



Cisco Kinetic for Cities Troubleshooting Reference Guide

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CHAPTER 1

API Gateway Issues

Few issues which are frequently faced in API Gateway component are listed below.

- [Frequent Issues, on page 1](#)

Frequent Issues

1. User Account Is Locked

Symptom	User account is locked, user is not able to log in to the dashboard application.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ol style="list-style-type: none">1. User has made more than 3 consecutive unsuccessful attempts to login.2. WSO2 High Availability cluster is not working.3. Mediation Policy not uploaded at tenant level correctly.
Troubleshooting	<p>Perform following steps to unlock the user account:</p> <ul style="list-style-type: none">• Wait for 15 min for the user to get unlocked automatically. If it does not, then follow the below mentioned steps to unlock the user manually.• Login into Identity server console as Carbon admin user and as well as tenant admin user and Edit 'Account Locked' claim available under http://wso2.org/claims.• Select the check box 'Supported by Default'. <p>Or, unlock user account through user profile.</p> <ol style="list-style-type: none">a) Go to Home > Identity > Users and Roles > List> User >b) Once user account is locked, search the user under 'User and Roles' List and click on User.c) 'Enter user name pattern (* for all)' for the user which needs to be unlocked, click on 'User Profile'.d) Uncheck the 'Account Locked' and click on update. <p>Now the user account is unlocked.</p>
Verification	Login into dashboard should be successful

Post Verification	<p>If the issue is with any CKC component and not with configuration, please raise CDETS/BEMS/TAC.</p> <ol style="list-style-type: none"> 1.Take backup of logs / errors in WSO2 server (/wso2am-apim/repository/wso2carbon.log). 2.Take any screenshots (in case of issues seen in Dashboard) 3.Take API request/response - in case of API issues <p>Raise CDETS with above details.</p>
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2. Admin Locked Notification

Symptom	Admin user is not able to login into dashboard and no notification email for the account lock is received.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	Admin user/Devops admin email id has not been set under user profile while setting up the environment
Troubleshooting	<p>To enable email notification when admin gets locked, perform the following steps:</p> <ul style="list-style-type: none"> • Login into IS Console with admin/admin credentials. • Go to Home > Identity > Users and Roles > List> User • Update User Profile with recipient group email id and First Name (mandatory fields). • In future when admin user gets locked, the group will get notification via email. <p>For admin user account lock period is 2 min.</p>
Verification	<ul style="list-style-type: none"> • Try to login into dashboard when the admin account is locked. • Verify that an email notification for locked account is received.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC</p> <ol style="list-style-type: none"> 1.Take backup of logs / errors in wso2 server (/wso2am-apim/repository/wso2carbon.log). 2.Take any screenshots (in case of issues seen in Dashboard) 3.Take API request/response - in case of API issues <p>Raise CDETS with above details.</p>

3. Updating User Details

Symptom	Supertenant admin user is not able to login into dashboard and not getting any notification email for the same.
Environment	Can occur in any of the QA or Production environment.

Possible Causes	User profile is not updated.
Troubleshooting	<p>If user is created through WSO2 IS Carbon Portal,</p> <ul style="list-style-type: none"> • Login to Dashboard application and update Name, Phone no. and email fields. <p>If user is created through WSO2 IS in supertenant role,</p> <ul style="list-style-type: none"> • Click Users and Roles > List. • Click on user profile link. • Update First name, Email and Mobile details.
Verification	Supertenant admin or admin should be able to login into dashboard successfully and receive email notifications.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC</p> <ol style="list-style-type: none"> 1. Take backup of logs / errors in wso2 server (/wso2am-apim/repository/wso2carbon.log). 2. Take any screenshots (in case of issues seen in Dashboard) 3. Take API request/response - in case of API issues <p>Raise CDETS with above details.</p>

4. Error in Logs

Symptom	<p>In High Availability cluster, following error is seen in APIM:</p> <pre>[2019-02-18 13:20:33,321] ERROR - KeyTemplateRetriever Exception when retrieving throttling data from remote endpoint. Unexpected character (<) at position 0. at org.json.simple.parser.Yylex.yylex(Unknown Source) at org.json.simple.parser.JSONParser.nextToken(Unknown Source) ----- Exception in thread "Timer-6" java.lang.NullPointerException at java.util.Objects.requireNonNull(Objects.java:203) at java.util.Arrays\$ArrayList.<init>(Arrays.java:3813) at java.util.Arrays.asList(Arrays.java:3800) ----- Exception in thread "Timer-5" com.google.gson.JsonSyntaxException: java.lang.IllegalStateException: Expected BEGIN_OBJECT but was STRING at line 1 column 1 path \$ at com.google.gson.internal.bind.ReflectiveTypeAdapterFactory\$Adapter.read (ReflectiveTypeAdapterFactory.java:224) at com.google.gson.Gson.fromJson(Gson.java:887)</pre>
Environment	Can occur in any of the QA or Production environment.
Possible Causes	User profile is not updated.
Troubleshooting	<p>If user is created through WSO2 IS Carbon Portal,</p> <ul style="list-style-type: none"> • Login to Dashboard application and update Name, Phone no. and email fields. <p>If user is created through WSO2 IS in supertenant role,</p>

	<ul style="list-style-type: none"> • Click Users and Roles > List. • Click on user profile link. • Update First name, Email and Mobile details.
Verification	Supertenant admin or admin should be able to login into dashboard successfully and receive email notifications.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC</p> <ol style="list-style-type: none"> 1. Take backup of logs / errors in wso2 server (/wso2am-apim/repository/wso2carbon.log). 2. Take any screenshots (in case of issues seen in Dashboard) 3. Take API request/response - in case of API issues <p>Raise CDETS with above details.</p>



CHAPTER 2

Platform Services Issues

Following are few frequent issues observed in the Platform Services component of the Cisco Kinetic for Cities.

- [Frequent Issues, on page 5](#)
- [Activiti and SOP Issues, on page 21](#)

Frequent Issues

1. Dashboard Log in Failure

Symptom	Dashboard Log in Fails.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ol style="list-style-type: none">1. Proxy server might be down.2. WSO2_IS might be down.3. Certificate might have expired.4. Any dependent service has stopped working.
Troubleshooting	<ol style="list-style-type: none">a. Check token API, customer API , login API and accounts API.<ol style="list-style-type: none">I. <code>https://<IP>:<port>/token</code>II. <code>https://<APIM_IP>:<port>/t/<tenant.com>/cdp/v1/capabilities/customer</code>III. <code>https://<APIM_IP>:<port>/t/<tenant.com>/cdp/v1/accounts/user/login</code>IV. <code>https://<APIM_IP>:<port>/t/<tenant.com>/cdp/v1/accounts/</code>b. Easy way to check above 4 API status in browser is as follows:<ul style="list-style-type: none">-Open developer tool.-Click on “Network” tab and-Try to login again in dashboard, if any of the above 4 API is failing, click on response tab and check for the response.c. If API response code is 404, check swagger in API publisher. Login to publisher with “tenantapiadmin” and click on edit API, bottom of the page, all API path are defined. Search for “login” and “customer” API.

- d. If response code is 502, check for API redirection in proxy.
- e. If response code is 500, check WSO2 APIM log, if error not found check UM log for login API.
- f. In case of customer API failure, check KM log for error.
- g. In case of Token API failure, check the IDM logs for error.
- h. In case of Accounts API failure, check the UM logs for error.
- i. If error shows SSL certificate issue, please check certificate expiry.
- j. If certificate has not expired, check certificate shared between the components.

To check/verify above API, perform the following steps.

- Generate token for the same tenant API admin user using below API

Description : This API is used to generate the token for particular user.

URL : `https://<IP>:<port>/token`

Parameter:

`client_id: <client_id>`

`client_secret: <client_secret>`

`username: <username@tenant.com>`

`password: <password>`

`grant_type: password`

Header:

`content-type: application/x-www-form-urlencoded`

Method : POST

Response body:

```
{
  "access_token": "f8871495-2ab8-37ac-b3bd-082c9b4a998c",
  "refresh_token": "da460cc7-6b22-3731-8ee1-a29f42da3f9d",
  "scope": "default",
  "token_type": "Bearer",
  "expires_in": 3278
}
```

- Call login API by providing the “access_token” in the below API.

Description : This API will return user details

Method : GET

URL : `https://<APIM_IP>:<port>/t/<tenant.com>/cdp/v1/accounts/user/login`

Header:

Authorization: Bearer <token>

Response body :

```
{
  "id": "d163e7eb-ef00-43fb-a2e6-2226bcd4cc67",
  "userName": "newadmin",
}
```

```

"tenant": "ust.com",
"createdOn": "2018-03-06T11:31:53.000Z",
"updatedOn": "2018-04-11T09:59:58.000Z",
"state": "ACTIVE",
"groupNames": [
  "CDP_OPERATOR",
  "CDP_ADMIN",
  "admin"
]
}

```

- Call login API by providing the “access_token” in below API

Description : This API used for getting the associated domain and locations.

URL : https://<APIM_IP>:<port>/t/<tenant.com>/cdp/v1/capabilities/customer

Header:

Authorization: Bearer <token>

Method: GET

Response Body:

```

{
  "accountId": "5767e9e8-eede-4139-bf49-80f92cb670e4",
  "tenantId": "poland.com",
  "userName": "devop",
  "domains": [
    {
      "domainName": "Parking",
      "permission": [
        "read",
        "write"
      ]
    },
    {
      "domainName": "Mobility",
      "permission": [
        "read",
        "write"
      ]
    },
    {
      "domainName": "Environment",
      "permission": [
        "read",
        "write"
      ]
    },
    {
      "domainName": "Lighting",
      "permission": [
        "read",
        "write"
      ]
    }
  ],
  "locations": {
    "locationId": 10000,
    "locationName": "Root",
    "locationTypeId": 10000,
    "locationTypeName": "Root",
    "root": true,

```

	<pre> "childrenCount": 70, "children": [{ "locationId": 10005, "locationName": "update", "locationTypeId": 10010, "locationTypeName": "Country", "root": false, "childrenCount": 0, "tenantId": "poland.com" }, { "locationId": 10006, "locationName": "Canada1", "locationTypeId": 10010, "locationTypeName": "Country", "root": false, "childrenCount": 0, "tenantId": "poland.com" }, { "locationId": 10007, "locationName": "shimoga updated", "locationTypeId": 10010, "locationTypeName": "Country", "root": false, "childrenCount": 0, "tenantId": "poland.com" }] } </pre> <p>- If any API is not responding as expected, please check for the log in UM and KM service and if any error/exception, send it to development team.</p>
Verification	Login into dashboard should be successful
Post Verification	<p>If the issue is with any CKC component and not with configuration, please raise CDETS/BEMS/TAC.</p> <ol style="list-style-type: none"> 1. Take the screenshot (in case of issues seen on the Dashboard) 2. Capture API request/response - in case of API issues <p>Raise CDETS with above details.</p>

2. Dashboard Automatic Logout

Symptom	Dashboard automatically logs out every 1 min.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	User details has not synced with Device engine from User Management.
Troubleshooting	<ol style="list-style-type: none"> a. Check Device Engine User sync. b. Curl to find user in Device Engine (DE). <pre> curl -X POST \ https://DE_NB_HOSTNAME:PORT//fid-Authentication \ -H 'Content-Type: application/json' \ </pre>

```
-H 'Postman-Token: 1c4acf5c-5414-477f-a56e-1441e7a1e1b1' \
-H 'cache-control: no-cache' \
-d '{
  "Query": {
    "Find": {
      "User": {
        "sid": { "ne": "" }
      }
    }
  }
}'
```

c. Find the user in the response. If user does not exist, please run user sync in DE and check if this resolves the problem. If yes, post resolution and verification raise a CDETS/TAC.

d. If user exists, check location associated with that user.

e. Curl to find location of the user in DE

```
curl -X POST \
https://COMPONENT_HOST:COMPONENT_PORT/fid-Authentication \
-H 'Content-Type: application/json' \
-H 'Postman-Token: 71705792-4018-4454-a19c-5dff71e0a958' \
-H 'cache-control: no-cache' \
-d '{
  "Query": {
    "Find": {
      "UserLocationAssociation": {
        "userKeySid": { "ne": "" }
      }
    }
  }
}'
```

f. Find the user id in response and check associated locations, if not found, follow step k.

g. If location found, check domain associated with user.

h. Curl to find domain in DE

```
curl -X POST \
https://COMPONENT_HOST:COMPONENT_PORT/fid-Authentication \
-H 'AppKey: CDP-App' \
-H 'Content-Type: application/json' \
-H 'Postman-Token: d1bb0ef0-374d-4144-8bae-7a7a274aa058' \
-H 'SensorCustomerKey: 500900' \
-H 'UserKey: 501150' \
-H 'cache-control: no-cache' \
-d '{
  "Query": {
    "Find": {
      "UserDomainAssociation": {
        "sid": { "ne": "" }
      }
    }
  }
}'
```

i. Search user id and check domain association, if not found, please assign domain to the associated group in Key Management.

	<p>j. If domain is found, still not getting sensors, please contact DE team.</p> <p>k. To sync location without sync script in DB, Go to Dashboard select user and update group or location, user, location and domain will automatically sync with DE.</p>
Verification	<p>Login into the Dashboard.</p> <p>Wait for more than 2 min.</p> <p>User should remain logged in.</p>
Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.

3. All calls to Location API Fail

Symptom	All calls to Location APIs fail.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ol style="list-style-type: none"> 1. Proxy server might be down. 2. WSO2_IS might down. 3. Certificate might have expired. 4. Core module might have got disconnected from the cluster. 5. Mongo DB might be down. 6. Location service might be down.
Troubleshooting	<ol style="list-style-type: none"> a. Check if Location service is running b. If response code is 502, check proxy server redirections. c. Log in to the dashboard application and go to the Platform health page to see the component status. <p>If the issue still persists, check for the logs in Location service under logs folder. If any error/exception is seen, contact the dev team.</p>
Verification	Location API should work fine.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <ol style="list-style-type: none"> a) Take any screenshots (in case of issues seen on Dashboard) b) Capture API request/response – in case of API issues. <p>Raise CDETS with above details.</p>

4. Slow Response Time for Location API

Symptom	The response time of API increases with the increase in number of locations.
Environment	Can occur in any of the QA or Production environment.

Possible Causes	Memory issue in the machine where WSO2 and Core services are running.
Troubleshooting	<p>a. If all location API is responding very slow, check for total count of locations, because if number of locations is more, API will take time to respond.</p> <p>b.If location count is not more than 100, please check the location service machine RAM memory, if memory is less, than all location API will take time to respond.</p> <p>Reach out to the dev team.</p>
Verification	Location API should respond within 5 seconds .
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in Location Management (/script/locations_log.log).</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

5. Account API Response Time is Slow

Symptom	In dashboard all accounts/users do not load.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<p>1. If more than 300 users exist in LDAP, it will make accounts API slow.</p> <p>2. If RAM memory is less.</p>
Troubleshooting	<p>a. If accounts API is responding very slow, check for total count of accounts, because if accounts are more, API will take time to respond.</p> <p>b. If accounts count is not more than 300, check the accounts service machine RAM memory, if memory is less, than all API will take time to respond.</p> <p>Please contact the dev team.</p>
Verification	If issue occurred because of RAM memory, after memory is freed, API should respond within 30 seconds.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in Location Management (/script/locations_log.log).</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

6. API response code is HTTP 404

Symptom	API responds with response code 404 or not found or no matching resource found.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ol style="list-style-type: none"> 1. In WSO2 API manager, swagger file missed or wrong swagger file is updated. 2. Issue with redirections in proxy server.
Troubleshooting	<ol style="list-style-type: none"> a. Verify if API is published in WSO2 and subscribed. b. If published and subscribed, check the API complete path in swagger as mentioned below <ul style="list-style-type: none"> - Go to publisher, click on API edit button, on the first page, you can observe all API path. c. If API path does not exist, check in the swagger file. <p>Swagger file path</p> <p>WSO2_IS_5.7andAPIM_2.6_FRESH_SETUP\WSO2_configfile\Swagger\4.2_Swagger\Common_API</p> <p>API CONTEXT - cdp/{version}/tenants/users swagger_file - tenants_users.json</p> <p>API CONTEXT - cdp/{version}/validate swagger_file - validate.json</p> <p>API CONTEXT - cdp/{version}/counts swagger_file - counts.json</p> <p>API CONTEXT - cdp/{version}/locations/hierarchy/users swagger_file - locations_hierarchy_users.json</p> <p>API CONTEXT - cdp/{version}/accounts/userlist swagger_file - accounts_userList.json</p> <p>API CONTEXT - cdp/{version}/changepassword swagger_file - changepassword.json</p> <p>API CONTEXT - cdp/{version}/forgotpassword swagger_file - forgotpassword.json</p> <p>API CONTEXT - cdp/{version}/activiti swagger_file - activiti.json</p> <p>API CONTEXT - cdp/{version}/token/verify swagger_file - Token_verify.json</p> <p>Below swagger file path</p> <p>WSO2_IS_5.7andAPIM_2.6_FRESH_SETUP\WSO2_configfile\Swagger\4.2_Swagger\</p>

	/cdp/{version} All_API_Swagger.json
Verification	API should work as expected.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in WSO2 APIM (/<APIM_HOME>/repository/logs/wso2carbon.log).).</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

7. Call to any API Fails

Symptom	If API is responding with response code 404 or 500 or 502 or 503 or other http code other than 200 and 202
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ol style="list-style-type: none"> 1. Proxy server is down. 2. Internal server error has occurred. 3. Core service is not running or not in cluster. 4. Time-Series Data Engine, or Real-Time/Device Engine services are down. 5. API is not published in WSO2 publisher 6. Not subscribed to published API in WSO2 store application.
Troubleshooting	<ol style="list-style-type: none"> a. Check if API is published in WSO2 and subscribed. b. Check the redirection in required proxy servers. c. If above steps are fine, check if all the dependent services are running, if any error/exception is found, send the logs to the dev team.
Verification	API should work as expected.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in WSO2 APIM (/<APIM_HOME>/repository/logs/wso2carbon.log).).</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

8. Sensors Not Appearing on the Dashboard

Symptom	Sensors are not seen on the dashboard.
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Environment	Can occur in any of the QA or Production environment.
Possible Causes	The logged in user's role has not been assigned any domain in the Key Management portal. URL for KM : https:<KM_IP>:<PORT>/sdp_km
Troubleshooting	<p>a. Check assigned group for logged in user using below API. API: /cdp/v1/accounts/{accountId}</p> <p>b. Login to KM as “devops” user and select each “Role” and check if required domain is assigned or not. If not assigned, assign required domain to get sensors on the dashboard.</p> <p>c. If assigned, open developer tool and click on “Network” tab in browser and refresh the page. On refreshing the page, “Network” tab will show all called API, search for “customer” API (/t/<tenant_name>/cdp/v1/capabilities/customer), click on response tab and check for required domain name in response content.</p> <p>d. Check if the DE API is working. if not, please contact the dev team.</p>
Verification	On logging into the dashboard application, all the required sensors should be seen.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in WSO2 APIM (/<DEVICE_HOME>/logs/deviceengine.log)</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

9. User Deletion Fails

Symptom	<p>Delete or offboard user API (/cdp/v1/accounts/offboard/{accountId}) does not allow to delete the user, and shows message as below</p> <pre>{ "errorCode": "USER-0007", "message": "Please verify if this is the only user in its groups.", "description": "Error in deleting user: testdelete" }</pre>
Environment	Can occur in any of the QA or Production environment.
Possible Causes	If user is assigned to any group and that group has only one user, in this case, user cannot be deleted (Group cannot exist without any user, at least one user should exist in a group).
Troubleshooting	Please assign one more user to that group and delete the first user.
Verification	User should get deleted from the User Management.

Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.
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10. Slow Response Time for All the APIs

Symptom	Dasboard login is very slow.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	Processor consuming more than 90% in WSO2 or respective service. Memory consuming 100% in WSO2 or respective service.
Troubleshooting	<p>a. Check the APIM and IDM machine memory, if memory is enough, check memory of all core machine.</p> <p>b. If memory is not an issue, verify the CPU consumption. If CPU consumption is more, then verify which process is has more CPU usage.</p> <p>c. If memory and CPU is fine in all machines, check for environment issues.</p> <p>d. Open the developer tool and click on “Network” tab in browser. find out the API which is taking the longest response time.</p> <p>e. In order to validate the API, prepare a CURL and try to access from reverse proxy.</p> <p>f. If API response is slow, change IP and port with API manager proxy and hit the API.</p> <p>g. If API is slow, then change IP and Port of backend component. Here you may get error in response, but if response is slow, than check environment issues like RAM, CPU usage.</p> <p>h. If API response is as expected, check for environment issue in any of the previous component.</p>
Verification	API should respond within 5 seconds.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in WSO2 or respective service.</p> <p>b) Take any screenshots (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

11. Connectivity Issue with DB

Symptom	Login failure to dashboard / API not working.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	1. DB service is down.

	2. Port is closed. 3. Authentication issue. 4. Calling service IP not allowed to connect DB.
Troubleshooting	a. Please check that DB service is running and port is opened. b. If DB service has stopped, please start service and open the port.
Verification	Failed API response should show proper response data.
Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC. a) Take backup of logs / errors in respective service. b) Take any screenshot (in case of issues seen on Dashboard) b) Capture API request/response – in case of API issues. Raise CDETS with above details.

12. Intermittent Dashboard Login Issue

Symptom	Dashboard login works intermittently.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	1. API response is slow. 2. Token API, customer API and login API taking long time to respond
Troubleshooting	a. If APIs are responding slowly, please refer Response Time of All APIs Is Slow. b. If APIs are working one time and failing another time, try to call API with direct WSO2 APIM IP and PORT. c. If issues persists, try to call API with core machine proxy once and without proxy once. d. If API working fine in step c, try to call API with load balancer (in prod).
Verification	Login to Dashboard works everytime.
Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC. a) Take backup of logs / errors in respective service. b) Take any screenshot (in case of issues seen on Dashboard) b) Capture API request/response – in case of API issues. Raise CDETS with above details.

13. Email Issue in New User Creation

Symptom	New user does not receive email to reset password.
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Environment	Can occur in any of the QA or Production environment.
Possible Causes	<p>1. Email notification is not enabled in WSO2 IS carbon portal. (<a href="https://<WSO2_IS_HOSTNAME>:<PORT>/carbon">https://<WSO2_IS_HOSTNAME>:<PORT>/carbon)</p> <p>2. SMTP detail is wrong.</p> <p>3. Email ID provided while onboarding is incorrect.</p>
Troubleshooting	<p>a. Login to IDM (carbon) with tenant admin user, click on main tab in left side vertical menu.</p> <p>b. Go to Identity Providers -> Resident -> Account Management Policies -> Account Recovery.</p> <p>c. Check if “Enable Notification Based Password Recovery” check box is enabled.</p> <p>d. If not, enable to get mail on user creation.</p> <p>e. If above steps are fine, check for WSO2 IDM configuration as below.</p> <p>f. Open IS_HOME/repository/conf/axis2/axis2.xml for the following entry details.</p> <pre> <transportSender name="mailto" class="org.apache.axis2.transport.mail.MailTransportSender"> <property key="mail.smtp.from"><user>@<host>.com</property> <property key="mail.smtp.user"><username>@hostname.com</property> <property key="mail.smtp.password"><password></property> <property key="mail.smtp.host"><smtp_host></property> <property key="mail.smtp.port"><SMTP_PORT></property> <property key="mail.smtp.starttls.enable">true</property> <property key="mail.smtp.auth">true</property> </transportSender> </pre> <p>g. If above configuration is fine, open IS_HOME/repository/conf/output-event-adapters.xml and check smtp details</p> <pre> <adapterConfig type="email"> <!-- Comment mail.smtp.user and mail.smtp.password properties to support connecting SMTP servers which use trust based authentication rather username/password authentication --> <property key="mail.smtp.from"><user>@<host>.com</property> <property key="mail.smtp.user"><username></property> <property key="mail.smtp.password"><password></property> <property key="mail.smtp.host"><smtp_host></property> <property key="mail.smtp.port"><SMTP_PORT></property> <property key="mail.smtp.starttls.enable">true</property> <property key="mail.smtp.auth">true</property> <!-- Thread Pool Related Properties --> <property key="minThread">8</property> <property key="maxThread">100</property> <property key="keepAliveTimeInMillis">20000</property> <property key="jobQueueSize">10000</property> </adapterConfig> </pre>
Verification	After onboarding, new user should get password reset mail.
Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.

	a) Take backup of logs / errors in WSO2 service. b) Take any screenshot (in case of issues seen on Dashboard) b) Capture API request/response – in case of API issues. Raise CDETS with above details.
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14. Password Issue

Symptom	While changing the user password, system accepts any one of the last 10 passwords.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	Password History Feature is not set.
Troubleshooting	a) Go to Identity Providers -> Resident -> Password Policies -> Password History. b) Check if “Enable Password History Feature” check box is enabled. c) Check if “Password History validation count” value is set as 10. d) If not set, enable the same.
Verification	Change user password in the Dashboard application, system should not accept user’s last 10 password as the new password.
Post Verification	Not applicable as it is a configurational issue.

15. Mediation Policy Error

Symptom	API response is an XML showing Mediation Policy error
Environment	Can occur in any of the QA or Production environment.
Possible Causes	1. “Password change time” claim not added in wso2 IS carbon. 2. WSO2 IS server is down. 3. RBAC policy not added in wso2 IS carbon
Troubleshooting	If you find mediation policy error in API response, Please perform following steps: <ul style="list-style-type: none"> • Check “Password change time” claim in IDM. • Login to IDM to check claim details by tenant admin. • Go to Claims -> List -> http://wso2.org/claims. • Search for “Password change time” claim. • Open claim and check “Mapping Attribute” it should be “passwordTimestamp”. • Also check “cdpMediationPolicy.xml” file under “<WSO2_APIM>/repository/tenants/<tenant_id(number)>/synapse-configs/default/sequences”.

	<p>If everything is fine, please check below points.</p> <ul style="list-style-type: none"> • Check WSO2 IS is up and working fine. • Check whether RBAC policy is applied or not.
Verification	ALL tenant API should work fine with correct response.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in WSO2 APIM. (<WSO2_APIM_HOME>/repository/logs/wso2carbon.log)</p> <p>b) Take any screenshot (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

16. Core vert.x issue with error -1

Symptom	API response is very slow or responds with the following message "Please contact Administrator".
Environment	Can occur in any of the QA or Production environment.
Possible Causes	Services are out of the cluster.
Troubleshooting	<p>Check Location service and Key management logs, if you find log as follows "handler not found".</p> <p>a) Take backup of logs / errors in Location(/script/logs/locations_log.log) and Key Management (/script/logs/ km_log.log)</p> <p>b) Take any screenshots (in case of issues seen in Dashboard)</p> <p>c) Take API request/response – in case of API issues</p> <p>Restart the corresponding core.</p>
Verification	All API should respond with proper data, without any error code.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.</p> <p>a) Take backup of logs / errors in Location service (/script/logs/km_log.log)</p> <p>b) Take any screenshot (in case of issues seen on Dashboard)</p> <p>b) Capture API request/response – in case of API issues.</p> <p>Raise CDETS with above details.</p>

17. All Ports in DMZ Close on Machine Restart

Symptom	API stops working, WSO2 portal also stops working.
Environment	Can occur in any of the QA or Production environment.

Possible Causes	All Ports in DMZ have closed upon machine restart.
Troubleshooting	<ul style="list-style-type: none"> • If machine has been restarted, please open required ports in WSO2 IDM, APIM and in core, if not open. • Port list: <ul style="list-style-type: none"> o IDM port: 9445 o APIM port: 9443, 8243, 8280. o PostgreSQL port: 5432 (default) o Mongo port: 27017 (default) o RabbitMQ port: 5672 (default) o Core port: UM, LM, KM, Audit and activity port are mentioned in the corresponding property file, also open cluster port in each core property file.
Verification	<p>All API should work fine.</p> <p>Login to Dashboard should be successful.</p>
Post Verification	If any CKC component issue other than configuration and port issue, please raise CDETS/BEMS/TAC.

18. Core API Failing Intermittently.

Symptom	Core API responding with unauthorized (401) response code intermittently.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	Machine times are not in sync.
Troubleshooting	<p>a. Verify the WSO2 Identity server machine time, WSO2 API manager machine time and OpenLdap machine time. All three-machine time should be same or in sync.</p> <p>b. If any one of the machine time is not in sync, please sync its time with all the other machines.</p> <p>c. Restart is not required for this change</p>
Verification	All API should work fine.
Post Verification	If any CKC component issue other than configuration and time sync issue, please raise CDETS/BEMS/TAC.

19. Authorization Error Message from FND

Symptom	FND server is showing authorization error.
Environment	Can occur in any of the QA or Production environment.

Possible Causes	Necessary roles are not provided to the user in the CKC Network Service.
Troubleshooting	Assign "Northbound API" role to the user.
Verification	Authorization error should be resolved.
Post Verification	If any CKC component issue other than configuration and time sync issue, please raise CDETS/BEMS/TAC.

Activiti and SOP Issues

1. Activiti Process Deployment Failure in KM

Symptom	Activiti Process fails to get deployed and error message is seen on Key Management UI.
Environment	This is likely to occur in QA where self-signed certificate are used.
Possible Causes	Exception certificate is not added to the browser.
Troubleshooting	Open developer tool on browser, go to Network tab, try to upload and deploy again. Copy the URL to next tab and hit enter, it will ask to add exception for the URL. Add exception for that URL, as it is WSO2 url, it will use self signed certificate.
Verification	On Key Management UI, click on "SOP" menu. On the right hand side, all deployed Activiti process get displayed.
Post Verification	Not applicable as configurational issue.

2. Mail and SMS Feature not working in SOP (Activiti)

Symptom	Recipients are not receiving Email or SMS.
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	Either Mail or SMS gateway details like URL, username and password are not provided or incorrect details are mentioned in the property file.
Troubleshooting	Check properties for mail and SMS in <i>application.properties</i> of Activiti service.
Verification	Once correct user details are provided, Mail or SMS should be sent to the concerned person. Server log should not display any error.

Post Verification	Not applicable as configurational issue.
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3. SOP Tab not visible on the Dashboard

Symptom	SOP tab is not visible on the Dashboard.
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	Authorization issue, or, proper role is not assigned to the user.
Troubleshooting	<ul style="list-style-type: none"> - Check the logged-in user's RBAC permission for SOP module. - Assign 'SOP' tab to the role.
Verification	Client should be able to see and access SOP tab.
Post Verification	Not applicable as configurational issue.

4. Workflows Not Available

Symptom	"No Workflows Available" message is displayed on the Dashboard
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	SOPs are not deployed or API call to get the list of Workflows is failing.
Troubleshooting	<ul style="list-style-type: none"> a. Check whether the service has started properly and also check all the properties in application property file is provided correctly. E.g. DB details b. Check the proxy redirection URLs to the service
Verification	Workflows should be visible under SOP tabs on the Dashboard.
Post Verification	<p>If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC</p> <ol style="list-style-type: none"> 1.Take backup of logs / errors in Activiti (/scripts/logs/activiti_log.log). 2.Take any screenshots (in case of issues seen on KM UI) 3.Take API request/response - in case of API issues <p>Raise CDETS with above details.</p>

5. Failure in Workflows Deployment

Symptom	New Workflows are not visible under SOP-Workflows tab on the Dashboard.
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	Incorrect XML file has been uploaded.
Troubleshooting	Check the SOP/Workflow XML file for any errors, if found any, correct it and deploy

Verification	Newly deployed Workflow should appear under Workflow tab on the Dashboard.
Post Verification	Not Applicable as it is an XML issue.

6. Specific SOP Not Working

Symptom	Instance does not appear under Logs tab instead appears under Error tab.
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	Incorrect configuration in property file (/script/application.properties)
Troubleshooting	Check whether all the required attribute values for the SOP is provided correctly. E.g. SMS URL and credentials, Email URL and credentials.
Verification	Instance should appear under Logs tab and not under Errors tab.
Post Verification	Not Applicable as it is a configuration issue.

7. Antivirus error while uploading Activiti process

Symptom	While uploading Activiti process, following error is observed on the UI “AntiVirus not able to connect”
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	ClamAV is not installed. /script/application.properties is not configured with proper IP/Hostname where ClamAV is installed.
Troubleshooting	Install ClamAV AntiVirus, if it is not installed. In /script/application.properties file, configure proper IP/Hostname with port. Enable AntiVirus scan property in /script/application.properties file.
Verification	User should be able to upload Activiti process successfully.
Post Verification	Not applicable as configurational issue.

8. SOP Not Getting Triggered Automatically

Symptom	SOP are not getting triggered automatically from the Dashboard.
Environment	Can occur in QA, Pre-production or Production.
Possible Causes	Websocket URL has an incorrect configuration. Websocket connectivity is failing.
Troubleshooting	1.Check Websocket connectivity using any Websocket client.

	<ol style="list-style-type: none">2. Cross-verify the URL in application.properties file.3. Go to the DB, check for websocket_audit table and verify if 'status' is set as 'true'.4. Enable Debug at logger level, verify that payload is received in the socket and search for "Websocket Message".
Verification	SOP should get triggered automatically.
Post Verification	If any CKC component issue other than configuration, please raise CDETS/BEMS/TAC.



CHAPTER 3

Dashboard Issues

Following are few frequent issues observed in the Dashboard component of the Cisco Kinetic for Cities.

- [Frequent Issues, on page 25](#)

Frequent Issues

1. Missing NPM Modules

Symptom	After running <code>install_cdp.sh</code> , check the 'Forever' logs. The logs do not show the 'loopback' module.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	While releasing a new build, Dashboard team has missed providing the NPM modules.
Troubleshooting	Dashboard team to provide the new build.
Verification	After deploying the newly provided build, check the 'Forever' logs.
Post Verification	Raise a CDETS/BEMS/TAC.

2. Forever Process Automatically Restarts

Symptom	Dashboard logs show the process getting restarted. Log in to Dashboard fails intermittently.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	While releasing a new build, Dashboard team has missed providing the NPM modules.
Troubleshooting	Dashboard team to provide the new build.
Verification	After deploying the newly provided build, check the 'Forever' logs.
Post Verification	Raise a CDETS/BEMS/TAC.

3. Nginx default file context path issues

Symptom	Log in to Dashboard shows status code 400 or 404.
Environment	All environments.
Possible Causes	Issue with conf_nginx.sh script.
Troubleshooting	Make sure Nginx default file is pointing to current deployed build path.
Verification	Log in to dashboard should be successful without any error code.
Post Verification	Not applicable as configurational issue

4. Mongo DB issues

Symptom	After deploying the build, Mongo DB error logs are getting logged in Forever logs/CDP server logs.
Environment	All environments.
Possible Causes	mongodb_config.json file has not been updated properly. Connectivity between Mongo DB and Dashboard is lost.
Troubleshooting	The Mongo config file to be cross-checked before running the install_cdp script. Connectivity with Mongo DB should be restored.
Verification	Check the 'Forever' process-id for stability.
Post Verification	Not applicable as configurational issue

5. Customer Registration Fails

Symptom	Error occurs while registering a customer in a Dashboard
Environment	All environments.
Possible Causes	1. Direct /token API is getting failed. 2. cdpgateway variable is not updated correctly in Nginx default file.
Troubleshooting	1. Check the API through WSO2. 2. Check API through Nginx. 3. If it fails, update Nginx config for locations /token and /t.
Verification	Check the customer registration process.
Post Verification	Not applicable as configurational issue

6. Login API Failure

Symptom	Log in to Dashboard fails.
Environment	All environments.
Possible Causes	<ol style="list-style-type: none"> 1. Direct /token API is getting failed. 2. cdpgateway variable is not updated correctly in Nginx default file. 3. User credentials are incorrect. 4. accounts/login API is getting failed. 5. Tenant customer is not registered in the Dashboard. 6. Check that user's role has tabs assigned to it.
Troubleshooting	<p>Check direct /token API once.</p> <p>Check API through Nginx</p> <p>If it fails, update nginx config for locations /token and /t and also update cdpgateway variable.</p>
Verification	Log in to Dashboard should be successful.
Post Verification	Not applicable as configurational issue

7. Devices API error

Symptom	Getting error in browser console for /devices API.
Environment	All environments.
Possible Causes	Direct Device Engine API Failing or through gateway /devices API failing.
Troubleshooting	<p>For 500 Internal Server Error, check the Real-Time Engine process and verify if any HProf is getting generated.</p> <p>If yes, then remove the HProf file and restart the process.</p> <p>For 401 Unauthorized Error, User sync needs to be done at Device Engine (DE) end to resolve the issue.</p>
Verification	Sensors should load on Map view and should be visible in the listview as well.
Post Verification	Raise a CDETS/BEMS/TAC for the DE team.

8. Region Creation Fails

Symptom	Error occurs while creating a region by admin on the dashboard application
Environment	All environments.

Possible Causes	Direct location post API (cdp/v1/locations) call is getting failed.
Troubleshooting	Check the direct post API (cdp/v1/locations).
Verification	Log in to Dashboard as an admin, create a region in regions tab. The region should get created successfully.
Post Verification	Raise a CDET/BEMS/TAC.

9. Nginx resolve IP Issue

Symptom	Error occurs while creating a region by admin on the dashboard application
Environment	All environments.
Possible Causes	Proxy redirection for Nginx is getting failed. Direct location post API (cdp/v1/locations) call is getting failed.
Troubleshooting	Verify that proxy redirection is correct. Reach out to core team, if the API is failing.
Verification	Log in to Dashboard as an admin, create a region in regions tab. The region should get created successfully.
Post Verification	Raise a CDET/BEMS/TAC.

10. Rewrite/ Proxy Pass in Nginx Issues

Symptom	1. Dashboard login fails. 2. Direct APIs starting with /t fail.
Environment	All environments.
Possible Causes	Nginx config is not updated properly.
Troubleshooting	Cross-check the rewrite directive rules in Nginx.
Verification	Log in to Dashboard should be successful.
Post Verification	Not applicable as configurational issue.

11. Failure in Enabling Fault Module

Symptom	Enabling or Disabling the Fault module is failing on the Dashboard.
Environment	All environments.
Possible Causes	Fault module feature is not enabled in the config file
Troubleshooting	Cimportal/deploy/config/config.json

	<p>“Features” : Copy the Default set and re-name to tenant name e.g. if tenant is “Poland.com” we have to use “Poland”</p> <pre> "default": { "enableRBAC":false, "enableFault": true, // Enable/Disable fault module "enableGISMaps":false, "enableAutomatedSop":false, "enableNonSensorAlerts":true, "autoZoomEnable":false, "loginRedirect":false, "environmentEvent":false, "enableSBHistoric":true } </pre>
Verification	Fault Module should be visible on the Map View when enabled in the config file.
Post Verification	Not applicable as configurational issue.

12. Environment Event Creation Failure

Symptom	Environment Event creation is failing for a tenant.
Environment	All environments.
Possible Causes	Environment event creation has not been enabled for the user.
Troubleshooting	<p>Cimportal/deploy/config/config.json</p> <p>“Features” : Copy the Default set and re-name to tenant name e.g. if tenant is “Poland.com” we have to use “Poland”</p> <pre> "default": { "enableRBAC":false, "enableFault": true, "enableGISMaps":false, "enableAutomatedSop":false, "enableNonSensorAlerts":true, "autoZoomEnable":false, "loginRedirect":false, "environmentEvent":false, // set to true/false "enableSBHistoric":true } </pre>
Verification	<p>Go to Events tab and try to create events for Environment module.</p> <p>Event should get created successfully.</p>
Post Verification	Not applicable as configurational issue.

13. Unable to See Parking Data

Symptom	Parking data not visible on the Dashboard, in spite of Device engine having the data.
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Environment	All environments.
Possible Causes	1. The logged-in user does not have the required location ID assigned to her. or 2. There is no "state" in each parking object.
Troubleshooting	Check for Location ID in the Device Engine API. The same Location ID should be assigned to the logged-in user. or Inspect the dashboard, go to console tab and type as follows: <code>ParkingModel.parkingDataObject</code> <code>ParkingModel.parkingDataObject.parkingspots</code> <code>ParkingModel.parkingDataObject.parkingspace</code> Please check if each object has "state" property present for all parking spots/spaces. Please get in touch with the Device Engine team in case of deviation from the above behavior.
Verification	Sensors should be visible on the Map View tab of the Dashboard.
Post Verification	Raise a CDET/BEMS/TAC

14. Crowd Data Count is 0

Symptom	Map View shows crowd data count as 0.
Environment	All environments.
Possible Causes	Pedestrians / Vehicles <i>DirTemporalMobilityStats</i> count is "0" in POMObj.
Troubleshooting	<ul style="list-style-type: none"> Inspect the dashboard, go to console tab and type as follows: Crowd count / Vehicle data Check for following: <code>CrowdModel.crowDataObject.POMObj</code> //Pedestrian <code>MobilityPOM.mobility.pedestrian.overallStatsId.temporalStatsId.DirTemporalMobilityStats</code> //Vehicle <code>MobilityPOM.mobility.vehicle.overallStatsId.temporalStatsId.DirTemporalMobilityStats</code> Check for each object count If count is 0, then check with DE team.
Verification	Crowd data count should not appear as 0 anymore.
Post Verification	Raise a BEMS/CDET/TAC.

15. Wi-Fi Data Count Is 0

Symptom	Map View shows Wi-Fi data count as 0.
Environment	All environments.
Possible Causes	Wi-Fi "DirTemporalMobilityStats" count is "0" in ROIObj
Troubleshooting	<ul style="list-style-type: none"> Inspect the dashboard, go to console tab and type as follows: <pre>Wi-Fi/Dwell time</pre> Check for following: <code>CrowdModel.crowDataObject.ROIObj</code> <pre>//Wi-Fi</pre> <pre>MobilityROI.mobility.personalDevice.overallStatsId.overallTemporalStatsId.DirT</pre> Check for each object count If count is 0, then check with DE team.
Verification	Wi-Fi data count should not appear as 0 anymore.
Post Verification	Raise a CDET/BEMS/TAC

16. New User Unable to Log in

Symptom	New user after creation is not able to log in to the dashboard.
Environment	All environments.
Possible Causes	Roles, and regions are not assigned to the User.
Troubleshooting	<ul style="list-style-type: none"> Check if roles and regions are assigned in Users tab. Log in as a sensor_customer. Go to Settings-> Customization->Assign Tabs Select Tabs to be assigned to the user. Click Update.
Verification	New user should be able to successfully log in to the Dashboard.
Post Verification	Not applicable as configurational issue.

17. Automatic Logging Out of the Dashboard

Symptom	Newly created user gets logged out of the Dashboard after logging in.
Environment	All environments.
Possible Causes	Auto sync of the users is not working. The user's role does not have domain assigned to it.

Troubleshooting	Get in touch with the Device Engine (DE) team, DE needs to sync the new users manually. Login to KM and assign domain to the logged-in user's role.
Verification	Log in to the dashboard as a new user should be successful.
Post Verification	Raise a CDET/BEMS/TAC.

18. Inaccurate Environment Threshold Units

Symptom	Unit values showing high values on the Environment map
Environment	All environments.
Possible Causes	Provider is sending non-standard units.
Troubleshooting	Go to Settings → Advanced Settings → Environment → "Select Environment Item" → Select Units → Add Custom Units → Units, Label and Expression (formula) $(x/100)*20$ Apply on environment item (e.g. CO) units "PPM"
Verification	The units for Environment parameters should get displayed in standard units.
Post Verification	Not applicable as configurational issue.



CHAPTER 4

Extensions Issues

- [Frequent Issues, on page 33](#)

Frequent Issues

1. Dashboard and Provider Data Mismatch

Symptom	LastUpdate value is showing a date more than a day or two old.
Environment	Production environment.
Possible Causes	1. API is not working. 2. Device Engine(DE) is not responding to updates sent from Extension.(Huge cache DB size).
Troubleshooting	<ul style="list-style-type: none">• Check if Provider API is sending updated value and time. Contact Provider in case of discrepancy.• Check the extension logs for any errors in sync/updater processing. Need to be checked with extension team.• Check the Cache DB size. Purge the Cache DB.
Verification	Login into dashboard and verify if data is getting updated.
Post Verification	Not applicable

2. Events Not Coming from Provider (For PUSH based)

Symptom	Data not getting updated in Device Engine for PUSH/Callback extensions.
Environment	Production and QA environment.
Possible Causes	1. No events are coming from the provider. 2. Callback URL is not registered or not correctly redirected from Proxy server. 3. Port is closed.

	4. Streaming connection (websocket/phttp/mqtt/amqp etc.) is not stable or is in sleep state.
Troubleshooting	<ul style="list-style-type: none"> • Register or correct callback URL and check if events are coming at extension • Check the callbackInterface by sending Empty Post through postman or curl to callback URL. • Check the extension logs if any data is coming from Streaming API's. • If callback interface is not up at extension. Restart the extension process. • Make sure the proxy server settings are correct.
Verification	Data should start getting updated in Device Engine and Dashboard.
Post Verification	Not applicable

3. Extension Not Registered with DE

Symptom	Neither sync nor updater starts at extension.
Environment	Production and QA environment.
Possible Causes	1. Mismatch in providerInsName in createProvider and config file. 2. Provider not created in Device Engine. 3. Mentioned Device Engine Port is not correct in config file.
Troubleshooting	<ul style="list-style-type: none"> • Correct the providerinsname in config file or in Provider model in Device Engine. • Correct the DE details in config file.
Verification	Data should start getting updated in Device Engine and Dashboard. As soon as the Extension starts, DE registration success message should be seen in the Extension logs.
Post Verification	Not applicable

4. Update Notification Not Appearing on the Dashboard

Symptom	Sensor updates are occurring at DE end but notifications are not seen on the Dashboard.
Environment	Production and QA environment.
Possible Causes	Websocket connection DE and Dashboard is broken.
Troubleshooting	Check the Websocket connection using a third-party client like Web Socket client. If connection is open, and web socket notifications are being received, then check the dashboard. If not, then reach out to DE team.

Verification	Notification should start coming for sensor updates for Web socket clients and for the dashboard.
Post Verification	Raise a CDET/BEMS/TAC

5. Sensor(s) Not Visible on the Dashboard

Symptom	Sensors are present in Device Engine but not visible on the Dashboard Map View.
Environment	Production and QA environment.
Possible Causes	<ul style="list-style-type: none"> • GeoHash not populated for created Sensor(s). • Provider not sending correct coordinates. • Sensor coordinates falling out of created region on the dashboard. • The logged-in user is not synced into the system (location, domain access not provided to the user).
Troubleshooting	<ul style="list-style-type: none"> • If Geohash not populated for sensors at DE, check SDP or location server configuration in DE. • If Provider not sending correct coordinates, check with provider. • If Sensor coordinates falling out of created region on dashboard, expand the region boundary. • If user is not synced, run the user sync manually.
Verification	Sensors should start appearing on the dashboard.
Post Verification	Not applicable.

6. Creation of Duplicate Sensors

Symptom	Duplicate sensors are getting created at Device Engine.
Environment	Production environment.
Possible Causes	Provider recreated with wrong ProviderID and provider label.
Troubleshooting	<p>Identify the Old providerId, provider name. Delete and recreate provider with correct details.</p> <p>Delete the Duplicate sensors using normal deleteall query, on CIMUserQueryInterface on DE port.</p> <pre><DeleteAll> <ParkingSpot> <sid ne=""/> <providerDetails> <providerId>ProviderIDOfDuplicateSensors</providerId> <provider>ProviderNameOfDuplicateSensors</provider> </providerDetails></pre>

	<pre></ParkingSpot> </DeleteAll></pre> <p>Restart the Extension.</p>
Verification	Duplication of sensors should not occur after sync.
Post Verification	Not applicable.

7. Extension stopped running.

Symptom	Extension process has stopped running or hprof file has generated.
Environment	Production environment.
Possible Causes	<p>External command to stop extension process through configurator was executed but not started again.</p> <p>Hprof generated (running out of memory)</p>
Troubleshooting	<ul style="list-style-type: none"> • Check the logs for any external shutdown command from configurator. • Check exception (out of memory or GC overhead limit exceeded) error, or other exception in extension processing. • Collect the DE and extension logs and restart the extension process
Verification	Check if process is up and running as expected.
Post Verification	Raise a CDET/BEMS/TAC providing the logs.



CHAPTER 5

Time Series Data Engine Issues

- [Frequent Issues, on page 37](#)
- [Frequently Asked Questions, on page 46](#)

Frequent Issues

1. Empty HTTP API Response

Symptom	<p>HTTP API response is OK (status 200), but there is no data in the response.</p> <p>E.g. Getting an empty response for the below location URL:</p> <p>Token needs to be added at http header.</p> <p><code>https://<tenant.com>:<port>/dataeng/api/v1.0/config/location</code></p>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<p>There is no data in impala cimdata database, or locations are not loaded from SDP server.</p> <p>Edge-server.log</p> <pre>2018-06-27T07:05:25,212 INFO (pool-6-thread-1) [CimSDPServer(refresh:219)] source.SDPsServer.produs-ckc access token refreshed: 0433e389-c042-34d4-9a8e-38845a0d21a4 2018-06-27T07:05:25,777 WARN (pool-6-thread-1) [HttpClientImpl(handleResponse:330)] response code is: 401 2018-06-27T07:05:25,778 ERROR (pool-6-thread-1) [CimSDPServer(run:107)] source.SDPsServer.produs-ckc SDP refresh: query SDP location api: null</pre>
Troubleshooting	<ul style="list-style-type: none"> • Check SDP server status. <p>Otherwise, perform following steps.</p> <ul style="list-style-type: none"> • Check HBase table, if HBase table has data, it means data is missed during ETL job, get the workflow log and contact Data Engine team. • If HBase table is already mapped to cim database, user can query with impala SQL.

	<ul style="list-style-type: none"> • If HBase does not have the data, check Kafka with Kafka consumer (utility). If kafka has data, but HBase does not, it means Flume has not put the data into HBase. User should get all of flume agents logs and send to the Data Engine Team. <p>Note #data-01.novalocal is a Kafka broker hostname, 9092 is Kafka service port. This command #will output all Kafka messages, and only show messages containing your expected keyword.</p> <pre>Kafka-console-consumer --bootstrap-server data-01.novalocal:9092 --topic cim --from-beginning grep "your-keyword-here"</pre> <ul style="list-style-type: none"> • If Kafka does not have the data, then check edge-server.log in the Edge host. If there is any error, send to Data engine team. • If there is no error in the edge log, please check device engine http and websocket work status, to see if there is relevant data output. If not, please contact device engine/extension team.
Verification	Rerun HTTP API to check if data is coming.
Post Verification	If Core location server is in running state, but data engine still reports empty response for about an hour, raise CDETS for Data Engine.

2. HTTP API Response Login Failure Error

Symptom	<p>Login Failure</p> <p>E.g. Getting an empty response for the below location URL:</p> <pre>https://<tenant.com>:<port>/dataeng/api/v1.0/config/location</pre> <p>Internal server error: Login failure for hdfs@CIM.IVSG.AUTH from keytab /usr/local/cim/conf/hdfs.keytab</p>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<ul style="list-style-type: none"> • Network Failure • Kerberos auth failure. • CDH not in good health condition.
Troubleshooting	<ul style="list-style-type: none"> • Make sure Kerberos server is running, TCP & UDP port 88 are listening on, and opened in firewall <p>For other errors, perform the following steps.</p> <ul style="list-style-type: none"> • Test API again in Edge host <p>In AWS cluster, there is a web gateway between webserver in edge host and user browser. If API works in edge host, check the gateway status.</p> <ul style="list-style-type: none"> • Check SDP Server's connectivity. • Check edge-server.log. Refer Issue 9 <i>No route to Host</i>, if there is any similar issue, fix it. <p>For any other errors, send the logs to the Data Engine team</p>

	<ul style="list-style-type: none"> • Check Cloudera cluster health status, refer <i>What to do if many Services are in bad health ?</i> and <i>What to do if only one service is in bad health status?</i> in the FAQ section. • Check impala service with impala-shell. Check the SQL response time. SQL timeout would most likely be the root cause. Also, large quantity of small files would be the root cause of the SQL timeout. <p>Reach out to the Data Engine team in case of deviation from above mentioned behaviour.</p>
Verification	Rerun HTTP API to check if data is present in the response.
Post Verification	If not a network issue, raise a CDET for Data Engine.

3. HTTP API Location ID Error

Symptom	Data of the location id is not available. data of the location id not available:[location id]
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<ul style="list-style-type: none"> • Core location server not responding. • CDH cluster not in good health condition. • LocationID is not a valid one.
Troubleshooting	<ul style="list-style-type: none"> • Make sure locationId is a valid city id. • Check SDP server status refer issue 1. <i>Empty HTTP API Response</i>.
Verification	Rerun the location api to check the response.
Post Verification	If location server is running and location id is valid, data engine response with no location result. Check CDH status is fine, raise CDETS against data engine

4. HTTP API Response Tenant Details Error

Symptom	Tenant details not appearing in location API, post data engine registration.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<ul style="list-style-type: none"> • Core location server not responding. • CDH cluster not in good health condition. • LocationID is not a valid one.
Troubleshooting	<ul style="list-style-type: none"> • Make sure locationId is a valid city id. • Check SDP server status refer issue 1. <i>Empty HTTP API Response</i>.
Verification	Rerun the location api to check the response.

Post Verification	If location server is running, location id is valid and CDH status is fine, still data engine response has no location result then raise CDETS against data engine
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5. HTTP API Response Contains unreasonable data

Symptom	Percentage value is negative, or Average, Minimum, Maximum values are unreasonable.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<ul style="list-style-type: none"> • Ingestion of unreasonable data. • Invalid sensor counted in the data engine. • Data Engine ETL failure.
Troubleshooting	<ul style="list-style-type: none"> • Check data from HBase table: query from cim database with impala-shell. • If avg, min, max values are not reasonable, check the sensor count from impala-shell. • If raw data has negative values, check with Device Engine/Extension for data input issue. <p>Otherwise, send the API URL and raw data DB dump for that time period to the Data Engine team.</p>
Verification	If unreasonable data is in Raw Data Table, try TQL live to double confirm. If sensor count is not right, check the sensor status.
Post Verification	If Device Engine provides unreasonable data, raise CDETS for Device Engine. Check sensor status, if still no issue found, raise CDETS for Data Engine.

6. ETL Workflow is Stuck

Symptom	ETL workflow takes too long for completion, say, more than a day.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<p>If Data Engine runs V1.1.0.3rb1, Data engine will do small file merge periodically. It may cause Impala to get stuck.</p> <p>Impala memory shortage causes the query to get stuck.</p>
Troubleshooting	<p>If Data Engine runs V1.1.0.3rb1, upgrade data engine.</p> <p>for other versions, refer <i>How to check if Impala is stuck</i> in the FAQ section.</p>
Verification	<p>Open Cloudera Manager Web console -> Impala -> Queries:</p> <p>Check all query duration, it is expected that all queries would finish in 30 min.</p>

Post Verification	If Data Engine runs V1.1.0.4 and above, raise CDETS for Data Engine.
--------------------------	--

7. ETL Workflow is Killed

Symptom	ETL workflow does not finish successfully, ETL state: killed
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<p>This may be caused due to RSH issue, Port issue or HAProxy.</p> <p>RSH Issue Error Logs:</p> <pre>java.lang.Exception: Error in checking user& group for city cimdata from host data-01.novalocal at com.cisco.cim.oozie.action.CheckUserAction.main (CheckUserAction.java:53) at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method) at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:57) at sun.reflect.DelegatingMethodAccessorImpl.invoke (DelegatingMethodAccessorImpl.java:43) at java.lang.reflect.Method.invoke(Method.java:606) at org.apache.oozie.action.hadoop.JavaMain.run(JavaMain.java:55) at org.apache.oozie.action.hadoop.LauncherMain.run(LauncherMain.java:64) at org.apache.oozie.action.hadoop.JavaMain.main(JavaMain.java:35) at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method) at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:57) at sun.reflect.DelegatingMethodAccessorImpl.invoke (DelegatingMethodAccessorImpl.java:43) at java.lang.reflect.Method.invoke(Method.java:606) at org.apache.oozie.action.hadoop.LauncherMapper.map(LauncherMapper.java:234) at org.apache.hadoop.mapred.MapRunner.run(MapRunner.java:54) at org.apache.hadoop.mapred.MapTask.runOldMapper(MapTask.java:459) at org.apache.hadoop.mapred.MapTask.run(MapTask.java:343) at org.apache.hadoop.mapred.YarnChild\$2.run(YarnChild.java:164) at java.security.AccessController.doPrivileged(Native Method) at javax.security.auth.Subject.doAs(Subject.java:415) at org.apache.hadoop.security.UserGroupInformation.doAs (UserGroupInformation.java:1920) at org.apache.hadoop.mapred.YarnChild.main(YarnChild.java:158) Failing Oozie Launcher, Main class [org.apache.oozie.action.hadoop.JavaMain], main() threw exception,</pre> <p>HAProxy Error</p> <p>Caused by: java.sql.SQLException: Could not open client transport with JDBC Uri: jdbc:hive2://cm-hue-01.novalocal:10000/;principal= hive/cm-hue-01.novalocal@CIM.IVSG.AUTH:java.net.ConnectException: Connection refused</p>
Troubleshooting	<ul style="list-style-type: none"> • Get ETL job log and check the errors in it. • If an RSH issue, run “update etl conf” action of Cim Tool Service. • If a Port issue, refer Issue 9 <i>No route to host</i>. • If HAProxy is not working, restart HAProxy.

	if hosts get restarted by some unknown reason, make sure all dependent services are restarted.
Verification	Restart ETL after one ETL cycle, check the ETL status
Post Verification	If RSH is working fine and network also looks good, raise CDETS for Data Engine.

8. Failure in ETL Creation

Symptom	Error is observed when ETL creation is run from cim-tool.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<p>This may be caused due to RSH failure.</p> <p>RSH timeout Error example:</p> <pre>java.lang.Exception: Process timeout for command:sudo -u oozie rsh -l root data-01.novalocal "rm -rf /usr/local/etl/;mkdir -p /usr/local/etl/;chown -R oozie:oozie /usr/local/etl/" at com.cisco.cim.oozie.util.CLITool.executeLinuxCommand(CLITool.java:66) at com.cisco.cim.oozie.util.CLITool.executeRSHCommandAsRootByOozie(CLITool.java:101) at com.cisco.cim.oozie.util.UserManager.syncKeytabFileToHost(UserManager.java:199) at com.cisco.cim.oozie.util.InitialOperation.main(InitialOperation.java:122)</pre>
Troubleshooting	<ul style="list-style-type: none"> • Run “update etl conf” action in Cim Tool Service. • If RSH timeout exception is thrown, create ETL manually with command: <pre>#run in cm-hue host cd /opt/cloudera/parcels/cim_etl_oozie/oozie/ ./run --oozie http://oozie-install-hostname-here:11000/oozie</pre> • If RSH is still failing, install RSH manually.
Verification	Re-run ETL creation in cim-tool to see if ETL workflow is successfully created and running.
Post Verification	If it is not a RSH issue, raise CDETS for Data Engine.

9. No Route to Host

Symptom	<p>Such error may occur while creating ETL, or from workflow log as shown below:</p> <pre>2018-05-04 10:14:41,664 WARN [main] org.apache.hadoop.mapred.YarnChild: Exception running child : java.net.NoRouteToHostException: No Route to Host from data-01.novalocal/10.10.22.35 to data-03.novalocal: 39025 failed on socket timeout exception: java.net.NoRouteToHostException: No route to host; For more details see: http://wiki.apache.org/hadoop/NoRouteToHost</pre>
Environment	Can occur in both Prod and QA cluster.

Possible Causes	Network connectivity issue or port is not opened.
Troubleshooting	<ul style="list-style-type: none"> Check the list of open ports and related configuration, for example iptables rules or /proc/sys/net/ipv4/ip_local_port_range <pre>#ip_local_port_range value should be same as this cat /proc/sys/net/ipv4/ip_local_port_range 62000 64000</pre>
Verification	Create or restart ETL to check if ETL creation or workflow finishes successfully.
Post Verification	If there is no network or configuration issue identified, raise CDETS for Data Engine.

10. LeaderNotAvailable Exception

Symptom	Kafka broker stops data ingestion and Kafka consumer throws LeaderNotAvailable Exception.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	<p>One node of Kafka Broker restarts with unclean leader election causing the issue.</p> <p>It is a known issue for Kafka 0.11.x</p>
Troubleshooting	<ul style="list-style-type: none"> Restart Kafka cluster for recovery. Enable unclean leader election in the Kafka configuration.
Verification	Check Kafka ingestion diagram in CM after Kafka has restarted, the data should start coming in.
Post Verification	If configuration is fine, raise CDETS for Data Engine.

11. DoNotRetry IOException

Symptom	<ul style="list-style-type: none"> When data is queried from some external tables of cim database, such errors may be encountered. * The external table are tables mapped from HBase, and store too many data records. <p>Error Log:</p> <pre>DoNotRetryIOException: Failed after retry of OutOfOrderScannerNextException: was there a rpc timeout? CAUSED BY: OutOfOrderScannerNextException: org.apache.hadoop.HBase.exceptions.OutOfOrderScannerNextException: Expected nextCallSeq: 1 But the nextCallSeq got from client: 0; request=scanner_id: 572818 number_of_rows: 1024 close_scanner: false next_call_seq: 0 client_handles_partials: true client_handles_heartbeats: true track_scan_metrics: false renew: false at</pre>
----------------	--

	<code>org.apache.hadoop.HBase.regionserver.RSRpcServices.scan (RSRpcServices.java:2443)</code>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	RPC timeout due to configuration error.
Troubleshooting	<p>Do following configuration update:</p> <ol style="list-style-type: none"> 1. Cloudera Manager -> Impala -> Configuration -> hbase.rpc.timeout -> 3 Minutes. (The default value is 3 seconds) 2. If all hosts memory size are 32GB. Cloudera Manager -> HBase -> Configuration -> Java Heap Size of HBase RegionServer in Bytes -> 4 GB. 3. Cloudera Manager -> HBase -> Configuration -> HBase Client Scanner Caching -> 50 4. Cloudera Manager -> HBase -> Configuration -> HBase Client Scanner Timeout -> 2 min 5. Cloudera Manager -> Impala -> Configuration -> HBase RPC timeout -> 2 min
Verification	Rerun the same SQL to check if it gets completed successfully.
Post Verification	If configuration is fine, raise CDETS for Data Engine.

12. Memory Limit Exceeded

Symptom	<p>HTTP API fails.</p> <p>http-api.log file:</p> <pre>Internal server error: Memory limit exceeded Codegen failed to reserve '5555712' bytes for optimization Internal server error: Memory limit exceeded Failed to allocate tuple buffer Internal server error: Memory limit exceeded Internal server error: Memory limit exceeded The memory limit is set too low to initialize spilling operator (id=7). The minimum required memory to spill this operator is 264.00 MB.</pre>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	The Impala memory limit is set too low.
Troubleshooting	<ul style="list-style-type: none"> • Make sure Impala Daemon Memory limit is not less than 3.5 GB. • If less, increase to at least 3.5 GB. If in 32 G memory configuration, set it to 8G

	<ul style="list-style-type: none"> Restart Impala service from CM. <p>Get in touch with Data Engine team to get some checks done before restarting Impala service.</p>
Verification	Rerun the same SQL to check if it gets completed successfully.
Post Verification	If configuration is fine, raise CDETS for Data Engine.

13. Clock Offset Warn / NTP issue

Symptom	<p>Error Message is seen in the logs:</p> <pre>E0320 07:06:16.662436 4178 authentication.cc:160] SASL message (Kerberos (internal)): GSSAPI Error: Unspecified GSS failure. Minor code may provide more information (Clock skew too great)</pre> <p>Status summary shows 'Warning' for Clock Offset and one of the Hosts in bad health.</p>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	NTP service is not working correctly in the host.
Troubleshooting	Restart NTPD service in the bad health host.
Verification	<p>Check the timeskew in the host. Then check if Cluster is recovered from the bad health.</p> <p>If not, restart the cluster.</p>
Post Verification	If recovered from NTP service interruption, no action required

14. HBase Master no active instance warn

Symptom	<p>While upgrading, HBase hits such an error</p> <pre>Bad: Master summary: cm-hue-01.novalocal (Availability:Unknown,Health:Good), name-01.novalocal (Availability:Unknown,Health:Good) . This health test is bad because the Service Monitor did not find an active Master.</pre>
Environment	Can occur in both Prod and QA cluster.
Possible Causes	Configuration Error.
Troubleshooting	<p>Perform following configuration changes:</p> <ul style="list-style-type: none"> CM -> zookeeper -> configuration -> search "Enable auto-creation of data directories" Check on it -> click "save changes". Restart zookeeper instances one after other.
Verification	HBase should recover from bad health.

Post Verification	If configuration setting is correct, raise CDETS for Data Engine.
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15. Kafka storage occupying too much space

Symptom	var/local/kafka occupying too much disk space on one specific node.
Environment	Can occur in both Prod and QA cluster.
Possible Causes	Two Kafka topic replica in the same node cause the over capacity.
Troubleshooting	Enable Kafka broker service on one more nodes and follow ' <i>How to move Kafka partion from one node to another</i> ' in FAQ section to migrate one replica to that node.
Verification	HBase should recover from bad health.
Post Verification	Check /var/local/kafka size on all the nodes running Kafka broker.

16. No Write Operations on Hbase Table

Symptom	Alert received from monitoring script: "no write operations on HBase Table".
Environment	Can occur in any of the Prod and QA cluster with low disk IO performance.
Possible Causes	Due to the low disk write speed, Hbase write cannot cache up.
Troubleshooting	<ul style="list-style-type: none"> • Add flume log configuration <pre>log4j.appender.RFA.Threshold=INFO log4j.logger.com.cisco=DEBUG,ciscoFlm</pre> • Add following flume configuration <pre>Run "sed -Ei 's/(.*)\.type = com.cisco.cim.flume.sink.CimHBaseSink/&\n\n1.batchSize = 10/g' /opt/cloudera/parcels/cim_flume_plugin/conf/flume.conf" in all hosts, and restart flume service</pre> • Add following Kafka configuration <pre>run "sed -i '/kafka.batchSize/ s/.*kafka.batchSize = 50/' /opt/cloudera/parcels/cim_flume_plugin/conf/generateConfig.properties" in all hosts, then execute action "update flume conf" in cim-tool service and restart flume agent.</pre>
Verification	No more alert should be observed after restarting the Flume.
Post Verification	If issue still persists, raise a CDET for Data Engine.

Frequently Asked Questions

- 1.How to check Impala status ?

From Cloudera Health status, Impala may appear good(Green), but sometimes query from impala may get stuck. Here are 2 SQL, we can test with it:

```
Select count(*) from cim.locations;
select count(*) from cimdata.datelist_half;
```

• 2. How to turn off false warning?

For CDH 5.11.0, Impala may throw a false warn, Impala Bad Health: Query Monitoring Status

This can be turned off as follows:

- CM -> Impala-> Configuration -> uncheck “Impala Daemon Query Collection Status Health Check”,
- Save the update.

• 3. How to check if Impala is stuck?

• CM -> Impala -> Queries: Check Impala Query status, there should not any running SQL whose duration is over 1hour/day.

- Restart Impala service from CM, should work for this issue.
- Get in touch with Data engine team to do some checks before restarting impala service.

• 4. What to do if many Services are in bad health ?

If there are many services in bad health status in Cloudera Manager, check Host’s status.

When Host is in bad status, service instances running in it will be affected too, for example NTP issue

• 5. What to do if only one service is in bad health status in Cloudera Manager?

- CM -> click Name of bad health service -> click “show” in “Health History” table list.
- Send warn/error info to Data engine team.

• 6. How to query with Impala shell?

```
kinit -kt /usr/local/etl/etl.keytab impala/cm-hue-01.novalocal@CIM.IVSG.AUTH

impala-shell -k

#some messages output here .....

[cm-hue-01.novalocal:21000] > use your-own-database-name;

Query: use cim

[cm-hue-01.novalocal:21000] >
run your SQL query from here.
```

• 7. How to check Device Engine status?

Check device engine status as below:

#get device engine registered info of edge-server

```
[root@edge-01 ~]# curl http://127.0.0.1/api/v1.0/config/devengine
[{"schema": "default",
  "timezone": "UTC",
  "active": "true",
  "timestampUtc": 1501035136433,
  "store": "true",
  "type": "DeviceEngine",
```

```

    "ttl": "false",
    "multiThread": "true",
    "review": "false",
    "name": "dmz-crdc-01",
    "id": "dmz-crdc-01",
    "category": "source",
    "config": {
      "liveQuery": "false",
      "urlPath": "",
      "version": "",
      "timeout": 180000,
      "wsUrlPath": "",
      "port": "9011",
      "wss": "false",
      "namespace": "india.com",
      "host": "10.194.185.244",
      "interval": 1800000,
      "https": "false",
      "liveUrlEndPoint": "",
      "wsUrlEndPoint": "fid-CIMDataEngineWsInterface"
    },
    "group": "default",
    "timestamp": "2017-07-26T02:12:16.433Z",
    "status": {
      "outCount": "4155216",
      "inCount": "25592458"
    }
  }
}][root@edge-01 ~]#

```

#in the above example, wss is false, means ssl is disabled, webscoket url is:

```
#ws://10.194.185.244:9011/ fid-CIMDataEngineWsInterface
```

#if wss enabled, websocket url is:

```
#wss://10.194.185.244:9011/ fid-CIMDataEngineWsInterface
```

#Now user can debug websocket server with url.

• 8. How to check SDP server availability?

Edge as a SDP client will query locations data from SDP server periodically.

If you get an error, such as HTTP API Location ID Error, it generally means SDP is stuck.

We can check locations which get stored in edge with this API:

```

curl -g http://localhost/api/v1.0/config/location
#it's output example:
{
  "name": "child2150121",
  "active": "true",
  "id": "singapore.com_11504",
  "timestampUtc": 1532063266548,
  "category": "metadata",
  "type": "location",
  "config": {
    "entityType": "k112150114",
    "entityName": "child2150121",
    "hierarchy": [
      {
        "entityType": "k112150114",
        "entityName": "parent12150120",
        "tenantId": "singapore.com",
        "entityId": "11502"
      }
    ]
  }
}

```

```
},
.....
```

- If there is no output, it means SDP is not available.
- User should check SDP server status.

• **9. How to get UTC timestamp of hour timeid from hourly table?**

- Save below as one python file, for example named as str2utctimestamp.py
- run : python str2utctimestamp.py 2018062014,

you will get value 1529503200000, it is a utc timestamp of 2018062014

```
#####save as str2utctimestamp.py#####
import calendar
import time
import sys
```

```
time_tuple = time.strptime(sys.argv[1] +"UTC", "%Y%m%d%H%M%S")
t = calendar.timegm(time_tuple)
```

```
print time.ctime(t)
print str(t) + "000"
#####end of save as str2utctimestamp.py#####
```

• **10. How to move Kafka partition from one node to another?**

If you need to move one partition from DataName (218) to Datacmhue (217), post which it will be distributed between Data02 (219) and Datacmhue (217), following steps should be performed:

1. cd /opt/cloudera/parcels/KAFKA/lib/kafka/bin
2. ./kafka-reassign-partitions.sh --zookeeper data-01.novalocal:2182/kafka --topics-to-move-json-file new-topic.json --broker-list "217,218,219,220" --generate
3. Update the new-topic.json to :-


```
{"version":1,"partitions":[{"topic":"cim","partition":0,"replicas":[220,218],
"log_dirs":["any","any"]},{ "topic":"cim","partition":1,"replicas":[217,219],
"log_dirs":["any","any"]}]}
```
4. kafka-reassign-partitions --zookeeper data-01.novalocal:2182/kafka --reassignment-json-file new-topic.json --execute
5. ./kafka-reassign-partitions.sh --zookeeper data-01.novalocal:2182/kafka --reassignment-json-file new-topic.json --verify



CHAPTER 6

Real-Time Engine Issues

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Dashboard Specific Issues

1. Sensors not visible on the Dashboard

Symptom	Sensors are not seen on the Dashboard
Environment	Any Environment QA or Prod
Possible Causes	<ul style="list-style-type: none"> • TenantId is wrong. • LocationId is not populated or Location hierarchy not created properly or Sync issue between DE and Core. • Core Users permission or sync issue (either userlocations or userdomains not assigned or synced in deviceEngine) • Geohash not populated from deviceEngine • Applicable domain not created with correct values. • CKC core API not working or issue with configuring them. • DeviceEngine process not running or not responding. • Any other ERROR in deviceEngine logs which is preventing proper running of deviceEngine.
Troubleshooting	<ul style="list-style-type: none"> • Check if Sensors are seen on fid-CIMUserQueryInterface. • If above step is true, check if locationId, tenantId, applicableDomain and geohash Fields are populated or not. a) If tenantId populated is wrong, Devops need to recreate data for sensor. They can do so by running cleanup macro of that extension and then redeploying by changing the tenantId in the loader file.

b) If locationId is not populated,

- Make sure correct location hierarchy is created in dashboard (and same has been retrieved using SDP APIs) and those locations are assigned to user.
- Run syncSDPLocation.sh to get locations data populated in DeviceEngine DB.
- Run EntitylocationRefresh to update new locations in sensor model. The file is present under src/ops/tqls folder in DeviceEngine.

c) If applicableDomain is not populated, it is a build issue of Extension and need to be fixed.

d) Check if Geohash is populated or not in Sensor Response in DE. Geohash is required in the response so that dashboard can show sensor data. If it is not populated, it is a Device Engine (DE) build issue.

• If all the 4 fields are populated then,

a) Check if users are loaded into DE.

This can be checked via below query on fid- Authentication.

```
{
  "Query": {
    "Find": {
      "User": {
        "sid": { "ne": "" }
      }
    }
  }
}
```

b) If step(a) does not show any user, run syncSDPUser.sh and wait for 5 min.

c) If step(a) has the required users, then check for UserLocationAssociation and UserDomainAssociation. This can be checked via below on fid-Authentication.

```
{
  "Query": {
    "Find": {
      "UserLocationAssociation": {
        "userKeySid": { "ne": "" }
      }
    }
  }
}

{
  "Query": {
    "Find": {
      "UserDomainAssociation": {
        "sid": { "ne": "" }
      }
    }
  }
}
```

• If UserDomainAssociation or UserLocationAssociation is not populated or Users are not loaded into DE, check SDP GetUser API whether SDP response has those data.

• If everything is populated and SDP API response is also fine, run below query (to update Access modifiers for users) on fid-CIMUserQueryInterface.

	<pre> <DoRequest target="[:RuntimeParams.TQLStudio_AuthenticationFacetIDName:]" Disable="CMD_SERVER"> <Process> <Message> <Value> <Query> <Find> <User> <sid ne='' /> </User> </Find> </Query> </Value> </Message> </Process> </DoRequest> <Log Message="EngineStartUp :: Response message from find User :: [:\$Response.Message.Value:]" Level="DEBUG" /> <if condition="\$Response/Message/Value/Find/count(Result/User) gt 0"> <then> <For each="UserDef" in="Find.Result"> <!-- Authentication modifiers --> <AuthModifiers> <userKey>[:\$LocalData.UserDef.User.userId:]</userKey> </AuthModifiers> </For> </then> </if> </pre> <ul style="list-style-type: none"> • Check if deviceEngine cacheDB is of higher size and it is not processing records, then clear the cache. • If everything above seems fine, but still sensors are not seen on dashboard, Refer FAQ section.
Verification	Verify if DeviceEngine APIs for the specific user are returning model response or not. Check on dashboard if sensors are coming or not for specific operator/admin user.
Post Verification	.If verification fails and after following all steps, there is no clue on why this is happening, CDET/BEMS can be raised.

2. Notifications Not Seen on Dashboard

Symptom	Notifications are not appearing on the Dashboard.
Environment	Can occur in QA or Production environment.
Possible Causes	<ul style="list-style-type: none"> • Data has not got updated from vendor/provider API • Data is not sent from extensions to deviceEngine. • Data remains pending in deviceEngine cacheDB and it has not processed. • Core user is not having access to model/domain and locations.

Troubleshooting	<ul style="list-style-type: none"> • Check if notifications are sent over user WebSocket. <code>wss://<serverName>:<port>/fid-CIMUserQueryInterfaceWS.<userId></code> • Check if user has access to that particular domain. If there is no access, enable access using Dashboard admin login and run SDP Sync queries. • Check if notifications are sent over CDP-App websocket <code>wss://<serverName>:<port>/fid-CIMUserQueryInterfaceWS.CDP-App</code> • If notifications are sent for expected domain/extensions, contact Dashboard team. • If notifications are not sent <ul style="list-style-type: none"> o Check if data is coming from provider and is updated in Device Engine. If data is not coming from provider- contact Extension team/Provider. o If data is not processed by deviceEngine due to cache's high size, clear the cacheDB • If Data is coming from provider, but it is not updated in DE model, contact Extension/Device Engine team. • Check for any errors displayed in deviceEngine logs • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache.
Verification	<p>Check if notifications are coming for CDP-App user</p> <p>Check if notifications are coming for core specific user</p> <p>Check if notifications are displayed in dashboard.</p>
Post Verification	Post verification, CDET/BEMS to be raised by team if still notification not coming

3. Reports Not Showing Data for Specific Time Period

Symptom	Dashboard reports show empty data or no data for a given time period.
Environment	Qa or Production.
Possible Causes	<ul style="list-style-type: none"> • Data not sent by provider API for the given period. • DeviceEngine cache is not processing records or processing at slower rate. • Data not sent by deviceEngine due to dataEngine facet is down/not responding • DeviceEngine is not responding or hprof generated • DataEngine URL not registered/configured by ops team correctly • Data not received and further processed by DataEngine • Some other issue at dataEngine analytics side • Dashboard is not using correct filter parameters or url to fetch/access reports data
Troubleshooting	<p>a. Check Data Engine APIs if they have data for the particular dates. If there is data, contact DE team.</p> <p>b. If dataEngine does not have data for specified dates,</p>

	<ul style="list-style-type: none"> • Check if Provider is sending data to DE. Debug if provider API/WebSocket is working and has data. • Check if any pending records are in deviceEngine cache which are preventing data to be updated at deviceEngine side. • Make sure Data Engine taskgroup is created and is started. You can verify this by running model query for that domain on fid-CIMDataEngineInterface. • Else, you can open Data Engine websocket to check if data is being sent by DE to DataEngine. • Check for any errors displayed in deviceEngine logs • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache. <p>If data is not sent, contact Extension and DE team.</p>
Verification	<p>Check if notifications/updates are sent over websocket fid-CIMDataEngineInterfacews://<serverName>:<port>/fid-CIMDataEngineInterface</p> <p>Check if data engine received data properly and is in expected format.</p> <p>Check if reports are showing correct data</p>
Post Verification	CDET/BEMS can be raised if issue still persists and report data not seen on dashboard .

Domain Specific Issues

1. Parking : Sensors Not in Parking Space

Symptom	Parking sensors are not appearing in the parking space region.
Environment	QA or Production.
Possible Causes	<ul style="list-style-type: none"> • Parking Space polygon is not closed properly. It is open. • Parking Space polygon is not covering all parking sensors. • Parking spots lat-long are null or having 0 values. • Geohash not populated in deviceEngine due to some installation errors. • ParkingSpot-State-occupied attribute is missing in deviceEngine response.
Troubleshooting	<p>Parking Console links to a dashboard for monitoring the service.</p> <p>Perform the following steps:</p> <ul style="list-style-type: none"> • Plot the ParkingSpace region using google map or www.hamstermap.com/quickmap.php or http://itouchmap.com/latlong.html • Make sure to draw polygon either in clockwise or in anticlockwise direction. • Increase the polygon boundaries if sensors are not seen in it.

	<ul style="list-style-type: none"> • Check parkingspots within parkingSpace query and see if any parameters are missing/not updated. <p>Get the additional inputs from dashboard team on why sensors not displayed.</p> <ul style="list-style-type: none"> • Check for any errors displayed in deviceEngine logs • Check if deviceEngine cacheDB is of higher size and it is not processing records, then clear the cache.
Verification	<ul style="list-style-type: none"> • Verify parkingSpot state attributes are populated correctly. • Verify if parking Spots are found under parkingSpace query. • Verify the response to make sure all mandatory attributes (tenantId, LocationId, geohash, applicableDomain etc) are populated • Verify dashboard if parkingspots are visible or not.
Post Verification	CDET/BEMS can be raised if issue still persists and parking sensors are not seen on dashboard.

2. Lighting : Sensors Not in Light Zone Region

Symptom	Light sensors are not appearing in the Light zone region.
Environment	QA or Production
Possible Causes	<ul style="list-style-type: none"> •LightZone polygon is not closed properly. It is open. •LightZone polygon is not covering all light sensors •lights lat-long are null or having 0 values. •Geohash not populated in deviceEngine due to some installation errors. •Light – State- intensity – lastKnownValue/request value is missing in the deviceEngine response.
Troubleshooting	<p>Lighting Console links to a dashboard for monitoring the service.</p> <p>Perform the following steps:</p> <ul style="list-style-type: none"> •Plot the Light zone region using google maps or www.hamstermap.com/quickmap.php or http://itouchmap.com/latlong.html • Make sure to draw polygon either in clockwise or in anticlockwise direction. • Increase the polygon boundaries if sensors are not seen in it. • Get the additional inputs from dashboard team on why sensors are not displayed. • Check for any errors displayed in deviceEngine logs. • Check if deviceEngine cacheDB is of higher size and it is not processing records, then clear the cache.
Verification	<ul style="list-style-type: none"> • Verify light state attributes are populated with correct values.

	<ul style="list-style-type: none"> • Verify if lights are found under lightzone query. Verify the response to make sure all mandatory attributes (tenantId, LocationId, geohash, applicableDomain etc) are populated • Verify dashboard if lights are visible or not.
Post Verification	CDET/BEMS can be raised if issue still persists and light sensors are not seen on dashboard.

3. Waste Management : Sensors Not in WasteSpace Region

Symptom	Waste Management sensors are not appearing in the WasteSpace region.
Environment	QA or Production.
Possible Causes	<ul style="list-style-type: none"> •Waste sensor's polygon is not closed properly. It is open. •Waste sensor's polygon is not covering all Waste sensors •Waste Sensor's lat-long are null or having 0 values •Geohash not populated in deviceEngine due to some installation errors. •Reading attribute of wastebin model is missing in deviceEngine response.
Troubleshooting	<p>Waste Management Console links to a dashboard for monitoring the service.</p> <p>Perform the following steps:</p> <ul style="list-style-type: none"> •Plot the Waste Space region using google maps or www.hamstermap.com/quickmap.php or http://itouchmap.com/latlong.html • Make sure to draw polygon either in clockwise or in anticlockwise direction. • Increase the polygon boundaries if sensors are not seen in it. • Verify dashboard if waste sensor's are visible or not. • Check for any errors displayed in deviceEngine logs • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache.
Verification	<ul style="list-style-type: none"> • Verify reading attribute is populated for waste sensors • Verify if Waste Sensors are found under WasteSpace query .Verify the response to make sure all mandatory attributes (tenantId, LocationId, geohash, applicableDomain etc) are populated • Verify dashboard if Waste sensors are visible or not. • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache.
Post Verification	CDET/BEMS can be raised if issue still persists and waste sensors are not seen on dashboard.

4. Environment : Sensors Not in Environment Region

Symptom	Environment sensors are not appearing in the Environment region.
Environment	Can occur in any of the QA or Production environment.
Possible Causes	<ul style="list-style-type: none"> • Environment sensor's polygon is not closed properly. Its open. • Environment sensor's polygon is not covering all Environment sensors • Environment Sensor's lat-long are null or having 0 values. • Geohash not populated in deviceEngine due to some installation errors. • Reading attribute is not populated or missing in Deviceengine response.
Troubleshooting	<p>Environment Console links to a dashboard for monitoring the service.</p> <p>Perform the following steps:</p> <ul style="list-style-type: none"> • Plot the Environment region using google map or www.hamstermap.com/quickmap.php or http://itouchmap.com/latlong.html • Make sure to draw polygon either in clockwise or in anticlockwise direction. • Increase the polygon boundaries if sensors are not seen in it. • Check for any errors displayed in deviceEngine logs • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache. • Check for any errors displayed in deviceEngine/ExtEngine logs
Verification	<ul style="list-style-type: none"> • Verify that reading attribute is populated for EnvironmentSensor. • Verify if EnvironmentSensors are found under polygon query (Query mentioned in model documents). Verify the response to make sure all mandatory attributes (tenantId, LocationId, geohash, applicableDomain etc) are populated • Verify dashboard if Environment sensors are visible or not
Post Verification	CDET/BEMS can be raised if issue still persists and Environment sensors are not seen on dashboard.

5. Mobility : Sensors Not in Mobility ROI Region

Symptom	Mobility sensors are not appearing in the Mobility ROI region.
Environment	QA or Production.
Possible Causes	<ul style="list-style-type: none"> • Mobility ROI polygon is not closed properly. It is open. • Mobility ROI polygon is not covering all Mobility sensors • Mobility POMs lat-long are null or having 0 values. • Geohash not populated in deviceEngine due to some installation errors.
Troubleshooting	<p>CMX, Mobility Console links to a dashboard for monitoring the service.</p> <p>Perform the following steps:</p>

	<ul style="list-style-type: none"> • Plot the Mobility ROI region using google map or www.hamstermap.com/quickmap.php or http://itouchmap.com/latlong.html • Make sure to draw polygon either in clockwise or in anticlockwise direction. • Increase the polygon boundaries if sensors are not seen in it. • Check if MobilityStats are populated for given objectType and bearing. • Check if records are populated on facet fid- ObjectTracesAndAllStatsHolderFacet • Check if mobility Taskgroups are running and accessible to southbound mobility node. <p>Check if raw request from extension is getting processed from deviceEngine on fid-ExtensionInterface</p> <ul style="list-style-type: none"> • Check if deviceEngine cacheDB is of higher size and its not processing records, then clear the cache. • Check for any errors displayed in deviceEngine logs
Verification	<ul style="list-style-type: none"> • Verify stats are populated for fid- ObjectTracesAndAllStatsHolderFacet • Verify that stats are populated on deviceEngine for mobilityROI • Verify if mobility sensors are found under polygon query. Verify the response to make sure all mandatory attributes (tenantId, LocationId, geohash, applicableDomain etc) are populated • Verify dashboard if Mobility sensors are visible or not
Post Verification	CDET/BEMS can be raised if issue still persists and Mobility sensors are not seen on dashboard.

Southbound Provider Issues

1. DE is Not Consuming Data

Symptom	Extension is posting data to Device Engine (DE) but DE is not consuming the same.
Environment	QA or Production
Possible Causes	<ul style="list-style-type: none"> • ERRORS in extension logs • Extension facet is not deployed and events not reaching to deviceEngine • Extension request is not as per defined contract with deviceEngine. • DeviceEngine is down/not responding/cache Is full • ERRORS in deviceEngine logs
Troubleshooting	<ul style="list-style-type: none"> • Check if events are seen on extension logs (extengine logs). • If events are not seen, check if extension facet is deployed or not. Open that URL in browser and check if success message is coming or not.

	<ul style="list-style-type: none"> • Make sure to register URL at provider end and validate it by posting dummy event there. • If dummy event is getting processed then check if the request is as per defined contract between deviceEngine and extension. • If Extension Facet is not deployed, check if provider entries (such as provider model, camera) are created correctly. • Check the Device Engine and Extension logs if any errors seen and report them to DE and Extension team. • Check if deviceEngine cache is processing requests. If requests are accumulated in cache and not processed, please clear them.
Verification	<ul style="list-style-type: none"> • Verify extension is sending event request to deviceEngine and no errors are displayed in both deviceEngine and extEngine • Verify Extension request is as per contract between deviceEngine and extensions • Verify event is updated in deviceEngine and reflected in sensor stats/reading.
Post Verification	CDET/BEMS can be raised if issue still persists and extension request is still not processed.

2. Geohash Not Present in Sensor Data

Symptom	Geohash is not populated in the sensor data.
Environment	QA or Production.
Possible Causes	When entities (or sensors) are created on fid-ExtensionInterface, geohash is populated automatically, however, when entities (or sensors) are created from fid-CIMUserQueryInterface (or using runTQL), geohash is not created automatically.
Troubleshooting	<ul style="list-style-type: none"> • To create GeoHash, run the following macro on fid-CIMUserQueryInterface <pre><populateGeoHash> <entityType>TransitTrip</entityType> </populateGeoHash></pre> • Pass the entityType for which geohash is to be populated. (This macro is applicable on 4.0 build only)
Verification	Verify deviceEngine model response and check if geohash is populated or not.
Post Verification	CDET/BEMS can be raised if issue still persists and geohash is not populated for an entity

Logs Specific Errors

1. Critical Runtime Errors

Symptom	This has qualitative impact such as on Performance, scalability.
Environment	Qa or Production
Possible Causes	<p>Slow DB response for deviceEngine internal queries</p> <p>Model Attribute is not saved in expected format (e.g. passing double value to a String attribute type)</p> <p>Memory CPU usage of deviceengine/extEngine/DB instance is high.</p> <p>Busy or burst of DB connections</p> <p>Database failed to shutdown gracefully.</p> <p>Some external client is trying to access the EndPoint which is not available</p> <p>Maximum queue size reached</p> <p>Connection exception while connecting to a peer.</p>
Troubleshooting	<p>o Refer below link from Atomiton – wiki for Critical runtime errors observed in A-stack application https://atomiton.atlassian.net/wiki/spaces/TQLDocs/pages/58600601/Error+Handling</p> <p>o Check if any configuration is missing or not. If possible correct and restart deviceEngine</p> <p>o Check for mem/cpu/disk usage of deviceEngine/VM/DB instance.</p>
Verification	Verify no critical runtime error is displayed in the logs as mentioned in TQL Docs.
Post Verification	CDET/BEMS can be raised if issue still exists.

2. DE becomes non-responsive

Symptom	DE becomes unresponsive.
Environment	QA or Production
Possible Causes	<p>High CPU/memory usage of DeviceEngine process/VM/DB instance</p> <p>Too many requests from Southbound other than supported.</p> <p>DB queries are taking more time</p> <p>Critical ERRORS observed in logs of deviceEngine/extEngine</p> <p>Too many records in cacheDB and cache is not processing them</p>
Troubleshooting	<ul style="list-style-type: none"> • Check CPU,disk, and memory utilization of VM/system. • If above is normal, check CPU and memory of DE process using GETInfo query. • If above is normal, check CPU, disk and memory of database instance. • <FreeChannel> count should remain in 2 digits only and should not go in 3 digits. If this increases to 3 digits, it means, the system is going to die eventually.

	<ul style="list-style-type: none"> • Check the DE/Extension engine logs for errors. If you see errors in it related to configuration, correct the configuration. • If you see HPROF is generated and seeing an error of OutOfMemory in the logs, please check the sizing guideline and take action appropriately. • Check number of records in CacheDB and see if those are getting processed or not. If not getting processed, clear the cache. • Check for critical errors in logs- if know how to correct it, please do so. • For any other error seen in logs, please report them to DE or Extension team. • In order to recover softly, take backup of DB, deployment folder, configurations and restart DE when it is not responding.
Verification	<ul style="list-style-type: none"> • Check CPU, disk, and RAM utilization of VM/DE/EE/DB instance • Check FreeChannel count from GetInfo API if it is in range or not. • Check for critical ERRORS in DE/EE logs
Post Verification	CDET/BEMS can be raised if issue still exists after following troubleshooting steps.

3. NoRouteToHost Exception

Symptom	No route to host (Host unreachable) exception observed in logs.
Environment	QA or Production.
Possible Causes	Host name is not reachable from server.
Troubleshooting	<ul style="list-style-type: none"> • Add an entry in hosts file. • Check if port used by postgres DB is accessible to DE. Try telnet command.
Verification	Verify from telnet command if hostname is reachable or not.
Post Verification	No need to add CDET/BEMS as this issue is solvable from configuration.

Frequently Asked Questions

1. How to Validate CKC Core (SDP) API ?

a) Token API

- Check the headers configured in DeviceEngineConfig.xml are matching with one you are trying from postman.

Below is the sample Request for tenant poland.com

```
curl -X POST \
  https://199.199.199.127:8243/token \
  -H 'cache-control: no-cache' \
```

```
-H 'content-type: application/x-www-form-urlencoded' \
-H 'postman-token: be61852d-5a82-2204-c6f1-0cca6987852a' \
-d grant_type=password&client_id=juLyNYxuMngjXDOo6eBRB2xfjFUa&client_secret=
9lUafhQt7INZfmjIv09A1xf0Awsa&username=customer%40poland.com&password=admin'
```

b) Get Users API

Use the token from poland.com

Request

```
curl -X GET \ 'https://199.199.199.127:8243/cdp/v1/tenants/users?
page_number=1&page_size=10' \
-H 'authorization: Bearer 86378a9e-8479-3b08-9a9f-85865dcef07b' \
-H 'cache-control: no-cache' \
-H 'postman-token: 7cc5b149-2396-eb36-aa6e-7ddab97e0573'
```

c) Multicoordinates API

(Use the token from ciscointernal.com)

Request

```
curl -X POST
\https://173.39.80.101/dev3.2.1/t/ciscointernal.com/cdp/v1/tenant/locations/multicoordinates
\
-H 'authorization: Bearer 59b2b61e-ca4c-3659-9a8a-ee0a7f5847f9' \
-H 'cache-control: no-cache' \
-H 'postman-token: 9201d100-e593-1c5a-8cd7-317faccdc5c0' \
-H 'tenantid: poland.com' \
-d '[{"latitude": "12.935853", "longitude": "77.696031"}]'
```

2. How to check if Users, Locations and Tenants created in CKC core are reflected in DE?

a) TenantToken can be checked from DE via below query on fid-CIMUserQueryInterface

```
{
  "Query":{
    "Find":{
      "SDPAdminUserToken":{
        "sid":{
          "ne":""
        }
      }
    }
  }
}
```

Run syncSDPTenantToken.sh to manually sync Tenant Tokens.

b) Whether Tenants loaded or not can be checked via below query on fid-CIMUserQueryInterface.

```
{
  "Query":{
    "Find":{
      "SDPAdminUser":{
        "sid":{
          "ne":""
        }
      }
    }
  }
}
```

Run syncSDPTenant.sh to manually sync Tenants.

c) Whether Users loaded or not can be checked via below query on fid-Authentication.

```
{
  "Query":{
    "Find":{
      "User":{
        "sid":{
          "ne":""
        }
      }
    }
  }
}
```

Run syncSDPUser.sh to manually sync users

d) Check if user has locations associated with it. Run below query on fid-Authentication.

```
{
  "Query": {
    "Find": {
      "UserLocationAssociation": {
        "userKeySid": { "ne": "" }
      }
    }
  }
}
```

e) Check if user has domain access by running below query on fid-Authentication.

```
{
  "Query": {
    "Find": {
      "UserDomainAssociation": {
        "sid": { "ne": "" }
      }
    }
  }
}
```

f) Check if Locations are loaded in DE by running below query on fid-CIMUserQueryInterface.

```
{
  "Query":{
    "Find":{
      "LocationNode":{
        "sid":{
          "ne":""
        }
      }
    }
  }
}
```

g) Run syncSDPLocation.sh to manually sync locations.

3. How to sync CKC core data into DE using sync scripts ?

(The location of these scripts is deviceEngine/admin/scripts folder)

- run syncSDPTenantToken.sh to manually sync Tenant Tokens
- run syncSDPTenant.sh to manually sync Tenants.
- run syncSDPUser.sh to manually sync users.
- run syncSDPLocation.sh to manually sync locations.
- run authmodifiers query mentioned shown in below on fid-CIMUserQueryInterface

```

<DoRequest target="[:RuntimeParams.TQLStudio_AuthenticationFacetIDName:]"
  Disable="CMD_SERVER">
  <Process>
    <Message>
      <Value>
        <Query>
          <Find>
            <User>
              <sid ne='' />
            </User>
          </Find>
        </Query>
      </Value>
    </Message>
  </Process>
</DoRequest>
<Log
  Message="EngineStartUp :: Response message from find User ::
[:$Response.Message.Value:]"
  Level="DEBUG" />
<if condition="$Response/Message/Value/Find/count(Result/User) gt 0">
  <then>
    <For each="UserDef" in="Find.Result">
      <!-- Authentication modifiers -->
      <AuthModifiers>
        <userKey>[:$LocalData.UserDef.User.userId:]</userKey>
      </AuthModifiers>
    </For>
  </then>
</if>

```

4. How to Sync Newly Added tenant into DE ?

The location of these scripts is deviceEngine/admin/scripts folder

- update Tenant details to TenantUserConfig.xml file located inside src/config folder
- run syncSDPTenant.sh to get new tenant added to DE.
- run syncSDPTenantToken.sh to manually sync new Tenant Token
- run syncSDPUser.sh to manually sync users.

5. How to Check if AMQP Integration with CKC Core is Working Fine?

- AMQP integration will be handled programmatically and Devops doesn't have to do anything except verifying AMQP config provided is correct and AMQP server is accessible from DE
- Telnet the amqp host name and see if its accessible from deviceEngine vm.
- Queue name created at AMQP is of format "DE_{SiteID}_AMQP". Make sure it is created.
- Check if below bindings are created

o domain *.*.*

o domain *.*.*.*

o location *.*.*

o location *.*.*.*

o user *.*.*

- Check if the message is received at AMQP site.

- a) Select and open the queue for which message is sent.
- b) Click on **Get Message(s)**.

6. How to cleanup SensorCustomerKeyDef ?

If SensorCustomerKeyDef has empty values of TenantID, then cleanup of entries for SensorCustomerKeyDef is required. SensorCustomerKey is not required from CKC 4.1 and hence cleanup need to be done for same.

This can be achieved using below query :

```
{
  "Query": {
    "DeleteAll": {
      "SensorCustomerKeyDef": {
        "tenantId": ""
      }
    }
  }
}
```

7. How to Check If Workflows are Deployed?

In the logs, after the DE is fired up, you should see logs similar to the following:

```
2018-01-03 11:13:05,223 [ForkJoinPool-1-worker-10] INFO
  SffMessageFacet:858 EngineStartupTF : Loading SDPUserLoader workflow
2018-01-03 11:13:05,233 [ForkJoinPool-1-worker-10] INFO
  WdlCompiler:858 WDL 'SDPUserLoaderWDL' compile completed in 7 ms;
Platform: MQIdentity.MQI.v1_0; Total files:1
2018-01-03 11:13:05,241 [ForkJoinPool-2-worker-12] INFO
  SffMessageFacet:858 EngineStartupTF : Fetch SDPUser workflow
2018-01-03 11:13:05,255 [ForkJoinPool-2-worker-12] INFO
  WdlCompiler:858 WDL 'SDPFetchUserWDL' compile completed in 11 ms;
Platform: MQIdentity.MQI.v1_0; Total files:1
2018-01-03 11:13:05,262 [ForkJoinPool-1-worker-6] INFO
  SffMessageFacet:858 EngineStartupTF : Loading SDPUserCreation workflow
2018-01-03 11:13:05,282 [ForkJoinPool-1-worker-6] INFO
  WdlCompiler:858 WDL 'SDPUserDataCreationWDL' compile completed in 16 ms; Platform:
```

If any errors related to workflow are found, those need to be reported to DE team.

8. How to Check If Taskgroups Are Started ?

- For each Taskgroup in the SysTaskGroups_system.tql.xml file that are started, you should see a line that looks as follows

```
====startTaskGroup=====<taskgroup name>
e.g.
====startTaskGroup=====SYS_AMQP_SUBSCRIBER_TG
====startTaskGroup=====SYS_SDPLocationSync_TG
====startTaskGroup=====SYS_SDPUserLoader_TG
====startTaskGroup=====SYS_SDPTenantUserManager_TG
```

- For each TaskGroup tag under the Create tag in the tql file, you will see a name tag, that is the Taskgroup name. For each of those, you should see a line that looks as shown above.

9. How to check If Sequences Are Running for Configured Frequency?

In the logs, after the SYS_SDPUserLoader_TG and SYS_SDPLocationSync_TG task group started, you should see a log similar to the following

```
2018-01-03 11:14:17,453 [ForkJoinPool-2-worker-1] INFO
  SffSequenceFacet:858 Federation:SDPUserLoader_Seq 0:0 @ Wed Jan 03 11:14:17 IST 2018:
```

```
Scheduled: start [16min../1440min]
2018-01-03 11:14:15,971 [ForkJoinPool-1-worker-12] INFO
SffSequenceFacet:858 Federation:SDPLocationSync_Seq 0:0 @ Wed Jan 03 11:14:15 IST 2018:
```

```
Scheduled: start [19min../24hour
```

The important value will be the part after the ../. Here, it's 1440 min and 24 hour which is the interval (once in a day) for every user sync and location sync. According to the configured value, the interval for the user and location sync will be present in the line.

10. How Domain capability definitions are defined in DE for CKC 3.1?

a) There is a DomainCapabilitiesDefinition.tql under src/ops/tql/ folder where all the domain Capability Definitions are defined.

Currently below are defined as DomainCapability Definitions.

- ParkingAdmin
- TrafficAdmin
- LightAdmin
- WasteAdmin
- ParkingCitizen
- ParkingEnforcement
- ParkingEnforcementOfficer
- ParkingEnforcementAnalyst
- MobilityAdmin
- EnvironmentAdmin
- TransitAdmin

b) These capabilities can be configured as and when required for 3.1. In order to define this, you may need to add DomainDefinitions as well in DomainDefinations.tql.xml file located at same folder.

c) For 3.2/4.0, these are defined at CKC core and DE fetches from CKC core.

11. What is EntityLocation and EntityLocationRefresh?

- For every Sensor (or entity) model, locationIDs are present.
- In order to populate reports data, we need to combine Entities and their locations into a model called as EntityLocation.
- EntityLocationRefresh is a manual process in which locationIds of an Entity (or Sensor model) are updated as per the location hierarchy defined in SDP.
- EntitylocationRefresh needs to be done when locations are created/updated after loading sensor data into DE.
- If locationIDs are not present for any entity/Sensor (due to any reason), and if LocationNode model shows correct hierarchy, then we need to sync Entities for those missing locationIDs.

12. How to sync EntityLocation for Sensor?

- There is an EntityLocationQueueRefresh.tql.xml present inside src/ops/tql folder. The queries inside this file are used to refresh/Sync Entitylocation.

- Run the query for individual server on facet fid-CIMUserQueryInterface.

13. How to Check if Events and/or incidents Are Deleted from DE?

- Default destroy time of incidents is 30 min. This is configured in Engine.xml
- Check if PolicyFacet is deployed or not. This can be verified by looking into logs with below text.====startTaskGroup=====SYS_PolicyFacet_TG
- Check if TQLPolicies are running or not. If not running, restart DE node. If those are running then reactivate the trigger for policy using below query:

```
curl -X POST \
  https://localhost:8080/fid-PolicyFacet \
  -H 'Content-Type: application/xml' \
  -H 'Postman-Token: d64e0417-d29f-494a-82c3-6498916bed0b' \
  -H 'cache-control: no-cache' \
  -d '<ReactivateTriggers/>'
```

- If policyFacet is not deployed, run startMyFacetTaskGroup tql file.
- Check if below sequences are running. Verify them by looking into logs

```
EventDeleteProcessing_Seq
LifecycleEventDestroyTimeProcessing_Seq
NoLifeEventDestroyTimeProcessing_Seq
IncidentDeleteProcessing_Seq
IncidentDestroyTimeProcessing_Seq
```

- Check the GenericEvent count by running below query on fid-CIMUserQueryInterface. Make sure the count is changing when you hit the request multiple times.

```
<find orderBy="GenericEvent.createTime desc" only="createTime">
  <GenericEvent>
    <sid ne=""/>
  </GenericEvent>
</find>
<SetResponse>
  <Message>
    <Value>
      <count>[:$Response.Message.Value/count (Find/Result) :]</count>
    </Value>
  </Message>
</SetResponse>
```

- If the count is too high, check the count of incidents 30 min older by running below query on fid-CIMUserQueryInterface.

```
<SetLocalData key="timeout" value="[:/30*60000:]"/>
<SetLocalData key="conditionTime" value="[:[:$Now():]-[:$LocalData.timeout:]:]"/>
<find orderBy="Incident.createTime desc" only="createTime">
  <Incident>
    <sid ne=""/>
    <destroyTime/>
    <lastUpdated>
      <lt>
        [[:$LocalData.conditionTime:]]
      </lt>
    </lastUpdated>
  </Incident>
</find>
<SetResponse>
  <Message>
    <Value>
      <count>[:$Response.Message.Value/count (Find/Result) :]</count>
```



```

    </Value>
  </Message>
</SetResponse>

```

Check if Situation is also getting created and destroyed along with incident.

14. How to Check Memory Info, Null Channels, FacetInfo of DE ?

GET Info query can be run as

```
http://localhost:8080/fid-SffFacetAgentFacet/getInfo
```

- GetJvmInfo- Information about CPU and memory (used, available) by JVM.
- GetNetInfo- Network related information such as IP, port, hostname.
- GetUseInfo- How many connections used, read/write, free and null Channels counts.
- GetFacetInfo- List of deployed facets along with the time since they are activated.
- GetSysInfo- System information where DE is deployed.

15. How to Check if Policies Are Working?

- Check if Policy build deployed is compatible with DE.
- Check if all policy Taskgroups mentioned in the SysTaskGroups_policy.tql.xml are created and started.
- Check if policyTemplates are loaded.

Run below query on fid-CIMUserQueryInterface.

```

{
  "Query": {
    "Find": {
      "PolicyTemplate": {
        "sid": {
          "ne": ""
        }
      }
    }
  }
}

```

- Check if PolicyFacet is deployed and activated.

You can do this by finding PolicyFacet text and its activeSinceDate from below queryGET

```
{{url}}/SffFacetAgentFacet/getinfo
```

- Check if PolicyIns is created or not.

You can run below query on fid-CIMUserQueryInterface.

```

{
  "Query": {
    "Find": {
      "PolicyIns": {
        "sid": {
          "ne": ""
        }
      }
    }
  }
}

```

- Check if user is having access for sensor model.

You can do this by running below query on fid-CIMUserQueryInterface.

```
{
  "Query": {
    "Find": {
      <DomainModel Name>: {
        "sid": {
          "ne": ""
        }
      }
    }
  }
}
```

- Run below query on fid-PolicyFacet (POST Method)<ReactivateTriggers/>

16. How to Check If TriggerActions (or Events from dashboard tab) Are Working?

- Check if Policy build deployed is compatible with DeviceEngine.
- Check if all policy taskgroups mentioned in the SysTaskGroups_policy.tql.xml are created and started.
- Check if TriggerTemplate and ActionTemplate are loaded or not.

Run below query on fid-CIMUserQueryInterface.

```
{
  "Query": {
    "Find": {
      "TriggerTemplate": {
        "sid": {
          "ne": ""
        }
      }
    }
  }
}
```

Check for ActionTemplate as well by replacing TriggerTemplate with ActionTemplate in above query

- Check if PolicyFacet is deployed and activated.

You can do this by finding PolicyFacet text and its activeSinceDate from below query.GET

```
{{url}}/SffFacetAgentFacet/getinfo
```

- Check if TriggerActionIns is created or not.

You can run below query on fid-CIMUserQueryInterface.

```
{
  "Query": {
    "Find": {
      "TriggerActionIns": {
        "sid": {
          "ne": ""
        }
      }
    }
  }
}
```

- Check if user is having access for sensor model.

You can do this by running below query on fid-CIMUserQueryInterface.

```
{
  "Query": {
    "Find": {
```

```

        <DomainModel Name>: {
          "sid": {
            "ne": ""
          }
        }
      }
    }
  }
}

```

- If triggeractionins is created then check below query on fid-Policyfacet.

```

{
  "Query": {
    "Find": {
      "TQLPolicy": {
        "PolicyID": {
          "ne": ""
        }
      }
    }
  }
}

```

- Run below query on fid-PolicyFacet (POST Method)

```
<ReactivateTriggers/>
```

17. How to Delete All the Taskgroups?

This is to be run on fid-Federation

```

<Query>
  <DeleteAll>
    <TaskGroup>
      <sid ne=""></sid>
    </TaskGroup>
  </DeleteAll >
</Query>

```

