



Licensing Command Reference for Cisco UPC and UCC

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About this Guide

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About this Guide

The Licensing Command Reference includes information on the commands that are used to configure and monitor the smart license associated with Cisco Ultra Packet Core (UPC) and Ultra Cloud Core (UCC) products.

This reference describes how to use the command line interface (CLI) to interact with the UPC and UCC products. The description of each command states the command's function, describes its syntax, presents limitations when applicable, and offers an example of its usage.

CLI Command Sections

The following table describes the individual sections in the command descriptions presented in this reference.

Section	Description
Product	The product(s) supporting the CLI command.
Mode	The command and configuration mode sequences to the CLI configuration mode for the CLI command.
Syntax	The command's syntax.
Usage	Information about the command's usage including dependencies and limitations, if any.
Example	Example(s) of the command.

Conventions Used

The following tables describe the conventions used throughout this documentation.

Notice Type	Description
Information Note	Provides information about important features or instructions.

Notice Type	Description
Caution	Alerts you of potential damage to a program, device, or system.
Warning	Alerts you of potential personal injury or fatality. May also alert you of potential electrical hazards.

Typeface Conventions	Description
Text represented as a screen display	This typeface represents displays that appear on your terminal screen, for example: Login:
Text represented as commands	This typeface represents commands that you enter, for example: show ip access-list This document always gives the full form of a command in lowercase letters. Commands are not case sensitive.
Text represented as a command variable	This typeface represents a variable that is part of a command, for example: show card slot_number <i>slot_number</i> is a variable representing the desired chassis slot number.
Text represented as menu or sub-menu names	This typeface represents menus and sub-menus that you access within a software application, for example: Click the File menu, then click New

Command Syntax Conventions	Description
{ keyword or <i>variable</i> }	Required keyword options and variables are those components that are required to be entered as part of the command syntax. Required keyword options and variables are surrounded by grouped braces { }. For example: sctp-max-data-chunks { limit <i>max_chunks</i> mtu-limit } If a keyword or variable is not enclosed in braces or brackets, it is mandatory. For example: snmp trap link-status
[keyword or <i>variable</i>]	Optional keywords or variables, or those that a user may or may not choose to use, are surrounded by brackets.

Command Syntax Conventions	Description
	<p>Some commands support multiple options. These are documented within braces or brackets by separating each option with a vertical bar.</p> <p>These options can be used in conjunction with required or optional keywords or variables. For example:</p> <pre>action activate-flow-detection { initiation termination }</pre> <p>or</p> <pre>ip address [count <i>number_of_packets</i> size <i>number_of_bytes</i>]</pre>

Supported Documents and Resources

Related Documentation

The most up-to-date information for this product is available in the product *Release Notes* provided with each software release.

Contacting Customer Support

Use the information in this section to contact customer support.

Refer to the support area of <http://www.cisco.com> for up-to-date product documentation or to submit a service request. A valid username and password are required to access this site. Please contact your Cisco sales or service representative for additional information.



Smart Licensing Commands

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license smart enable

To enable Smart Licensing for your product, use the **license smart enable** command. Use the no form of this command to disable Smart Licensing and return to the default traditional mode of licensing.

Product UPF

Command Modes Exec > Global Configuration (config)

Syntax Description **license smart enable**

Usage Guidelines Use this command to enable smart licensing for your product. By default, smart licensing mode is disabled for UPF.

If you wish to enable the smart licensing for UPF, contact your Cisco account representative.

license smart deregister

Deregisters the NF for smart licensing.

Product All

Command Modes Exec

Syntax Description `license smart deregister`

deregister

Deregisters the NF for smart licensing.

Usage Guidelines When your product is taken off the inventory, shipped elsewhere for redeployment or returned to Cisco for replacement using the Return Merchandise Authorization (RMA) process, you can use this command to cancel the registration on your product. All smart licensing entitlements and certificates on the product are removed.

license smart factory

Clears all licensing information from the trusted store and memory.

Product UPF

Command Modes Exec

Syntax Description `license smart factory reset`

Usage Guidelines Use this command to clear the licensing information.

license smart product

Configure the product name for smart licensing on the NF.

Product

CUPS, UPF

Command Modes

Exec > Global Configuration (config)

Syntax Description

license smart product *product_name*

The *product_name* can be one of the following:

- cups-cp
- cups-up
- upf

Usage Guidelines

Use this command to configure the product name for smart licensing on the NF.

Example

The example configures UPF as the product name for smart licensing on the NF.

```
Device(config)# license smart product upf
```

license smart renew

Manually renew the ID certification or authorization for the NF.

Product All

Command Modes Exec

Syntax Description `license smart renew { ID | auth }`

renew

Renews the ID certificate or authorization manually.

ID

ID certificates are renewed automatically after six months. In case the renewal fails, the product instance goes into an unidentified state. You can manually renew the ID certificate using this option.

auth

Authorization periods are renewed by the Smart Licensing system every 30 days. As long as the license is in an 'Authorized' or 'Out-of-compliance' (OOC), the authorization period is renewed. Use this command to make an on-demand manual update of your registration. Thus, instead of waiting 30 days for the next registration renewal cycle, you can use this option to instantly find out the status of your license.

After 90 days, the authorization period expires and the status of the associated licenses display "AUTH EXPIRED". Use this option to retry the authorization period renewal. If the retry is successful, a new authorization period begins.

Usage Guidelines Use this command to manually renew the ID certification or authorization for the NF.

license smart register

Registers the instance of virtual or cloud-native Network Function (NF) with Cisco licensing cloud.

Product All

Command Modes Exec

Syntax Description `license smart register idtoken token_id force`

register

Register the NF instance with Cisco licensing cloud.

token_id

Specifies the token generated in smart manager.

Must be an integer.

force

If the registration fails due to communication failure between the NF and the portal or satellite, Cisco Transport Controller (CTC) waits for 24 hours before attempting to register the device again. Use this option to force the registration.

Usage Guidelines Use this command to register the NF instance with Cisco licensing cloud.

Example

```
Device# license smart register force
Tue Nov 26 08:49:28.330 UTC+00:00
Value for 'idtoken' (<string>):
```

license smart reservation

Configure the smart licensing reservation feature on NF.

Product

All

Command Modes

Exec > Global Configuration (config)

Syntax Description

license smart reservation

Usage Guidelines

Enable the license reservation feature for your product instance. Use the **no** form of this command to disable license reservation.

license smart status

Displays the registration details, status of license, and authorization details of license.

Product

All (excluding UPF)

Command Modes

Exec

Syntax Description

`license smart status status-only { false | true }`

status

Displays the complete information about the smart licensing enabled on your product.

status-only

Displays the license status information. Must be one of the following:

- false
- true

Usage Guidelines

Use this command to view the smart licensing status information.

license smart stage

Enable the license reservation on staging environment.

Product All (excluding UPF)

Command Modes Exec > Global Configuration (config)

Syntax Description `license smart stage { false | true }`
Specify to enable or disable smart license on staging environment.
Must be one of the following:

- true
- false

Usage Guidelines Use this command to enable or disable smart license on staging environment..

license smart transport

Configure the mode of transport the product instance uses to communicate with Cisco Smart Software Manager (CSSM).

Product UPF

Command Modes Exec > Global Configuration (config)

Syntax Description `license smart transport transport_mode`

The *transport_mode* must be one of the following:

- callhome—Enables call home as the transport mode.



Note The callhome mode is obsolete.

- smart — Enables smart transport.

Usage Guidelines Specify the mode of transport used to communicate with the CSSM.

Example

The following example configures smart transport for communication with Cisco SSM.

```
Device(config)# license smart transport smart
```

license smart url

Configure the Cisco Smart License Utility (CSLU) URL for the Smart Agent to communicate with CSSM.

Product All

Command Modes Exec > Global Configuration (config)

Syntax Description `license smart url url`

Usage Guidelines Configure the URL for the CSLU feature for your product instance.

Example

The following example shows output for the **license smart url** command:

```
Device(config)# license smart url https://smartreceiver-stage.cisco.com/licservice/license
```

show license all

Displays all the entitlements in use, smart licensing status, associated licensing certificates, compliance status, Unique Device Identifier (UDI), and other details for NF.

Product	All
Command Modes	Exec
Syntax Description	show license all
Usage Guidelines	Use this command to display all the entitlements in use.

Example

The following example displays all the smart licensing information.

```
Device# show license all

Smart Licensing Status
=====

Smart Licensing is ENABLED

Registration:
  Status: UNREGISTERED
  Export-Controlled Functionality: NOT ALLOWED

License Authorization:
  Status: No Licenses in Use

License Conversion:
  Automatic Conversion Enabled: False
  Status: Not started

Export Authorization Key:
  Features Authorized:
    <none>

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Smart
  URL: https://smartreceiver.cisco.com/licservice/license
  Proxy:
    Not Configured

Miscellaneous:
  Custom Id: <empty>

License Usage
```

```

=====
No licenses in use

Product Information
=====
UDI: PID:VPC_SI,SN:4207B285-CD64-8D26-5B36-BCDE4316E08E,VID:V1.0

Agent Version
=====
Smart Agent for Licensing: 4.13.1_rel/8

Reservation Info
=====
License reservation: DISABLED

```

The table describes the significant fields that are shown in the output.

Table 1: show license all Command Output Descriptions

Field	Description
Smart Licensing Status	<p>Displays information of the device status like:</p> <ul style="list-style-type: none"> • Enabled or Disabled • Registration Status, EVALUATION or REGISTERED mode • Smart Account, registered with which smart account • Virtual Account, registered with which virtual account • Time of registration • Next renewal time • When current registration will expire
License Usage	<p>Displays both the license name and the human readable portion of the entitlement tag in the following format:</p> <ul style="list-style-type: none"> • LICENSE_NAME (readable tag portion): <ul style="list-style-type: none"> The LICENSE_NAME is the license name the customer sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. • Description: <ul style="list-style-type: none"> This is the license description user can sees on the CSSM. This description is only available to the agent after registration because it is sent to the agent from the CSSM. • Version of the license • The count that is in use • Status of the license

Field	Description
Product Information	Displays device-specific information, including: <ul style="list-style-type: none">• Product ID• Serial Number• Version ID
Agent Version	Displays which version of smart licensing agent is running on the product.

show license displaylevel

Displays the licensing PID and SN for the product.

Product All (excluding UPF)

Command Modes Exec

Syntax Description **show license displaylevel** *level_number*

Usage Guidelines Use this command to display the PID and SN for the product.

Example

The following example displays the PID and SN for the product.

```
Device# show license displaylevel 4
Tue Nov 26 05:43:06.721 UTC+00:00
license smart udi pid SMF
license smart udi sn WDGI20A-O76Y2NO
```

The table describes the fields that are shown in the output.

Table 2: show license smart Command Output Descriptions

Field	Description
license smart udi pid	Displays the PID of the product.
license smart udi sn	Displays the serial number of the product.

show license enforcement policy

Displays the enforcement policy of smart licensing.

Product UPF

Command Modes Exec

Syntax Description **show license enforcement policy**

Usage Guidelines Use this command to display the enforcement policy.

Example

The following example displays the enforcement policy for smart licensing.

```
Device# show license enforcement policy
Smart Licensing Product Type: UPF
```

```
TagId|Feature |Enforce|List of Services
-----|-----|-----|-----
  1 |UPF-INS |Yes    |UPF-SAE
  2 |UPF-BASE|Yes    |UPF-SAE
```

show license enforcement status

Displays the enforcement policy that is applied or current enforcement status of smart licenses. Status information can be filtered to show only the licenses which are currently allowed or blocked, or by type (feature license or service license).

Product UPF

Command Modes Exec

Syntax Description `show license enforcement status { { allowed | blocked { features | services } } | feature | service }`

allowed

Displays the enforcement status of the allowed features and services.

blocked

Displays the enforcement status of the blocked features and services.

feature

Displays the enforcement status of the feature license.

service

Displays the enforcement status of the service license.

Usage Guidelines Use this command to display enforcement policy that is applied or current enforcement status.

Example

The following example displays the smart-tag information for smart licensing.

```
Device# show license enforcement status
Smart Licensing Product Type: UPF

TagId|Service |Status|Blocked by List of Service and Feature(s)
-----|-----|-----|-----
  2 |UPF-SAE |ALLOW |None

TagId|Feature |Status|List of Service(s) Blocked
-----|-----|-----|-----
  1 |UPF-INS |ALLOW |None
  2 |UPF-BASE|ALLOW |None
```

show license eval-period

Shows information about the evaluation period. Licenses are granted for a 90-day evaluation period until they are registered.

Product	UPF (excluding UPF)
Command Modes	Exec
Syntax Description	<code>show license eval-period</code>
Usage Guidelines	Use this command to display the evaluation period.

show license info

Displays the smart licensing status, registration status, license authorization, license conversion, utility, transport, and other details for smart licensing.

Product All

Command Modes Exec

Syntax Description **show license info**

Usage Guidelines Use this command to display license information and to help with troubleshooting issues that are related to the NF licenses.

Example

The following example displays the smart licensing information.

```
Device# show license info
Key Information (installed key):
  Comment      MASTER LICENSE BP INT SERV ECS NEW SI
  Device 1     None Specified
  Device 2     None Specified
  Chassis Type Any Hardware
  Issued       Tuesday May 21 13:22:05 IST 2024
  Expires      Thursday November 21 13:22:05 IST 2024
  Issued By    Starent Networks
  Key Number   218904
Enabled Features:
Feature
-----
PDSN:
+ FA
GGSN:
+ DHCP
IPv4 Routing Protocols
Mobile Enterprise Security Bundle:
+ IPSec
+ L2TP LAC

IS-835C Prepaid Bundle:
+ Prepaid Accounting
+ Dynamic Radius extensions (CoA and PoD)
+ Destination Based Accounting
Enhanced Charging Bundle 2:
+ DIAMETER Closed-Loop Charging Interface
+ Enhanced Charging Bundle 1
L2TP LNS
PDSN Closed RP
Proxy MIP:
+ FA
IPv6
User Layer3 Tunneling
External Service Steering
Samsung-Only Short Data Burst
Dynamic Mobile IP Key Update
Per-Subscriber Traffic Policing/Shaping
TACACS+
Applicable Part Numbers
-----
[ 600-00-7501 / 600-00-7504 ]
[ None ]
[ 600-00-7544 / 600-00-7545 ]
[ 600-00-7520 ]
[ none ]
[ 600-00-7517 ]
[ 600-00-7507 / 600-00-8537 ]
[ 600-00-7508 / 600-00-7530
600-00-8536 ]
[ 600-00-7561 ]
[ 600-00-7509 ]
[ 600-00-7518 ]
[ 600-00-7510 ]
[ 600-00-7574 ]
[ None ]
[ 600-00-7526 ]
[ 600-00-7503 / 600-00-7506 ]
[ 600-00-7529 / 600-00-7543 ]
[ 600-00-7512 / 600-00-7549
600-00-8538 ]
[ None ]
[ 600-00-7521 / 600-00-7576 ]
[ none ]
[ 600-00-7540 / 600-00-7541 ]
[ 699-00-0003 ]
[ 600-00-7528 ]
[ 600-00-7542 ]
[ 600-20-0159 ]
```

```

Robust Header Compression [ 600-00-7555 ]
GGSN Dynamic QoS Renegotiation [ 600-00-7556 ]
MIP NAT Traversal [ 600-00-7557 ]
Inter-Chassis Session Recovery [ 600-00-7560 / 600-00-7575
600-00-7584 / 600-00-7615
600-00-7659 / 600-00-7663
600-20-0108 / 600-00-7652
600-20-0132 / None
None / None
None / None
None ]

RADIUS AAA Server Groups [ None ]
IP Services Gateway [ 600-00-7587 / 600-00-7591 ]
EV-DO Rev A / PDSN: [ 600-00-7572 / 600-00-7573
600-00-7597 / 600-00-7598 ]
+ PDSN [ 600-00-7501 / 600-00-7504 ]
+ FA [ None ]
+ PCF/BS Monitoring [ 600-00-7514 / 600-00-8506 ]
+ PDSN RAN Optimization, Bundle 1 [ 600-00-7590 ]
HA DNS Intercept Proxy [ 600-00-7577 ]
SCM Proxy/Registrar IETF RFC3261 [ 600-00-9010 / 600-00-9011 ]
SCM Proxy P-CSCF [ 600-00-9012 / 600-00-9013 ]
SCM Serving S-CSCF [ 600-00-9014 / 600-00-9015 ]
SCM Interrogating I-CSCF [ 600-00-9016 / 600-00-9017 ]
Dynamic Policy Interface: [ 600-00-7585 ]
+ DIAMETER Closed-Loop Charging Interface [ None ]
Content Access Control [ 699-00-0011 ]
Integrated Content Filtering Service [ 600-00-7586 ]
Application Detection and Control [ 600-00-7605 ]
Content Filtering ICAP Interface [ 600-00-7578 / 600-00-8530 ]
Samsung-only GGSN Preservation-Mode RADIUS Enhance [ 699-00-0006 ]
Samsung-only SKT VSA's for Delivering Service Key [ 699-00-0007 ]
Samsung-only Free of Charge Service for Credit Exh [ 699-00-0008 ]
Starent-Only PDIF: [ none ]
+ FA [ None ]
+ Session Recovery [ 600-00-7513 / 600-00-7546
600-00-7552 / 600-00-7554
600-00-7566 / 600-00-9100
600-00-9101 / 600-00-7638
600-00-7640 / 600-00-7595
600-00-7669 / None
600-00-7897 / None
600-20-0145 / None
None / None
None ]

Starent-Only SGSN [ none ]
Nortel Content Based Billing G-CDR Format [ 699-00-0014 ]
Verizon-only ITC for PDSN license [ 699-00-0015 ]
MPLS [ 600-00-7579 / 600-00-8531 ]
XT2 WiMAX Bundle: [ 600-00-6700 ]
+ HA [ 600-00-7502 / 600-00-7505
600-00-7592 / 600-00-7593 ]
+ Session Recovery [ 600-00-7513 / 600-00-7546
600-00-7552 / 600-00-7554
600-00-7566 / 600-00-9100
600-00-9101 / 600-00-7638
600-00-7640 / 600-00-7595
600-00-7669 / None
600-00-7897 / None
600-20-0145 / None
None / None
None ]

+ Lawful Intercept [ 600-00-7522 ]
+ Layer 2 Traffic Management [ 600-00-7515 ]

```

show license info

```

+ ASN GW [ 600-00-7588 / 600-00-7589 ]
XT2 WiMAX Inline Services Bundle: [ 600-00-6701 ]
+ HA [ 600-00-7502 / 600-00-7505
600-00-7592 / 600-00-7593 ]
+ Session Recovery [ 600-00-7513 / 600-00-7546
600-00-7552 / 600-00-7554
600-00-7566 / 600-00-9100
600-00-9101 / 600-00-7638
600-00-7640 / 600-00-7595
600-00-7669 / None
600-00-7897 / None
600-20-0145 / None
None / None
None ]
+ Lawful Intercept [ 600-00-7522 ]
+ Layer 2 Traffic Management [ 600-00-7515 ]
+ Intelligent Traffic Control [ 600-00-7568 ]
+ Enhanced Charging Bundle 1 [ 600-00-7526 ]
+ ASN GW [ 600-00-7588 / 600-00-7589 ]
+ Per Subscriber Stateful Firewall [ 600-00-7571 ]
KDDI PDIF Extensions [ 600-00-8540 ]
PDIF Online Upgrade [ 600-00-8508 ]
KDDI PDIF: [ 600-00-8539 ]
+ FA [ None ]
+ IPSec [ 600-00-7507 / 600-00-8537 ]
PGW [ 600-00-7639 / 600-00-7649 ]
HSGW [ 600-00-7641 / 600-00-7650 ]
SGW [ 600-00-7644 / 600-00-7645 ]
MME license: [ 600-00-7648 / 600-00-7646 ]
+ Session Recovery [ 600-00-7513 / 600-00-7546
600-00-7552 / 600-00-7554
600-00-7566 / 600-00-9100
600-00-9101 / 600-00-7638
600-00-7640 / 600-00-7595
600-00-7669 / None
600-00-7897 / None
600-20-0145 / None
None / None
None ]
+ Enhanced Lawful Intercept [ 600-00-7567 / 600-00-8534 ]
Integrated Blockedlisting with DPI [ 600-00-7807 ]
Verizon Only NEMO License [ 600-00-8541 ]
AT&T Only NEMO License, Per Chassis [ None ]
SCM A-SBC SW License [ 600-00-9018 / 600-00-9019 ]
Verizon Only License Suppression [ 699-00-0020 ]
NAT Bypass [ 600-00-7871 ]
Verizon Only NAT/NAPT: [ 699-00-0021 ]
+ NAT/PAT with DPI [ 600-00-7805 ]
APN Aliasing [ 600-00-7626 ]
GRE Interface Tunneling [ 600-00-7861 / 600-00-7862 ]
Header Enrichment [ 600-00-7821 ]
Charging Over Gx [ 600-00-7822 ]
GGSN Interface Throttling [ 600-00-7864 ]
UMTS Overcharging Protection [ 600-00-7820 ]
Combination 3G/4G Gateway [ 600-00-7857 / 600-00-7858 ]
ULI Reporting [ 600-00-7840 ]
Optimized Paging [ 600-00-7843 ]
Circuit Switched Fallback [ 600-20-0075 ]
Video Optimization [ 600-20-0097 ]
Smartphone Tethering Detection [ 600-20-0121 ]
SRVCC Support [ 600-20-0099 ]
Idle Mode Signaling Reduction 1K Sessions [ 600-00-7844 ]
Local Policy Decision Engine [ 600-20-0104 ]
Integrated Policy Control Function [ 600-20-0107 ]

```

```

Direct LTE [ 600-20-0113 / 600-20-0114 ]
Integrated Content Filtering Provisioned Service [ 600-20-0109 ]
HTTP Header Enrichment and Encryption [ 600-20-0096 ]
HTTP Header Encryption [ 600-20-0076 ]
Verizon-Only Pilot Packet [ None ]
Verizon-Only Pilot Tokens [ None ]
MSEG 3G [ None / None ]
DNS Snooping [ None ]
SAE GW Bundle [ 600-20-0133 / 600-20-0131 ]
UE Time Zone Reporting [ 600-20-0137 ]
MSEG 3G and 4G [ None / None ]
MSEG WiFi [ None / None ]
ENAT [ None / None ]
Location Reporting in Connected Mode [ None ]
Dynamic Network Mobile Routing [ None / None ]
AT&T Only License Suppression [ None ]
Persistent Lawful Intercept [ None ]
Overcharging Protection for EPC-GW [ None ]
Overcharging Protection Upgrade for EPC-GW [ None ]
Intelligent RAT Paging for ISR in SGW [ None ]
Dynamic Mobile Network Routing [ None / None ]
Rate Limiting Function (Throttling) [ None ]
Trusted/Un-trusted Wifi - P-CSCF discovery & Locat [ None ]
SaMOG-3G GW [ None / None ]
Flow Aware Packet Acceleration Per ASR5500-U Syste [ None ]
Flow Aware Packet Acceleration Per ASR5500 System [ None ]
EPC Gw VoLTE enhancements [ None ]
SaMOG Local Breakout Basic, Flow based, 1K Session [ None ]
L2TP LAC ICSR [ None ]
Inter-MME/SGW S1-HO [ None ]
Lawful Intercept Secure Memory Dump, Per 1k Sessio [ None ]
Simultaneous EPC procedures per System [ None ]
NPLI for IMS Calls, per System [ None ]
Cause IE Control in DBReq, per Chassis [ None ]
MTC Feature Set [ None ]
UBReq Suppression on Bitrate Change, 1K Sessions [ None ]
Separate Paging Profile for IMS Calls, 1K Sessions [ None ]
EPC Support for GTP Overload Control, Per System [ None ]
EPC Support for P-CSCF Restoration, Per System [ None ]
EPC-GW Support for Wi-Fi Integration, 1K Sessions [ None ]
Per-APN SGW-CDR Generation Support, 1K Sessions [ None ]
ICSR Enhanced Recovery for Data and Control Plane, [ None ]
ADC Trigger Over Gx, 1K Sessions [ None ]
EPC-GW Non-Standard QCI Support, 1K Sessions [ None ]
Override Control over Gx, 1K Sessions [ None ]
ICSR/SR Performance Improvements [ None ]
Writing Gy CCR-T in HDD during OCS failure [ None ]
LMA Dynamic Network Mobile Routing per Chassis [ None ]
DHCPv6 PD Prefix & IPv6 Interface-ID via Radius 1K [ None ]
Gx Based Virtual APN Selection, 1K Sessions [ None ]
Per Subscriber Traffic Shaping APN-AMBR, 1K Sessio [ None ]
Unicast Address Support for DHCPv6 Messages, 1K Se [ None ]
CUPS SAEGW CP Bundle [ None / None ]
CUPS SAEGW UP Bundle [ None / None ]
SRVCC MSC Fallback Support [ None ]
L7 Rules With HTTP URLs Over Gx, 1K Sessions [ None ]
Multimedia Priority Service Feature Set,1K Session [ None ]
ePDG Selection on PGW/SAE-GW [ None ]
Flow Recovery for ECS Dynamic Rules, 1K Sessions [ None ]
Traffic Optimization [ None / None ]
SGW Cause Code Mapping, per System [ None / None ]
Content Classification Service, 1K/10K Sessions [ None / None ]
5G NSA Enablement Fee, Network Wide [ None / None ]
None / None ]

```

show license info

```

5G NSA Feature Set 100K Sess VPCSW Active          [ None / None
                                                    None / None ]
Cisco Ultra Services Proxy solution, 10K Sessions [ None / None
                                                    None / None ]
Inline CUPS per Node, Subscription                 [ None / None
                                                    None / None ]
Upf Enable                                         [ None ]
Session Limits:
  Sessions  Session Type
  -----  -
    10000   PDSN
    12000   HA
    10000   GGSN
    10000   L2TP LNS
    64000   ECS
    10000   IP Services Gateway
    10000   EV-DO Rev A / PDSN
    20000   SCM Proxy/Registrar IETF RFC3261
    20000   SCM Proxy P-CSCF
    10000   SCM Serving S-CSCF
    10000   SCM Interrogating I-CSCF
    12000   ASN GW
    1000    Integrated Content Filtering Service
    1000    Application Detection and Control
    2000    Per Subscriber Stateful Firewall
    1000    XT2 WiMAX Bundle
    1000    XT2 WiMAX Inline Services Bundle
    20000   PGW
    10000   HSGW
    20000   SGW
    10000   MME license
    10000   SCM A-SBC SW License
    10000   Combination 3G/4G Gateway
    50000   Integrated Policy Control Function
    10000   Direct LTE
    10000   MSEG 3G
    10000   SAE GW Bundle
    10000   MSEG 3G and 4G
    10000   MSEG WiFi
    2000    ENAT
    10000   Dynamic Network Mobile Routing
    2000    SaMOG-3G GW
    41000   Traffic Optimization
    1000    CUPS SAEGW CP Bundle 1K/10k Sessions for ASR5k/QVPC
    1000    CUPS SAEGW UP Bundle 1K/10k Sessions for ASR5k/QVPC
    1000    5G NSA Feature Set 100K Sess VPCSW Active

CARD License Counts:
[none]
Status:
  Chassis Type          qvpc-si (Any Hardware)
  License Status        Good (Any Hardware)
  Grace Period Ends     Thursday November 21 13:22:05 IST 2024

```

The table describes the significant fields that are shown in the output.

Table 3: show license info Command Output Descriptions

Field	Description
Key Information	Displays information on the license key, including the following: <ul style="list-style-type: none">• Comments regarding the key• Device-specific information• License key issued date• License key expiry date• License key number
Enabled Features	Indicates the features enabled on the device.
Session Limits	Indicates the session limit and session type.
CARD License Counts:	Indicates the count of license cards.
Status	Displays the smart license status.

show license reservation

Displays the licensing status and reservation status for smart licensing.

Product All (excluding UPF)

Command Modes Exec

Syntax Description `show license reservation`

Usage Guidelines Use this command to display the licensing status and reservation status.

Example

The following example displays the smart licensing reservation information.

```
Device# show license reservation
Tue Sep 24 03:29:56.624 UTC+00:00

Smart Licensing is ENABLED
License Reservation is DISABLED
```

The table describes the fields that are shown in the output.

Table 4: show license reservation Command Output Descriptions

Field	Description
Smart Licensing	Displays whether smart licensing is enabled or disabled.
License Reservation	Displays whether license reservation is enabled or disabled.

show license smart-tags

Displays the entitlement tag ID, feature or services, and unique entitlement tags for smart licensing.

Product All

Command Modes Exec

Syntax Description `show license smart-tags`

Usage Guidelines Use this command to display the entitlement ID and other smart tag details.

Example

The following example displays the smart-tag information for smart licensing.

```
Device# show license smart-tags
Smart Licensing Product Type: UPF

TagId Service Smart Entitlement Tags
-----
 2  UPF-SAE  regid.2020-08.com.cisco.L_UPF_SAE_1K,1.0_5d16e2f6-808a-45ff-8691-f215d5ba2bea

TagId Feature Smart Entitlement Tags
-----
 1  UPF-INS  regid.2020-08.com.cisco.F_UPF_INS,1.0_5cd68c07-152a-48c6-b143-4dc60eb111e5
 2  UPF-BASE  regid.2020-08.com.cisco.F_UPF_BASE,1.0_776395f3-8b8d-46e1-ac6e-0bd2306ef3b6
```

The table describes the fields that are shown in the output.

Table 5: show license smart-tags Command Output Descriptions

Field	Description
Tag-Id	Displays ID of each service or ON/OFF entitlement tag.
Feature / Service	Displays the features or services that are currently supported by NF.
Smart Entitlement Tags	Displays entitlement tag unique to each service or ON/OFF feature.

show license statistics

Displays the smart licensing status, smart licensing mode, total smart license enabled/disabled, license usage, and other details.

Product All

Command Modes Exec

Syntax Description `show license statistics`

Usage Guidelines Use this command to display the license status and other details of smart licensing.

Example

The following example displays the statistics for smart licensing.

```
Device# show license statistics
Smart Licensing Statistics
-----

Smart Licensing Product : UPF
Smart Licensing Status  : ENABLED
Smart Licensing Mode    : EVALUATION
Smart Licensing Enforce : DISABLED

Total SL Enabled       : 1
Total SL Disabled     : 0

Report License Usage   : READY

Report License Usage Timers
-----
Service License Timer  : RUNNING
Feature License Timer  : RUNNING
Feature Audit Timer    : RUNNING

List of Timer Intervals
-----
Report Service License :      5 minutes
Report Feature License :     60 minutes
Audit Feature License  :     30 minutes
Force Report License   :    720 minutes
Service Enforce Policy :      2 minutes
Service OOC Retry      :     60 minutes
Feature Grace Period   : 129600 minutes
Feature Raise OOC Trap :    1440 minutes

SLAGENT deaths        : 0

Service Level Stats Mode: EVALUATION
-----
TagId|Service |Policy|CurCallCnt|MaxCallCnt|LastLicCnt|MaxLicCnt
|ReportSucc|ReportFail|PChgAllow |PChgBlock |PChgBounce|
-----
      2 |UPF-SAE |ALLOW |0          |0          |0          |0          |0          |0          |0
      |0          |0          |          |          |          |          |          |          |0
```

```

Feature Level Stats Mode: EVALUATION
-----
TagId|Feature |Policy|Grace |Status |Once|Track|Usage|EnableCnt
|DisableCnt|ReportSucc|ReportFail|PReqAllow |PReqBlock |
-----
1 |UPF-INS |ALLOW |2160 |Enabled |Yes |No |1 |1 |0 |1 |0
|0 |0 |
2 |UPF-BASE|ALLOW |2160 |Enabled |Yes |No |1 |1 |0 |1 |0
|0 |0 |

```

The table describes the significant fields that are shown in the output.

Table 6: show license statistics Command Output Descriptions

Field	Description
Smart Licensing Product	Displays the product details.
Smart Licensing Status	Displays whether Smart License is Enabled or Disabled.
Smart Licensing Mode	Displays whether the device is in EVALUATION or REGISTERED mode.
Smart Licensing Enforce	Displays whether licensing is enforced.
Total SL Enabled	Indicates total number of times Smart License is enabled on this device.
Total SL Disabled	Indicates total number of times Smart License is disabled on this device.
Report License Usage	Indicates if the timer is running for reporting license usage to CSSM.
List of Timer Intervals	<p>Different types of timers.</p> <ul style="list-style-type: none"> • Report License Usage – When this timer expires the current license usage change only will be reported to CSSM. • Enforce Policy – This option is currently unavailable. • OOC Retry – When this timer expires it reports to CSSM aggressively with current license usage even if the usage count is not changed.
SLMGR - SLAGENT Messages	<p>Indicates the different types of messages exchanged between internal process.</p> <p>Note This field is only for debugging purpose.</p>
Event Notification Stats	<p>Indicates the different types of events received between internal processes.</p> <p>Note This field is only for debugging purpose.</p>

Field	Description
Service Level Stats Mode	<p>Indicates if the service level stats is in EVALUATION or REGISTERED mode.</p> <ul style="list-style-type: none"> • TagId - Displays ID of each service or ON/OFF entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • CurCallCnt – Current number of calls reported to CSSM • MaxCallCnt - Max number of calls reported to CSSM • LastLicCnt – Last reported number of licenses usage to CSSM • MaxLicCnt – Max license usage reported to CSSM • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PChgAllow – Number of times the particular tag policy changed to ALLOW • PChgBlock – Number of times the particular tag policy changed to BLOCK • PChgBounce – Number of times the message to demux to policy change has bounced
Feature Level Stats Mode	<p>Indicates if the feature level stats is in EVALUATION or REGISTERED mode.</p> <ul style="list-style-type: none"> • TagId - Displays ID of each service or ON/OFF entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • Grace – time to expire grace period (grace*feature_report_time = in minutes) • Status – Current status of feature enabled or disabled • Once – Displays whether this feature enabled atleast once • Track – Tracks if multiple devices are using the same license • Usage – Total CLI's using same license • EnableCnt – Number of times this feature is enabled • DisableCnt – Number of times this feature is disabled • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PReqAllow – Number of times the particular tag policy requested to ALLOW • PReqBlock – Number of times the particular tag policy requested to BLOCK

show license summary

Displays the licensing name, entitlement, count, and status of smart licensing.

Product All

Command Modes Exec

Syntax Description **show license summary**

Usage Guidelines Use this command to display the licensing name, entitlement, count, and status.

Example

The following example displays the summary of smart licensing usage.

```
Device# show license summary
Tue Sep 24 05:10:09.690 UTC+00:00

smart licensing is ENABLED

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

License Authorization:
  Status: EVALUATION PERIOD EXPIRED on Sep 20 10:52:40 2024 UTC
  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

License Usage:
  License                               Entitlement Tag
                               Count          Status
-----
regid.2020-04.com.cisco.SMF_BASE,1.0_b49f5997-21aa-4d15-9606-0cff88729f69 1
EvalExpired
```

The table describes the significant fields that are shown in the output.

Table 7: show license summary Command Output Descriptions

Field	Description
Smart Licensing	Displays whether smart licensing is enabled or disabled.

Field	Description
Registration	Displays the current registration state of smart licensing on the system.
License Authorization	Displays the current license authorization of smart licensing on the system.
License Conversion	Displays the current license conversion of smart licensing on the system.
Utility	Displays the current utility status of smart licensing on the system.
Transport	Displays the transport status of smart licensing on the system.
License Usage	<p>Displays information on the license usage like:</p> <ul style="list-style-type: none"> • License – Displays the license name that the user sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. This field will be truncated to 23 letters and ‘...’ added if it is too long. • Entitlement Tag – Displays the human readable portion of the entitlement tag and is always available. This field will be truncated to 25 letters and ‘...’ added if it is too long. • Count – The count that is in use. • Status – Status of the license.

show license smart

Displays the licensing PID and SN for the product.

Product	All (excluding UPF)
Command Modes	Exec
Syntax Description	show license smart
Usage Guidelines	Use this command to display the PID and SN for the product.

Example

The following example displays the PID and SN for the product.

```
Device# show license smart
Tue Sep 24 03:30:38.387 UTC+00:00
license smart udi pid SMF
license smart udi sn FABZDTI-H3CQCIA
[smf] smf#
```

The table describes the fields that are shown in the output.

Table 8: show license smart Command Output Descriptions

Field	Description
license smart udi pid	Displays the PID of the product.
license smart udi sn	Displays the serial number of the product.

show license status

Displays the registration details, status of license, and authorization details of license.

Product All

Command Modes Exec

Syntax Description **show license status**

Usage Guidelines Use this command to display the licensing status, registration, authorization, utility, and transport.

Example

The following example displays the smart license status.

```
Device# show license status
Tue Sep 24 03:31:35.382 UTC+00:00
Smart Licensing is ENABLED

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Smart
  URL: https://smartreceiver.cisco.com/licservice/license
  Proxy:
    Not Configured

Registration:
  Status: UNREGISTERED
  Export-Controlled Functionality: NOT ALLOWED

License Authorization:
  Status: No Licenses in Use

License Conversion:
  Automatic Conversion Enabled: False
  Status: Not started

Export Authorization Key:
  Features Authorized:
    <none>

Miscellaneous:
  Custom Id: <empty>
```

The table describes the significant fields that are shown in the output.

Table 9: show license status Command Output Descriptions

Field	Description
smart licensing	Displays whether smart licensing is enabled or disabled.
Registration	Displays the current registration state of smart licensing on the system.
License Authorization	Displays the current license authorization of smart licensing on the system.
License Conversion	Displays the current license conversion of smart licensing on the system.
Utility	Displays the current utility status of smart licensing on the system.
Transport	Displays the transport status of smart licensing on the system.

show license tech-support

Displays useful information for debugging issues with smart licensing, such as licensing status and registration status.

Product All

Command Modes Exec

Syntax Description `show license tech-support`

Usage Guidelines Use this command to display information such as licensing status and registration status, this is useful in debugging issues.

Example

```
Device# show license tech-support
Tue Sep 24 05:10:50.400 UTC+00:00
Smart Licensing Tech Support info

Smart Licensing Status
=====

Smart Licensing is ENABLED

Registration:
  Status: UNREGISTERED - REGISTRATION FAILED
  Export-Controlled Functionality: NOT ALLOWED
  Initial Registration: FAILED on Jun 20 2024 04:17:15 EDT
  Failure reason: Failed to parse response message. Message format is corrupt

License Authorization:
  Status: No Licenses in Use

License Conversion:
  Automatic Conversion Enabled: False
  Status: Not started

Export Authorization Key:
  Features Authorized:
    <none>

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Smart
  URL: https://smartreceiver.cisco.com/licservice/license
  Proxy:
    Address: <empty>
    Port: <empty>
    Username: <empty>
    Password: <empty>
```

```
Miscellaneous:
  Custom Id: <empty>

Evaluation Period:
  Evaluation Mode: Not In Use
  Evaluation Period Remaining: 88 days, 11 hours, 44 minutes, 22 seconds

License Usage
=====
Handle: 1
  License: <empty>
  Entitlement tag:
  regid.2020-08.com.cisco.L_UPF_SAE_1K,1.0_5d16e2f6-808a-45ff-8691-f215d5ba2bea
  Description: <empty>
  Count: 0
  Version: 1.0
  Status: NOT IN USE(1)
  Status time: Dec 12 2024 10:21:15 EST
  Request Time: None
  Export status: NOT RESTRICTED

Handle: 2
  License: <empty>
  Entitlement tag: regid.2020-08.com.cisco.F_UPF_INS,1.0_5cd68c07-152a-48c6-b143-4dc60eb111e5

  Description: <empty>
  Count: 0
  Version: 1.0
  Status: NOT IN USE(1)
  Status time: Dec 12 2024 10:21:15 EST
  Request Time: None
  Export status: NOT RESTRICTED

Handle: 3
  License: <empty>
  Entitlement tag: regid.2020-08.com.cisco.F_UPF_BASE,1.0_776395f3-8b8d-46e1-ac6e-0bd2306ef3b6

  Description: <empty>
  Count: 0
  Version: 1.0
  Status: NOT IN USE(1)
  Status time: Dec 12 2024 10:21:15 EST
  Request Time: None
  Export status: NOT RESTRICTED

Product Information
=====
UDI: PID:VPC_SI,SN:a37440ed-ca3c-43e7-83e7-460e2bf1819c,VID:V1.0

Agent Version
=====
Smart Agent for Licensing: 4.13.1_rel/8

Upcoming Scheduled Jobs
=====
Current time: Dec 12 2024 10:42:06 EST
Daily: Dec 13 2024 10:20:14 EST (23 hours, 38 minutes, 8 seconds remaining)
Init Flag Check: Expired Not Rescheduled
Reservation configuration mismatch between nodes in HA mode: Expired Not Rescheduled
External Event: Dec 12 2024 11:20:16 EST
sizeof(size_t): 8
Endian: Little
Write Erase Occurred: False
```

```

XOS version: 0.10.0.0
Config Persist Received: False
Message Version: 1.3
connect_info.name: <empty>
connect_info.version: <empty>
connect_info.additional: <empty>
connect_info.prod: False
connect_info.capabilities: <empty>
agent.capabilities: UTILITY, DLC, AppHA, MULTITIER, EXPORT_2, OK_TRY_AGAIN, POLICY_USAGE
Check Point Interface: False
Config Management Interface: False
License Map Interface: True
HA Interface: True
Trusted Store Interface: True
Platform Data Interface: False
Crypto Version 2 Interface: False
SAPPluginMgmtInterfaceMutex: False
SAPPluginMgmtIPDomainName: False
SmartAgentClientWaitForServer: 2000
SmartAgentCmRetrySend: False
SmartAgentClientIsUnified: True
SmartAgentCmClient: True
SmartAgentClientName: UnifiedClient
builtInEncryption: True
enableOnInit: False
SmartTransportProxySupport: True
SmartAgentConcurrentThreadMax: 10
SmartAgentPolicyControllerModel: False
SmartAgentPolicyModel: False
SmartAgentFederalLicense: False
SmartAgentMultiTenant: False
attr365DayEvalSyslog: False
checkPointWriteOnly: False
SmartAgentDelayCertValidation: False
enableByDefault: False
conversionAutomatic: 0
conversionAllowed: True
storageEncryptDisable: False
storageLoadUnencryptedDisable: False
TSPluginDisable: False
bypassUDICheck: False
loggingAddTStamp: False
loggingAddTid: False
HighAvailabilityOverrideEvent: UnknownPlatformEvent
platformIndependentOverrideEvent: UnknownPlatformEvent
platformOverrideEvent: UnknownPlatformEvent
WaitForHaRole: False
standbyIsHot: False
chkPtType: 0
delayCommInit: False
roleByEvent: False
maxTraceLength: 150
traceAlwaysOn: True
debugFlags: 3
Event log max size: 0 KB
Event log current size: 0 KB

Platform Provided Mapping Table
=====
VPC_SI: Total licenses found: 0
Enforced Licenses:
P:VPC_SI,S:a37440ed-ca3c-43e7-83e7-460e2bf1819c,V:V1.0:
No PD enforced licenses

```

The table describes the significant fields that are shown in the output.

Table 10: show license tech-support Command Output Descriptions

Field	Description
smart licensing Status	Displays whether smart licensing is enabled or disabled.
Registration	Displays the current registration state of smart licensing on the system.
License Authorization	Displays the current license authorization of smart licensing on the system.
License Conversion	Displays the current license conversion of smart licensing on the system.
Utility	Displays the current utility status of smart licensing on the system.
Transport	Displays the transport status of smart licensing on the system.
Evaluation Period	Displays the evaluation period of smart licensing on the system.
License Usage	Displays usage information for all entitlements that are currently in use.
Platform provided mapping table	Displays the mapping table.
Product Information	Displays the product information.
Agent Version	Displays the agent version.
Upcoming Scheduled Jobs	Displays the scheduled jobs that are related to smart licensing on the system.
Other Info	Displays information such as Software ID, Agent state, Transport, HTTP URL of the system.

show license UDI

Displays the Universal Device Identifier (UDI) information of your product. UDI is a combination of the Product Identifier (PID) and Serial Number (SN).

Product All

Command Modes Exec

Syntax Description `show license UDI`

Usage Guidelines Use this command to display the UDI information such as description, Cisco PID, and SN.

Example

The following example displays the UDI Information.

```
Device# show license UDI
Tue Nov 12 04:44:26.478 UTC+00:00
```

```
UDI: PID:VPC_SI,SN:4207B285-CD64-8D26-5B36-BCDE4316E08E,VID:V1.0
```

The table describes the fields that are shown in the output.

Table 11: show license UDI Command Output Descriptions

Field	Description
UDI	Displays UDI information (card/item description, Cisco PID, and SN) for all hardware installed in this system.

show license usage

Displays the usage information for all entitlements that are currently in use.

Product All

Command Modes Exec

Syntax Description `show license usage`

Usage Guidelines Use this command to display the licensing authorization, description, count, version, and status.

Example

The following example displays the smart licensing usage information.

```
Device# show license usage
Sat Oct 5 20:06:18.206 UTC+00:00

License Authorization Status:
  EVALUATION PERIOD EXPIRED on Sep 20 10:52:40 2024 UTC

(SMF_BASE)
  Description: <empty>
  Count: 1
  Version: 1.0
  Status: EVAL EXPIRED
  Export status: NOT RESTRICTED
  Feature Name: <empty>
  Feature Description: <empty>
```

The table describes the fields that are shown in the output.

Table 12: show license status Command Output Descriptions

Field	Description
License Authorization	Displays the current license authorization of smart licensing on the system.
Description	Displays the license description on the CSSM. This description is only available to the agent after registration because it is sent to the agent from the CSSM.
Count	Displays the count that is in use.
Version	Displays the version of the license.
Status	Displays the status of the license.

show license usage