

CISCO *Live!*

ALL IN

#CiscoLive



The bridge to possible

# Smart Licensing Troubleshooting and Case Studies

Shashank Singh  
Principal Engineer  
Cisco Customer Experience

@shashankcisco  
BRKTRS-2034

CISCO *Live!*

#CiscoLive

# Cisco Webex App

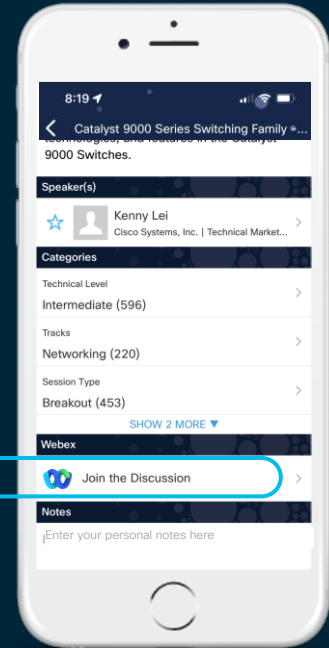
## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 17, 2022.



<https://cicolive.ciscoevents.com/cicolivebot/#BRKTRS-2034>



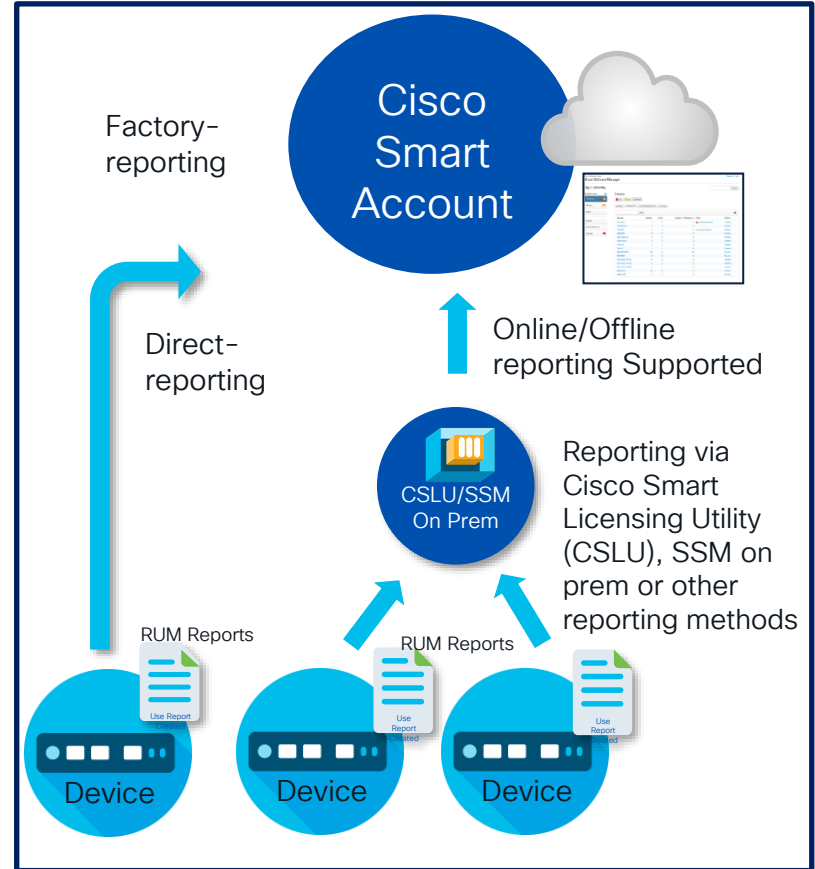
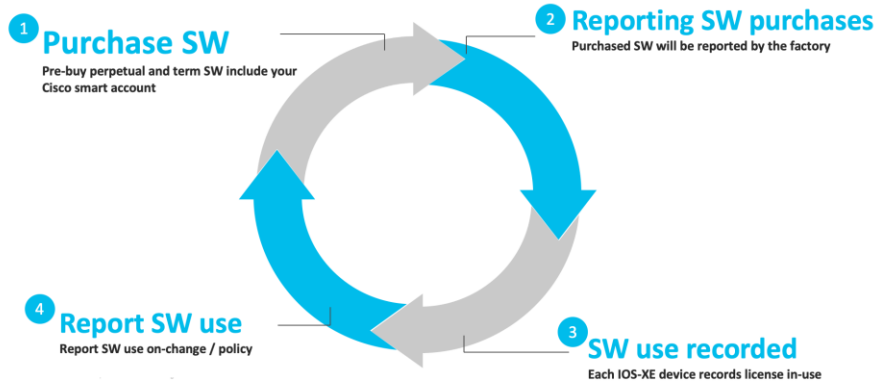
# Agenda

- Introduction
- Troubleshooting Smart Licensing
- Case Studies
- Appendix

# Introduction

# Smart Licensing Using Policy

- Smart Licensing using Policy first implemented in IOSXE version 17.3.2.
- What is different from old smart licensing approach?
- How are new commands in Smart Licensing using Policy interpreted?



# Difference between SL and SLP

## Key Differences

### Legacy Smart License (SL)

- Mandatory evaluation mode
- Registration to CSSM/satellite for compliance
- Licenses reported at regular intervals
- SL flow per device - Device is aware of Smart Account/Virtual account (SA/VA)
- SLR for off-line customers

### Smart Licensing using Policy (SLP)

- No registration or evaluation mode
- Allows unlimited usage of un-enforced licenses
- Usage reports gathered and sent later
- Device has no knowledge SA/VA
- No SLR for greenfield - [policy download]

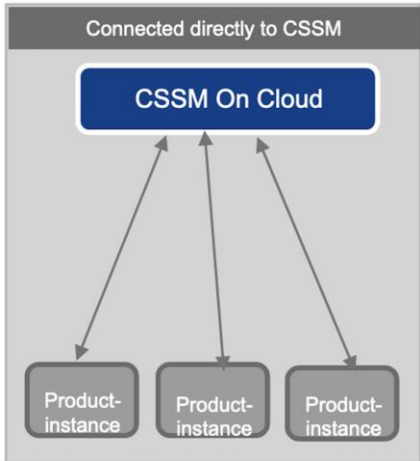
#### Registration & Report



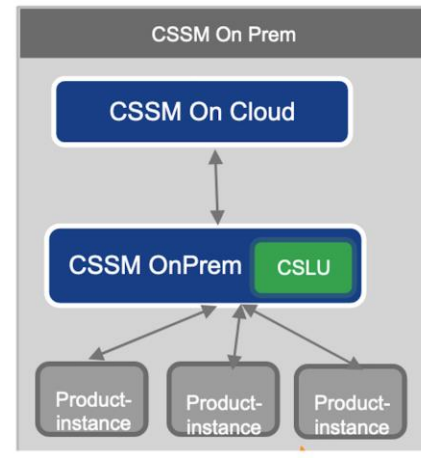
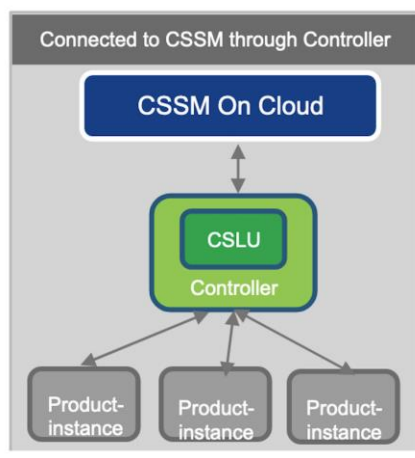
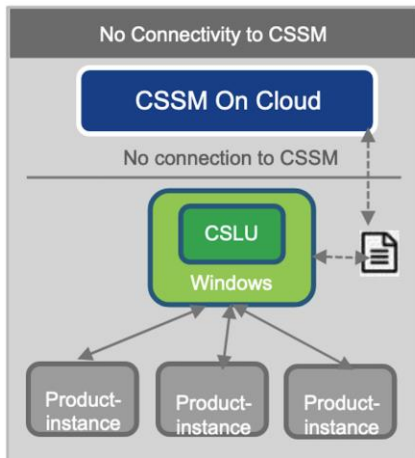
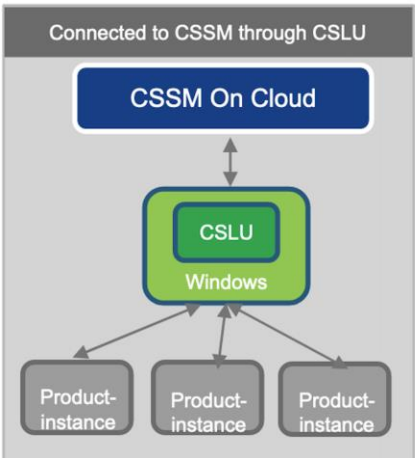
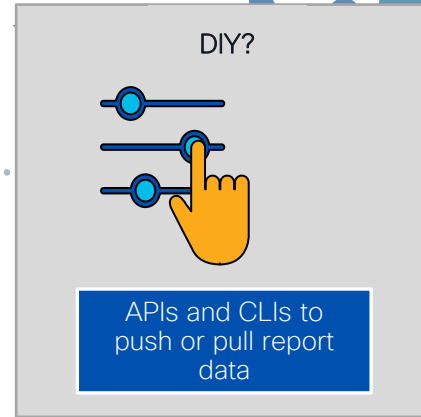
#### Report Only



# Smart Licensing using Policy – Design Options



DNAC SLP support starts from DNAC 2.2.1.0 release onward





# Troubleshooting Smart Licensing



# Smart Licensing Using Policy

## Smart Licensing using Policy on Catalyst Switching Platforms

<https://www.cisco.com/c/en/us/support/docs/switches/catalyst-9300-series-on-catalyst.html>

### Smart Licensing using Policy

Terminology

Why this Change?

The New Components

Policy

RUM Reports

Manufacturing flow for Greenfield Deployment Case

CSLU

### Smart Licensing using Policy - Direct Connect

License Reporting

Direct Connect - Smart Transport

Direct Connect - Call-home Transport

### Smart Licensing using Policy - CSLU

CSLU Installation and Configuration

CSLU using PUSH Mode

CSLU Auto Discovery

CSLU using PULL Mode

PULL Mode using RESTAPI

CSLU-Procedure to Setup

PULL Mode using RESTCONF

CSLU- Procedure to Set-up

PULL Mode using NETCONF

CSLU - Procedure to Set-up

CSLU using Disconnected Mode

### Smart Licensing using Policy - Offline Mode

#### Troubleshoot

Debug PI

Debug CSLU

## Migrate Catalyst License to Smart Licensing Using Policy

<https://www.cisco.com/c/en/us/support/docs/switches/catalyst-9300-series-switches/216520-migrate-catalyst-license-to-smart-licens.html>

### Migrate Smart License Registration (SL) to Smart Licensing Using Policy

Show Commands on the Device with Registered Licenses before Upgrade to Smart Licensing Using Policy

Show Commands on the Device after Boot with the Smart Licensing Using Policy Supported Image

Downgrade from Smart Licensing Using Policy to Smart License Registration Image

### Migrate SLR to Smart Licensing Using Policy

Show Commands on the Device with Older Smart License Supported Image

Show commands on the Device after booting with the Smart Licensing Using Policy supported image.

Reporting Usage at a Later Date when Required Based on Policy

Downgrade from Smart Licensing Using Policy to Specific License Reservation Supported Image

### Migrate Eval or Eval Expired to Smart Licensing Using Policy

Show Commands for Smart Licenses in Eval/Eval Expired Mode

Show Commands for Smart License Smart Licensing Using Policy after the Upgrade but Usage Not Reported Yet

Show Commands for Smart Licensing Using Policy after Connecting to CSLU and Reporting Usage

Downgrade from Smart Licensing Using Policy Image to Image Supporting Eval or Eval Licenses

### Migrate RTU License to Smart Licensing Using Policy

Show Commands on the Device with RTU Licensing

Show Commands on the Device after Upgrading from RTU to Smart Licensing Using Policy Supported Image

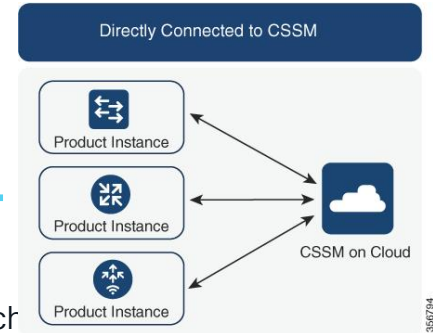
Downgrade from Smart Licensing Using Policy Image to Image Supporting RTU Licenses

Downgrade from Smart Licensing Using Policy Image to Image Supporting Smart License

### Smart Licensing Using Policy Custom Policies

# SLP Connected directly to CSSM - 1/3

Direct Connect - Smart Transport  
Direct Connect - Call-home Transport



**Step 1.** When using direct connection to Cisco Smart Software Manager (CSSM) on a Switch Smart Licensing using Policy (IOSXE 17.3.2 or newer) these steps help establish a connection with the portal and get the licenses:

- Verify the Switch can reach Cisco licensing server

```
Switch#ping smartreceiver.cisco.com  
Switch#telnet smartreceiver.cisco.com 443
```

- If you can't reach the server by the domain name you can configure a DNS static entry, for example:

```
Switch(config)#ip host smartreceiver.cisco.com 72.163.10.105
```

- In order to obtain the IP address of smartreceiver.cisco.com, use nslookup or similar utility. Currently, it's being load balanced between these IP addresses:

```
72.163.15.144  
72.163.10.105  
173.36.127.16  
192.133.220.90
```

ICMP (ping) might be blocked for some of them.



# SLP Connected directly to CSSM – 2/3

## Step 2. Configure the smart transport on the Switch

The call-home transport can still be used for Smart Licensing Using Policy. However it's a legacy method and it is recommended to use smart transport instead.

```
Switch(config)# license smart transport smart
Switch(config)# license smart url default
```

If communication with CSSM should occur in a particular VRF, assign specific source interface as needed:

```
Switch(config)# ip http client source-interface <INTERFACE-TYPE-NUMBER>
```

In case you are using a PROXY for internet reachability please configure the following commands:

```
Switch(config)# license smart proxy address "IP-ADDRESS"
Switch(config)# license smart proxy port <PORT-NUMBER>
```

## Step 3. Obtain a token from the CSSM portal

Go to [software.cisco.com](https://software.cisco.com) > Smart Software Manager > Manage licenses.  
Navigate to Inventory > select the proper Virtual Account > General.

If there is a valid token available copy the token to the clipboard. If there is no valid token available generate a new token and copy it to the clipboard.



A single token can be used for multiple switches if it didn't expire.



# SLP Connected directly to CSSM – 3/3

Troubleshoot trust installation/sync



## Step 4. Establish trust with CSSM

Switch will establish trust with CSSM using the token obtained from the Virtual Account on CSSM.

```
Switch# license smart trust idtoken <TOKEN> all force
```

After a few minutes at the very bottom of the 'show license status' output you should see the trust code was installed

```
Switch#show license status
```

```
<...>
```

```
Trust Code Installed: Feb 25 18:37:51 2021 UTC
```



## Step 5. Trigger a license usage report

After a few minutes in the 'show license status' output you should see the the "Last report push" and "Last ACK received" timestamps

```
Switch#show license status
```

```
<...>
```

```
Usage Reporting:
```

```
Last ACK received: Mar 27 22:33:28 2021 UTC
```

```
Next ACK deadline: Jun 25 22:33:28 2021 UTC
```

```
Reporting push interval: 30 days
```

```
Next ACK push check: <none>
```

```
Next report push: Apr 26 22:29:28 2021 UTC
```

```
Last report push: Mar 27 22:29:28 2021 UTC
```

```
Last report file write: <none>
```



All licenses used on the Switch will be included in the license usage report. These licenses are displayed in 'show license summary'.



In order to push the report to CSSM, issue "license smart sync all" command.



```
Switch#show license tech support | s Trust
Trust Establishment:
Attempts: Total=0, Success=0, Fail=0 Ongoing Failure: Overall=0 Communication=0
Last Response: <none>
Failure Reason: <none>
Last Success Time: <none>
Last Failure Time: <none>
Trust Acknowledgement:
Attempts: Total=0, Success=0, Fail=0 Ongoing Failure: Overall=0 Communication=0
Last Response: <none>
Failure Reason: <none>
Last Success Time: <none>
Last Failure Time: <none>
Trust Sync:
Attempts: Total=0, Success=0, Fail=0 Ongoing Failure: Overall=0 Communication=0
Last Response: <none>
Failure Reason: <none>
Last Success Time: <none>
Last Failure Time: <none>
Trusted Store Interface: True
Local Device: No Trust Data
Overall Trust: No ID
```

# Troubleshooting Scenarios – Product Instance

## 1. Check current license status

Check the output of “show license status”.

## 2. Check policy installation status

From the output of ‘show license tech support’, under “Policy” section, data should be displayed.

Policy:

Policy in use: Installed On  
Oct 08 19:07:28 2021 UTC  
Policy name: SLE Policy

## 3. Check trust is installed/established

From the output of ‘show license tech support’, data should be displayed at the bottom.

Local Product-instance:  
P:CSR1000V,S:9R0LNVXST8K,  
state[2], Trust Data INSTALLED  
Overall Trust: INSTALLED (2)

## 4. Check Purchase info

In the output of ‘show license tech support’, purchase info if available is displayed under section “Purchased Licenses:”.

## 5. Check for communication issues

Syslog will appear if there are communication issues explaining further details.

## 6. Check if authcode is installed

In the output of ‘show license tech support’, under section “Authorizations:”, info of auth code installation is displayed.

Authorization type:  
SMART AUTHORIZATION INSTALLED

## 7. Check if reporting is required

In the output of ‘show license tech support’, under section “Usage Reporting:” data is displayed reflecting reporting status.

If no reporting required:  
Reporting push interval: 0

If any reporting required:  
Reporting push interval: 30  
days State(4) InPolicy(30)

## 8. Check report frequency

In the output of ‘show license tech support’, under section of ‘Usage Reporting:’, next timestamp of reporting is displayed.

Next report push: Oct 19  
21:52:13 2021 UTC

## 9. Check ACK deadline.

In the output of ‘show license tech support’, under section of ‘Usage Reporting:’, time of ACK deadline is displayed.

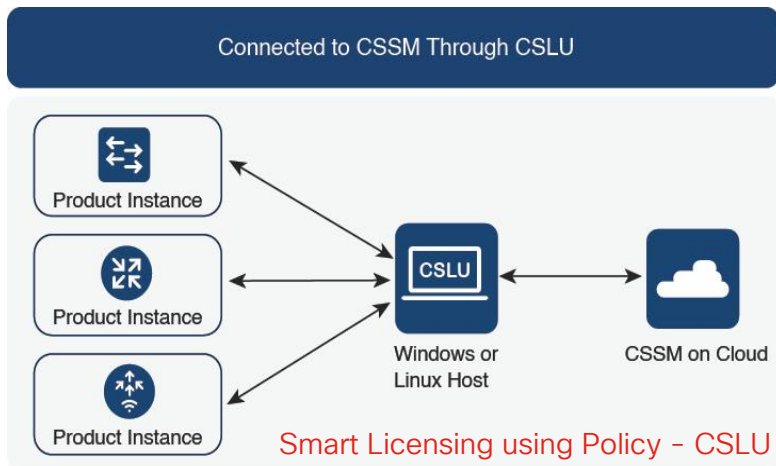
Next ACK deadline:  
Nov 18 21:45:17 2021 UTC

## 10. Check if ACK was received.

In the output of ‘show license tech support’, under section of ‘Usage Reporting:’, info about ACK is displayed

Last ACK received:  
Oct 19 21:45:17 2021 UTC

# Smart Licensing – Cisco SL Utility



CSLU using PUSH Mode  
 CSLU Auto Discovery  
 CSLU using Disconnected Mode

CSLU using PULL Mode

CSLU initiates the process of fetching the rum reports from the devices.

Network Management Protocol	Reference	Additional information
NETCONF	<a href="#">rfc6241</a>	Transport: SSH. Requires configuring SSH and Netconf.
RESTCONF	<a href="#">rfc8040</a>	Transport: HTTP, HTTPS. Requires configuring HHTP/HTTPS server, Restconf.
Native REST	Cisco Proprietary	Transport: HTTP, HTTPS. Requires configuring HHTP/HTTPS server. Some device may enable HTTP server by default.

C:\Users\\AppData\Roaming\CSLU\var\logs

CSLU logs on Windows for troubleshooting



# Troubleshooting Scenarios – CSLU



CSLU can't pull report from product-instance



Can CSLU ping the product-instance?



Does product-instance have HTTPS configured?



Is product-instance's password properly set in CSLU?



Put product-instance's IP address in browser. If HTTPS is properly configured, its management page will load. If this fails, CSLU won't be able to pull reports.



Check alerts and logs files from the CSLU and the product-instance .



CSLU has intermittent connection to CSSM



Check log files (Both product-instance and CSLU)



On Product-instance check 'show license history message' output



"Download for Cisco" can be used to manually download reports when connection is down.



If CSLU has proper connectivity to CSSM, "Download for Cisco" should return the following error:  
*'there won't be any files to download, they were all set to CSSM'*



# Additional Tips

**Scenario:** Policy failure due to time mismatch. Switch may not register because a policy was installed, but an error was detected while parsing the policy code, and installation failed.

**A signature mismatch:** This means that the system clock is not accurate.

**A timestamp mismatch:** This means the system clock on the product instance is not synchronized with CSSM.



## Checks:

- Ensure that the system clock is accurate and synchronized with CSSM.
- Configure the ntp server command in global configuration mode. For example:

```
Switch(config)#ntp server 198.51.100.100 version 2 prefer
```

**Scenario:** Running into SLP issues.  
What data to collect from the switch ?



- show license all
- show license tech support
- show license eventlog
- show license history message
- request platform software trace rotate all
- show logging process iosrp internal start last boot to-file bootflash:<file-name>
- show ip http server session-module

↓

HTTP server application session modules:					
Session module Name	Handle	Status	Secure-status	Description	
HTTP_IFS	1	Active	Active	HTTP based IOS File Server	
SL_HTTP	2	Active	Active	HTTP REST IOS-XE Smart License Server	
OPENRESTY_PKI	3	Active	Active	IOS OpenResty PKI Server	
HOME_PAGE	4	Active	Active	IOS Homepage Server	
BANNER_PAGE	5	Active	Active	HTTP Banner Page Server	
WEB_EXEC	6	Active	Active	HTTP based IOS EXEC Server	
GS17FB438406350-lic	7	Active	Active	license agent app	
GS17FB43B2595E0-web	8	Active	Active	wsma infra	
GS17FB435357EE0-web	9	Active	Active	wsma infra	
NG_WEBUI	10	Active	Active	Web GUI	

# Case Studies



# Switch Registration is Failing

## Server Reachability Issues - 1/2

Switch License Authorization "Failure reason: Fail to send out Call Home HTTP message."

### Behavior

Switch will not register and the DLC process can not be done

### Logs

```
*May 27 19:45:49.721: %SMART_LIC-3-COMM_FAILED: Communications failure with the Cisco Smart Software Manager or satellite : Fail to send out Call Home HTTP message.
```

```
*May 27 19:45:49.722: %SMART_LIC-3-AUTH_RENEW_FAILED: Authorization renewal with the Cisco Smart Software Manager or satellite : Communication message send error for udi PID:WS-C3850-24P,SN:xxxxxxxxxx
```

### Snip of "show license all"

```
License Authorization:
```

```
Status: OUT OF COMPLIANCE on Jul 26 09:24:09 2018 UTC
```

```
Last Communication Attempt: FAILED on Aug 02 14:26:23 2018 UTC
```

```
Failure reason: Fail to send out Call Home HTTP message.
```

```
Next Communication Attempt: Aug 02 14:26:53 2018 UTC
```

```
Communication Deadline: Oct 25 09:21:38 2018 UTC
```

Failure Reason

# Switch Registration is Failing

## Server Reachability Issues - 2/2

Switch License Authorization "Failure reason: Fail to send out Call Home HTTP message."

### What to look into?

- Verify HTTP configuration on the switch is correct. `show run | section http`
- Call home is the correct address. `show call-home profile all`
- Verify reachability to [tools.cisco.com/smartreceiver.cisco.com](https://tools.cisco.com/smartreceiver.cisco.com)
- Check HTTP client source interface is correct `Switch(conf)#ip http source-interface`
- Check ip route is pointing the right way `Show ip route`
- Ensure **TCP443** is not being blocked anywhere in the path
- Check DNS source interface configuration `ip domain lookup source-interface <id>`

# License Authorization Renewal Failure

## Logs

```
%SMART_LIC-3-AUTH_RENEW_FAILED: Authorization renewal with the Cisco Smart Software Manager (CSSM) :  
Error received from Smart Software Manager: Data and signature do not match for udi PID:C9300-  
24P,SN:XXXXXXXXXX  
  
%SMART_LIC-3-AUTH_RENEW_FAILED: Authorization renewal with the Cisco Smart Software Manager (CSSM) : NULL  
for udi 'nullPtr' *Nov 30 22:38:24.137: %SMART_LIC-5-END_POINT_RESET: End Point list reset  
  
%SMART_LIC-3-AUTH_RENEW_FAILED: Authorization renewal with the Cisco Smart Software Manager (CSSM) :  
Agent received a failure status in a response message. Please check the Agent log file for the detailed  
message. for udi PID:C9300-24P,SN: XXXXXXXXXXXX
```

## Remedy

- The error message indicates an issue with license authorization and the UDI for this switch on the CSSM side.
- Re-authorize the license by generating a new token and registering the Switch again manually.

```
#license smart deregister  
#license smart register idtoken <insert token> force  
#license smart renew auth
```

# QuoVadis Certificate Expiration FN – 72323

## Field Notice

<https://www.cisco.com/c/en/us/support/docs/field-notices/723/fn72323.html>

- For all versions of IOS-XE Products, some Secure Sockets Link (SSL) certificates issued from the QuoVadis root certificate authority (CA) trust chain before 2021-03-31 cannot be renewed from this CA.
- As a result, certain functions such as Smart Licensing and Smart Call Home will switch to a new trust certificate (IdenTrust) before QuoVadis certification expires.

## Logs

```
%SMART_LIC-3-COMM_FAILED: Communications failure with the Cisco Smart Software Manager (CSSM) : Fail to send out Call Home HTTP message.

%SMART_LIC-3-AUTH_RENEW_FAILED: Authorization renewal with the Cisco Smart Software Manager (CSSM) : Communication message send error for udi <>

%SMART_LIC-3-AGENT_REG_FAILED: Smart Agent for Licensing Registration with the Cisco Smart Software Manager (CSSM) failed: Fail to send out Call Home HTTP message.

%CALL_HOME-5-SL_MESSAGE_FAILED: Fail to send out Smart Licensing message to:
https://tools.cisco.com/its/service/oddce/services/DDCEService (ERR 205 : Request Aborted)

%CALL_HOME-5-SL_MESSAGE_FAILED: Fail to send out Smart Licensing message to:
https://tools.cisco.com/its/service/oddce/services/DDCEService (ERR 207 : Connection time out)
```

# QuoVadis Certificate Expiration FN - 72323

## Remedy

- For Cisco IOS XE-based products, upgrade the software to any of the fixed releases - 16.12.6, 17.3.4, 17.4.2, 17.5.1, 17.6.1, 17.7.1 or later to resolve the root CA certificate issue for affected platforms.
- Manual import of the IdenTrust Commercial Root CA 1 from the product's trust store.  
Use a simple text editor and copy the certificate (without the BEGIN CERTIFICATE and END CERTIFICATE lines).

```
Switch#config t
Enter the crypto pki trustpool import terminal command.

Switch(config)#crypto pki trustpool import terminal
% Enter PEM-formatted CA certificate.
% End with a blank line or "quit" on a line by itself.
MIIFYDCCA0igAwIBAgIQCgFCgAAAAUjyES1AAAAjANBgkqhkiG9w0BAQsFADBK
MQswCQYDVQQGEwJVUzESMBAGA1UEChMJSWRlbnRlc3R1b1RydXN0MScwJQYDVQQDEx5JZGVu
VHJlc3QgQ29tbWV5Y21hbCBSb290IENBIDUwMTE2MTg5MjIzWWhcNMzQw
<snip>
"% PEM files import succeeded".
Enter exit.

Switch(config)#exit

Save the configuration
Switch #write memory
```

```
CA Certificate
Status: Available
Certificate Serial Number (hex): 0A0180000002
Certificate Usage: Signature
Issuer:
  cn=IdenTrust Commercial Root CA 1
  o=IdenTrust
  c=US
Subject:
  cn=IdenTrust Commercial Root CA 1
  o=IdenTrust
  c=US
Validity Date:
  start date: 02:12:23 CST Jan 17 2014
  end date: 02:12:23 CST Jan 17 2034
Associated Trustpoints: Trustpool
Trustpool: Downloaded
```

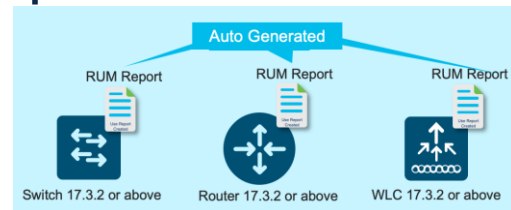
- Verify using show crypto pki trustpool command

# High CPU utilization due to RUM reports - 1/2

## Caveat

Due to the QuoVadis certificate expiration issue, the accumulated RUM reports may cause high CPU utilization

<https://quickview.cloudapps.cisco.com/quickview/bug/CSCcv72609>



A Reported Utilization Measurement report (RUM report) is a license usage report generated by the product to fulfil reporting requirements as specified by the policy.

## Symptom

The affected Switch shows evidence of high CPU usage triggered by 'SAGetRUMIds' or 'SAUtilRepSave', in some scenarios even both:

```
C9300#show process cpu sorted
CPU utilization for five seconds: 100%/1%; one minute: 61%; five minutes: 28%
  PID Runtime(ms)   Invoked    uSecs   5Sec   1Min   5Min  TTY Process
   662   272007421     19185503   14177  60.00% 45.62% 13.41%  0 SAGetRUMIds
   150   310763355     20821285   14925  38.03% 12.50% 13.43%  0 SAUtilRepSave
```

Syslogs may show:

```
%IVR-3-LOW_CPU_RESOURCE: IVR: System experiencing high cpu utilization (96/100).
```

## Conditions

Smart Licensing and RUM reports are used in the Switch. The CPU usage triggers when the RUM report list is used.



# High CPU utilization due to RUM reports - 2/2

## Verification

```
C9300#show license tech support | include RUM reports
```

```
Send Utility RUM reports: Feb 22 16:04:53 2021 MET (34 minutes, 45 seconds remaining)
Save unreported RUM Reports: Feb 22 16:21:26 2021 MET (51 minutes, 18 seconds remaining)
Process Utility RUM reports: Feb 22 17:04:38 2021 MET (1 hours, 34 minutes, 30 seconds remaining)
```

## Workaround

Delete the RUM reports list.

```
C9300#license smart factory reset
%Warning: reload required after "license smart factory reset" command
```

Alternatively, using the offline/reservation method can mitigate this as usage reports are manually handled. Details for this can be found here:

[https://www.cisco.com/c/en/us/td/docs/routers/sl\\_using\\_policy/b-sl-using-policy/how\\_to\\_configure\\_workflows.html#Cisco\\_Concept.dita\\_7057e18c-3c69-4d91-841b-0b5beb7a2d88](https://www.cisco.com/c/en/us/td/docs/routers/sl_using_policy/b-sl-using-policy/how_to_configure_workflows.html#Cisco_Concept.dita_7057e18c-3c69-4d91-841b-0b5beb7a2d88)

Fixed in IOS XE versions 17.3.5, 17.6.2, 17.7.1



# 9200L upgrade with smart license registration enabled

## Caveat

A Catalyst 9200L switch may experience an unexpected reset when using Smart Licenses Reservation during an upgrade from 16.12.3a (Smart Licensing Reservation/SLR) to 17.3.3 / 17.3.4 (Smart Licensing using Policy) when smart licensing registration is enabled.

<https://quickview.cloudapps.cisco.com/quickview/bug/CSCvy79737>

Reload reason: Critical process crash in **Smart Agent process.**

## Remedy

Disable Smart License reservation

```
Switch(config)#no license smart reservation
```

Fixed in IOS XE version 17.3.5 and later

```
IOSD RP: 2 messages not written to btrace log fileJun 16 13:47:00.106:
%PMAN-3-PROCHOLDDOWN: R0/0: The process linux_iosd-image has been
helddown (rc 139)
Jun 16 13:47:00.246: %PMAN-0-PROCFAILCRIT: R0/0: pvp: A critical process
linux_iosd_image has failed (rc 139)
Jun 16 13:47:00.444: %PMAN-3-RELOAD_SYSTEM: R0/0: pvp: Reloading: Peer
switch is not standby ready. System will be reloaded
```

**Chassis 1 reloading, reason - Critical process crash**

```
Jun 16 13:47:01.198: %PMAN-5-EXITACTION: C0/0: pvp: Process manager is
exiting: reload cc action requested
Jun 16 13:47:01.720: %PMAN-5-EXITACTION: F0/0: pvp: Process manager is
exiting: reload fp action requested
Jun 16 13:47:03.777: %PMAN-5-EXITACTION: R0/0: pvp: Process manager is
exiting: rp processes exit with reload switch code
Jun 16 13:47:17.884: %PMAN-3-PROCESS_NOTIFICATION: R0/0: pvp: System
report /crashinfo/SW-Core-02_1_RP_0-system-report_1_20210616-134704-
met.tar.gz (size: 27249 KB) generated
```



For Your  
Reference

# Appendix

Cannot Enter ID Token on Switch

Wrong License was Converted via DLC

License Deposited in Wrong Virtual Account

# Cannot Enter ID Token on Switch

Scenario: “Operation not supported because the agent is running in Permanent License Reservation mode”

## Behavior:

Running “license smart register idtoken <x>” on the Switch returns a message stating it is in permanent license reservation mode causing the token not to loaded

Switch fails to register to Cisco Smart Software Manager

## Solution:

Disable license reservation mode:

```
switch#configure terminal
switch(config)#no license smart reservation
```

Attempt registration again:

```
switch#license smart register idtoken <x>
```

# Wrong License was Converted via DLC

**Scenario:** Switch was running IPBase when it was converted instead of desired IPServices level

## Behavior:

Switch goes back to **“Out-Of-Compliance”** once the license is changed to IPServices

## Solution:

Reach out to Cisco Global Licensing Operations for the desired license to be manually deposited in the corresponding Smart Account

- Contact by Phone – 1(800)553-2447 / 1(408)526-7209
- Open a Case Online – <https://www.cisco.com/c/en/us/support/index.html>

# License Deposited in Wrong Virtual Account - 1/2

**Scenario:** Switch was registered with a token generated from the incorrect Virtual Account.

**Behavior:**

Switch shows “**Out-Of-Compliance**” even though the license was converted

Typically seen in the following scenarios:

- When switch is deregistered and registered later
- When staging and/or replacing a failing switch

**Solution:**

<next slide>

# License Deposited in Wrong Virtual Account 2/2



For Your Reference

## Solution:

Navigate to CSSM > Inventory > Licenses > Select License > Actions > Transfer...

Cisco Software Central > Smart Software Licensing Example Account  
Feedback Support Help

Alerts | **Inventory** | Convert to Smart Licensing | Reports | Preferences | On-Prem Accounts | Activity

Virtual Account: [Enterprise Access](#) 80 Major | 116 Minor | 7 Informational | Hide Alerts

General | **Licenses** | Product Instances | Event Log

Available Actions ▾ | Manage License Tags | License Reservation... |

<input type="checkbox"/>	License	Billing	Purchased	In Use	Balance	Alerts	Actions
<input type="checkbox"/>	<a href="#">C3850_24_ipserv</a>	Prepaid	1	1	0		<a href="#">Actions ▾</a>
<input type="checkbox"/>	<a href="#">C3850_48_ipserv</a>	Prepaid	2	2	0		<a href="#">Actions ▾</a>
<input type="checkbox"/>	<a href="#">C3850_XS_12_ipserv</a>	Prepaid	4	2	+ 2		<a href="#">Actions ▾</a>

Showing All 3 Records

Transfer..

# Related Sessions@Cisco Live 2022

Smart Licensing using Policy (SLP) - BRKARC -2027

Smart Licensing with CSSM On-Orem - LABOPS -1159

Troubleshooting Smart Licensing using Policy on IOS-XE - LABTRS-2673

Introduction to Smart Licensing using Policy - LABOPS





# Technical Session Surveys

- Attendees who fill out a minimum of four session surveys and the overall event survey will get Cisco Live branded socks!
- Attendees will also earn 100 points in the Cisco Live Game for every survey completed.
- These points help you get on the leaderboard and increase your chances of winning daily and grand prizes.



# Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. [www.cisco.com/go/certs](http://www.cisco.com/go/certs)

## Pay for Learning with Cisco Learning Credits

(CLCs) are prepaid training vouchers redeemed directly with Cisco.

## Learn

### Cisco U.

IT learning hub that guides teams and learners toward their goals

### Cisco Digital Learning

Subscription-based product, technology, and certification training

### Cisco Modeling Labs

Network simulation platform for design, testing, and troubleshooting

### Cisco Learning Network

Resource community portal for certifications and learning



## Train

### Cisco Training Bootcamps

Intensive team & individual automation and technology training programs

### Cisco Learning Partner Program

Authorized training partners supporting Cisco technology and career certifications

### Cisco Instructor-led and Virtual Instructor-led training

Accelerated curriculum of product, technology, and certification courses



## Certify

### Cisco Certifications and Specialist Certifications

Award-winning certification program empowers students and IT Professionals to advance their technical careers

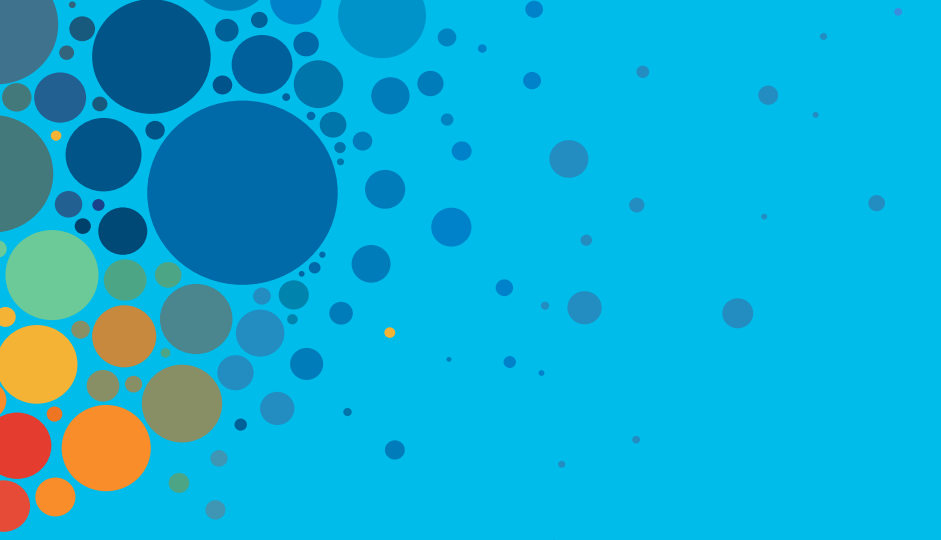
### Cisco Guided Study Groups

180-day certification prep program with learning and support

### Cisco Continuing Education Program

Recertification training options for Cisco certified individuals

Here at the event? Visit us at **The Learning and Certifications lounge at the World of Solutions**

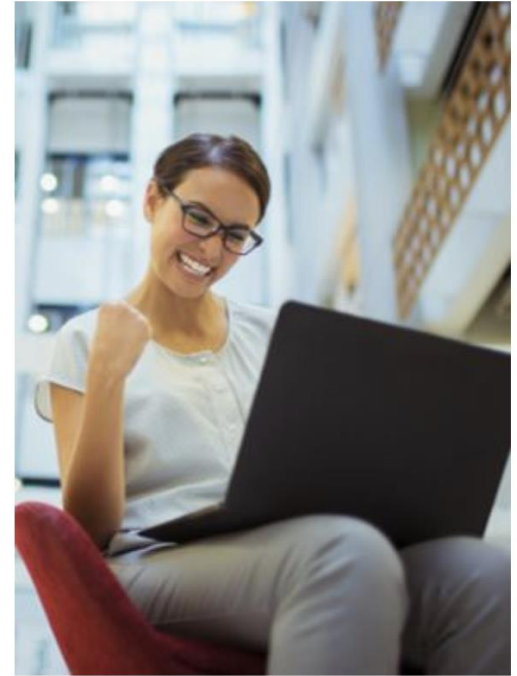


# Continue your education

- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)

# Smart Licensing using Policy – Closing Comments

- Eliminate Day 0 Deployment Friction
  - Product-instance just works out of box
- Make it easy to report consumption
  - Easy to use tools for periodic reporting
  - Time series usage reports
- Support closed network customers with offline uploads
- Maintain regulatory compliance, export control



Customer!



The bridge to possible

# Thank you

CISCO *Live!*

#CiscoLive

CISCO *Live!*

ALL IN

#CiscoLive