location/v3/clients?probingOnly=true

Search by Map Hierarchy: api/location/v3/clients?mapHierarchy=someFloorNameMap

HTTP Method

GET

Resource URI

/api/location/v3/clients

Requires OAuth

N

Parameters

Table 84: Parameter Details

Name	Required	Default	Type	Location	Description
ipAddress	N		String	query	Client IP address
macAddress	N		String	query	Client MAC address
mapHierarchy	N		String	query	Clients with MAP hierarchy string

Name	Required	Default	Type	Location	Description
ssid	N		String	query	Clients associated on SSID
username	N		String	query	Clients with user name
manufacturer	N		String	query	Clients with manufacturer
macAddressSearch	N		String	query	Clients MAC address search
associatedOnly	N		String	query	Associated only clients
probingOnly	N		String	query	Probing only clients

Content Type

application/json

```
10.22.243.125/api/location/v3/clients?macAddress=b8%3A38%3A61%3Ab1%3Ac8%3Ad0
10.22.243.125/api/location/v3/clients?mapHierarchy=Nortech%20Campus%3ENortech-1%3E1st%20Floor%3ECMX%20Clinic
10.22.243.125/api/location/v3/clients?ssid=cmx
10.22.243.125/api/location/v3/clients?ipAddress=10.22.243.243
10.22.243.125/api/location/v3/clients
```

Sample Output (JSON)

http://<cmx-ip-address>/api/location/v3/clients


```
{
      "notificationType":"locationupdate",
      "subscriptionName":"CMX_Api_Server_Notification_1",
      "eventId":7746773,
      "locationMapHierarchy":"System Campus>WLC-244-43>WLC-244-43-F1",
      "locationCoordinate":{
         "x":53.100426,
         "y":81.25328,
         "z":0,
         "unit":"FEET"
      },
      "geoCoordinate":{
         "latitude":-999,
         "longitude":-999,
         "unit":"DEGREES"
      },
      "confidenceFactor":32,
      "apMacAddress":"NOT APPLICABLE",
      "associated":false,
      "username":"NOT APPLICABLE",
      "ipAddress":[
         "NOT APPLICABLE"
```

```
    ],
    "ssid":"NOT APPLICABLE",
    "band":"NOT APPLICABLE",
    "floorId":"727001524986708012",
    "entity":"WIRELESS_CLIENTS",
    "deviceId":"e0:2a:82:e4:bb:ff",
    "lastSeen":"2021-05-19T02:21:17.164-0700",
    "rawLocation":{
       "rawX":-999,
       "rawY":-999,
       "unit":"FEET"
    },
    "tagVendorData":null,
    "bleTagInfo":null,
    "locComputeType":"RSSI",
    "manufacturer":"Universal Global Scientific Industrial Co., Ltd.",
    "maxDetectedRssi":{
       "apMacAddress":"00:ee:ab:18:f0:40",
       "band":"IEEE_802_11_B",
       "slot":0,
       "rssi":-42,
       "antennaIndex":0,
       "lastHeardInSeconds":3
    },
    "hierarchyDetails":{
       "campusParents":null,
       "campus":{
          "id":"1617954166291",
          "name":"System Campus"
       },
       "building":{
          "id":"727001524986708011",
          "name":"WLC-244-43"
       },
       "floor":{
          "id":"727001524986708012",
          "name":"WLC-244-43-F1"
       },
       "zones":null
    },
    "rssiEntries":[
       {
          "apMacAddress":"00:ee:ab:18:f0:40",
          "band":"IEEE_802_11_B",
          "slot":0,
          "antennaIndex":0,
          "rssi":-42,
          "lastHeardSecs":3
       }, …….
    ],
    "timestamp":1621416077164,
    "sourceNotification":"127.0.0.1",
    "sourceNotificationKey":"127.0.0.1,1",
    "notificationTime":"1621416077201",
    "macAddress":"e0:2a:82:e4:bb:ff"
}
```


Sample Output - Associated Client (JSON)

http://<cmx-ip-address>/api/location/v3/clients


```
[
    {
        "notificationType": "locationupdate",
```

```
        "eventId": 234,
        "locationMapHierarchy": "System Campus>TMT>7F",
        "locationCoordinate": {
            "x": 129.02692,
            "y": 48.54135,
            "z": 0,
            "unit": "FEET"
        },
        "geoCoordinate": {
            "latitude": -999,
            "longitude": -999,
            "unit": "DEGREES"
        },
        "confidenceFactor": 24,
        "apMacAddress": "04:eb:40:9f:52:40",
        "associated": true,
        "username": null,
        "ipAddress": [
            "172.22.178.159",
            "fe80:0000:0000:0000:6d34:a845:6748:9c46"
        ],
        "ssid": "kapi-psk",
        "band": "IEEE_802_11_A",
        "floorId": -6046640703759450000,
        "entity": "WIRELESS_CLIENTS",
        "deviceId": "3c:9c:0f:ed:a3:b9",
        "lastSeen": "2025-09-08T17:05:12.647+09",
        "rawLocation": {
            "rawX": -999,
            "rawY": -999,
            "unit": "FEET"
        },
        "locComputeType": "RSSI",
        "manufacturer": "Intel Corporate",
        "maxDetectedRssi": {
            "apMacAddress": "04:eb:40:9f:52:40",
            "band": "IEEE_802_11_A",
            "slot": 1,
            "rssi": -40,
            "antennaIndex": 0,
            "lastHeardInSeconds": 5
        },
        "hierarchyDetails": {
            "campus": {
                "id": 1755646244365,
                "name": "System Campus"
            },
            "building": {
                "id": -6046640703759450000,
                "name": "TMT"
            },
            "floor": {
                "id": -6046640703759450000,
                "name": "7F"
            }
        },
        "timestamp": 1757318712647,
        "macAddress": "3c:9c:0f:ed:a3:b9"
    }
]
```

API History

Table 85: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

Northbound notification types and attributes API

GET: Supported Northbound Notifications

Description

This API returns all supported notification types and applicable attributes for the notification rules.

HTTP Method

GET

Resource URI

/api/location/v1/attributes

Requires Basic Auth

N

Content Type

application/json

Sample Output


```
{
   "notifications":[
      {
         "notificationType":"locationupdate",
         "subscriptionName":"asdasdasd",
         "eventId":1259951,
         "locationMapHierarchy":"Simulator-1212-Campus0>Building1>Floor8>Zone4",
         "locationCoordinate":{
            "x":65.32642,
            "y":302.04172,
            "z":0.0,
            "unit":"FEET"
         },
         "geoCoordinate":{
            "latitude":-999.0,
            "longitude":-999.0,
            "unit":"DEGREES"
         },
         "confidenceFactor":64.0,
         "apMacAddress":"NOT APPLICABLE",
         "associated":false,
         "username":"NOT APPLICABLE",
         "ipAddress":[
            "NOT APPLICABLE"
         ],
         "ssid":"NOT APPLICABLE",
         "band":"NOT APPLICABLE",
          "floorId":"1721918422",
         "entity":"WIRELESS_CLIENTS",
         "deviceId":"10:00:00:00:0f:5e",
```

```
            "lastSeen":"2017-06-06T13:42:51.798-0700",
            "rawLocation":{
               "rawX":-999.0,
               "rawY":-999.0,
               "unit":"FEET"
            },
            "areaGlobalidList":[
               6343,
               2759,
               2758,
               2757,
               6399,
               6400,
               6289,
               6342
            ],
            "tagVendorData":null,
            "manufacturer":"Private",
            "timestamp":1496781771798
         }
      ]
}
```


Output Field Descriptions

Table 86: Output Field Descriptions

Field	Description
Notification Type	What type of notification this output describes (For example, locationupdate)
Subscription Name	The name of the notification created in CMX (user provided)
Event ID	Unique for notification identification per event
Location Map Hierarchy	The Hierarchy string that shows campus, building, floor, and zone (if applicable)
Location Coordinate	XY location for the device
Geo Coordinate	GPS location for device, if GPS markers are set
Confidence Factor	Represents a square box of where the client should be, lower means better location accuracy
AP Mac Address	The AP that the client is connected to
Associated	is this device Associated or not
Username	The username of this Associated client if using 802.11x
IP address	If this client is associated, what IP address(es) are assigned to it, can include IPv4 and IPv6 addresses

Field	Description
SSID	The SSID of the client is Associated
Band	802.11 band the device is it connected to
Floor Id	Long value representing hieracrchy, would not use
Entity	What type of device is it, Client (normal devices), RFID Tag (these are devices that send a chirp on an interval), Interferers (Devices that are connected to APs or are APs that aren't on the network controlled by a controller on this CMX)
Device Id	MAC address of device
Last Seen	Timestamp of packet last received from controller for this device
Raw Location	-
Area Global Id List	-
Tag Vendor Data	For RFID tags, information that was encoded in packets we received like battery life or something like that.
Manufacturer	Based on the first half of the MAC address of this device
Timestamp	When the notification generated
status	Refers to what the status of the device is - IDLE(0), AAA_PENDING(1), AUTHENTICATED(2), ASSOCIATED(3), POWERSAVE(4), DISASSOCIATED(5), TO_BE_DELETED(6), PROBING(7), WAIT_ASSOCIATED(257);

Table 87: API History

Release	Modification
Cisco CMX Release 10.3	Output field descriptor **Floor Ref Id** was introduced.

Clients History API

GET: Compact History of Client by MAC Address

Description

This API returns the history of an active client by its MAC address.

HTTP Method

GET

Resource URI

/api/location/v1/history/clients/:macaddress

Requires OAuth

N

Parameters

Table 88: Parameter Details

Name	Required	Default	Type	Location	Description
macaddress	Y	—	String	pathReplace	Client Macaddress.
date	Y	—	String	query	Date in format of yyyy/mm/dd.

Content Type

application/json

Sample Output (JSON)

```
[
    {
        "macAddress": "98:01:a7:de:cd:35",
        "mapInfo": {
            "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor>CMX Clinic",
            "mapHierarchyDetails": {
                "campus": "Nortech Campus",
                "building": "Nortech-1",
                "floor": "1st Floor",
                "floorAesUid": 727035700041482200,
                "zones": "CMX Clinic"
            }
        },
        "mapCoordinate": {
```

```
            "x": 26.908728,
            "y": 14.038175,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": true,
        "confidenceFactor": 16,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:41:49.631-0800",
            "firstLocatedTime": "2017-12-06T12:19:31.509-0800",
            "lastLocatedTime": "2017-12-06T22:41:48.696-0800"
        },
        "historyLogReason": "DISTANCE_CHANGE",
        "geoCoordinate": {
            "latitude": 37.422419537914266,
            "longitude": -121.9597144965198,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "ACTIVE",
        "changedOn": 1512628908696,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512628908696",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "Apple, Inc.",
        "areaGlobalIdList": null,
        "detectingControllers": "10.22.243.211",
        "bytesSent": 0,
        "bytesReceived": 0,
        "guestUser": false
    },
    {
        "macAddress": "98:01:a7:de:cd:35",
        "mapInfo": {
            "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor",
            "mapHierarchyDetails": {
                "campus": "Nortech Campus",
                "building": "Nortech-1",
                "floor": "1st Floor",
                "floorAesUid": 727035700041482200,
                "zones": ""
            }
        },
        "mapCoordinate": {
            "x": 25.287996,
            "y": 25.027487,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": true,
        "confidenceFactor": 24,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:41:49.632-0800",
            "firstLocatedTime": "2017-12-06T12:19:31.509-0800",
            "lastLocatedTime": "2017-12-06T22:41:46.346-0800"
        },
        "historyLogReason": "DISTANCE_CHANGE",
        "geoCoordinate": {
```

```
            "latitude": 37.42245012473281,
            "longitude": -121.9597087015209,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "ACTIVE",
        "changedOn": 1512628906346,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512628906346",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "Apple, Inc.",
        "areaGlobalIdList": null,
        "detectingControllers": "10.22.243.211",
        "bytesSent": 0,
        "bytesReceived": 0,
        "guestUser": false
    },
    {
        "macAddress": "98:01:a7:de:cd:35",
        "mapInfo": {
            "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor>CMX Clinic",
            "mapHierarchyDetails": {
                "campus": "Nortech Campus",
                "building": "Nortech-1",
                "floor": "1st Floor",
                "floorAesUid": 727035700041482200,
                "zones": "CMX Clinic"
            }
        },
        "mapCoordinate": {
            "x": 26.385386,
            "y": 18.708204,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": true,
        "confidenceFactor": 16,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:41:49.632-0800",
            "firstLocatedTime": "2017-12-06T12:19:31.509-0800",
            "lastLocatedTime": "2017-12-06T22:40:44.342-0800"
        },
        "historyLogReason": "DISTANCE_CHANGE",
        "geoCoordinate": {
            "latitude": 37.42243253617424,
            "longitude": -121.95971262854559,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "ACTIVE",
        "changedOn": 1512628844342,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512628844342",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "Apple, Inc.",
```

```
        "areaGlobalIdList": null,
        "detectingControllers": "10.22.243.211",
        "bytesSent": 0,
        "bytesReceived": 0,
        "guestUser": false
    },
    {
        "macAddress": "98:01:a7:de:cd:35",
        "mapInfo": {
            "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor>CMX Bar",
            "mapHierarchyDetails": {
                "campus": "Nortech Campus",
                "building": "Nortech-1",
                "floor": "1st Floor",
                "floorAesUid": 727035700041482200,
                "zones": "CMX Bar"
            }
        },
        "mapCoordinate": {
            "x": 28.39643,
            "y": 35.002888,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": true,
        "confidenceFactor": 24,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:41:49.633-0800",
            "firstLocatedTime": "2017-12-06T12:19:31.509-0800",
            "lastLocatedTime": "2017-12-06T22:40:41.877-0800"
        },
        "historyLogReason": "DISTANCE_CHANGE",
        "geoCoordinate": {
            "latitude": 37.4224778909874,
            "longitude": -121.95971990610984,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "ACTIVE",
        "changedOn": 1512628841877,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512628841877",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "Apple, Inc.",
        "areaGlobalIdList": null,
        "detectingControllers": "10.22.243.211",
        "bytesSent": 0,
        "bytesReceived": 0,
        "guestUser": false
    }
]
```

GET: Unique MAC Address Seen on a Given Day on a Floor or Zone

Description

This API returns the unique MAC address seen on a given date on a floor or zone. It expects parameters, date and hierarchy. Hierarchy can be up to floor level or zone level. For example, floor level would include: campus-name, building-name, and floor-name. Zone level would be campus-name, building-name, floor-name, and zone-name. If you know the floor ID or the zone ID, then hierarchy is optional and you can specify date and floor ID or date and zone ID parameters.

When the date parameter is not specified, the API would use current date as default. Specifying either of the parameters like hierarchy or floor ID or zone ID is mandatory. This API also supports filter by time and filter by distance criteria. For filtering by time, use fromHour and toHour (both in 24 hr format) parameters. For filtering by distance queries, using filtering by time is mandatory and only a difference of one hour is allowed between toHour and fromHour is one hour.

For example:

By hierarchy:
/api/location/v1/history/uniqueclientsbyhierarchy?hierarchy=System%20Campus/Floor-19/1st%20Floor.
Floor ID:/api/location/v1/history/uniqueclientsbyhierarchy?floorid=730297895206534073.

By zoneid and date:/api/location/v1/history/uniqueclientsbyhierarchy?zoneid=23 and date=2016/02/29. By hierarchy and filter by time:
/api/location/v1/history/uniqueclientsbyhierarchy?hierarchy=System%20Campus/BGLD-19/1st%20Floor and fromHour=13 and toHour=14.

By hierarchy, filter by time and filter by distance:
/api/location/v1/history/uniqueclientsbyhierarchy?hierarchy=System%20Campus/BGLD-19/1st%20Floor and fromHour=13 and toHour=14 and x=30 and y=50 and distance=10.

HTTP Method

GET

Resource URI

/api/location/v1/history/uniqueclientsbyhierarchy

Requires Basic Auth

N

Parameters

Table 89: Parameter Details

Name	Required	Default	Type	Location	Description
hierarchy	Y	—	String	query	Hierarchy in format campus-name/building-name/floor-name.
date	N	—	String	query	Date in format of yyyy/mm/dd.
floorid	N	—	String	query	Floor ID.

Name	Required	Default	Type	Location	Description
zoneid	N	—	String	query	Zone ID.
fromHour	N	—	String	query	FromHour, HH in 24 hour format.
toHour	N	—	String	query	ToHour, HH in 24 hour format
x	N	—	String	query	x
y	N	—	String	query	y
distance	N	—	String	query	Distance in feet

Content Type

application/json

GET: Compact History of Client By Date and IPv4 Address

Description

This API returns compact history of client by date and IPv4 address.

HTTP Method

GET

Resource URI

/api/location/v1/historylite/byipaddress/:ipv4address

Requires Basic Auth

N

Parameters

Table 90: Parameter Details

Name	Required	Default	Type	Location	Description
date	Y	—	String	query	Date in format of yyyy/mm/dd.
ipv4address	Y	—	String	pathReplace	IPv4 Address.

Content Type

application/json

Sample Output

http://10.68.40.131/api/location/v1/historylite/byipaddress/10.68.41.186


```
{
    "Macaddress": null,
    "Ipv4address": "10.22.243.125",
    "Data": [],
    "Count": 0,
    "Date": "2018/07/13"
}
```


GET: Compact History of Client by Date, Username

Description

This API returns compact history of client like number of logins and MAC address of device. The parameters given are date and username.

If the same username was used to login at multiple devices, the MAC address of only one of the devices is returned. To return all MAC addresses, set allMacs parameter to true.

HTTP Method

GET

Resource URI

/api/location/v1/historylite/byusername/:username

Requires Basic Auth

N

Parameters

Table 91: Parameter Details

Name	Required	Default	Type	Location	Description
date	Y	—	String	query	Date in format of yyyy/mm/dd
username	Y	—	String	pathReplace	User name.
allMacs	N	—	String	query	Return all macaddresses associated with this Username for given date Allowed values/formats: true false

Name	Required	Default	Type	Location	Description
allResults	N		String	query	Return all results Allowed values/formats: true false

Content Type

application/json

Sample Output

http://<ip-address>/api/location/v1/historylite/byusername/sharangp?date=2020/11/17

```
{
"Macaddress":"",
"Username":"sharang",
"Data":[
],
"Count":0,
"Date":"2020/11/17"
}
```

http://<ip-address>/api/location/v1/historylite/byusername/sharangp?date=2017/06/12&allMacs=true

```
{
Count: 2,
Date: "2017/06/12",
Username: "sharangp",
Macaddress: [
"3c:a9:f4:6c:4c:7c",
"3c:a9:f4:6c:ee:44"
]
}
```

GET: Compact History of Client by Date and MAC Address

Description

This API returns the compact history of an active client by date and its MAC address.

HTTP Method

GET

Resource URI

/api/location/v1/history/clients/:macaddress

Requires OAuth

N

Parameters

Table 92: Parameter Details

Name	Required	Default	Type	Location	Description
macaddress	Y	—	String	pathReplace	Client Macaddress.
date	Y	—	String	query	Date in format of yyyy/mm/dd.

Content Type

application/json

Sample Output (JSON)

```
URL : https://172.19.28.206/api/location/v1/history/clients/00:d7:8f:cd:d1:fc?date=2020/11/15

{
   "Macaddress":"00:d7:8f:cd:d1:fc",
   "Count":0,
   "Records":[

   ],
   "Date":"2020/11/15"
}

##########################################################################################################


URL: https://172.19.28.206/api/location/v1/history/clients/00:d7:8f:cd:d1:fc?date=2020/11/16

{
   "Macaddress":"00:d7:8f:cd:d1:fc",
   "Count":2,
   "Records":[
      {
         "macAddress":"00:d7:8f:cd:d1:fc",
         "mapInfo":{
            "mapHierarchyString":"System Campus>WLC-244-43>WLC-244-43-F1",
            "mapHierarchyDetails":{
               "campus":"System Campus",
               "building":"WLC-244-43",
               "floor":"WLC-244-43-F1",
               "floorAesUid":727001524986708012,
               "zones":""
            }
         },
         "mapCoordinate":{
            "x":81.67868,
            "y":45.230167,
            "z":0.0,
            "unit":"FEET"
         },
         "currentlyTracked":true,
         "confidenceFactor":40.0,
         "locComputeType":"RSSI",
         "statistics":{
```

```
            "currentServerTime":"2020-11-17T10:39:37.632-0800",
            "firstLocatedTime":"2020-11-17T10:26:22.148-0800",
            "lastLocatedTime":"2020-11-17T10:39:35.507-0800"
         },
         "historyLogReason":"DISTANCE_CHANGE",
         "geoCoordinate":null,
         "rawLocation":null,
         "networkStatus":"ACTIVE",
         "changedOn":1605638375507,
         "ipAddress":[

         ],
         "userName":"",
         "ssId":"",
         "sourceTimestamp":"1605638375507",
         "band":"UNKNOWN",
         "apMacAddress":"",
         "dot11Status":"UNKNOWN",
         "manufacturer":"Cisco Systems, Inc",
         "areaGlobalIdList":null,
         "detectingControllers":"10.22.244.43",
         "bytesSent":0,
         "bytesReceived":0,
         "guestUser":false
      },
      {
         "macAddress":"00:d7:8f:cd:d1:fc",
         "mapInfo":{
            "mapHierarchyString":"System Campus>WLC-244-43>WLC-244-43-F1",
            "mapHierarchyDetails":{
               "campus":"System Campus",
               "building":"WLC-244-43",
               "floor":"WLC-244-43-F1",
               "floorAesUid":727001524986708012,
               "zones":""
            }
         },
         "mapCoordinate":{
            "x":84.41555,
            "y":37.575104,
            "z":0.0,
            "unit":"FEET"
         },
         "currentlyTracked":true,
         "confidenceFactor":40.0,
         "locComputeType":"RSSI",
         "statistics":{
            "currentServerTime":"2020-11-17T10:39:37.632-0800",
            "firstLocatedTime":"2020-11-17T10:26:22.148-0800",
            "lastLocatedTime":"2020-11-17T10:39:33.506-0800"
         },
         "historyLogReason":"DISTANCE_CHANGE",
         "geoCoordinate":null,
         "rawLocation":null,
         "networkStatus":"ACTIVE",
         "changedOn":1605638373506,
         "ipAddress":[

         ],
         "userName":"",
         "ssId":"",
         "sourceTimestamp":"1605638373506",
         "band":"UNKNOWN",
         "apMacAddress":"",
```

```
            "dot11Status":"UNKNOWN",
            "manufacturer":"Cisco Systems, Inc",
            "areaGlobalIdList":null,
            "detectingControllers":"10.22.244.43",
            "bytesSent":0,
            "bytesReceived":0,
            "guestUser":false
         }
      ],
      "Date":"2020/11/17"
}
```


GET: All Client History

Description

This API returns the history of all active clients. This does not include sleeping static devices that do not send probes. It does not support pagination, but you can extract small chunks of data by specifying parameters **locatedAfterTime** and **locatedBeforeTime** (in milliseconds).

This API would use the current date as date range from midnight to current time: /api/location/v1/history/clients. This would use the passed date as date range from passed date + fromHour to passed date + toHour: /api/location/v1/history/clients?date=2016/03/02 and fromHour=14 and toHour=15. This would use the date range as mentioned by parameters: locatedAfterTime (1456894800000) milliseconds equivalent to YYYY/MM/DD HH:MM:SS 2016/03/01 21:00:00. locatedBeforeTime (1456896600000) milliseconds equivalent to YYYY/MM/DD HH:MM:SS 2016/03/01 21:30:00: /api/location/v1/history/clients?locatedAfterTime=1456894800000 and locatedBeforeTime=1456896600000.

With CSCuz69078, when locatedAfterTime and locatedBeforeTime specified in API is more than a day and less than an hour, the API returns the following error.

ERROR - Cassandra timeout during read query at consistency ONE (1 responses were required but only 0 replica responded)

For example,
https://<ip-address</api/location/v1/history/clients?locatedAfterTime=1459468800000&locatedBeforeTime=1459636800000 returns the ERROR.

This API response returns a maximum of 5000 records without pagination and is sorted based by the MAC address. Therefore, without using the parameters such as **locatedAfterTime** and **locatedBeforeTime** to limit the number of records of a specific MAC Address, the API response for client history will return only one MAC Address. The sort order should be by date/time of occurrence.

Note

- This API can only support queries when the number of clients is less than 5000 per minute.
- Do not use this API if there are more than 2000 records. For larger datasets, it is recommended to use Northbound Notifications.

HTTP Method

GET

Resource URI

/api/location/v1/history/clients

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
[
    {
        "macAddress": "ac:cf:85:29:53:5f",
        "mapInfo": {
            "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor",
            "mapHierarchyDetails": {
                "campus": "Nortech Campus",
                "building": "Nortech-1",
                "floor": "1st Floor",
                "floorAesUid": 727035700041482200,
                "zones": ""
            }
        },
        "mapCoordinate": {
            "x": 78.017624,
            "y": 38.217056,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": true,
        "confidenceFactor": 160,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:31:17.730-0800",
            "firstLocatedTime": "2017-12-06T12:57:13.469-0800",
            "lastLocatedTime": "2017-12-06T12:57:13.469-0800"
        },
        "historyLogReason": "FLOOR_CHANGE",
        "geoCoordinate": {
            "latitude": 37.42248685324713,
            "longitude": -121.95989831612766,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "ACTIVE",
        "changedOn": 1512593833469,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512593833469",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "HUAWEI TECHNOLOGIES CO.,LTD",
```

```
    "areaGlobalIdList": null,
    "detectingControllers": "10.22.243.211",
    "bytesSent": 0,
    "bytesReceived": 0,
    "guestUser": false
},
{
    "macAddress": "08:cc:68:b4:1c:1f",
    "mapInfo": {
        "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor>CMX Clinic",
        "mapHierarchyDetails": {
            "campus": "Nortech Campus",
            "building": "Nortech-1",
            "floor": "1st Floor",
            "floorAesUid": 727035700041482200,
            "zones": "CMX Clinic"
        }
    },
    "mapCoordinate": {
        "x": 22.515627,
        "y": 15.5579815,
        "z": 0,
        "unit": "FEET"
    },
    "currentlyTracked": true,
    "confidenceFactor": 32,
    "locComputeType": "RSSI",
    "statistics": {
        "currentServerTime": "2017-12-06T22:31:17.731-0800",
        "firstLocatedTime": "2017-12-06T19:09:30.430-0800",
        "lastLocatedTime": "2017-12-06T19:09:30.430-0800"
    },
    "historyLogReason": "NETWORK_STATUS_CHANGE",
    "geoCoordinate": {
        "latitude": 37.42242376668243,
        "longitude": -121.95969870663463,
        "unit": "DEGREES"
    },
    "rawLocation": null,
    "networkStatus": "ACTIVE",
    "changedOn": 1512616170430,
    "ipAddress": [],
    "userName": "",
    "ssId": "",
    "sourceTimestamp": "1512616170430",
    "band": "UNKNOWN",
    "apMacAddress": "",
    "dot11Status": "UNKNOWN",
    "manufacturer": "Cisco Systems, Inc",
    "areaGlobalIdList": null,
    "detectingControllers": "10.22.243.211",
    "bytesSent": 0,
    "bytesReceived": 0,
    "guestUser": false
},
{
    "macAddress": "08:cc:68:b4:1c:1f",
    "mapInfo": {
        "mapHierarchyString": "Nortech Campus>Nortech-1>1st Floor>CMX Clinic",
        "mapHierarchyDetails": {
            "campus": "Nortech Campus",
            "building": "Nortech-1",
            "floor": "1st Floor",
            "floorAesUid": 727035700041482200,
```

```
                "zones": "CMX Clinic"
            }
        },
        "mapCoordinate": {
            "x": 21.428608,
            "y": 16.509167,
            "z": 0,
            "unit": "FEET"
        },
        "currentlyTracked": false,
        "confidenceFactor": 48,
        "locComputeType": "RSSI",
        "statistics": {
            "currentServerTime": "2017-12-06T22:31:17.731-0800",
            "firstLocatedTime": "2017-12-06T19:09:03.079-0800",
            "lastLocatedTime": "2017-12-06T19:09:05.082-0800"
        },
        "historyLogReason": "NETWORK_STATUS_CHANGE",
        "geoCoordinate": {
            "latitude": 37.422426413833385,
            "longitude": -121.95969480129244,
            "unit": "DEGREES"
        },
        "rawLocation": null,
        "networkStatus": "INACTIVE",
        "changedOn": 1512616145082,
        "ipAddress": [],
        "userName": "",
        "ssId": "",
        "sourceTimestamp": "1512616145082",
        "band": "UNKNOWN",
        "apMacAddress": "",
        "dot11Status": "UNKNOWN",
        "manufacturer": "Cisco Systems, Inc",
        "areaGlobalIdList": null,
        "detectingControllers": "10.22.243.211",
        "bytesSent": 0,
        "bytesReceived": 0,
        "guestUser": false
    }
]
```

Active Rogue Clients V3 API

GET: Active Rogue Clients Count

Description

This API returns active rogue clients count.

HTTP Method

GET

Resource URI

/api/location/v3/rogueclients/count

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output

```
{
    "totalCount": 9,
    "associatedCount": 0,
    "probingCount": 0
}
```

API History

Table 93: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.
Cisco CMX Release 10.6.3	This API was modified to support V3.

GET: All Rogue Clients

Description

This API returns all rogue clients

HTTP Method

GET

Resource URI

/api/location/v3/rogueclients

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
      "notificationType":"locationupdate",
      "subscriptionName":"CMX_Api_Server_Notification_1",
      "eventId":7779817,
      "locationMapHierarchy":"System Campus>WLC-244-43>WLC-244-43-F1",
      "locationCoordinate":{
         "x":49.0378,
         "y":26.800388,
         "z":0,
         "unit":"FEET"
      },
      "geoCoordinate":{
         "latitude":-999,
         "longitude":-999,
         "unit":"DEGREES"
      },
      "confidenceFactor":48,
      "apMacAddress":"NOT APPLICABLE",
      "associated":false,
      "username":"NOT APPLICABLE",
      "ipAddress":[
         "NOT APPLICABLE"
      ],
      "ssid":"NOT APPLICABLE",
      "band":"NOT APPLICABLE",
      "floorId":"727001524986708012",
      "entity":"ROGUE_CLIENTS",
      "deviceId":"50:32:37:e9:23:84",
      "lastSeen":"2021-05-19T02:57:21.159-0700",
      "rawLocation":{
         "rawX":-999,
```

```
        "rawY":-999,
        "unit":"FEET"
     },
     "tagVendorData":null,
     "bleTagInfo":null,
     "locComputeType":"RSSI",
     "manufacturer":"Apple, Inc.",
     "maxDetectedRssi":{
        "apMacAddress":"b0:8b:cf:54:5c:80",
        "band":"IEEE_802_11_A",
        "slot":0,
        "rssi":-37,
        "antennaIndex":0,
        "lastHeardInSeconds":2
     },
     "hierarchyDetails":{
        "campusParents":null,
        "campus":{
           "id":"1617954166291",
           "name":"System Campus"
        },
        "building":{
           "id":"727001524986708011",
           "name":"WLC-244-43"
        },
        "floor":{
           "id":"727001524986708012",
           "name":"WLC-244-43-F1"
        },
        "zones":null
     },
     "rssiEntries":[
        {
           "apMacAddress":"b0:8b:cf:54:5c:80",
           "band":"IEEE_802_11_A",
           "slot":0,
           "antennaIndex":0,
           "rssi":-37,
           "lastHeardSecs":2
        }, …….
     ],
     "timestamp":1621418241159,
     "sourceNotification":"127.0.0.1",
     "sourceNotificationKey":"127.0.0.1,3",
     "notificationTime":"1621418241169",
     "macAddress":"50:32:37:e9:23:84"
}
```


API History

Table 94: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.
Cisco CMX Release 10.6.3	This API was modified to support V3.

Active Interferers V3 API

GET: Get all interferers

Description

This API returns all interferers and also supports searching by floor. .

HTTP Method

GET

Resource URI

/api/location/v3/interferers

Requires OAuth

N

Parameters

None.

Content Type

application/json

Content Type

application/json

Usage Guidelines

Search by Floor:

```
http://<cmx-ip-address>/api/location/v3/interferers/floorId=<floorId>
For Example:
http://10.0.0.1/api/location/v3/interferers/floorId=1
```

Search by Page and Page Number: (As long as there is data you can keep paginating by incrementing the page and the pageSize numbers)

```
http://<cmx-ip-address>/api/location/v3/interferers?page=<pagenumber>&pageSize=<pagesize>
For Example:
http://10.0.0.1/api/location/v3/interferers/page=1&pageSize=2
```

Sample Output

http://<cmx-ip-address>/api/location/v3/interferers

```
[
    {
        "notificationType": "locationupdate",
        "subscriptionName": "CMX_Api_Server_Notification_1",
        "eventId": 6831579,
```

```
"locationMapHierarchy": "System Campus>WLC-244-43>WLC-244-43-F1",
"locationCoordinate": {
    "x": 47.40406,
    "y": 16.334118,
    "z": 0,
    "unit": "FEET"
},
"geoCoordinate": {
    "latitude": -999,
    "longitude": -999,
    "unit": "DEGREES"
},
"confidenceFactor": 208,
"apMacAddress": "NOT APPLICABLE",
"associated": false,
"username": "NOT APPLICABLE",
"ipAddress": [
    "NOT APPLICABLE"
],
"ssid": "NOT APPLICABLE",
"band": "NOT APPLICABLE",
"floorId": "727001524986708012",
"entity": "INTERFERERS",
"deviceId": "a3:4f:c0:00:00:96",
"lastSeen": "2020-11-20T07:36:12.233-0800",
"tagTelemetryList": null,
"tagBatteryInfo": null,
"tagVendorData": null,
"bleTagInfo": null,
"locComputeType": "RSSI",
"tagLastBeaconTime": null,
"tagLastBeaconSequenceNumber": 0,
"tagManufacturer": "Unknown",
"rawLocation": {
    "rawX": -999,
    "rawY": -999,
    "unit": "FEET"
},
"maxDetectedRssi": {
    "apMacAddress": "b0:8b:cf:54:5c:80",
    "band": "IEEE_802_11_A",
    "slot": 0,
    "rssi": -67,
    "antennaIndex": 1,
    "lastHeardInSeconds": 0
},
"hierarchyDetails": {
    "campusParents": null,
    "campus": {
        "id": "1601308104289",
        "name": "System Campus"
    },
    "building": {
        "id": "727001524986708011",
        "name": "WLC-244-43"
    },
    "floor": {
        "id": "727001524986708012",
        "name": "WLC-244-43-F1"
    },
    "zones": null
},
"rssiEntries": [
    {
```

```
                "apMacAddress": "b0:8b:cf:54:5c:80",
                "band": "IEEE_802_11_A",
                "slot": 0,
                "antennaIndex": 1,
                "rssi": -67,
                "lastHeardSecs": 0
            }
        ],
        "timestamp": 1605886572233,
        "sourceNotification": "127.0.0.1",
        "sourceNotificationKey": "127.0.0.1,1",
        "notificationTime": "1605886572236",
        "macAddress": "a3:4f:c0:00:00:96"
    }
]
```


GET: Get total number of interferers

Description

This API returns number of interferers

HTTP Method

GET

Resource URI

/api/location/v3/interferers/count

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output

http://<cmx-ip-address>/api/location/v3/interferers/count


```
{
    "totalCount": 1
}
```

Active Rogue APs V3 API

GET: Active Rogue AP count

Description

This API returns the count of active rogue APs.

HTTP Method

GET

Resource URI

/api/location/v3/rogueaps/count

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)

```
{
    "totalCount": 280
}
```

API History

Table 95: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.

GET: All Active Rogue APs

Description

This API returns all active rogue APs.

HTTP Method

GET

Resource URI

/api/location/v3/rogueaps

Requires Basic Auth

N

Parameters

None.

Content Type

application/json

Sample Output


```
{
      "notificationType":"locationupdate",
      "subscriptionName":"CMX_Api_Server_Notification_1",
      "eventId":7791838,
      "locationMapHierarchy":"System Campus>WLC-244-43>WLC-244-43-F1",
      "locationCoordinate":{
         "x":57.154472,
         "y":38.875927,
         "z":0,
         "unit":"FEET"
      },
      "geoCoordinate":{
         "latitude":-999,
         "longitude":-999,
         "unit":"DEGREES"
      },
      "confidenceFactor":48,
      "apMacAddress":"NOT APPLICABLE",
      "associated":false,
      "username":"NOT APPLICABLE",
      "ipAddress":[
         "NOT APPLICABLE"
      ],
      "ssid":"NOT APPLICABLE",
      "band":"NOT APPLICABLE",
      "floorId":"727001524986708012",
      "entity":"ROGUE_APS",
      "deviceId":"2c:57:41:89:99:cf",
      "lastSeen":"2021-05-19T03:10:05.160-0700",
      "rawLocation":{
         "rawX":-999,
         "rawY":-999,
         "unit":"FEET"
      },
      "tagVendorData":null,
      "bleTagInfo":null,
      "locComputeType":"RSSI",
      "manufacturer":"Cisco Systems, Inc",
      "maxDetectedRssi":{
```

```
            "apMacAddress":"b0:8b:cf:54:5c:80",
            "band":"IEEE_802_11_A",
            "slot":1,
            "rssi":-64,
            "antennaIndex":0,
            "lastHeardInSeconds":106
         },
         "hierarchyDetails":{
            "campusParents":null,
            "campus":{
               "id":"1617954166291",
               "name":"System Campus"
            },
            "building":{
               "id":"727001524986708011",
               "name":"WLC-244-43"
            },
            "floor":{
               "id":"727001524986708012",
               "name":"WLC-244-43-F1"
            },
            "zones":null
         },
         "rssiEntries":[
            {
               "apMacAddress":"b0:8b:cf:54:5c:80",
               "band":"IEEE_802_11_A",
               "slot":1,
               "antennaIndex":0,
               "rssi":-64,
               "lastHeardSecs":106
            }, …….
         ],
         "timestamp":1621419005160,
         "sourceNotification":"127.0.0.1",
         "sourceNotificationKey":"127.0.0.1,3",
         "notificationTime":"1621419005175",
         "macAddress":"2c:57:41:89:99:cf"
      }
```


API History

Table 96: API History

Release	Modification
Cisco CMX Release 10.4	This API is introduced.
Cisco CMX Release 10.6.3	This command was modified to support V3.

Active Tags V3 API

GET: All Tags

Description

This API returns all tags.

HTTP Method

GET

Resource URI

/api/location/v3/tags

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output (JSON)


```
{
      "notificationType":"locationupdate",
      "subscriptionName":"CMX_Api_Server_Notification_1",
      "eventId":7767626,
      "locationMapHierarchy":"System Campus>WLC-244-43>WLC-244-43-F1",
      "locationCoordinate":{
         "x":52.245846,
         "y":80.56613,
         "z":0,
         "unit":"FEET"
      },
      "geoCoordinate":{
         "latitude":-999,
         "longitude":-999,
         "unit":"DEGREES"
      },
      "confidenceFactor":32,
      "apMacAddress":"NOT APPLICABLE",
      "associated":false,
      "username":"NOT APPLICABLE",
      "ipAddress":[
         "NOT APPLICABLE"
      ],
      "ssid":"NOT APPLICABLE",
      "band":"NOT APPLICABLE",
```

```
   "floorId":"727001524986708012",
   "entity":"TAGS",
   "deviceId":"00:0c:cc:0b:bd:e9",
   "lastSeen":"2021-05-19T02:44:19.153-0700",
   "rawLocation":{
      "rawX":-999,
      "rawY":-999,
      "unit":"FEET"
   },
   "tagVendorData":{
      "vendorId":3276,
      "elementId":0,
      "data":"AAATAA==",
      "lastReceivedTime":"2021-05-19T02:44:17.046-0700",
      "lastReceivedSeqNum":3999
   },
   "bleTagInfo":null,
   "locComputeType":"RSSI",
   "manufacturer":"Aeroscout Ltd.",
   "maxDetectedRssi":{
      "apMacAddress":"00:ee:ab:18:f0:40",
      "band":"IEEE_802_11_B",
      "slot":0,
      "rssi":-33,
      "antennaIndex":0,
      "lastHeardInSeconds":4
   },
   "hierarchyDetails":{
      "campusParents":null,
      "campus":{
         "id":"1617954166291",
         "name":"System Campus"
      },
      "building":{
         "id":"727001524986708011",
         "name":"WLC-244-43"
      },
      "floor":{
         "id":"727001524986708012",
         "name":"WLC-244-43-F1"
      },
      "zones":null
   },
   "rssiEntries":[
      {
         "apMacAddress":"00:ee:ab:18:f0:40",
         "band":"IEEE_802_11_B",
         "slot":0,
         "antennaIndex":0,
         "rssi":-33,
         "lastHeardSecs":4
      }, ……..
   ],
   "timestamp":1621417459153,
   "sourceNotification":"127.0.0.1",
   "sourceNotificationKey":"127.0.0.1,1",
   "notificationTime":"1621417459158",
   "macAddress":"00:0c:cc:0b:bd:e9"
}
```

GET: Active RFID Tags Count

Description

This API returns active RFID tags count.

HTTP Method

GET

Resource URI

/api/location/v3/tags/count

Requires OAuth

N

Parameters

None.

Content Type

application/json

Sample Output

```
{
    "totalCount": 6
}
```