IOS XR Upgrade Changes: Certificate Expiration (Abraxas), Corrupt Pie File (SWIMS), and RPM Signage (eXR 64-bit)

Contents

Introduction

When going to upgrade IOS XR, either 32-bit or 64-bit there have been some changes to how our certificates and signage for pacakages are done which will gate an upgrade.

Upgrade Documentation

Documentation, PDFs, for upgrading to a certain release used to be contained here:

http://www.cisco.com/web/Cisco_IOS_XR_Software/index.html

However, due to the deprecation of this webpage we now store IOS XR upgrade documentation in a few different formats under the software download page for a particular release for a particular product..

- For products that only support 32-bit or 64-bit as docs.tar.
- For ASR9K as px-docs.tar for 32-bit and x64-docs.tar for 64-bit.

32-bit IOS XR Certificate Expiry (Abraxas)

Affected Releases

- Pre-5.3.1 does not contain the new Abraxas code or certificate and XR code needed to install SMUs after Oct 17 2015
- 5.3.0 contains the workaround but not the integration of the CSS server

Error Message

When trying to install or add a SMU/PIE post October 17 2015, you will run into the below error due to the expiration of the CSS certificate on Oct 17, 2015.

```
Error: Cannot proceed with the add operation because the code signing
Error: certificate has expired.
Error: Suggested steps to resolve this:
Error: - check the system clock using 'show clock' (correct with 'clock set' if necessary).
Error: - check the pie file was built within the last 5 years using '(admin) show install pie-
info
```

Workaround

There are SMUs and new certificates in some releases which will allow installing of packages post Oct 17 2015.

For older releases you will need to turboboot the router.

[Field Notice](#)

[Upgrade MOP](#)

32-bit IOS XR Corrupt Pie File (SWIMS)

Affected Releases

- Pre-5.3.2 does not contain the SWIMS signing and only supports Abraxas or the legacy Code Signing Server (CSS) software which is now completly deprecated
- 5.3.2 to 6.3.1 support both Abraxas and SWIMS
- 6.3.2 and above supports only SWIMS signing
- Some latest SMU created after Abraxas server decommission (after 5.3.4 SP9) are also signed with SWIMS only

Since 5.3.1 and prior releases supports only Abraxas (after Oct 17 2015) and 6.3.2 and above supports only SWIMS signing, routers cannot be upgraded from one to the other. If you are running 5.3.1 or prior then you must upgrade to 5.3.2-6.3.1 first and then to 6.3.2 or higher.

Examples

Question: I am running 5.3.1 and wish to upgrade to 6.4.2. Will this work?

Answer: No, you must first upgrade to an intermediary release that supports SWIMS.

Question: I am running 5.3.4 and wish to upgrade to 6.4.2. Will this work?

Answer: Yes, as 5.3.4 supports both Abraxas and SWIMS.

Question: I am running 5.3.1 and wish to upgrade to 5.3.4 plus latest SMU. Will this work?

Answer: Upgrade to 5.3.4 first and then installing SMU on top will work. However activating both 5.3.4 + latest SMU at once will fail as 5.3.1 won't understand SMU signage.

Error Message

```
Error:    Cannot proceed with the add operation because the pie file
    Error:    '/tmp/install/tar/instdir/8918452_223000000/asr9k-video-px.pie-6.
    Error:    3.3' is corrupt.
```

Workaround

- Upgrade to 5.3.x first and then to a version of code which needs SWIMS
- Turboboot

64-bit IOS XR RPM Signage

Affected Releases

Pre-6.3.2 does not use signed RPMs and will therefore be affected

Error Message

```
2017-07-25 10:33:16:: Traceback (most recent call last):
File "/pkg/bin/install", line 2202, in <module>
main(options,args)
File "/pkg/bin/install", line 1440, in main
upgrade_packages(options, pkglist)
File "/pkg/bin/install", line 1758, in upgrade_packages
upgrade(options,pkgs,cur_version)
File "/pkg/bin/install", line 1919, in upgrade
more_package = pkgstate.checkcompat()
File "/opt/cisco/XR/packages/ncs5500-infra-5.0.0.0-r622/rp/bin/package.py", line 1218, in
checkcompat
version,pkg_name,release = result.split()
ValueError: too many values to unpack

2017-07-25 10:33:16::
Error: An exception is hit while executing the install operation.
If you hit same error on retries, please collect "show tech install"
and contact cisco-support.
```

Workaround

Install XR and sysadmin bridge SMU, both can be installed at the same time