Smart Licensing Support

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Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	cnSGW-C
Applicable Platform(s)	SMI
Feature Default Setting	Disabled - Configuration required
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
Enhancement introduced. Multiple Entitlement Tags - cnSGW-C supports a REST service that returns Software License entitlements information based on the installed service profile.	2021.02.0
First introduced.	2020.03.0

Smart Software Licensing

Cisco employs two types of license models - Legacy Licensing and Smart Software Licensing. Legacy Licensing consists of software activation by installing Product Activation Keys (PAK) on to the Cisco product. A Product Activation Key is a purchasable item, ordered in the same manner as other Cisco equipment and used to obtain license files for feature set on Cisco Products. This traditional licensing does not need any online communication with the Cisco licensing server.

Smart Software Licensing is a cloud-based licensing of the end-to-end platform through the use of a few tools that authorize and deliver license reporting. Smart Software Licensing functionality incorporated into the NFs complete the product registration and authorization. cnSGW-C supports the Smart Software Licensing model.

Smart Licensing simplifies the purchase, deployment, and management of Cisco software assets. Entitlements are purchased through your Cisco account through Cisco Commerce Workspace (CCW) and immediately available in your Virtual Account for usage. This approach eliminates the need to install license files on every device. Smart-enabled products communicate directly to Cisco to report consumption. A single location—Cisco Software Central—is available for customers to manage Cisco software licenses. License ownership and consumption are readily available to help make a better purchase decision that is based on consumption or business need.

For more information on Cisco Smart Licensing, see https://www.cisco.com/c/en/us/buy/smart-accounts/software-licensing.html.

Cisco Software Central

Cisco Software Central (CSC) enables the management of software licenses and the smart account from a single portal. The CSC interface allows you to enable your product, manage entitlements, renew, and upgrade software. You need a functioning smart account to complete the registration process.

To access Cisco Software Central, see https://software.cisco.com.

Smart Accounts and Virtual Accounts

A Smart Account provides a single location for all smart-enabled products and entitlements. It helps in procurement, deployment, and maintenance of Cisco Software. When creating a smart account, you must have the authority to represent the requesting organization. After submission, the request goes through approval process.

A Virtual Account exists as a sub-account within the smart account. Virtual Accounts are customer-defined based on the organizational layout, business function, geography, or any defined hierarchy. Smart account administrator creates and maintains the virtual accounts.

For information on setting up or managing the Smart Accounts, see https://software.cisco.com.

Requesting a Cisco Smart Account

A Cisco Smart Account is an account where smart licensing-enabled products are available. A Cisco smart account allows you to manage and activate your licenses to devices, monitor license use, and track Cisco license purchases. Through transparent access, you have a real-time view into your smart licensing products. IT administrators can manage licenses and account users within the organization's smart account through Cisco Software Central. To create a Cisco Smart Account, perform the following steps:

Step 1 Visit the following URL:

`https://software.cisco.com`

Step 2 Log in using your credentials, and click **Request a Smart Account** in the **Administration** area.

The **Smart Account Request** window appears.

Step 3 Under **Create Account**, select one of the following options:

- **Yes, I have authority to represent my company and want to create the Smart Account**. If you select this option, you agree to authorize to create and manage product and service entitlements, users, and roles, on behalf of the organization.
- **No, the person specified below will create the account**. If you select this option, you must enter the email address of the person who creates the smart account.

Step 4 Under **Account Information**,

a) Click **Edit** beside **Account Domain Identifier**.
b) In the **Edit Account Identifier** dialog box, enter the domain, and click **OK**. By default, the domain is based on the email address of the person creating the account, and must belong to the company that will own this account.
c) Enter the **Account Name** (typically, the company name).

Step 5 Click **Continue**.
The Smart Account request will be in pending status until it is approved by the Account Domain Identifier. After the approval, you will receive an email confirmation with instructions for completing the setup process.

cnSGW-C Smart Licensing

The Smart Licensing feature supports application entitlement for online and offline licensing for all 5G applications. The application usage is unrestricted during all stages of licensing, including Out of Compliance (OOC) and expired stages.

Note A 90 day evaluation period is granted for all licenses in use. Currently, the functionality and operation of the 5G applications is unrestricted even after the end of the evaluation period.

Software Tags and Entitlement Tags

The following sections provide information on software and entitlement tags that are created to identify, report, and enforce licenses.

Software Tags

A Software tag or a Product tag is a unique identifier that helps Smart Licensing system identify the software product family. During the addition of Smart product instance in Cisco Smart Software Manager, the Smart client uses the software/product tag for identification.

The following software tags exist for the cnSGW-C.

Product Type / Description	Software Tag
Ultra Cloud Core - Serving Gateway Function (cnSGWc), Base Minimum	regid.2020-07.com.cisco.cnSGWc,1.0_ff0b64f1-f54d-46d3-afc7-052d41870b59

Entitlement Tags

An Entitlement tag is a part of the software that identifies the features that are being used in a software image. These tags underlay the communication on usage and entitlements of the software products that are installed on the devices. The entitlement tags map to both the PID license and the Software image. Every Smart-enabled PID may contain one or more entitlement tags.

The following entitlement tags identify licenses in use:

Product Type / Description	Entitlement Tag
Ultra Cloud Core - Serving Gateway Function (cnSGWc), 1K Sessions	regid.2020-07.com.cisco.cnSGWc_1K,1.0_6ce36c73-26dd-4607-ab9b-077fbb2e0f54

Note The license information is retained during software upgrades and rollback.

Multiple Entitlement Tags

Feature Description

cnSGW-C supports configuring REST endpoint. This REST endpoint supports a REST service that returns Software License entitlements information based on the installed service profile. For example:

- Standalone SMF
- Standalone cnSGW-C
- A combination of SMF and cnSGW-C

Note This feature is applicable only for Converged Core products.

How it Works

This section describes how this feature works.

To configure multiple entitlement tags, use the GET service added in NF's (cnSGW-C/SMF) rest-ep pod on the internal port 8000. The REST service name is 'entitlements'.

Note As `localhost:8000` is already occupied by entitlements service, it's recommended not to create a new service on port 8000 and localhost inside REST-EP.

Ops Center's `values.yaml` registers this service as a part of product configuration.

The following is a sample configuration:

```
ops-center:
  product:
    id: <product_id>, e.g. SMF
    softwareID: <s/w id>, e.g.
regid.2020-04.com.cisco.SMF,1.0_37ffdc21-3e95-4192-bcda-d3225b6590ce
    entitlementsURL: http://entitlements:8000/entitlements.json
```

After `values.yaml` is populated with entitlementsURL, Ops Center installs all the available licenses received from entitlements service.

The entitlements service looks up for entitlements in `rest-ep-entitlements-cm` configmap and returns all the available entitlements back as a JSON response.

Entitlements in `rest-ep-entitlements-cm` are registered based on the following flags:

- restep.smfProfile
- restep.sgwProfile

Note The flags are configured in **cn-ops-center** > **confd_init** > **render** > **rest-ep** > **pod.yaml**.

If entitlements service has no entitlement information, Ops Center doesn't send any request to the smart license server or doesn't install any license.

SNMP Traps

If the product is not in compliance with the contract (the product has used too many licenses/entitlements or not authorized to use a particular entitlement tag), a notification is sent to all the applications using the entitlement tag. An SNMP trap is sent indicating the entitlements that are not in compliance. This SNMP trap is seen in smart agent syslogs, with the trap name as `SMART_LIC-3-OUT_OF_COMPLIANCE`.

Limitations

Converged Core has two service profiles—SMF and cnSGW-C, with each service having a specific product ID. When registering with Software License server, the SMF and the cnSGW-C send respective product ID with their entitlements.

Smart agent doesn't support processing multiple product IDs. It is recommended to use SMF product ID for processing by the smart agent.

Sample Configuration

The following is an example configuration of `rest-ep-entitlements-cm` configmap.

```
Name:         rest-ep-entitlements-cm
Namespace:    smf
Labels:       app=rest-ep
```

```
              app.kubernetes.io/managed-by=Helm
              chart=rest-ep-0.5.2-dev-multi-entitlement-7600-210225084534-a5b5b67
              component=rest-ep
              heritage=Helm
              release=smf-rest-ep
Annotations:  meta.helm.sh/release-name: smf-rest-ep
              meta.helm.sh/release-namespace: smf

Data
====
nf-profiles:
----
configuredProfiles:
- name: "smf"
  entitlement:
    displayName: "UCC 5G SMF BASE"
   entitlementTag: regid.2020-04.com.cisco.SMF_BASE,1.0_b49f5997-21aa-4d15-9606-0cff88729f69

    entitlementVersion: "1.0"
- name: "sgw"
  entitlement:
    displayName: "UCC cnSGWc 1K"
   entitlementTag: regid.2020-07.com.cisco.cnSGWc_1K,1.0_6ce36c73-26dd-4607-ab9b-077fbb2e0f54

    entitlementVersion: "1.0"
Events:  <none>

JSON response format from REST API http://entitlements:8000/entitlemens.json

[
{
  "displayName" : "SMF_BASE",
  "entitlementTag" : "
regid.2020-04.com.cisco.SMF_BASE,1.0_b49f5997-21aa-4d15-9606-0cff88729f69",
  "entitlementVersion" : "1.0"

},
{
  "displayName" : "cnSGW_BASE",
  "entitlementTag" :
"regid.2020-02.com.cisco.cnSGW_BASE,1.0_a61f0740-ef15-4ac2-916f-77257902b22",
  "entitlementVersion" : "1.0"

}
]
```

Configuration Checks

This section describes the configuration checks.

- The following checks must be done after you configure multiple entitlement tags:
  - Make sure that NF's Ops Center is deployed successfully.
  - Post new deployment and configuration, make sure that all pods are up and in ready state (primarily, the service, nodemgr, cachepod, udp-proxy, rest-ep, and protocol pods).
  - If SMF service is configured with profile, then `rest-ep-entitlements-cm` must be populated with SMF entitlement.
  - If the cnSGW-C service is configured with profile, then `rest-ep-entitlements-cm` must be populated with cnSGW-C entitlement.

- If both—the SMF and the cnSGW-C services—are configured with the profile, then `rest-ep-entitlements-cm` must be populated with SMF and cnSGW-C entitlements.

- The following checks must be done after you remove multiple entitlement tag configurations:
  - Make sure all pods are terminated and removed (and SMF deregisters with NRF).
  - Make sure all security-related items (except for security items used by Ops Center) are removed.

Troubleshooting

This section describes troubleshooting information.

- To troubleshoot entitlements service, check rest-ep pod logs.

  kubectl logs rest-ep-n0-0 -n *<namespace>* **-f**
- To debug the issue with the entitlement service, you can also check the output data from the following commands.
  - **show license tech-support**
  - **show license status**
  - **show license summary**
- To troubleshoot smart-agent and Ops Center pods, you can use the following commands.
  - **kubectl logs** *<smart_agent_pod>* **-n namespace**
  - **kubectl logs** *<ops_center_pod>* **-n namespace**

Configuring Smart Licensing

You can configure Smart Licensing after a new cnSGW-C deployment.

Users with Access to Cisco Software Central

This section describes how to configure Smart Licensing if you have access to Cisco Software Central (CSC) portal from your environment.

Setting Up the Product and Entitlement in CSC

To set up your product and entitlement in CSC:

1. Log in to your CSC account.
2. Click **Add Product** and enter the following details.
   - **Product name**—Specify the name of the deployed product. Example: SGW.
   - **Primary PM CEC ID**—Specify the primary Project Manager's CEC ID for the deployed product.
   - **Dev Manager CEC ID**—Specify the Development Manager's CEC ID for the deployed product.

- **Description**—(Optional) Specify a brief description of the deployed product.
- **Product Type**—Specify the product type.
- **Software ID Tag**—Specify the software ID Tag provided by the Cisco Accounts team.

3. Click **Create**.
4. Select your product from the **Product/Entitlement Setup** grid.
5. Click **Entitlement** drop-down and select **Create New Entitlement**.
6. Select **New Entitlement** in **Add Entitlement** and enter the following details:
   - **Entitlement Name**—Specify the license entitlement name. Example: SGW_BASE.
   - **Description**—(Optional) Specify a brief description about the license entitlement.
   - **Entitlement Tag**—Specify the entitlement tag provided by the Cisco Accounts team.
   - **Entitlement Type**—Specify the type of license entitlement.
   - **Vendor String**—Specify the vendor name.
7. Click **Entitlement Allocation**.
8. Click **Add Entitlement Allocation**.
9. In **New License Allocation**, provide the following details:
   - **Product**—Select your product from the drop-down list.
   - **Entitlement**—Select your entitlement from the drop-down list.
10. Click **Continue**.
11. In **New License Allocation**, enter the following details:
    - **Quantity**—Specify the number of licenses.
    - **License Type**—Specify the type of license.
    - **Expiring Date**—Specify the date of expiry for the license purchased.
12. Click **Create**.

Registering Smart Licensing

You must register the product entitled to the license with the CSC. To register the product, you must generate an ID token from the CSC.

1. Log in to your CSC account.
2. Click **General > New Token** and enter the following details:
   - **Description**—Specify a brief description for the ID token.
   - **Expires After**—Specify the number of days for the token to expire.
   - **Max. Number Users**—Specify the maximum number of users.

3. Click **Create Token**.
4. Select **new ID token** in **Product Instance Registration Token**.
5. Click **Actions > Copy**.
6. Log in to cnSGW-C Ops Center CLI and paste the **ID token** using the following command:

   `license smart register` *`idtoken`*

   NOTES:

   - **license smart register** —Registers Smart Licensing with the CSC.
   - *idtoken* —Specify the ID token generated from CSC.

   Example:

   ```
   license smart register
   Value for 'idtoken' (<string>): MTI2Y2FlNTAtOThkMi00YTAxLWE4M2QtOTNhNzNjNjY4ZmFiLTE2MTc4N
   Tky%0AMTA5MDh8ck1jUHNwc3k1ZC9nWFFCSnVEcUp4QU1jTFoxOGxDTU5kQ3lpa25E%0Ab04wST0%3D%0A
   ```

7. Verify the Smart Licensing status using the following command:

   `show license all`

   Example:

   ```
   show license all

   Smart Licensing Status
   ======================
   Smart Licensing is ENABLED

   Registration:
     Status: REGISTERED
     Smart Account: CN-5G-NF
     Virtual Account: Default
     Export-Controlled Functionality: Allowed
     Initial Registration: SUCCEEDED on Jul 12 19:46:04 2020 GMT
     Last Renewal Attempt: SUCCEEDED on Jul 12 19:46:04 2020 GMT
     Next Renewal Attempt: Jan 8 19:46:04 2021 GMT
     Registration Expires: Jul 12 19:39:10 2021 GMT

   License Authorization:
     Status: AUTHORIZED on Jul 12 19:46:06 2020 GMT
     Last Communication Attempt: SUCCEEDED on Jul 12 19:46:06 2020 GMT
     Next Communication Attempt: Aug 11 19:46:06 2020 GMT
     Communication Deadline: Oct 10 19:43:32 2020 GMT

   License Conversion:
    Automatic Conversion Enabled: true
    Status: NOT STARTED

   Utility:
     Status: DISABLED

   Transport:
      Type: Smart Transport
      Registration URL: null
      Utility URL: null

   Evaluation Period:
     Evaluation Mode: Not In Use
     Evaluation Period Remaining: 89 days, 1 hr, 20 min, 55 sec
   ```

```
License Usage
=============
License Authorization Status: AUTHORIZED as of Jul 12 19:46:06 2020 GMT

cnSGWc_1K (cnSGWc_1K)
  Description: Ultra Cloud Core - Serving Gateway Function (cnSGWc), 1K Sessions
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnSGWc,SN:JC5LXHI-2KVPPIQ

Agent Version
=============
Smart Agent for Licensing: 3.0.13
```

Deregistering Smart Licensing

To deregister Smart Licensing:

1. Log in to cnSGW-C Ops Center CLI and use the following command:

   `license smart deregister`

   NOTES:

   - **license smart deregister** —Deregisters Smart Licensing from CSC.

2. Verify the Smart Licensing status using the following command:

   `show license all`

   Example:

```
show license all

Smart Licensing Status
======================
Smart Licensing is ENABLED

Registration:
  Status: UNREGISTERED
  Export-Controlled Functionality: Not Allowed

License Authorization:
  Status: EVAL MODE
  Evaluation Period Remaining: 89 days, 1 hr, 18 min, 55 sec
  Last Communication Attempt: NONE

License Conversion:
 Automatic Conversion Enabled: true
 Status: NOT STARTED

Utility:
  Status: DISABLED
Transport:
   Type: Smart Transport
```

```
   Registration URL: null
   Utility URL: null

Evaluation Period:
  Evaluation Mode: In Use
  Evaluation Period Remaining: 89 days, 1 hr, 18 min, 55 sec

License Usage
=============
License Authorization Status: EVALUATION MODE
  Evaluation Period Remaining: 89 days, 1 hr, 18 min, 55 sec

cnSGWc_1K (cnSGWc_1K)
  Description: Ultra Cloud Core - Serving Gateway Function (cnSGWc), 1K Sessions
  Count: 1
  Version: 1.0
  Status: EVAL MODE
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnSGWc,SN:JC5LXHI-2KVPPIQ

Agent Version
=============
Smart Agent for Licensing: 3.0.13
```

Users without Access to Cisco Software Central

The Smart License Reservation feature—Perpetual Reservation—is reserved for customers without access to CSC from their internal environments. Cisco allows customers to reserve licenses from their virtual account and tie them to their devices' Unique Device Identifier (UDI). This enables customers to use their devices with reserved licenses in a disconnected mode.

The subsequent section describes the procedure involved in reserving Smart License for users without access to CSC from their internal environment.

Enabling and Generating Smart License Reservation Request Code

To enable and generate the Smart License reservation request code:

1. Log in to cnSGW-C Ops Center CLI.
2. To enable reservation, use the following configuration:

   ```
   config terminal
     license smart reservation
     end
   ```

   NOTES:

   - **license smart reservation** —Enables license reservation.

3. To request for a reservation code, use the following command:

   ```
   license smart reservation request
   ```

   NOTES:

- **license smart reservation request** —Generates the license reservation request code.

Important Copy the generated license request code from the SGW Ops Center CLI to your local machine for further use.

Example:

```
license smart reservation request
reservation-request-code CE-ZcnSGWc:JC5LXHI-2KVPPIQ-AwjEHYoEo-F8
Message from confd-api-manager at 2020-07-13 08:27:27...
Global license change NotifyReservationInProgress reason code Success - Successful.
```

Generating an Authorization Code from CSC

To generate an authorization code from CSC using the license reservation request code:

1. Log in to your CSC account.
2. Click **License Reservation**.
3. Enter the Request Code: Paste the license reservation request code copied from the SGW Ops Center CLI in the **Reservation Request Code** text-box.
4. Select the Licenses: Click **Reserve a Specific License** radio button and select *UCC 5G SGW BASE*.

Note In the **Reserve** text box, enter the value *1*.

5. Review your selection.
6. Click **Generate Authorization Code**.
7. Download the response file: The authorization code is generated and displayed on-screen. Click **Download as File** to download the authorization code.
8. Click **Close**.

Reserving Smart Licensing

To reserve Smart License for the deployed product using the authorization code generated in CSC:

1. Log in to cnSGW-C Ops Center CLI and use the following command:

   license smart reservation install *authorization_code*

   NOTES:

   - **license smart reservation install** *authorization_code* —Installs a Smart License Authorization code.

   Example:

   ```
   license smart reservation install
   Value for 'key' (<string>): CAAAsJ-iwTYvW-puASse-nLGbcj-NJwnCo-EpxZ
   Message from confd-api-manager at 2020-07-13 08:30:00...
   Global license change NotifyReservationInstalled reason code Success - Successful.
   ```

```
Message from confd-api-manager at 2020-07-13 08:30:01...
Global license change NotifyRegisterSuccess reason code Success - Successful
```

2. Verify the smart licensing status using the following command:

   show license all

   Example:

```
show license all

Smart Licensing Status
======================
Smart Licensing is ENABLED
License Reservation is ENABLED

Registration:
  Status: REGISTERED - UNIVERSAL LICENSE RESERVATION
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Mon Jul 13 08:29:59 GMT 2020
  Last Renewal Attempt: None

License Authorization:
  Status: AUTHORIZED - RESERVED on Mon Jul 13 08:29:59 GMT 2020

Utility:
  Status: DISABLED

Transport:
   Type: Smart Transport
   Registration URL: null
   Utility URL: null

Evaluation Period:
  Evaluation Mode: Not In Use
  Evaluation Period Remaining: 88 days, 23 hr, 28 min, 54 sec

License Usage
=============
License Authorization Status:
  Status: AUTHORIZED - RESERVED on Mon Jul 13 08:29:59 GMT 2020
  Last Communication Attempt: SUCCEEDED on Jul 13 08:29:59 2020 GMT
  Next Communication Attempt: NONE
  Communication Deadline: NONE

cnSGWc_1K (cnSGWc_1K)
  Description: Ultra Cloud Core - Serving Gateway Function (cnSGWc), 1K Sessions
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: RESTRICTED_ALLOWED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnSGWc,SN:JC5LXHI-2KVPPIQ

Agent Version
=============
Smart Agent for Licensing: 3.0.13
```

Returning the Reserved License

To return the reserved license, use the following procedure:

1. When the license reservation authorization code is installed in the SGW Ops Center:
   a. Log in to the cnSGW-C Ops Center CLI and use the following command:

      `license smart reservation return`

      NOTES:

      - **license smart reservation return**—Returns a reserved Smart License.

      Example:

      ```
      license smart reservation return
      reservation-return-code CAAsJA-vNGQbQ-YmwMTz-ZnN4Kb-eekEy7-jeo
      Message from confd-api-manager at 2020-07-13 08:32:37...
      Global license change NotifyReservationReturned reason code Success - Successful.
      ```

   b. Copy the license reservation return code generated in SGW Ops Center CLI to your local machine for further use.
   c. Log in to your CSC account.
   d. Select your product instance from the list.
   e. Click **Actions** > **Remove**.
   f. Paste the license reservation return code in the **Return Code** text box.

2. When the license reservation authorization code is not installed in the SGW Ops Center:
   a. Log in to the cnSGW-C Ops Center CLI and use the following command to generate the return code:

      `license smart reservation return`
      `authorization_code`

Important Paste the license reservation authorization code generated in CSC to generate the return code.

   b. Log in to your CSC account.
   c. Select your product instance from the list.
   d. Click **Actions** > **Remove**.
   e. Paste the license reservation return code in the **Return Code** text box.

3. Verify the smart licensing status using the following command:

   `show license all`

   Example:

   ```
   show license all

   Smart Licensing Status
   ======================
   Smart Licensing is ENABLED
   ```

```
License Reservation is ENABLED

Registration:
  Status: UNREGISTERED
  Export-Controlled Functionality: Not Allowed

License Authorization:
  Status: EVAL MODE
  Evaluation Period Remaining: 88 days, 23 hr, 23 min, 54 sec
  Last Communication Attempt: SUCCEEDED on Jul 13 08:29:59 2020 GMT
  Next Communication Attempt: NONE
  Communication Deadline: NONE

License Conversion:
 Automatic Conversion Enabled: true
 Status: NOT STARTED

Utility:
  Status: DISABLED

Transport:
   Type: Smart Transport
   Registration URL: null
   Utility URL: null

Evaluation Period:
  Evaluation Mode: In Use
  Evaluation Period Remaining: 88 days, 23 hr, 23 min, 54 sec

License Usage
=============
License Authorization Status: EVALUATION MODE
  Evaluation Period Remaining: 88 days, 23 hr, 23 min, 54 sec

cnSGWc_1K (cnSGWc_1K)
  Description: Ultra Cloud Core - Serving Gateway Function (cnSGWc), 1K Sessions
  Count: 1
  Version: 1.0
  Status: EVAL MODE
  Export status: RESTRICTED_NOTALLOWED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnSGWc,SN:JC5LXHI-2KVPPIQ

Agent Version
=============
Smart Agent for Licensing: 3.0.13
```

Viewing the Smart Licensing information

Use the following **show license** command to view the Smart Licensing information in the cnSGW-C Ops Center:

show license [all | UDI | displaylevel | reservation | smart | status | summary | tech-support | usage]

NOTES:

- **all**—Displays an overview of Smart Licensing information that includes license status, usage, product information, and Smart Agent version.
- **UDI**—Displays Unique Device Identifiers (UDI) details.
- **displaylevel**—Depth to display information.
- **reservation**—Displays Smart Licensing reservation information.
- **smart**—Displays Smart Licensing information.
- **status**—Displays the overall status of Smart Licensing.
- **summary**—Displays a summary of Smart Licensing.
- **tech-support**—Displays Smart Licensing debugging information.
- **usage**—Displays the license usage information for all the entitlements that are currently in use.