Troubleshoot Smart License Server Communications Failure

Contents

Introduction

- Description
- Impact
- Syslog Message
- Sample Message
- Product Family
- Recommendation
- Commands

Introduction

This document describes how to troubleshoot Cisco IOS® Smart License Server communication failures on Cisco Catalyst 9000 switches.

Description

This error appears when Smart Licensing is configured on the device and fails to communicate with the Cisco Smart License Server. This communication issue can be related to a DNS lookup or a configuration issue.

Smart Licensing is a cloud-based unified license management system for managing licenses across Cisco products. Smart Licensing supports multiple deployment and transport models, including direct communication with Cisco Smart Software Manager (CSSM), communication through Cisco Smart License Utility (CSLU), and CSSM On-Prem deployments.

%SMART_LIC-3-COMM_FAILED: Communications failure with the Cisco Smart License Utility (CSLU): Unable to resolve server hostname/domain name.

Sometimes this error appears while the device is booting after a reload or software upgrade. If the device successfully communicates with the CSLU configured server after boot and subsequent license status and log checks show no active communication failure, the initial message can be treated as a transient boot event.

Impact

The device cannot communicate with the configured CSLU destination. It retries communication after the underlying DNS, routing, transport, or configuration issue is corrected.

Syslog Message

```
%SMART_LIC-3-COMM_FAILED
```

Sample Message

```
Apr 10 10:10:10 <hostname> %SMART_LIC-3-COMM_FAILED: Communications failure with the Cisco Smart Licens
```

Product Family

- Cisco Catalyst 9200 Series Switches
- Cisco Catalyst 9300 Series Switches
- Cisco Catalyst 9400 Series Switches
- Cisco Catalyst 9500 Series Switches
- Cisco Catalyst 9600 Series Switches
- Cisco Catalyst 9500H Series Switches

Recommendation

Validate the Smart Licensing CSLU URL and Transport Configuration

Verify the device can ping the CSLU IP address.

If the deployment uses CSLU, verify or configure the Smart Licensing transport:

<#root>

Switch(config)#

license smart transport cslu

Validate TCP connectivity to the CSLU service on port 8182 and verify the correct CSLU IP/Hostname is configured per the URL:

<#root>

Switch(config)#

license smart url cslu http://<cslu-hostname-or-ip>:8182/cslu/v1/pi

Note: The default URL is configured for "cslu-local" to enable automatic discovery.

Validate the DNS and HTTP Client Source interfaces

You must specify the correct "source-interface" you are using for communicating with the CSSM portal. Configure which DNS server(s) to use and enable DNS lookups:

<#root>

Switch(config)#

ip name-server <dns-server-ip>

Switch(config)#

ip domain-lookup source-interface <interface>

Switch(config)#

ip http client source-interface <interface>

Validate Service VRF Selection

If this is a VRF set-up, run these commands (depending on the VRF being used):

<#root>

Switch(config)#

ip domain lookup vrf <vrf-name> source-interface <interface-in-vrf>

```
Switch(config)#
```

```
ip name-server vrf <vrf-name> <dns-server-ip>
```

```
Switch(config)#
```

```
ip http client source-interface <interface-in-vrf>
```

Run a Manual Synchronization

The default CSLU URL uses the hostname **cslu-local** for automatic discovery. Configure an address record in the DNS infrastructure that maps **cslu-local** to the CSLU server IP address. On the switch, configure the IP address of the DNS resolver with ip name-server <dns-server-ip>. The windows host where you installed CSLU, no other configuration is required.

The product instance automatically discovers hostname **cslu-local**. After validating the DNS, routing, VRF selection, source interfaces, transport mode, and the CSLU URL, you can manually initiate a license sync with CSLU

<#root>

Switch#

```
license smart sync all
```

This causes the device to manually attempt a re-sync with the CSLU utility. With the releases of Cisco IOS XE 17.3.2, 7.4.1 and higher, Smart Licensing using Policy was introduced.

If you started seeing the errors after a recent upgrade to these codes, refer to the Migrate Catalyst License to Smart Licensing Using Policy that explains the different options.

Commands

- **show version** — Identifies the platform, IOS XE release, and reload history.
- **show logging** — Displays communication failures and synchronization messages.
- **show license all** — Displays detailed Smart Licensing status, transport data, authorization state, and reporting information.
- **show license summary** — Provides a concise license and usage summary.
- **show call-home profile all** — Displays Call Home configuration when the transport or a legacy licensing workflow is under review.

- **show tech-support license** — Collects detailed licensing diagnostics for escalation.



Note: Run the **show call-home profile all** command only when the Call Home configuration is relevant to the selected transport or when investigating a legacy Smart Licensing workflow. For CSLU transport, prioritize the configured transport, CSLU URL, DNS, HTTP client source interface, license status, and logs.
