

Smart Licensing

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Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Products or Functional Area	cnBNG
Applicable Platform(s)	SMI
Feature Default Setting	Enabled – Always-on
Related Changes in this Release	Not Applicable
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First introduced.	2022.01.0

Feature Description

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. The cnBNG Control Plane (CP) 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:

Procedure

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.

cnBNG CP Smart Licensing

The Smart Licensing feature supports application entitlement for online and offline licensing for all applications (PCF, , cnBNG CP, and NRF). 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. The functionality and operation of the applications is unrestricted even after the end of the evaluation period.

Software Tags and Entitlement Tags

This section describes the software and entitlement tags that are available to identify report, and enforce licenses.

Software Tags

Software tags, also known as product tags, are unique identifiers for the Smart Licensing system to identify each licensable software product or product suite on a device. The Smart client uses this tag for identification during the addition of smart product instance in Cisco Software Central (CSC).

The following software tags exist for the cnBNG CP.

Tag Name	Smart Tag	Condition for License Calculation
CNBNG_CP_SYS_RTU	regid.2021-07.com.cisco.CNBNG_CP_SYS_RTU,1.0_2e15ed3f-929d-47b5-8495-c96531c416b8	These are base licenses and the count is always one (1).
CNBNG_CP_SYS_SIA	regid.2021-07.com.cisco.CNBNG_CP_SYS_SIA,1.0_f6cab505-581f-41ec-8170-3d8c325f7f73	

Entitlement Tags

Entitlement tag is a part of the software that identifies the features in an image that are being used. These tags underlay the communication on usage and entitlements of software products that are installed on devices. The entitlement tag maps to both the product IDs (PID) license and the software image. Every Smart-enabled PID contains one or more entitlement tags.

The following entitlement tags identify licenses in use:

Tag Name	Smart Tag	Condition for License Calculation
CNBNG_CP_ESS_RTU	regid.2021-07.com.cisco.CNBNG_CP_ESS_RTU,1.0_cb8f62c6-1acf-4e65-9d8c-35b12acfbaaf	Per 1000 session only one (1) license is consumed for each entitlement tag. The sessions are rounded off when calculating the number of licenses required: For Example: If num of session count is <= 1000, one license is consumed. If number of sessions are: 1001 to 2000, two licenses are consumed; similarly, from 2001 to 3000, three licenses are consumed and so on. **Note** The number of sessions (session count) is derived from CDL.
CNBNG_CP_ESS_SIA	regid.2021-07.com.cisco.CNBNG_CP_ESS_SIA,1.0_c40ac644-7a76-41b8-a3dc-b66159c0f1ae	

Note

- The license information is retained during software upgrades and rollback.
- If the entitlements service has no entitlements information, the BNG Ops Center does not send any request to the Smart License server and does not install any license.
- If the entitlement is not reported to the BNG Ops Center, then that entitlement is not listed under the **show license *** commands.
- If the given entitlement is reported at least once (license consumed for an entitlement) to the BNG Ops Center, then that entitlement is shown under the **show license *** commands with count zero (0) even though the license is not used in the future.

Sample Output of License Consumption

The following is an example of the output of the license consumption.

```
show license summary
Wed Dec  22 14:56:24.665 UTC+00:00

Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: BU Production Test 1
  Virtual Account: CNBNG_QA_PROD_TEST
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Dec 22 14:56:08 2021 GMT
  Last Renewal Attempt: SUCCEEDED on Dec 22 14:56:08 2021 GMT
  Next Renewal Attempt: Jun 20 14:56:08 2022 GMT
  Registration Expires: Dec 22 14:51:08 2022 GMT

License Authorization:
  Status: AUTHORIZED on Dec 22 14:56:24 2021 GMT
  Last Communication Attempt: SUCCEEDED on Dec 22 14:56:24 2021 GMT
  Next Communication Attempt: Jan 21 14:56:24 2022 GMT
  Communication Deadline: Mar 22 14:51:23 2022 GMT

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

Utility:
  Status: DISABLED

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

License Usage:
  License                      Entitlement Tag
                       Count        Status
-----------------------------------------------------------------------------


2e15ed3f-929d-47b5-8495-c96531c416b8regid.2021-07.com.cisco.CNBNG_CP_SYS_RTU,1.0_2e15ed3f-929d-47b5-8495-c96531c416b8
 1             InCompliance
```

```
f6cab505-581f-41ec-8170-3d8c325f7f73regid.2021-07.com.cisco.CNBNG_CP_SYS_SIA,1.0_f6cab505-581f-41ec-8170-3d8c325f7f73
 1             InCompliance

cb8f62c6-1acf-4e65-9d8c-35b12acfbaafregid.2021-07.com.cisco.CNBNG_CP_ESS_RTU,1.0_cb8f62c6-1acf-4e65-9d8c-35b12acfbaaf
 34            InCompliance

c40ac644-7a76-41b8-a3dc-b66159c0f1aeregid.2021-07.com.cisco.CNBNG_CP_ESS_SIA,1.0_c40ac644-7a76-41b8-a3dc-b66159c0f1ae
 34            InCompliance
```

Configuring Smart Software Licensing for cnBNG CP

Smart Software Licensing for cnBNG CP can be configured after a new cnBNG CP installation.

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Users without Access to CSC, on page 10

Users with Access to CSC

This section describes how to configure Smart Licensing if you have access to CSC portal from your environment.

Setting Up the Product and Entitlement in CSC

Before you begin, you need to set up your product and entitlement in the CSC. To set up your product and entitlement:

1. Log on to your CSC account.
2. Click **Add Product** and enter the following details:
   - **Product name**–Specify the name of the deployed product. For example, cnBNG CP.
   - **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. From the **Entitlement** drop-down list, select **Create New Entitlement**.
6. Select **New Entitlement** in **Add Entitlement** and enter the following details:
   - **Entitlement Name**–Specify the license entitlement name. For example, CNBNG_CP_SYS_RTU.
   - **Description** (Optional)–Enter 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**, enter 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** window, 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**.
13. Verify the status of Smart Licensing by using the following command.

    `show license status`

    Example:

```
bng# show license status
Smart Licensing is ENABLED

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

License Authorization:
  Status: No licenses in use
  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
bng#
```

Registering Smart Licensing

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

1. Log on to your CSC account.
2. Click **General > New Token** and enter the following details:
   - **Description**–Provide a brief description about the ID token.
   - **Expires After**–Specify the number of days for the token to expire.
   - **Max. Number of Uses**–Specify the maximum number of uses.
3. Click **Create Token**.
4. Select **New ID token** in **Product Instance Registration Token**.
5. Click **Actions > Copy**.
6. Log on to BNG Ops Center CLI and paste the **ID token** by using the following command.

   license smart register *idtoken*

   Example:

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

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

   show license status

   Example:

   ```
   show license status
   Wed Jan  12 14:31:16.858 UTC+00:00

   Smart Licensing is ENABLED
   License Reservation is ENABLED

   Registration:
     Status: REGISTERED
     Smart Account: BU Production Test 1
     Virtual Account: CNBNG_QA_PROD_TEST
     Export-Controlled Functionality: Allowed
     Initial Registration: SUCCEEDED on Jan 12 14:31:35 2022 GMT
     Last Renewal Attempt: SUCCEEDED on Jan 12 14:31:35 2022 GMT
     Next Renewal Attempt: Jul 11 14:31:35 2022 GMT
     Registration Expires: Jan 12 14:26:55 2023 GMT

   License Authorization:
     Status: AUTHORIZED on Jan 12 14:31:40 2022 GMT
     Last Communication Attempt: SUCCEEDED on Jan 12 14:31:40 2022 GMT
     Next Communication Attempt: Feb 11 14:31:40 2022 GMT
     Communication Deadline: Apr 12 14:27:00 2022 GMT

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

   Utility:
     Status: DISABLED

   Transport:
     Type: Smart Transport
   ```

```
  Registration URL: null
  Utility URL: null
```

NOTES:

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

Deregistering Smart Licensing

To deregister Smart Licensing:

1. Log on to BNG Ops Center CLI and use the following command.

   `license smart deregister`

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

   `show license all`

   Example:

```
bng# show license all
Mon Dec  13 05:29:03.370 UTC+00:00

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: 86 days, 13 hr, 52 min, 39 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: 86 days, 13 hr, 52 min, 39 sec

License Usage
=============
License Authorization Status: EVALUATION MODE
  Evaluation Period Remaining: 86 days, 13 hr, 52 min, 39 sec

 (CNBNG_CP_SYS_RTU)
  Description: <empty>
  Count: 1
```

```
  Version: 1.0
  Status: EVAL MODE
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

 (CNBNG_CP_SYS_SIA)
  Description: <empty>
  Count: 1
  Version: 1.0
  Status: EVAL MODE
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnBNG,SN:QHJZRXY-IRNN3JA

Agent Version
=============
Smart Agent for Licensing: 3.1.11
bng#
```

NOTES:

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

Users without Access to CSC

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

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

Enabling Smart License Reservation

To enable Smart License reservation through BNG Ops Center CLI:

Log on to BNG Ops Center CLI and use the following configuration.

```
config
   license smart reservation
   commit
   exit
```

NOTES:

license smart reservation : Enable license reservation.

Generating Smart License Reservation Request Code

Note Before generating the Smart License reservation request code, complete the "Enabling Smart License Reservation" procedure.

To generate the Smart License reservation request code:

1. Enter the following command.

   `license smart reservation request`

   Example:

   ```
   bng# license smart reservation request
   reservation-request-code CJ-ZBNG:6GKJ2OA-NMUWA7Y-Ai75GxtBs-3B
   ```

   NOTES:

   - **license smart reservation request** : Generate the license reservation request code.

Important You must copy the generated license request code from the BNG Ops Center CLI.

Generating an Authorization Code from CSC

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

1. Log on to your CSC account.
2. Click **License Reservation** from the Licenses tab.
3. Copy the request code from the BNG Ops Center CLI and paste the request code in the **Reservation Request Code** text-box.
4. Click **Reserve a Specific License** option and select the required licenses and counts to be reserved.
5. Review your selection.
6. Click **Generate Authorization Code**.
7. The authorization code is generated and displayed on-screen. Either click **Copy to Clipboard** or **Download as File** to download the authorization code.
8. Click **Close**.

Reserving Smart Licensing

There are two methods available to reserve the Smart License:

- Key-based: Using the copied clipboard content of the authorization code directly from the CSC.
- URL-based: Using the downloaded file containing the authorization code from CSC, saved on the local server.

To reserve Smart License for the deployed product:

1. Log on to BNG Ops Center CLI and enter the following command.

   Key-based:

   `license smart reservation install key` *`authorization_code`*

   Example:

```
bng# license smart reservation install key
Value for 'key' (<string>): <specificPLR><authorizationCode><flag>A</flag><version>
C</version><piid>73ce7376-4631-45db-bccc-f8b4d31acd33</piid><timestamp>1642000062377
</timestamp><entitlements><entitlement><tag>regid.2021-07.com.cisco.CNBNG_CP_ESS_RTU,
1.0_cb8f62c6-1acf-4e65-9d8c-35b12acfbaaf</tag><count>1</count><startDate>
2021-Dec-01 UTC</startDate><endDate>2022-May-30
UTC</endDate><licenseType>TERM</licenseType><
displayName>CNBNG Control Plane - Essentials - RTU</displayName><tagDescription>
CNBNG Control Plane - Essentials Tier - RTU</tagDescription><subscriptionID>
</subscriptionID></entitlement><entitlement><tag>regid.2021-07.com.cisco.
CNBNG_CP_ESS_SIA,1.0_c40ac644-7a76-41b8-a3dc-b66159c0f1ae</tag><count>1</count>
<startDate>2021-Dec-01 UTC</startDate><endDate>2022-May-30 UTC</endDate>
<licenseType>TERM</licenseType><displayName>CNBNG Control Plane - Essentials -
SIA</displayName><tagDescription>CNBNG Control Plane - Essentials Subscription -
SIA</tagDescription><subscriptionID></subscriptionID></entitlement><entitlement>
<tag>regid.2021-07.com.cisco.CNBNG_CP_SYS_RTU,1.0_2e15ed3f-929d-47b5-8495-c96531c416b8
</tag><count>1</count><startDate>2021-Dec-01 UTC</startDate><endDate>2022-May-30 UTC
</endDate><licenseType>TERM</licenseType><displayName>CNBNG Control Plane - System -
RTU</displayName><tagDescription>CNBNG Control Plane - System - RTU</tagDescription>
<subscriptionID></subscriptionID></entitlement><entitlement><tag>regid.2021-07.com.cisco.
CNBNG_CP_SYS_SIA,1.0_f6cab505-581f-41ec-8170-3d8c325f7f73</tag><count>1</count><startDate>
2021-Dec-01 UTC</startDate><endDate>2022-May-30
UTC</endDate><licenseType>TERM</licenseType>
<displayName>CNBNG Control Plane - System - SIA</displayName><tagDescription>
CNBNG Control Plane - System Subscription - SIA</tagDescription><subscriptionID>
</subscriptionID></entitlement></entitlements></authorizationCode><signature>
MEYCIQC3VB12XNo+gi00fE23Pqd1GZ67MOxzkl+DCVPhS0LonQIhANP27J3skpMnd3O
Qwzm82knoUBFM8Fk0yf2llqQvuByi</signature><udi>P:cnBNG,
S:6OUP5ZY-LMXHB2A</udi></specificPLR>
```

   URL-based:

   `license smart reservation install url { path` *`httpPath`*
   `[ username` *`username`* **`| password`** *`password`* **`] }`**

   Example:

```
bng# license smart reservation install url { username cnbng password **** path http://
10.105.254.55:8000/AuthorizationCode_SN_6OUP5ZY-LMXHB2A.txt }
```

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

   `show license all`

   Example:

```
bng# show license all


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

Registration:
  Status: REGISTERED - SPECIFIC LICENSE RESERVATION
```

```
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Thu Jan 20 10:02:40 GMT 2022
  Last Renewal Attempt: None

License Authorization:
  Status: AUTHORIZED - RESERVED on Thu Jan 20 10:02:40 GMT 2022

Utility:
  Status: DISABLED

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

Evaluation Period:
  Evaluation Mode: Not In Use
  Evaluation Period Remaining: 83 days, 6 hr, 14 min, 43 sec

License Usage
=============
License Authorization Status:
  Status: AUTHORIZED - RESERVED on Thu Jan 20 10:02:40 GMT 2022
  Last Communication Attempt: SUCCEEDED on Jan 20 10:02:40 2022 GMT
  Next Communication Attempt: NONE
  Communication Deadline: NONE

CNBNG Control Plane - System - RTU (CNBNG_CP_SYS_RTU)
  Description: CNBNG Control Plane - System - RTU
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>
  Reservation:
    Reservation Status: SPECIFIC INSTALLED
    Total Reserved Count: 1
    Term expiration: 2022-May-30 GMT

CNBNG Control Plane - System - SIA (CNBNG_CP_SYS_SIA)
  Description: CNBNG Control Plane - System Subscription - SIA
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>
  Reservation:
    Reservation Status: SPECIFIC INSTALLED
    Total Reserved Count: 1
    Term expiration: 2022-May-30 GMT

CNBNG Control Plane - Essentials - RTU (CNBNG_CP_ESS_RTU)
  Description: CNBNG Control Plane - Essentials Tier - RTU
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>
  Reservation:
    Reservation Status: SPECIFIC INSTALLED
    Total Reserved Count: 10
```

```
    Term expiration: 2022-May-30 GMT

CNBNG Control Plane - Essentials - SIA (CNBNG_CP_ESS_SIA)
  Description: CNBNG Control Plane - Essentials Subscription - SIA
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>
  Reservation:
    Reservation Status: SPECIFIC INSTALLED
    Total Reserved Count: 10
    Term expiration: 2022-May-30 GMT

Product Information
===================
UDI: PID:cnBNG,SN:3WI5UXQ-5XPKM6A

Agent Version
=============
Smart Agent for Licensing: 3.1.11
```

Returning the Reserved License

To return the reserved license to CSC if required, generate a return code at the BNG Ops Center.



Note If there is an issue with the return code generation, open a case with the Cisco Technical Assistance Center.

To return the reserved license:

1. When the license reservation authorization code is installed in the BNG Ops Center:
   a. Log on to the BNG Ops Center CLI and use the following command.

      `license smart reservation return`

      Example:

      ```
      bng# license smart reservation return
      reservation-return-code CJ6m3k-RAvu6b-hMNmwf-mrdcko-NoSwKL-tF7orz-9aNtEu-yVjGAm-D6j
      bng#
      ```

   b. Copy the license reservation return code generated in BNG Ops Center CLI.
   c. Log on to your CSC account.
   d. Select your product instance from the list in the Product Instances tab.
   e. Click **Actions > Remove**.
   f. Paste the license reservation return code in **Return Code** text-box.
   g. Select **Remove Product Instance**.

   NOTES:

   - **license smart reservation return** : Return a reserved Smart License.

2. When the license reservation authorization code is not installed in the BNG Ops Center.
   a. Log on to the BNG Ops Center CLI and use the following command to generate the return code.

      license smart reservation return authorization *authorization_code*

      Paste the license reservation authorization code generated in CSC to generate the return code.
   b. Log on to your CSC account.
   c. Select your product instance from the list in the Product Instances tab.
   d. Click **Actions > Remove**.
   e. Paste the license reservation return code in **Return Code** text-box.
   f. Select **Remove Product Instance**.
3. Verify the smart licensing status by using the following command.

   show license all

   Example:

```
bng# show license all
Mon Dec  13 05:29:03.370 UTC+00:00

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: 86 days, 13 hr, 52 min, 39 sec
  Last Communication Attempt: NONE

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

Utility:
  Status: DISABLED

Transport:
  Type: CALLHOME

Evaluation Period:
  Evaluation Mode: In Use
  Evaluation Period Remaining: 86 days, 13 hr, 52 min, 39 sec

License Usage
=============
License Authorization Status: EVALUATION MODE
  Evaluation Period Remaining: 86 days, 13 hr, 52 min, 39 sec

 (CNBNG_CP_SYS_RTU)
  Description: <empty>
  Count: 1
```

```
  Version: 1.0
  Status: EVAL MODE
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

 (CNBNG_CP_SYS_SIA)
  Description: <empty>
  Count: 1
  Version: 1.0
  Status: EVAL MODE
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>

Product Information
===================
UDI: PID:cnBNG,SN:QHJZRXY-IRNN3JA

Agent Version
=============
Smart Agent for Licensing: 3.1.11
```

Canceling License Reservation Request

To cancel a license reservation request through the BNG Ops Center CLI:

Log on to the BNG Ops Center CLI and use the following command.

`license smart reservation cancel`

Monitoring and Troubleshooting Smart Licensing

You can use the following show commands to view Smart Licensing related information in the BNG 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.