Resolve "SIA Grace Period Expired" Alarm Using Smart Licensing Configuration

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Introduction

This document describes an issue with Cisco NCS1K devices where software upgrades are blocked due to a "SW Upgrade will be blocked as SIA Grace Period has expired" alarm.

Background Information

This document outlines the troubleshooting steps, resolution, and best practices to restore Software Innovation Access (SIA) compliance, enabling successful system upgrades.

Problem Description

Customers attempting to upgrade NCS1K devices can encounter an alarm indicating that the SIA Grace Period has expired. This alarm prevents the upgrade operations, effectively blocking any software upgrades. The system reports the device as SIA is "Out of Compliance" for an extended period of over 90 days.

SIA Out of compliance only blocks Software Upgrades; and does not affect any functionality on the system.

Impact

The impact of this is the inability to perform software upgrades on the affected NCS1K device.

Troubleshooting Steps

Initial investigation and troubleshooting focused on validating the upgrade method and diagnosing the licensing compliance status.

1. Confirm Upgrade Procedure: Provide and verify that the customer is using Cisco documented and supported procedure for software upgrades. For NCS1014 Software setup guide, refer to: Setup and Software Installation Guide.
2. Verify Active Alarms: "SW Upgrade will be blocked as SIA Grace Period has expired" under active alarms. In order to view active alarms, you must connect to node via telnet/ssh and run command **show alarms brief system active**.

<#root>

```
        RP/0/RP0/CPU0:Node-A#

show alarms b s a



Mon Aug 11 09:31:02.861 UTC

------------------------------------------------------------------------------------

Active Alarms

------------------------------------------------------------------------------------

Location        Severity     Group            Set Time                    Description

------------------------------------------------------------------------------------

0/RP0/CPU0      Major        Software         03/09/2025 01:55:55 UTC

SW Upgrade will be blocked as SIA Grace Period has expired
```

3. Check Licensing Status: The **show license platform detail** was reviewed in order to check the current compliance state and identify specific licensing issues.

<#root>

```
        RP/0/RP0/CPU0:Node-A#

 show license platform detail



Thu Aug 14 04:28:57.161 UTC



Collection: LAST: Thu Aug 14 2025 03:55:56 UTC
```

NEXT: Thu Aug 14 2025 04:55:56 UTC

Reporting: LAST: Thu Aug 14 2025 01:55:57 UTC

NEXT: Fri Aug 15 2025 01:55:57 UTC

IMPORTANT**

SIA Status: Out of Compliance(Grace Period Expired)

RUM ACK is not received for more than 90 days.

SW Upgrades are blocked as Grace Period is expired

4. You must further verify the smart license configuration for the node in order to check why Sync is not happening. (If not configuring the license from scratch, proceed to Step 6.)
5. For Configuring Smart Licensing:

Step A. Configure the domain name server for the smart license server.

Example:

RP/0/RP0/CPU0:ios#configure

Sat Dec 15 15:25:14.385 IST

RP/0/RP0/CPU0:ios(config)#domain name-server 192.0.2.247

Step B. Set up the CiscoTAC-1 profile and destination address for Smart Call Home, using these commands:

call-home

service active

contact smart-licensing

profile CiscoTAC-1

active

destination address http
{http|https}://{FQDN}/its/service/oddce/services/DDCEService

destination transport-method http

Example:

RP/0/RP0/CPU0:ios#domain name-server 192.0.2.247

RP/0/RP0/CPU0:ios#call-home

RP/0/RP0/CPU0:ios#service active

RP/0/RP0/CPU0:ios#contact smart-licensing

RP/0/RP0/CPU0:ios#profile CiscoTAC-1

RP/0/RP0/CPU0:ios#active

RP/0/RP0/CPU0:ios#destination address http DDCE Service

RP/0/RP0/CPU0:ios#destination transport-method http

Step C. Configure the crypto ca Trust point profile, if Certificate Revocation List (CRL) distribution point is not defined in the Satellite server certificate or if the device is not able to reach the host mentioned in the CRL distribution point.

Example:

RP/0/RP0/CPU0:ios(config)#crypto ca trustpoint Trustpool CRL optional

Step D. Create and copy the **registration token ID** using Cisco Smart Software Manager.

Step E. In the privileged EXEC mode, register the token ID in Cisco Network Control System (NCS) 1014, using this command:

license smart register idtoken token-ID

Note: CiscoTAC-1 profile is the default profile for smart licensing and it must not be deleted.

Step F. Smart Licensing Transport Mode - The default transport mode for the 24.1.1 release is Cisco Smart License Utility (CSLU), but you can change the mode to Call-Home, Smart Transport or Offline mode. These transport modes are available for you to choose now:

-> CSLU

-> Call-Home

-> Smart

-> Offline

Step G. Configuring the Transport Mode.

CSLU: CSLU is the default license transport mode, use this configuration to set the communication transport mode to CSLU.

Example:

configure

license smart transport cslu

license smart url cslu CSLU Local

commit

Call-Home: In order to use the Call-Home transport mode, use this configuration:

Example:

configure

license smart transport callhome

callhome

service active

contact-email-addr username@example.com

profile CiscoTAC-1

destination transport-method http

Router(config-call-home-profile)# destination address http

DDCE Service

active

no destination transport-method email

commit

Smart Transport: In order to use the Smart Transport communication mode, use this configuration:

Example:

configure

license smart transport smart

license smart transport url Smart Receiver

commit

Offline: In order to use the Offline communication mode you have to turn off the Smart Transport, use this configuration to turn off Smart Transport:

Example:

configure

license smart transport off

commit

6. The running configuration was verified and it was identified that the node had call home configuration but Transport Mode was missing:

```
call-home
 service active
 http-proxy x.x.x.x port 3128
 profile CiscoTAC-1
  active
  destination transport-method email disable
  destination transport-method http
 !
```

7. Further check showed license status output and Transport showed as 'Off'.

```
RP/0/RP0/CPU0: Node-A#show license status
Thu Aug 14 04:27:52.330 UTC
Utility:
Status: DISABLED
Smart Licensing Using Policy:
Status: ENABLED
Account Information:
Smart Account: <none>
Virtual Account: <none>
Data Privacy:
```

Sending Hostname: yes

Callhome hostname privacy: DISABLED

Smart Licensing hostname privacy: DISABLED

Version privacy: DISABLED

Transport:

Type: Transport Off

8. Since you already had the call home configuration, you only need to change Transport mode to call home using these commands:

configure

license smart transport callhome

You can verify the configuration by executing show license status.

<#root>

```
RP/0/RP0/CPU0:Node-A#show license status

Thu Aug 14 04:27:52.330 UTC



Utility:

Status: DISABLED



Smart Licensing Using Policy:

Status: ENABLED



Account Information:

Smart Account: <none>

Virtual Account: <none>
```

```
        Data Privacy:

        Sending Hostname: yes

        Callhome hostname privacy: DISABLED

        Smart Licensing hostname privacy: DISABLED

        Version privacy: DISABLED
```

Transport:

Type: Callhome

9. Step 5 D and 5 E were again executed in order to register the node and after its License was successfully synced.

Conclusion

Successfully resolving the "SIA Grace Period has expired" alarm and enabling software upgrades on Cisco NCS1014 devices requires a systematic approach to smart licensing configuration and verification. Ensuring correct license smart transport settings, proper node registration with CSSM using a valid token, and subsequent license synchronization are critical. In some cases, a force license registration or controller reload can be required to complete the system sync. Once SIA compliance is restored, the software upgrade process can proceed without further issues.

Related Information

- Smart license for NCS1014
- Installation Guide for NCS1014
- Cisco Technical Support & Downloads