



Release Notes for Cisco RF Gateway 10, Cisco IOS-XE Release 3.3SQ

OL-30122-02

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This document describes the features and caveats for all releases in the Cisco IOS-XE Release 3.3SQ train for the Cisco RF Gateway 10 (RFGW-10) that supports the Cisco RFGW-10 DS-384 line card and the Cisco Supervisor Engine 7-E.

These release notes are updated with each release in the train. This update adds information for Cisco IOS-XE Release 3.3SQ. For a list of the caveats that apply to this release, see the [“Caveats” section on page 14](#).

To download and upgrade to the new ROMMON image for the Cisco RFGW-X45-SUP7-E, see the ROMMON Release Notes for ROMMON Release Notes for Supervisor Engine 7-E on the Cisco RF Gateway 10 at:

http://www.cisco.com/en/US/docs/cable/rf_gateway/release/notes/ROMMOM_RN_RFGW10_SUP7E.html

Cisco recommends that you view the field notices for this release to see if your software or hardware platforms are affected. If you have an account on Cisco.com, you can find field notices at: http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html.

For information on new features and the Cisco IOS documentation set supported on Cisco IOS-XE Release 3.3SQ, see the [“New and Changed Information” section on page 6](#) and the [“Related Documentation” section on page 39](#).



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**Note**

Use the **service internal** command on the Cisco RFGW-10 only for system debugging and troubleshooting purposes. This command should not be used in normal operation mode.

Overview of Cisco RF Gateway 10 UEQAM Platform

The Cisco RFGW-10 is a carrier-class Universal Edge QAM (UEQAM) platform that offers concurrent support for standard and high-definition digital broadcast television, Switched Digital Video (SDV), Video on Demand (VoD), and DOCSIS/Modular CMTS services. It is a chassis-based product based on open standards with superior performance, capacity, power consumption, ease of management, and scalability. All components of the Cisco RFGW-10 are designed for high availability, including dual Supervisor and Ethernet switching line cards, 1:N Universal Edge QAM line cards, dual timing, communication and control (TCC) line cards, dual load balancing and load sharing DC PEMs and integrated RF switching modules.

The Cisco RFGW-10 is a centralized switching architecture leveraged from the Cisco Catalyst 4500 Series switches. The Cisco RFGW-10 is a 13-rack unit, modular chassis designed for providing front-to-back airflow and system-level redundancy. All chassis components are hot-swappable and redundant. The chassis supports “wire-once” cabling for RF line cards and an integrated dual-zone RF switch matrix. The Supervisor Engine 7-E provides robust Layer 2 to Layer 4 switching with up to 848 Gbps, and up to 250 Mbps packet throughput

System Requirements

This section describes the system requirements for Cisco IOS-XE Release 3.3SQ series and includes the following sections:

- [Hardware Supported, page 3](#)
- [Software Supported, page 4](#)
- [Compatible Software and Versions, page 4](#)
- [Determining the Software Version, page 4](#)

Hardware Supported

Table 1 provides information on the hardware supported on the Cisco RFGW-10 for Cisco IOS-XE Release 3.3SQ.

Table 1 Hardware Supported on the Cisco RFGW-10

PID	Description
Cisco RFGW Chassis	
RFGW-10	Chassis with the following slots: 2 Supervisor, 10 RF line card, two TCC, and 12 RFGW-10-RFSW (RF switch card) slots. Also includes the RFGW-10 fan assembly and front panel display (FPD)
Cisco RFGW Series Supervisors	
RFGW-X45-SUP7-E	Cisco RFGW Supervisor 7-E, 4xSFP+ (10/1GE) (primary)
RFGW-X45-SUP7-E=	Cisco RFGW Supervisor 7-E, 4xSFP+ (10/1GE) (spare)
Cisco RFGW Series TCC Cards	
RFGW-TCC1	RFGW timing, communication, and control card v.04 or higher
RFGW-TCC1=	RFGW timing, communication, and control card v.04 or higher (spare)
Cisco RFGW Series Line Cards	
RFGW-DS384	RFGW universal downstream EQAM card, 8 RF ports, 384 QAMs
RFGW-DS384=	RFGW universal downstream EQAM card, 8 RF ports, 384 QAMs (spare)
RFGW-DS48	RFGW Universal Downstream EQAM Card, 48 QAMs
RFGW-DS48=	RFGW Universal Downstream EQAM Card, 48 QAMs (spare)
RFGW-DS48-1G	RFGW Universal Downstream EQAM card, 48 QAMs, 1 GHz
RFGW-DS48-1G=	RFGW Universal Downstream EQAM card, 48 QAMs, 1 GHz (spare)
RFGW-DS48-1G-BUN	RFGW Universal Downstream EQAM Card 48 QAMs 1G
Cisco RFGW Series RF Switch Cards	
RFGW-10RFSW1=	RFGW RF switch v1 (spare)
Cisco RFGW Series PEM Options	
RFGW-10-PWR-DC	RFGW DC PEM with monitoring v1
RFGW-10-PWR-DC1=	RFGW DC PEM with monitoring v1 (spare)
Cisco RFGW Series Supervisor Memory Options	
SD-X45-2GB-E	Catalyst 4500 2GB SD Memory Card for Sup7-E
SD-X45-2GB-E=	Catalyst 4500 2GB SD Memory Card for Sup7-E (spare)
USB-X45-4GB-E	Catalyst 4500 4GB USB device for Sup7-E
USB-X45-4GB-E=	Catalyst 4500 4GB USB device for Sup7-E (spare)
Cisco RFGW Series Transceiver Modules	
SFP-GE-T	1000BASE-T SFP (NEBS 3 ESD) (100 m on Cat5 UTP)
SFP-GE-S	1000BASE-SX short wavelength; with DOM (550 m on MMF)
SFP-GE-L	1000BASE-LX/LH long wavelength; with DOM (10 km on SMF)
SFP-10G-SR	10GBASE-SR SFP Module

Table 1 Hardware Supported on the Cisco RFGW-10 (continued)

SFP-10G-LR	10GBASE-LR SFP Module
<ul style="list-style-type: none"> GLC-SX-MMD GLC-LH-SMD 	1 Gbps Optical SFP Modules

**Note**

The Cisco IOS-XE Release 3.3SQ train does not support Cisco RFGW-X4516-10GE, the Cisco RFGW Supervisor V-10GE.

Software Supported

Table 2 Supported Software

Supported Software	Minimum Release	Latest Release
Cisco IOS-XE Release	3.2.0SQ	3.3.1SQ
ROMMON Release	15.0(1r)SQ(315)	15.0(1r)SQ(315)

For more information on ROMMON, see the ROMMON Release Notes for Supervisor Engine 7-E on the Cisco RF Gateway 10 at:

http://www.cisco.com/en/US/docs/cable/rf_gateway/release/notes/ROMMOM_RN_RFGW10_SUP7E.html

Upgrade

Upgrading from Cisco IOS-XE Release 3.2.0SQ to Cisco IOS-XE Release 3.3.0SQ may take up to 20 minutes on each Cisco DS-384 line card.

Compatible Software and Versions

Table 3 Compatible Software and Versions

Compatible Software	Latest Release
Video Sessions Resource Manager (VSRM)	3.1.0-256
Cisco License Manager (CLM)	3.2.6
Cisco RF Gateway 10 Remote Provisioning Utility (RPU-10)	1.0

Determining the Software Version

To determine the version of Cisco IOS-XE software running on the Cisco RFGW-10 platform, log in to the platform and enter the **show version EXEC** command.

Below is an example of the output from the **show version** command:

Router#**show version**

Cisco IOS Software, IOS-XE Software, RFGW-10 Software (rfgwk10-ENTSERVICESK9-M),
Version 3.3.0SQ
Copyright (c) 1986-2013 by Cisco Systems, Inc.
Compiled Wed 03-Jul-13 02:38 by prod_rel_team

Cisco IOS-XE software, Copyright (c) 2002-2010, 2012 by cisco Systems, Inc.
All rights reserved. Certain components of Cisco IOS-XE software are
licensed under the GNU General Public License ("GPL") Version 2.0. The
software code licensed under GPL Version 2.0 is free software that comes
with ABSOLUTELY NO WARRANTY. You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0.
(<http://www.gnu.org/licenses/gpl-2.0.html>) For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.

Image text-base: 0x100A6B54, data-base: 0x142B8750

ROM: 15.0(1r)SQ(315)
Joe Revision 10, Snowtrooper Revision 0x0.0x116

RFGW10-SS1 uptime is 1 hour, 7 minutes
Uptime for this control processor is 1 hour, 8 minutes
System returned to ROM by reload at 00:28:19 EDT Thu Jul 4 2013
System restarted at 00:30:35 EDT Thu Jul 4 2013
System image file is "tftp://192.168.0.40/builds/rfgwk10-ss1"
Last reload reason: Admin reload CLI

This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to
export@cisco.com.

cisco Cable-RFGW (MPC8572) processor (revision 10) with 2097152K/16384K bytes of memory.
Processor board ID NWG153905MA
MPC8572 CPU at 1.5GHz, Supervisor 7
Last reset from Reload
1 Virtual Ethernet interface
10 Gigabit Ethernet interfaces
16 Ten Gigabit Ethernet interfaces
511K bytes of non-volatile configuration memory.

Configuration register is 0x2012

New and Changed Information

These sections list the new and existing hardware and software features supported by the Cisco RFGW-10:

- [New Hardware Features in Cisco IOS-XE Release 3.3.1SQ](#), page 6
- [New Hardware Features in Cisco IOS-XE Release 3.3.0SQ](#), page 6
- [New Software Features in Cisco IOS-XE Release 3.3.1SQ](#), page 6
- [New Software Features in Cisco IOS-XE Release 3.3.0SQ](#), page 7
- [New and Changed MIB Information in Cisco IOS-XE Release 3.3.1SQ](#), page 10
- [New and Changed MIB Information in Cisco IOS-XE Release 3.3.0SQ](#), page 11

New Hardware Features in Cisco IOS-XE Release 3.3.1SQ

There are no new hardware features for Cisco IOS-XE Release 3.3.1SQ.

New Hardware Features in Cisco IOS-XE Release 3.3.0SQ

There are no new hardware features for Cisco IOS-XE Release 3.3.0SQ.

New Software Features in Cisco IOS-XE Release 3.3.1SQ

This section describes the new software features supported in the Cisco IOS-XE Release 3.3.1SQ.

DEPI QAM Channels per Line Card

Effective with Cisco IOS-XE Release 3.3.1SQ, for DEPI a maximum of 192 QAM channels per line card for Annex A or mixed Annex and a maximum of 256 QAM channels per line card for Annex B are supported.

For more information, see the Cisco RF Gateway 10 DS-384 Line Card Hardware Installation Guide at the following URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/linecard/ds384/installation/guide/b_ds384_hig.html

DEPI Reconciliation Timeout

Effective with Cisco IOS-XE Release 3.3.1SQ, the DEPI reconciliation timeout configuration can be changed using the command **cable downstream depi-session timeout**.

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the following URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_m-cmts_depi_control_plane.html

Cisco RF Gateway 10 GUI

The Cisco RF Gateway 10 GUI was enhanced to include Refresh option on some pages and support was added for Terminal Access Controller Access Control System+ (TACACS+) configuration.

For more information, see the Cisco RF Gateway 10 GUI User Guide at:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_gui.html

Enhancements to Video Configuration Commands:

Effective with Cisco IOS-XE Release 3.3.1SQ, the following enhancements were made to Video commands:

- **cable video group: passthru** and **data** keywords were added to the command. The **passthru** keyword option allows you to add a pass-through session to a QAM interface. The **data** keyword option allows you to add a data-piping session to a QAM interface.
- **cable video ip udp**: A UDP port range can be specified in the configuration instead of individual UDP ports. The port variable is used to specify the lower port number in the range and the *Max port* optional variable added in this release can be used to specify the higher port number of the range. The **bitrate** keyword is made optional for program and **passthru** keywords; it is mandatory for the **data** keyword option.
- **asm** and **ssm** commands: The **bitrate** keyword is made optional.

For more information, see the [Cisco RF Gateway 10 Command Reference](#).

New Software Features in Cisco IOS-XE Release 3.3.0SQ

This section describes the new software features supported in the Cisco IOS-XE Release 3.3.0SQ.

Video On Demand

RFGW10 allows users to select and watch video content on demand. Video on Demand (VoD) sessions are of unicast CBR SPTSs. Usually, the User-defined Mapping(table based mapping) or Session-based Signaling is used for VoD setup. VoD supports Trick Mode, which provides functionalities like fast forward, rewind, and pause for an MPEG bit stream.

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Switched Digital Video

Starting with Cisco IOS-XE Release 3.3.0SQ, RFGW10 supports Switched Digital Video (SDV) thereby effectively using the bandwidth. SDV sessions are typically Multicast SPTSs. The Session-based Signaling is required for the SDV sessions.

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Table based Video Session Mapping

Video session mapping is the mapping between the input sessions and the output sessions of the Cisco RFGW-10 UEQAM. An input session is identified by a destination IP address and an UDP port for the unicast session, and by a group and source IP address pair for a multicast session. An output session is identified by a QAM ID and a program number. The user-defined mapping is typically used in VoD or Digital Video Broadcast applications. You can specify the mapping using the CLI. This mapping can be used for both unicast and multicast sessions.

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Generic QAM Interface (GQI) Protocol

Effective with Cisco IOS-XE Release 3.3.0SQ, RFGW10 supports GQI Protocol version 2 (GQIv2). GQI is a protocol between RFGW and DNCS/USRM to setup video sessions dynamically.

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Edge Resource Management Interface (ERMI) Protocol

RFGW10 supports Cablelabs ERMI specification (CM-SP-ERMI-I03-081107). It supports Edge Resource Management Protocol (ERRP) & Real Time Streaming Protocol (RTSP).

For more information, see the Cisco RF Gateway 10 Software Configuration Guide at the URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Cisco RF Gateway 10 GUI

Cisco RF Gateway 10 GUI is a web-based interface for configuring and managing the Cisco RFGW-10 Universal Edge Quadrature Amplitude Modulation (UEQAM) device. It is an embedded web application residing in the Cisco RFGW-10 UEQAM chassis. The GUI image (RFGW_GUI.tar) is embedded in the Cisco RFGW-10 IOS-XE image and is installed as part of the IOS-XE image installation. There are no configuration steps for installing this application.

For more information on this feature, see the *Cisco RF Gateway 10 GUI* document available at this URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_gui.html

Encryption of Video Sessions

Video sessions can be encrypted with the PowerKEY function.

PowerKEY is a conditional access system (CAS) that provides a range of services for protection of digital entertainment content, such as linear or broadcast service encryption, session-based encryption for video-on-demand or other on-demand services, and a pay-per-view purchase model including reservation mode and impulse mode.

For more information, see the *RFGW-10 Video* document at this URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

Fan Tray Failure Handling Enhancement

The failure of fan controllers is handled by the software in the following condition-action sets:

- If less than 3 fans or fan controller fail, the failure is set as partial failure.
- If more than 2 fans fail, the failure is set as critical error.

For partial failure, an error message is logged in syslog and the **show environment** and **show facility-alarm status** commands display the error messages. Errors are logged once in syslog; they are not displayed continuously.

For critical error, an error message is logged in syslog and the Supervisor card starts the four-minute shutdown timer. The Supervisor card shuts down all line cards and the second Supervisor card at the four-minute timeout. The active Supervisor card continues to be operational.



Caution

To avoid hardware damage, power down the chassis immediately after the four-minute shutdown.

Load Balancing with QAM Partition

Effective with Cisco IOS-XE Release 3.3.0SQ, the term Load Balance Group (LBG) is used to identify QAM traffic that uses the mid-plane 10GE ports to forward traffic to the QAM carriers. LBGs must be used to reserve the bandwidth and set up video routes.

For more information, see the *RFGW-10 Video* document at the following URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

RF Spanning (QAM Replication)

The QAM Replication feature allows users to replicate a single QAM output from one port to another port on the same Cisco DS-384 line card from the Supervisor card. The replicated QAM output uses the downstream Switch Port Analyzer (SPAN) licensing policy that allows additional downstream outputs using RF Spanning. The RF spanning feature allows replication of existing downstream output to other ports on the same line card. A QAM Replication Group (QRG) contains information about a single source QAM and its corresponding replicated copy or copies. A QRG contains only one pilot and a minimum of one and maximum of seven replicate QAMs. Each group is numbered with an identifier and contains the slot, port and channel number for both the source QAM (**pilot-qam**) and the destination QAM or QAMs (**replicate-qam**).

The following commands were introduced or modified:

- **cable qam-replication group**
- **pilot-qam**
- **replicate-qam**
- **show cable qam-replication-group**

For more information on this feature, see the *Configuring the Cisco RFGW-10 DS-384 Line Card* document available at this URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/linecard/ds384/configuration/guide/b_ds384_scg.html

Software Licensing

Effective with Cisco IOS-XE Release 3.3.0SQ, the Cisco RF Gateway 10 supports the PowerKEY and RF SPAN licenses.

The PowerKEY license enables the you to delay investing in QAM encryption until the entire network is ready for deployment. The RF SPAN license is used for replicate QAM channels.

For more information, see the *Software License Activation for Cisco RF Gateway 10 Line Cards* document at this URL:

www.cisco.com/en/US/docs/cable/rf_gateway/license/rfgw_license.html

QAM Partitioning - Video

With the introduction of the Cisco RFGW-10 DS-384 line card (with 384 QAM channels), the capacity of a fully-loaded Cisco RF Gateway 10 (with 10 line cards) is now 3840 QAM channels and 160 Gbps throughput. To cater to the increased capacity, and to use the resources of the Cisco RF Gateway 10 optimally, the Cisco IOS-XE Release 3.3.0SQ introduces a new tool—QAM Partition (QP).

QAM partitioning allows servers running different control plane protocols like Edge Resource Management Interface (ERMI) or Generic QAM Interface (GQI) to share the resources of the Cisco RF Gateway 10.

For more information, see the *RFGW-10 Video* document at the following URL:

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_video.html

MIBs

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>

To access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check verifies that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password is e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at this URL:

<http://tools.cisco.com/RPF/register/register.do>

For information about the MIBs supported by the Cisco RFGW-10 in common with Cisco IOS-XE, see the *Cisco RF Gateway 10 MIB Specifications Guide*.

New and Changed MIB Information in Cisco IOS-XE Release 3.3.1SQ

The following MIB was updated in Cisco IOS-XE Release 3.3.1SQ:

CISCO-ENTITY-REDUNDANCY-MIB

Effective with Cisco IOS-XE Release 3.3.1SQ, the Cisco RFGW-10 supports the CISCO-ENTITY-REDUNDANCY-MIB. The Cisco RFGW-10 supports this MIB for Cisco DS-384 and Cisco DS-48 line card redundancy.

New and Changed MIB Information in Cisco IOS-XE Release 3.3.0SQ

The following MIB was updated in Cisco IOS-XE Release 3.3.0SQ:

SCTE-HMS-MPEG-MIB

Effective with Cisco IOS-XE Release 3.3.0SQ, the SCTE-HMS-MPEG-MIB is used to query Video session information on the Cisco RFGW-10. Querying these tables displays Input & output video session information on the QAM interfaces and channels for the Cisco RFGW-10 DS-384 line card.

Important Notes

Cisco IOS-XE Release 3.3.0SQ

The Cisco RF Gateway 10 Supervisor Engine 7-E uplink ports are not recommended for data or management traffic in Supervisor Redundancy Mode.

The Supervisor 7-E card has four uplink ports on its front panel. Only the top two ports are active in redundancy mode. However, in redundancy mode, packet loss occurs in the traffic paths between the uplink ports on the standby Supervisor card and the switch fabric on the active Supervisor card. There is no packet loss for uplink ports on active supervisors.

The uplink ports on the Cisco RFGW-10 DS-384 and the Cisco RFGW-10 DS-48 line cards are recommended for data and management traffic.

Cisco DS-384 Line Card with P4080 CPU Revision 3

Effective with Cisco IOS-XE Release 3.3.1SQ, the Cisco RFGW-10 supports the new version of the Cisco DS-384 line card with P4080 CPU revision 3. The Version Identifier (VID) of the revised Cisco DS-384 line card is 2. Ensure that you run Cisco IOS-XE Release 3.3.1SQ or later releases on the Supervisor engine 7-E for using the Cisco DS-384 VID 2 line card (with P4080 CPU revision 3).



Note

If the Supervisor engine 7-E is running a release earlier than Cisco IOS-XE Release 3.3.1SQ, the Cisco RFGW-10 DS-384 VID 2 line card (with P4080 CPU revision 3) does not downgrade and hence, does not work.

For more information on the Cisco DS-384 line card, see Cisco RF Gateway 10 DS-384 Line Card Hardware Installation Guide at this URL:

- http://www.cisco.com/en/US/docs/cable/rf_gateway/linecard/ds384/installation/guide/b_ds384_hig.html

Cisco RF Gateway 10 Remote Provisioning Utility (RPU-10)

The Cisco IOS-XE Release 3.3.0SQ supports the Cisco RF Gateway 10 Remote Provisioning Utility (RPU-10). Cisco RPU-10 is a Windows-based tool to simplify the initial provisioning of multiple RF Gateway 10 units in an operator's system. The PID for ordering the Cisco RPU-10 application is RFGW-10-RPU. The Cisco RF Gateway 10 uses the Cisco RPU-10 version 1.0 for this release.

For more information, see *Cisco RF Gateway 10 Remote Provisioning Utility User Guide* at this URL:
http://www.cisco.com/en/US/docs/cable/rf_gateway/user/guide/RPU10/rpu10_ug.html

Limitations and Restrictions

This section lists the limitations and restrictions for the Cisco IOS-XE Release 3.3SQ train on the Cisco RFGW-10:

- Online insertion and removal (OIR) of active Supervisor card is not supported. You must force switchover to the standby Supervisor card before removing the active card.
- The following is the limitation for ERMI:
 - Only 48 TSIDs are supported on one Service Group (SG).
- Use the ASI port in maintenance window only.
- Policing cannot be applied to bitrate for streams and the session reserved bitrate.
- The start-frequency of pilot QAM port and replicate QAM port should not be different.
- Before a QAM Replication Group (QRG) is configured, the LCRED must be configured.
- Some of the below system commands for querying CPU and Memory should not be executed continuously for better operation and performance
 - **show memory**
 - **show cpu**
 - **show redundancy**
- After a QRG is configured, no other configuration changes are supported on replicate QAM except below:
 - **shutdown** (admin)
 - **no shutdown** (admin)
 - **default** (except remote learn QAMs)
- After a QRG is configured, no other configuration changes are supported on pilot QAM except below:
 - **shutdown** (admin)
 - **no shutdown** (admin)
 - **default** (except remote learn QAMs)
 - **rf-shutdown**
 - **no rf-shutdown**
- The RF parameters of an RF profile being used in a QRG cannot be modified.
- These are the QAM limitations in the Cisco IOS-XE Release 3.3SQ:
 - Annex B/C
 - 384 total—pilot plus replicated
 - 256 video—clear plus PowerKey encrypted
 - 192 PowerKey encrypted video
 - 128 DEPI (This limitation is applicable only for Release Cisco IOS-XE Release 3.3.0SQ.)

- Annex A or mix of Annex A and B/C
- 288 total—pilot plus replicated
- 192 video—clear plus PowerKey encrypted
- 144 PowerKey encrypted video
- 96 DEPI (This limitation is applicable only for Cisco IOS-XE Release 3.3.0SQ.)
- 144 Annex-A QAMs per load balancing group (LBG)
- Effective from Cisco IOS-XE Release 3.3.0SQ, the following are the session limitations on each DS384 line card:
 - 3840 video clear plus PowerKey encrypted
 - 1920 video PowerKey encrypted
- Annex-A specifications allows user defined symbol rates only for video.
- Static remote DEPI is not supported.
- Cisco IOS-XE Release 3.3SQ provides limited support to Etherchannel.
- Jumbo Frames are not supported on linecards.

Software and Features

The Cisco IOS-XE Release 3.3.0SQ supports a total of 384 QAMs per line card. The following software updates are supported in the Cisco IOS-XE Release 3.3.0SQ:

- Complete 384 QAM support.
- 192 Encrypted QAM support.
- Video support on RFGW10- DS-384 LC:
 - QAM Partition
 - Load Balance Group
 - Video control plane protocols
 - ERMI (ERMI-1 & ERMI-2)
 - GQI (v1 & v2)
- Clear and Powerkey encrypted video sessions (VOD & SDV)
- Mixed mode support
- QAM Replication Group (QRG)
- RF Span licensing
- Powerkey Encryption licensing
- Cisco RF Gateway 10 GUI
- Cisco RF Gateway 10 Remote Provisioning Utility (RPU-10)

Accessing Cisco RF Gateway 10 GUI via HTTP

Virtual Routing and Forwarding (VRF) is supported on a FastEthernet interface.

Old Behaviour: The Cisco RF Gateway 10 GUI was not accessible via HTTP when VRF is configured on FastEthernet interface.

New Behaviour: The Cisco RF Gateway 10 GUI is accessible via HTTP when VRF is configured on FastEthernet interface.

Additional Information: For more information, see the Cisco RF Gateway 10 GUI User Guide at the following URL.

http://www.cisco.com/en/US/docs/cable/rf_gateway/feature/guide/rfgw10_gui.html

Caveats

This chapter describes open and resolved severity 1 and 2 caveats and select severity 3 caveats:

- The “Open Caveats” sections list open caveats that apply to the current release and may apply to previous releases. A caveat that is open for a prior release and is still unresolved applies to all future releases until it is resolved.
- The “Resolved Caveats” sections list caveats resolved in a specific release, but open in previous releases.

Cisco Bug Search

Cisco Bug Search Tool (BST), the online successor to Bug Toolkit, is designed to improve effectiveness in network risk management and device troubleshooting. You can search for bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. For more details on the tool, see the help page located at <http://www.cisco.com/web/applicat/cbsshelp/help.html>.

Open Caveats for Cisco IOS-XE Release 3.3.1SQ

Caveat	Description
CSCug33592	<p>Symptom: The following traceback is observed while clearing the video packets.</p> <pre>vscm_pi_session_fsm_execute -> Failed to execute in FSM for session 3 on slot 4. fsm error = -3, event = 1, state = 1 1#6cb9ee7815f7f949a47c7eaabbbdd685 :10000000+13937C4 :10000000+D1575C :10000000+D1580C :10000000+D13784 :10000000+D08940 :10000000+D094E4 :10000000+D097A4</pre> <p>Conditions: This issue occurs when you insert both continuous and non continuous packets in a stream.</p> <p>Workaround: Clear using clear cable video packet all command.</p>
CSCui77851	<p>Symptom: On rare occasions, there is a possibility of video loss on few power key encrypted sessions with following error messages.</p> <pre>1. LC_ERRMSG_SCS_ALARM_SET Scrambler: No Components to Scramble: CP Extension 2. LC_ERRMSG_SCS_ALARM_SET Scrambler: Scrambling not started</pre> <p>Conditions: This occurs after the multiple Supervisor card switchover.</p> <p>Workaround: Reboot the chassis.</p>

Caveat	Description
CSCui87218	<p>Symptom: Cisco RFGW-10 with DS384 line card redundancy chassis with video SDV and VOD churn causes the following errors and tracebacks in the Standby console.</p> <pre>vscm_map_insert_db -> Unable to add map 9185 in database. Error Code = 116 vscm_map_chkpt_update -> Unable to insert map 9185 in database vscm_map_add_active_session_to_list -> Session 607064952 already exists in map 9185. cannot add session 607060013 to list</pre> <p>Conditions: This issue occurs with VOD and SDV churn after couple of days.</p> <p>Workaround: There is no workaround required.</p>
CSCui90589	<p>Symptom: The following error and traceback is observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis with video SDV churn:</p> <pre>vscm_session_insert_db -> Unable to add session 672666617 in per qam array</pre> <p>Conditions: This issue occurs after multiple line card switchover.</p> <p>Workaround: There is no workaround required.</p>
CSCuj03930	<p>Symptom: The following error message is observed on Cisco RFGW-10:</p> <pre>%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 5:LC_ERRMSG_VIDEO_PROG_NUM_IN_USE ADD_SES: OUT 195, QAM 130, prog 50777</pre> <p>Conditions: This issue occurs when there is multiple Supervisor card switchover along with continuous churn.</p> <p>Workaround: There is no workaround required.</p>
CSCuj04032	<p>Symptom: The following tracebacks are observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis during the churn.</p> <pre>vscm_session_update_lc_session_id -> LC session id not exists in active SUP for slot 10, carrier 22, session 672537230 vscm_session_reconcile -> Session 672537230 doesn't exist in MAP 3602 vscm_map_remove_session_from_map_list -> session 404561271 is not stale but not in session id list for map 3596 vscm_map_session_exists_on_qam_w_req_session_id -> Unable to locate map 0x0 from database vscm_map_chkpt_stream_leave -> Unable to locate map 0x925A4FDC from database vscm_session_insert_db -> Unable to add session 672602764 in database. Error Code = 116</pre> <p>Conditions: This issue occurs after performing multiple line card switchovers.</p> <p>Workaround: There is no workaround required.</p>

Caveat	Description
CSCuj13777	<p>Symptom: The following traceback is observed when you upgrade the chassis with Release Cisco IOS-XE Release 3.3.1SQ rebuild image, also line card heartbeat failure is observed occasionally.</p> <pre data-bbox="537 373 1474 583">%RFGW-3-IPC_SEND_MESSAGE: IPC send message 1 to port RFGW: lc 11:image upgrade on linecard 11 failed for reason timeout RFGW-4-WARNING: IU: Timeout at msg no. 3354, rpc_timeout= 3600000, retries=0, image_size=3435406, image_offset=3435406, state=4 RFGW-3-UNEXPECTED: Linecard in slot 11 could not be upgraded to BB_STH_00000022_00070012-00060017 -Traceback= 1#a68027d2333f4e132bdfdbclad6aaf9b :10000000+1287278 :10000000+B92238 :10000000+B9D5E8</pre> <p>Conditions: This issue occurs when the chassis is upgraded with the Cisco IOS-XE Release 3.3.1SQ rebuild image.</p> <p>Workaround: The line card automatically recovers. There is no workaround required.</p>
CSCuj14033	<p>Symptom: The following error and traceback is observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis with video SDV churn:</p> <pre data-bbox="537 846 1474 888">vscm_session_update_lc_session_id -> lc session id 0 -> 4505 should not be modified after assigned on slot 5</pre> <p>Conditions: This error occurs after performing multiple line card switchover.</p> <p>Workaround: There is no workaround required.</p>
CSCuj16323	<p>Symptom: In a Annex-A high frequency profile configured port with 96 channels, upper channels from 93 to 96 will not be operational.</p> <p>Conditions: This issue occurs when the port is configured with maximum carriers set to 96 and configured with Annex A high frequency profile.</p> <p>Workaround: There is no workaround.</p>
CSCuj32692	<p>Symptom: The following tracebacks and error messages are observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis with video SDV and VOD churn.</p> <pre data-bbox="537 1318 1474 1528">RFGW-3-LINECARD_ERRMSG_ERR: SLOT 3:LC_ERRMSG_SCS_ALARM_SET Scrambler: No ECM's available: CP Extension RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_VIDEO_PROG_NUM_NOT_FOUND SID_ECM_PID: OUT -1, QAM 278, prog 5 RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_SCS_ALARM_SET Scrambler: Requested PID could not be allocated RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_SCS_ALARM_CLEAR Scrambler: Requested PID could not be allocated</pre> <p>Conditions: This error occurs after performing multiple line card switchover.</p> <p>Workaround: There is no workaround required.</p>

Caveat	Description
CSCuj38788	<p>Symptom: The following tracebacks and error messages are observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis with video SDV and VOD churn.</p> <pre>vscm_source_get_fsm_state_by_obj -> Dst slot -1 in FSM doesn't match the input dst slot 12 <Active console> vscm_session_delete_db -> Unable to remove session 673059849 from carrier_id table <Active console> vscm_session_delete_db -> Unable to delete session 673059849 from database. Error code = 115 <Active console> vscm_map_chkpt_delete -> Unable to locate map 13725 from database <Stby console> vscm_source_db_chkp_decode_for_session -> Map id 6217 received from chkpt message not same as map id 3324 in existing source [176.1.1.1:0, 238.2.1.153:1] in db <Flooding stby console> vscm_map_chkpt_active_source_indx -> Unable to locate map 4385 for active_source_indx set <Flooding stby console></pre> <p>Conditions: This error occurs after performing multiple line card switchover.</p> <p>Workaround: There is no workaround required.</p>
CSCuj47722	<p>Symptom: The following tracebacks and error messages are observed on Cisco RFGW-10 with 9:1 DS384 line card redundancy chassis with video SDV and VOD churn.</p> <pre>vscm_source_encode_create_session_extension -> Unable to locate source [0.0.0.0, 0], Dst [174.6.1.1, 50715] vscm_ipc_send_bundle_message -> Failed to encode the message vscm_session_fsm_execute -> Failed to execute in FSM for session 203622489 vscm_session_bulk_download_per_session -> Unable to perform session bulk download for session 203622489 vscm_source_encode_create_session_extension -> Unable to locate source [0.0.0.0, 0], Dst [174.4.1.1, 49935] vscm_ipc_send_bundle_message -> Failed to encode the message vscm_session_fsm_execute -> Failed to execute in FSM for session 212800052 (0xCAF1234). fsm error = 2, event = 0, state = 1 vscm_source_copy_data -> Unable to locate source vscm_source_mcast_leave -> source 174.6.1.1 doesn't exist in database vscm_source_remove_route_from_lbg -> Unable to locate source 0.0.0.0:0 174.6.1.1:49255 vscm_source_copy_data -> Source has not been assigned to this qb 12 flowmgr_pre_flow_processing failed 248 vscm_map_session_exists_on_qam_w_req_session_id -> Unable to locate map 0x928695A4 from database</pre> <p>Conditions: This issue occurs after performing multiple line card and Supervisor card switchover continuously.</p> <p>Workaround: There is no workaround required.</p>
CSCuj55855	<p>Symptom: Traceback with error message is observed during bootup.</p> <pre>%RFGW_CSL-1-LIC_DB_GET_REC_FAIL: Slot:4 license DB record doesn't exist! Retry after bootup %RFGW_CSL-1-NULL_LICENSE_INFO: LC slot:4 license info is NULL!</pre> <p>Conditions: This issue occurs during bootup and line card reset.</p> <p>Workaround: The chassis recovers automatically and no workaround is required.</p>

Caveat	Description
CSCuj60181	<p>Symptom: The following error and traceback is observed on Cisco RFGW-10 fully loaded chassis with bootup:</p> <pre>ADJ-3-NOFIBIDB: CEF Interface not found - on attempt to add adjacency</pre> <p>Conditions: This issue occurs when booting the chassis.</p> <p>Workaround: There is no workaround required.</p>
CSCuj62717	<p>Symptom: TCC module reset with no available standby causes the line cards and standby supervisor card in the chassis to reset.</p> <p>Conditions: This issue occurs while upgrading the chassis from older version to later version (Release Cisco IOS-XE Release 3.3.1SQ). This issue is seen under in the maintenance window.</p> <p>Workaround: The chasis recovers automatically. There is no workaround required.</p>
CSCuj68271	<p>Symptom: The following error message is observed on Cisco RFGW-10 platform having 9:1 line card RED DS384 with PI sessions.</p> <pre>%RFGW-3-UNEXPECTED: STANDBY:Db rx failed with reason 116 for PKT INS STRM DB; db sync = DYNAMIC_SYNC, db op = DB_ADD, db key = Unknown vscm_pi_session_fsm_setup_msg_to_lc -> Invalid input</pre> <p>Conditions: This issue occurs when the RFGW-10 platform image is upgraded with PI session configured.</p> <p>Workaround: There is no workaround required.</p>
CSCuj79035	<p>Symptom: The following error message is observed on Cisco RFGW-10 with DS384 line cards.</p> <pre>RFGW-3-IPC_PORT_OPEN: IPC port open RFGW: lc 3:pkey ecmg failed for reason no such port</pre> <p>Conditions: This issue occurs when there is multiple Supervisor card switchover.</p> <p>Workaround: There is no workaround required.</p>
CSCuj80918	<p>Symptom: The following memory allocation error message occurs on the Cisco RFGW-10 platform with DS384 line card.</p> <pre>%SYS-2-MALLOCFAIL: Memory allocation of 756 bytes failed from 0x104BCF8C, alignment 8 Pool: I/O Free: 69328 Cause: Memory fragmentation Alternate Pool: None Free: 0 Cause: No Alternate pool -Process= "IF-MGR control process", ipl= 0, pid= 65 %RFGW-3-UNEXPECTED: DB tx failed with reason 6 for VSCM SESSION DB using non-blocking ipc; db sync = DYNAMIC_SYNC, db operation = DB_UPDATE, db key</pre> <p>Conditions: This issue occurs when there is a image upgrade for Cisco RFGW-10 platform from earlier releases to IOS-XE Release 3.3.1SQ.</p> <p>Workaround: Reloading the chassis again with same image or wait for the chassis to recover automatically.</p>

Caveat	Description
CSCuj90660	<p>Symptom: The following error message is observed in Cisco RFGW-10 platform with vdeo sessions.</p> <pre>vscm_ipc_delete_transaction_by_id -> Unable to get transaction 0x10C0616 from database</pre> <p>Conditions: This issue occurs when there are multiple Supervisor card switchover.</p> <p>Workaround: There is no workaround required.</p>
CSCul02289	<p>Symptom: Traceback with error message is observed:</p> <p>Conditions: This issue occurs while reinserting the packets more than the allowed count, that is 1024.</p> <p>Workaround: Following the maximum allowed MPEG packet insertion does not cause this problem.</p>
CSCul02919	<p>Symptom: The following bulk synchronization error is observed when another line card is added to the redundancy group.</p> <pre>vscm_session_get_fsm_state_ptr_for_update -> Dst slot 12 in FSM doesn't match the input dst slot 11</pre> <p>Conditions: This issue occurs when another line card is added to the redundancy group.</p> <p>Workaround: Remove the line card redundancy group and reconfigure with the new group.</p>
CSCul04231	<p>Symptom: The following message is observed</p> <pre>Invalid pilot-qam specified. Both slot:3 and it's peer:11 are not present</pre> <p>Conditions: This issue occurs when you bootup the secondary line card before bootingup the primary linecard in the redundancy group and when there are no services running in replicate QAM channels.</p> <p>Workaround: After the line card switchover, reboot and wait for the secondary line card to go operational before switching off the primary line card.</p>
CSCul04762	<p>Symptom: Line card reports a UPX RF power level out of specefication followed by FPGA failure.</p> <pre>%RFGW-0-LINECARD_ERRMSG_EMERG: SLOT 3:LC_ERRMSG_FAILOVER_TRIGGER UPX Hi priority event (SET): module:1 idx:773 desc:UPX RF Power Level out of spec, type 11, data 0x8001b305 %RFGW-3-LINECARD_FAILURE: Linecard in slot 3 is reporting a Fpga Failure (0x0001) %C4K_CHASSIS-2-LINECARD384MAJOREVENT: Slot 3, source 1 detects UPX TTC Soft Failure, sequence: 89 (0x8B593B05)</pre> <p>Conditions: After configuring QRG, shutdown the pilot QAM port and reset the line card.</p> <p>Workaround: Shut the replicate QAM before attempting to shutdown the pilot QAM. To recover from this issue, unshut the pilot QAM and reset the DS384 card.</p>
CSCul05199	<p>Symptom: SNMPwalk failed in the OID1.3.6.1.4.1.5591.1.11.5.4.1.</p> <p>Conditions: This issue occurs when you run the SNMP walk for the MIB (.1).</p> <p>Workaround: Query individual OID</p>

Caveat	Description
CSCul12652	<p>Symptom: The following error message is observed when the line card crashes:</p> <pre>%RFGW-3-LINECARD_FAILURE: Linecard in slot 3 is reporting a S2w Failure (0x0002)</pre> <p>Conditions: This issue occurs when the chassis with the Cisco IOS-XE Release 3.3.1SQ rebuild image is loaded and on running overnight SNMP walk.</p> <p>Workaround: Line card resets and recovers automatically.</p>
CSCul12813	<p>Symptom: On a rare occasion, the following errors can be seen on one of the line cards and the line card can get stuck in INIT state.</p> <pre>%RFGW-3-LINECARD_FAILURE: Linecard in slot 9 is reporting a S2w Failure (0x0002) %C4K_CHASSIS-3-S2WERRORFAILOVERLC: S2w Error for slot 9, failover linecard %C4K_CHASSIS-3-ILCS2WCOMMUNICATIONERROR: Communication with ILC over S2W failed for module 9 %RFGW-6-HEARTBEAT_WARNING: Heartbeat process has failed to receive heartbeats (for 3 consecutive seconds), for linecard 9</pre> <p>Conditions: This issue occurs during the image bootup, once the line card is inserted.</p> <p>Workaround: Replace the faulty DS384 line card.</p>
CSCul24407	<p>Symptom: On a very rare occurrence, line card crashes with the following error message:</p> <pre>%RFGW-3-LINECARD_FAILURE: Linecard in slot 3 is reporting a Fpga Major Failure (0x0001) %C4K_CHASSIS-2-LINECARD384MAJOREVENT: Slot 3, source 1 state 1 detects SH Watchdog Expired, sequence: 207 (0x9BCF206A) %RFGW-6-HEARTBEAT_WARNING: Heartbeat process has failed to receive heartbeats (for 3 consecutive seconds), for linecard 3</pre> <p>Conditions: This issue occurs during longevity and if Cisco RFGW-10 is idle for a long time.</p> <p>Workaround: Line card automatically recovers and no workaround is required.</p>
CSCul35787	<p>Symptom: The following error message is observed on Cisco RFGW-10 platform loaded with DS384 line card:</p> <pre>%RFGW-0-LINECARD_ERRMSG_EMERG: SLOT 12:LC_ERRMSG_FAILOVER_TRIGGER RLD1 DEPI channel Qdepth > 400, type 6, data 0x3 %RFGW-3-LINECARD_FAILURE: Linecard in slot 12 is reporting a Fpga Failure (0x0001) %C4K_CHASSIS-2-LINECARD384MAJOREVENT: Slot 12, source 1 state 1 detects BA Soft Failure, sequence: 198 (0x86C63803)</pre> <p>Conditions: This issue occurs during linecard switchover.</p> <p>Workaround: Line card recovers automatically.</p>

Caveat	Description
CSCu138284	<p>Symptom: Cable modem resets and becomes operational.</p> <p>Conditions: Perform Cisco RFGW-10 line card switchover after Cisco uBR-MC3GX60V line card switchover on CMTS. CMTS is configured with SCDMA modulation in upstream.</p> <p>Workaround: Revert back to primary line card in CMTS or change SCDMA modulation to ATDMA.</p>
CSCu147595	<p>Symptom: The following error message is observed on Cisco RFGW-10 platform loaded with DS384 line card:</p> <pre data-bbox="573 573 1500 726">%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_VIDEO_TOO_MANY_PROG_IN_PAT Update: 14 progs RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_VIDEO_PSI_BLOCKED In PAT: id 123, error Invalid argument ERRMSG LOG: Severity 3, LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM Snoop: IN 367, prog 100</pre> <p>You may observe that the PSI state changing to OFF state for very brief period with the following error messages:</p> <pre data-bbox="573 835 1084 884">LC_ERRMSG_VIDEO_TOO_MANY_PROG_IN_PAT LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM errors.</pre> <p>In rare occurrence, there might be a PSI block with the following error message along with previous symptoms.</p> <pre data-bbox="573 993 987 1014">LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM</pre> <p>Conditions: This issue occurs during multiple linecard soft switchover.</p> <p>Workaround:</p> <ul data-bbox="594 1136 1463 1325" style="list-style-type: none"> • The line card recovers automatically for the following error messages: <i>LC_ERRMSG_VIDEO_TOO_MANY_PROG_IN_PAT</i> errors with PSI OFF State <i>LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM</i> errors with PSI OFF State • Perform line card switchover or re-configure the session if you observe the following error, if the session is blocked: <i>LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM Snoop.</i>

Resolved Caveats for Cisco IOS-XE Release 3.3.1SQ

Caveat	Description
CSCuh36482	<p>Symptom: A few existing session IDs may be missing for the following SNMP MPEG output tables:</p> <p>mpegOutputProgTable</p> <p>mpegOutputEsTable</p> <p>Conditions: This occurs while running SNMP walk on the afore-mentioned MIB tables more than once.</p> <p>Workaround: Use the following Cisco RFGW-10 show commands:</p> <p>show cable video session all</p> <p>show cable video session <i>Output Statistics</i></p>
CSCuh51230	<p>Symptom: The SNMP query on mpegOutputTSNumPrograms MIB object does not show the correct count of all programs.</p> <p>Condition: This occurs for MPTS streams.</p> <p>Workaround: Use the show cable video session command for the particular MPTS session to know about the number of programs carried in MPTS stream.</p>
CSCuh51954	<p>Symptom: The standby Supervisor card resets continuously after a line-by-line synchronization error is displayed by the active Supervisor card.</p> <p>Conditions: RFGW is configured with RF Spanning with Pilot and Replicate Channels. In this event, configuring ASI interface to monitor replicate QAM interface will trigger the error.</p> <p>Workaround: There is no service impact. Use ASI interface for monitoring the non replicate QAM interfaces (pilot channels). Use the ASI interface during maintenance windows.</p>
CSCuh57628	<p>Symptom: While changing cable mode from clear to encrypt for all the carriers in the QAM (bulk change), multiple warning messages are displayed instead of showing single warning message.</p> <p>Conditions: This issue occurs when you access the QAM page through GUI.</p> <p>Workaround: There is no workaround.</p>
CSCuh70103	<p>Symptom: If a PowerKEY encrypted session fails due to "blob failure", some of the commands do not display the failed state of the session. Specifically, the show cable video session and show cable video session remote gqi command do not display any problem with the failed session. The show cable video gqi sessions does display the Current State as "Fail to Black".</p> <p>Conditions: This occurs in the case of an encryption "blob failure" which should be extremely rare in the field. The blob failure indicates that Cisco RFGW-10 can not decode the encryption information sent in the session create from the DNCS. This implies that there must have been a problem in the encrypted key exchange or handling in the DNCS or Cisco RFGW-10.</p> <p>Workaround: Use the show cable video gqi sessions command for encrypted sessions to ensure that they are encrypted.</p>

Caveat	Description
CSCuh79811	<p>Symptom: On a rare occasion, the standby Supervisor card resets after the redundancy reload shelf command is executed.</p> <p>Conditions: This occurs when the following specific series of steps performed on Supervisor card:</p> <ol style="list-style-type: none"> 1. Configure remote unicast sessions with Annex A. 2. Perform supervisor switch-overs. 3. When the redundancy reload shelf command is used at this juncture, the active Supervisor card switches over as standby. <p>Workaround: There is no service or functional impact. Reload the standby Supervisor card.</p>
CSCuh86237	<p>Symptom: Adding the line card to the line card redundancy group after inserting packets results in line card state progression failure and the secondary line card resets with following errors:</p> <pre data-bbox="573 772 1518 1033">%LCRED-3-LC_STATE_PROG_FAILED: Redundant Line Card 11 (idx Router#=11) state progression failure. Line card will be reset due to Platform Failure to download config to Linecard. (State: Active,Event: Cfg Dnld) Defaulting the Qam interface having packets inserted results in errmsg %RFGW-3-LINECARD_ERRMSG_ERR: SLOT 9:LC_ERRMSG_VIDEO_CAROUSEL_NOT_IN_QAM CHANGE_CRSL: CRSL 1, QAM 9 Inserting more than 1024 packets results in tracebacks vscm_pi_session_incr_session_count -> total PI mpeg counts on slot 4 = 1029</pre> <p>Conditions: This occurs when inserting 48 packets ids and then adding the line card to an existing 1:N line card redundancy group. If the QAM channel is in shut state, with no frequency assigned, the show cable video packet all command output shows the Packet in ON State. Defaulting the QAM channel with packets inserted, results in the error messages. Inserting more than 1024 packets results in tracebacks.</p> <p>Workaround: Configure line card redundancy group before inserting packets. Do not default the interface having packets inserted in them.</p>
CSCuh95202	<p>Symptom: Image verification fails for Cisco RFGW-10 IOS-XE images with the following message:</p> <pre data-bbox="573 1388 1065 1413">Digital signature verification failure</pre> <p>Conditions: This is observed when verify command is used on Cisco IOS-XE Release 3.2SQ images.</p> <p>Workaround: There is no workaround.</p>
CSCuh96667	<p>Symptom: On very very rare conditions, some video sessions continue to be displayed as 'active' even while the input bitrate drops to zero, through show cable video session command.</p> <p>Conditions: This is observed on Cisco RFGW-10 chassis when it is configured with unicast video sessions. When the unicast streaming is stopped manually, the input bit rate gradually drops to zero.</p> <p>Workaround: This is display error only and no workaround is required.</p>

Caveat	Description
CSCUh98083	<p>Symptom: Cisco RFGW-10 GUI is not accessible through fastethernet IP address.</p> <p>Conditions: This issue occurs when you access the Cisco RFGW-10 GUI through fastEthernet interface ip using VRF.</p> <p>Workaround: Use TenGigabit interface to access the GUI Management.</p>
CSCUi13920	<p>Symptom: Cisco RFGW-10 line card in slot 3 is reporting a RF port failure.</p> <p>Conditions: This is observed when any of the front panel ports of DS384 fails.</p> <p>Workaround: This is a display error and no workaround is required.</p>
CSCUi32331	<p>Symptom: DEPI reconciliation time out has to be made user configurable with amaximum of 300 secs.</p> <p>Conditions: This issue occurs during CMTS PRE and RFGW line card switchovers.</p> <p>Workaround: Use the newly created CLI command to confiure the session delete timer from 60s to 300s.</p>
CSCUi34535	<p>Symptom: When you try to copy the file to the remote destination, Secure Copy Protocol (SCP) write does not work.</p> <p>Conditions: This issue occurs when fastethernet is configured as management interface.</p> <p>Workaround: There is no workaround.</p>
CSCUi47685	<p>Symptom: Some of encrypted sessions are displayed as Encrypt/No though the sessions are actually encrypted, while navigating to the Monitor page to view the configured GQI sessions.</p> <p>Conditions: This issue occurs while using the GUI to view the GQI sessions configured in the chassis.</p> <p>Workaround: Use the following CLI command to view the correct details: show cable video sess remote gqi all</p>
CSCUi63874	<p>Symptom: After multiple Supervisor card and line card switchovers, the following DS-348 line card error message is observed, which can result in a line card crash.</p> <p><code>C4K_CHASSIS-2-LINECARD DS384MAJOREVENT: Slot 4, source 0 detects Front Panel port 2/4 Failure, sequence: 3 (0x830300B8)</code></p> <p>Conditions: This issue occurs when a DS-384 linecard front panel port is used for the incoming DEPI traffic.</p> <p>Workaround: There is no workaround.</p>
CSCUj15596	<p>Symptom: The active Cisco RFGW-10 Supervisor card crashes.</p> <p>Conditions: This issue occurs if a faulty TCC line card is inserted which causes s2w writes or reads to fail.</p> <p>Workaround: Replace the faulty TCC line card.</p>

Caveat	Description
CSCuj17326	<p>Symptom: On the Cisco RFGW-10, the following error message occurs whenever there are not enough licenses on a line card:</p> <pre>%DEPI-6-SESSION_DOWN: Depi session Qam4/4.9:0, changed state to down, reason: QC RF Mute mismatch</pre> <p>The "QC RF Mute mismatch" is not enough information for operators to identify that they have exceeded their license capacity on the LC. This DDTS is a request that the error message be more descriptive when the error is due to exceeding license capacity.</p> <p>Conditions: This occurs on Cisco RFGW-10 running Release Cisco IOS-XE Release 3.3.0SQ.</p> <p>Workaround: There is no workaround required.</p>
CSCuj44897	<p>Symptom: If the memory is not available when performing operations, the operation fails.</p> <p>Conditions: This issue occurs when the memory goes down below the free memory low water mark. A warning message should be displayed to alert when the free memory is going down.</p> <p>Workaround: There is no workaround.</p>
CSCuj48931	<p>Symptom: After enabling DLM in Cisco uBR10 k series platform in a M-CMTS configuration with RFGW-10 platform, the DLM values shows high value.</p> <p>Conditions: This issue occurs if the DLM is enabled.</p> <p>Workaround: Set the default value to network delay 550 (without DLM).</p>
CSCuj53466	<p>Symptom: Content Refresh button in GUI pages is required.</p> <p>Conditions: This issue occurs when you use RFGW-10 GUI</p> <p>Workaround: Use page refresh link.</p>
CSCuj53569	<p>Symptom: Sessions are idle in DEPI data plane.</p> <p>Conditions: This issue occurs when performing line card switch over.</p> <p>Workaround: Reload the RFGW-10 using redundancy reload shelf.</p>
CSCuj54460	<p>Symptom: Multicast video session are not active after double failure.</p> <p>Conditions: This issues occurs when after double failure.</p> <p>Workaround: Perform linecard switchover.</p>
CSCuj60276	<p>Symptom: Reserved bandwidth is not getting updated in the LBG CLI output.</p> <p>Conditions: This issue occurs when the supervisor switchover is done.</p> <p>Workaround: There is no workaround.</p>
CSCul10445	<p>Symptom: Unable to create bulk video session for the port with mixed mode.</p> <p>Conditions: Unable to create bulk video session for port with mixed mode configuration (DEPI remote learn and video).</p> <p>Workaround: Create video session on each channel one by one.</p>
CSCul34862	<p>Symptom: The command authorization is not working properly for GUI.</p> <p>Conditions: This issue occurs with TACACS configured in the setup.</p> <p>Workaround: Use the CLI command..</p>

Open Caveats for Cisco IOS-XE Release 3.3.0SQ

Caveat	Description
CSCuc56954	<p>Symptom: On rare occasions, the following traceback and failure message observed on the Supervisor console:</p> <pre>"vscm_pi_stream_unique_id -> Unable to construct a unique id 203489281. Stream 1 on slot 3 carrier id 33 already exist"</pre> <p>Conditions: This occurs when the Supervisor card is configured for video remote mode on a few QAM channels and DNCS/USRM (Session Resource Manager) creates packet insertion sessions using GQI protocol. In this event, triggering the Supervisor card switchover will result in these tracebacks.</p> <p>Workaround: This symptom will not exhibit service or functional impact. Therefore, no workaround is required.</p>
CSCue46589	<p>Symptom: The UPX NACK message is displayed after 124 replicant groups configured on a port.</p> <pre>%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 3:BB_ERRMSG_DS_PHY_UPX_ERR:wr cmd NACK for seq_num=0xa92,addr=0x212003e0,cmddata=0xc803f07f.b7500139.000005e8.00000 650 556e6d61.74636820.62657477.65656e20 34204455.43204368.69707300.00000000 00000000.00000000.00000000.00000000, 00000000.00000feb.00000000.00000000 00000000.00000000.00000000.00000000 00000000.00000000.00000000.00000000 00000000.00000000.00000000.00000000, err_code=34</pre> <p>Conditions: This issue occurs when RFGW is configured with RF Spanning. Port1 & port2 are configured for pilot channels with more than 124 replicant groups combined. Port3 is configured with these replicant groups from both the ports that is , port3 channels are replicates from port1 & port2 respectively in a way that port3 channels form more than 32 routing groups (each routing group supports 4 channels). Each replicant has less than 4 channels in port3 which allows more than 32 routing groups.</p> <p>Workaround: Do not attempt to configure a port with replicates with more than 32 routing LQAM groups. This is not recommended or supported.</p>
CSCue55630	<p>Symptom: On rare occasions, the following error messages occur:</p> <pre>%RFGW-3-IPC_SEND_MESSAGE: IPC send message 1 to port RFGW: lc 5:image upgrade on linecard 5 failed for reason timeout %RFGW-3-UNEXPECTED: Linecard in slot 5 could not be upgraded to MV_APP_00000011_20130212-00012920</pre> <p>Conditions: This occurs when a Supervisor card is rebooted with an updated image.</p> <p>Workaround: To recover, wait until IPC communications resume with the linecard and then reset the linecard using the hw-module slot reset command. Alternatively, a manual image upgrade with the cable image-upgrade download background forced command (while in "service internal") could prevent the errors.</p>

Caveat	Description
CSCuf16894	<p>Symptom: On a very rare occasion, the following line card error occurs during line card switch-over.</p> <pre data-bbox="573 342 1398 365">%RFGW-3-LINECARD_ERRMSG - LC_ERRMSG_VIDEO_UNKNOWN_PROG_NUM Snoop</pre> <p>Conditions: This occurs when the Supervisor card is configured with more than 20000 video sessions created by both table based sessions and GQI/ERMI protocols and slot12 of the Cisco RFGW-10 DS-384 line card is backing up those sessions in 1:N redundancy mode. In this event, performing line card switchover triggers these errors .</p> <p>Workaround: There is no service or functional impact and may be ignored.</p>
CSCug48487	<p>Symptom: The following UPX errors and traffic flow is affected on replicated channels on the Cisco RFGW-10:</p> <pre data-bbox="573 688 1500 898">%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 3:BB_ERRMSG_DS_PHY_UPX_ERR:wr cmd NACK for seq_num=0x4a0, addr=0x21000010, cmddata=0xa007fc56.847001bd.0000053a.00000 4e7 556e6d61.74636820.62657477.65656e20 34204455.43204368.69707300.00000000 00000000.00000000.00000000.00000000, 00000000.00000feb.00000000.00000000 00000000.00000000.00000000.00000000 00000000.00000000.00000000.00000000 00000000.00000000.00000000.00000000, err_code=2</pre> <p>Conditions: This issue occurs on Cisco RFGW10 chassis configured with DEPI remote learn QAM channels and they are replicated on other QAM channel using RF Spanning mechanism.</p> <p>Workaround: Before attempting to change CMTS configuration, remove the particular pilot channel from the replication group and reconfigure the pilot channel after the changes are made in CMTS.</p>

Caveat	Description
CSCug70582	<p>Symptom: In a very rare occurrence, continuous tracebacks occur. The standby Supervisor card is continuously reset. the following traceback is observed:</p> <pre data-bbox="540 342 1468 394">%COMMON_FIB-2-IF_NUMBER_ILLEGAL: STANDBY:Attempt to create CEF interface for Qam7/1.44 with illegal if_number: 0</pre> <p>Condition: This occurs when the max carriers are removed and set. The Supervisor card is configured with 1:1 line card redundancy and all channels in the line card are configured with Video and DEPI mode. Automated script configures supervisor max-carriers by setting & unsetting it continuously using cable downstream max-carriers on range of QAM interfaces thru interface range qam.</p> <p>This behavior was never observed with manual operation with the above command. One of 20 attempts can get this scenario with automated script. Repeat these steps atleast 16-17 times.</p> <ol data-bbox="540 699 1468 930" style="list-style-type: none"> 1. Config 192 powerkey encrypted channels, 143 remote depi channels in LC7 and config 1:1 LCRED (LC 7, LC12) 2. Remove max-carriers using the cmd interface range qam & no cable downstream max-carriers. 3. Set the Max-carriers using the command cable downstream max-carriers. 4. Tracebacks are thrown. <p>Workaround: Active Supervisor card gets into inconsistent mode with standby Supervisor card and it can be recovered by resetting the chassis. Configure cable downstream max-carriers command in maintenance window.</p>
CSCug73308	<p>Symptom: Used bandwidth for packet insertion may not be displayed incorrectly in the output of show controllers qam downstream command.</p> <p>Conditions: This occurs when the PI sessions are cleared using the clear cable video session all command or any modification are made to the packet inserted QAM channel configuration.</p> <p>Workaround: There is no service impact and therefore, requires no workaround.</p>
CSCuh00372	<p>Symptom: The following error occurs on a new active Supervisor card:</p> <pre data-bbox="540 1329 1468 1381">%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 11:LC_ERRMSG_VIDEO_CAROUSEL_NOT_USED DELETE_CRSL: 62s"</pre> <p>Condition: This occurs when a Supervisor card is switched over using the hw-module module reset command.</p> <p>Workaround: There is no service impact. Only errors are displayed.</p>
CSCuh01054	<p>Symptom: The following error is displayed on the Supervisor console "*May 19 13:14:27.307 IST: %RFGW-3-IPC_SEND_MESSAGE: IPC send message 2 to port RFGW: lc 14:tcc dti on linecard 14 failed for reason internal error".</p> <p>Conditions: This occurs when the active Timing, Control and Communication (TCC) card is reset.</p> <p>Workaround: There is no service impact. Do not attempt to reset an active TCC card.</p>

Caveat	Description
CSCuh22323	<p>Symptom: In a rare occurrence, the following message is observed on the Supervisor console:</p> <pre>%RFGW-3-UNEXPECTED: Unable to switchover to TCC on slot 14</pre> <p>Conditions: This occurs during bootup after the chassis is power-cycled.</p> <p>Workaround: This symptom does not exhibit any service or functional impact and may be ignored.</p>
CSCuh36482	<p>Symptom: A few existing session IDs may be missing for the following SNMP MPEG output tables:</p> <pre>mpegOutputProgTable mpegOutputEsTable</pre> <p>Conditions: This occurs while running SNMP walk on the afore-mentioned MIB tables more than once.</p> <p>Workaround: Use the following RFGW-10 show commands:</p> <pre>show cable video session all show cable video session Output Statistics</pre>
CSCuh37962	<p>Symptom: In some instances, the following interactive warning message will be seen:</p> <pre>"WARNING:: Associated sessions and RF Profile of this QAM will be deleted. Proceed y/n ?[confirm]"</pre> <p>When configuring manually the user can answer y and proceed with no problems. However, the need for an interactive y/n answer can prevent automated provisioning tools from being able to load configurations.</p> <p>Conditions: This occurs after defaulting all QAMs on a QAM port. Supervisor is configured with 1:1 LC redundancy mode with following sequence of steps executed on RFGW.</p> <ol style="list-style-type: none"> 1. Configure few encrypted channels 2. Please perform 1:1 LCRED (LC 7, 12) 3. Please reload Supervisor 4. Remove LCRED configuration 5. Remove max-carriers and assign new max-carrier 6. Try again to configure encrypted channels to hit this warning <p>Workaround: Manually configure the affected QAMs and answer “yes” when prompted. To use an automated provisioning tool, reload the RFGW10 shelf to clear the remaining sessions.</p>

Caveat	Description
CSCuh38422	<p>Symptom: In a very rare occurrence, reconfiguration of the replicate channels in replication group fails after the pilot channel is set to default.</p> <p>Conditions: RFGW10 chassis configured with DEPI remote learn QAM channels and they are replicated to other QAM channel using RF Spanning mechanism. Set the remote learn mode as the default pilot channel set and try to add the pilot channel with remote learn mode configured in the same replication group</p> <p>Workaround: Do not attempt to default the pilot channel while the remote learn mode is set. Remove the the pilot channel from replication group before attempting to default the pilot channel.</p>
CSCuh48438	<p>Symptom: The DS384 line card fails to boot. The following UPX error messages is displayed:</p> <pre data-bbox="540 667 1474 1014"> %RFGW-0-LINECARD_ERRMSG_EMERG: SLOT 3:LC_ERRMSG_FAILOVER_TRIGGER UPX Hi priority event (SET): module:1 idx:773 desc:UPX RF Power Level out of spec, type 11, data 0x8001b305 %RFGW-3-LINECARD_FAILURE: Linecard in slot 3 is reporting a Fpga Failure (0x0001) %C4K_CHASSIS-2-LINECARD384MAJOREVENT: Slot 3, source 1 detects UPX TCC Soft Failure, sequence: 89 (0x8B593B05) %RFGW-0-LINECARD_ERRMSG_EMERG: SLOT 3:LC_ERRMSG_FAILOVER_TRIGGER UPX Hi priority event (SET): module:1 idx:765 desc:UPX RF Power Level out of spec, type 11, data 0x8002b2fd </pre> <p>Conditions: This occurs when the pilot QAM is in shut state, followed by a line card reset or chassis reload.</p> <p>Workaround: Shut the replicate QAM before attempting to shutdown the pilot QAM. To recover from this issue, unshut the pilot QAM and reset the DS384 card.</p>
CSCuh51230	<p>Symptom: The SNMP query on mpegOutputTSNumPrograms MIB object does not show the correct count of all programs.</p> <p>Condition: This occurs for MPTS streams.</p> <p>Workaround: Use the show cable video session command for the particular MPTS session to know about the number of programs carried in MPTS stream.</p>
CSCuh51954	<p>Symptom: The standby Supervisor card resets continuously after a line-by-line synchronization error is displayed by the active Supervisor card.</p> <p>Conditions: RFGW is configured with RF Spanning with Pilot and Replicate Channels. In this event, configuring ASI interface to monitor replicate QAM interface will trigger the error.</p> <p>Workaround: There is no service impact. Use ASI interface for monitoring the non replicate QAM interfaces (pilot channels). Use the ASI interface during maintenance windows.</p>

Caveat	Description
CSCuh60698	<p>Symptom: Consumed SPAN license are released after removing the replication group for the "force shut" channels.</p> <p>Conditions: This issue occurs while removing the QAM replication group (QRG) of the channels that are shut forcefully. It is observed when the following sequence of commands are executed:</p> <ol style="list-style-type: none"> 1. Configure Replication group. 2. Downgrade the license. 3. Remove replication group of force shut channels. <p>Workaround: Upgrade the license.</p>
CSCuh70103	<p>Symptom: If a PowerKEY encrypted session fails due to "blob failure", some of the commands do not display the failed state of the session. Specifically, the show cable video session and show cable video session remote gqi command do not display any problem with the failed session. The show cable video gqi sessions does display the Current State as "Fail to Black".</p> <p>Conditions: This occurs in the case of an encryption "blob failure" which should be extremely rare in the field. The blob failure indicates that RFGW-10 can not decode the encryption information sent in the session create from the DNCS. This implies that there must have been a problem in the encrypted key exchange or handling in the DNCS or RFGW-10..</p> <p>Workaround: Use the show cable video gqi sessions command for encrypted sessions to ensure that they are encrypted.</p>
CSCuh74327	<p>Symptom: A traceback is observed after the line card switchover.</p> <pre data-bbox="573 1094 1500 1171">%RFGW-3-UNEXPECTED: STANDBY:Db rx failed with reason 116 for VSCM SOURCE DB; db sync = DYNAMIC_SYNC, db op = DB_ADD, db key = [175.10.2.2, 235.0.1.11] observed while adding a backup source to a label after LCSO</pre> <p>Conditions: Supervisor card has table-based mutlicast sessions using multicast label. This issue occurs after you switch over a line card and add a backup source to the existing label.</p> <p>Workaround: There is no service impact. Reload the standby Supervisor card for better operation.</p>
CSCuh78899	<p>Symptom: The following error with traceack occurs:</p> <pre data-bbox="573 1430 1500 1478">%RFGW-3-BULK_DNLD: Depi Session ID 1074069872 on Qam5/3.4 failed for Module</pre> <p>Conditions: This occurs when Supervisor has DEPI sessions created on DS48 line card and the DS48 line card is replaced with a DS-384 line card.</p> <p>Workaround: This symptom doesn't exhibit operational impact. Remove the configuration of DS48 line card before replacing it with the DS384 line card to avoid this error.</p>

Caveat	Description
CSCuh79353	<p>Symptom: The following error is observed:</p> <pre>%RFGW_CSL-1-LIC_DB_GET_REC_FAIL: Slot:8 license DB record doesn't exist! Retry after bootup</pre> <p>Conditions: This occurs after the Supervisor card is switched over for the second time consecutively, right after the standby Supervisor card boots up and is in hot standby state on a large scale test bed..</p> <p>Workaround: Wait for 5 to 10 seconds after the standby Supervisor card boots up, to ensure that the database is synced rom the active to the standby Supervisor card before switching over the Supervisor card again. The Supervisor card must be switched over again to recover from this error.</p>
CSCuh79783	<p>Symptom: The standby Supervisor card is out of synchronisation and the Supervisor card switches over causing the errors along with traceback.</p> <pre>vscm_source_map_id_get -> Unable to locate source [46.1.42.5, 0, 239.1.1.49, 5245] from database vscm_source_link_map -> Unable to locate source from database</pre> <p>Condirions: This occurs while the RFGW-10 is churning the sessions in the background, and the following steps are executed:</p> <ul style="list-style-type: none"> • Line card is switched over from line card 3 to line card 11 using redundancy commands. • The supervisor cards are switched over many times after line card 3 is in hot standby mode. • After eight Supervisor card switch-overs, the line card 11 is switched back to line card 3. <p>Workaround: Before any Supervisor switch-overs, reset the standby Supervisor card to enable it to set a fresh database checkpoint from the active Supervisor card.</p>
CSCuh79811	<p>Symptom: On a rare occasion, the standby Supervisor card resets after the redundancy reload shelf command is executed.</p> <p>Conditions: This occurs when the following specific series of steps performed on Supervisor card:</p> <ol style="list-style-type: none"> 1. Configure remote unicast sessions with Annex A. 2. Perform supervisor switch-overs. 3. When the redundancy reload shelf command is used at this juncture, the active Supervisor card switches over as standby. <p>Workaround: There is no service or functional impact. Reload the standby Supervisor card.</p>

Caveat	Description
CSCuh80593	<p>Symptoms: Bulk synchronization fails. PRC errors are seen on active Supervisor card and the standby Supervisor card resets before going into RPR mode. The PRC error is as follows:</p> <pre>Config Sync: Bulk-sync failure due to Servicing Incompatibility. Please check full list of mismatched commands via: show redundancy config-sync failures mcl interface Qam9/1.1 ! <submode> "subinterface" - cable downstream interleaver-depth I128-J1 ! </submode> "subinterface" interface Qam9/1.2 ! <submode> "subinterface" - cable downstream interleaver-depth I128-J1</pre> <p>Conditions: This occurs when the rf-profile is changed from Annex-B to Annex-A and the Supervisor card is switched over.</p> <p>Workaround: Reset the standby Supervisor card after trying to change the rf-profile.</p>
CSCuh82418	<p>Symptom: In a very very rare occasion, the following error and traceback occurs on the standby Supervisor card:</p> <pre>%SYS-3-INVMEMINT: Invalid memory action (free) at interrupt level</pre> <p>Conditions: This occurs when the RFGW-10 chassis is reloaded using the redundancy reload shelf command.</p> <p>Workaround: This symptom does not exhibit any service/operations impact observed and may be ignored. Traceback is seen while resetting the standby Supervisor card as part of chassis reload. As standby Supervisor is resetting on its own, no issues occur in operation.</p>
CSCuh85162	<p>Symptoms: Traceback observed on active Supervisor card.</p> <pre>vscm_session_update_lc_session_id -> Missing a create checkpoint from active SUP for session 276567536 vscm_session_set_matching_lc_session_id -> Unable to get lc session id 5377 from free list on slot 6 carrier_id 133 for session 411374849</pre> <p>Conditions: This occurs on the standby Supervisor card when the chassis is fully loaded, the line cards are switched over several times, followed by a Supervisor card switch over, with high churn rate for both VOD and SDV in the background.</p> <p>Workaround: Reset the standby Supervisor card before the Supervisor card switch over, to prevent sessions deletion when standby Supervisor card becomes active.</p>

Caveat	Description
CSCuh86237	<p>Symptom: Adding the line card to the lcred group after inserting packets results in line card state progression failure and the secondary line card resets with following errors:</p> <pre>%LCRED-3-LC_STATE_PROG_FAILED: Redundant Line Card 11 (idx Router#=11) state progression failure. Line card will be reset due to Platform Failure to download config to Linecard. (State: Active,Event: Cfg Dnld) Defaulting the Qam interface having packets inserted results in errmsg %RFGW-3-LINECARD_ERRMSG_ERR: SLOT 9:LC_ERRMSG_VIDEO_CAROUSEL_NOT_IN_QAM CHANGE_CRSL: CRSL 1, QAM 9 Inserting more than 1024 packets results in tracebacks vscm_pi_session_incr_session_count -> total PI mpeg counts on slot 4 = 1029</pre> <p>Conditions: This occurs when inserting 48 packets ids and then adding the line card to an existing 1:N lcred group. If the QAM channel is in shut state, with no frequency assigned , the show cable video packet all command output shows the Packet in ON State. Defaulting the QAM channel with packets inserted, results in the error messages. Inserting more than 1024 packets results in tracebacks.</p> <p>Workaround: Configure LCRED group before inserting packets. Do not default the interface having packets inserted in them.</p>
CSCuh87092	<p>Symptom: DS_Span License and DS_License shows zero consumed license.</p> <p>Conditions: This occurs when the following steps are executed:</p> <ol style="list-style-type: none"> 1. DS384 primary card is reset which makes the secondary line card to become active. 2. After about 3 1/2 minutes, reset the secondary line card in the redundancy group (double-fault scenario). This issue doesn't happen if the secondary is reset earlier during the primary restart. 3. After primary finishes going operational, the consumed licenses are incorrect (listed as zero). <p>Workaround: Following a linecard switchover from the primary line card, wait for it to become operational before resetting the secondary linecard. To recover: Wait until the peer is fully operational and do an additional linecard switchover to recover. The recovery should be done before an SSO switchover takes place to prevent affecting service. This is not normally service-affecting unless an SSO switchover is done before doing the workaround recovery.</p>
CSCuh87115	<p>Symptom: NULL output when the show depi tunnel verbose command is used.</p> <p>Conditions: This occurs on the Supervisor card which has DEPI remote learn mode configured.</p> <p>Workaround: Re-issue the same command to see the correct output.</p>
CSCuh90967	<p>Symptom: On a rare occasion, the active supervisor resets on its own due to RTSP process crash and triggers supervisor switchover.</p> <p>Conditions: This occurs on a Supervisor card which has ERMI sessions in a 1:N LCRED system where back to back line card switch-overs (from LC3 to LC11 and LC11 to LC3) cause supervisor reset. This might happen in Large scale setup.</p> <p>Workaround: Provide enough time between back to back line card switchovers to avoid the Supervisor card reset.</p>

Caveat	Description
CSCuh91236	<p>Symptom: Video session on pilot QAM cannot be configured using video GUI.</p> <p>Conditions: This occurs while configuring video session under pilot QAM channel in video local session page (RF Spanning enabled). The following error message is displayed:</p> <pre>Remove the pilot qam from QRG before making a change</pre> <p>Workaround: Configure the session first and then add QRG before attempting this configuration on GUI. After encountering this scenario, configure the session on CLI.</p>
CSCuh92775	<p>Symptom: On a rare occasion, the following error occurs on a Supervisor card console:</p> <pre>%SCHED-3-THRASHING: Process thrashing on watched queue 'Helper [1] Event Queue'. -Process= "RFGW GQI Helper 1", ipl= 2, pid= 143</pre> <p>Conditions: This occurs on the Supervisor which has GQI sessions created and deleted one after the other repeatedly</p> <p>Workaround: There is no service or functional impact. Therefore, no workaround is required.</p>
CSCuh94947	<p>Symptom: On a very very rare occasion, an RFGW-10, which has huge number of Video & DEPI sessions configured, a Supervisor switchover occurs. A line card crashes and leads to a line card switchover. When standby line card takes over, some DEPI sessions stay in IDLE state.</p> <p>Conditions: This occurs RFGW10 chassis fully loaded with ten line cards configured in 9:1 linecard Redundancy mode and performing the following actions on it. Multiple Supervisor SSOs with SDV & VOD session creations/deletions happening continuously.</p> <p>Workaround: Two or more SSOs of the Supervisor cards might recover the lost DEPI sessions.</p>
CSCuh95185	<p>Symptoms: Supervisor card experiences following config sync failure and followed by reset on its own:</p> <pre>Config Sync: Starting lines from PRC file: interface Asi3/13 ! <submode> "interface" - cable monitor rf-port 5 channel 2 after-core-enc ! </submode> "interface"</pre> <p>Conditions: This occurs when the ASI interface is configured with the LCRED, to monitor QAM RF channel, and the Supervisor card is switched over.</p> <p>Workaround: Remove the configuration from ASI, switch over the Supervisor card and reconfigure LCRED on the newly active Supervisor card. Preferably ASI interface should be used only for debugging for the maintenance window.</p>

Caveat	Description
CSCuh96460	<p>Symptoms: On a very rare occasion, the following errors and tracebacks are observed:</p> <pre data-bbox="537 342 1393 447">%SCHED-7-WATCH: Attempt to monitor uninitialized watched boolean (address 0). -Process= "GalRedMsgProc", ipl= 0, pid= 71 %SCHED-3-STILLWATCHING: Process still watching boolean Wait for get_system_version_resp -Process= "GalRedMsgProc", ipl= 0, pid= 71"</pre> <p>Conditions: This occurs when the RFGW-10 chassis is fully loaded and configured with 9:1 line card redundancy and multiple SSO events of Supervisor cards.</p> <p>Workaround: There is no service or functional impact. Therefore, no workaround is required.</p>
CSCuh96476	<p>Symptoms: The following errors and tracebacks are observed:</p> <pre data-bbox="537 674 1422 722">"SYS-3-CPUHOG: Task is running for (2100)msecs, more than (2000)msecs (8/8),process = RF Slave Main Thread"</pre> <p>Conditions: This occurs when the chassis is fully loaded with 10 LCs and huge number of DEPI and Video sessions., and multiple SSO events of Supervisor cards.</p> <p>Workaround: There is no service or functional impact.</p>
CSCuh96667	<p>Symptom: On very very rare conditions, some video sessions continue to be displayed as 'active' even while the input bitrate drops to zero, through show cable video session command.</p> <p>Conditions: This is observed on RFGW-10 chassis when it is configured with unicast video sessions. When the unicast streaming is stopped manually, the input bit rate gradually drops to zero.</p> <p>Workaround: This is only a display error and there is no service impact.</p>
CSCuh96957	<p>Symptoms: In a very rare scenerio, the following errors and tracebacks are observed:</p> <pre data-bbox="537 1178 1450 1255">"%RFGW-3-UNEXPECTED: STANDBY:Db rx failed with reason 117 for Data Session DB; db sync = DYNAMIC_SYNC, db op = DB_UPDATE, db key = Session ID : 1074594565"</pre> <p>Conditions: This occurs on fully loaded RFGW10 Chassis and 9:1 LC Redundancy with huge number of Video and DEPI configured and when multiple SSO events of Supervisor cards occur.</p> <p>Workaround: There is no service impact. Therefore, no workaround is required.</p>

Caveat	Description
CSCuh98507	<p>Symptoms: DS_License count increases even when lesser number of DS channels are consumed.</p> <p>Conditions: This occurs on RFGW0 with replication channels configured with Downstream QAM channels and when the following sequence of events occur on the chassis.</p> <ol style="list-style-type: none"> 1. Linecard switches over from line card 3 to line card 11 2. Remove all replication channels by deleting replication groups 3. Switch over the Supervisor card 4. Revert back to line card 3. <p>At this point, we see that line card 3 has more licences consumed, upto 384 though we configured fewer QAM channels..</p> <p>Workaround: Switch over the line card using redundancy linecard-group switchover from the <slot>.</p>
CSCuh99000	<p>Symptoms: On a very rare occasion, some of the STBs show no video for a brief period of time, since one of line cards might have reset due to bb_video process crash and should have triggered line card switchover (if line card redundancy is configured)</p> <p>Conditions: This occurs on a RFGW10 chassis which has GQI & ERMI sessions and performing back-to-back Supervisor card switchovers while running SDV channel change stress test.</p> <p>Workaround: Wait until Video is available on QAM output with no line card redundancy. Ensure that line card redundancy is configured.</p>
CSCuh99434	<p>Symptom: Random DEPI data plane sessions are lost after a RFGW SSO switch over when running the Cisco IOS Release 12.2(33) SCH.</p> <p>Conditions: The problem only occurs when running the Cisco IOS Release 12.2(33) SCH, and you have Control Plane DEPI configured.</p> <p>Workaround: Toggle the DEPI ingress interface to DOWN and then UP, to force renegotiation of the data plane sessions.</p> <p>Performing an SSO switchover on the RFGW may trigger the issue again.</p> <p>Additional Information:</p> <p>Toggling the DEPI ingress interface to recover the sessions will cause all the modems on the sessions, running through that interface, to fall offline briefly.</p>
CSCui01526	<p>Symptom: Correct depi-tunnel destination IP address using GUI is not correctly assigned.</p> <p>Conditions: This occurs when using GUI for configuring DEPI tunnel destination IP.</p> <p>Workaround: Configure DEPI tunnel destination IP through CLI.</p>
CSCui01581	<p>Symptom: Firmware/Serial number may not be shown in SNMP walk</p> <p>Conditions: This occurs when running SNMP walk for ISO MIB.</p> <p>Workaround: Use relevant show command.</p>

Caveat	Description
CSCui04646	<p>Symptom: Some of encrypted sessions are displayed as Encrypt/No even though the sessions are actually encrypted.</p> <p>Conditions: This occurs when using GUI to view the GQI sessions configured in the chassis.</p> <p>Workaround: Use the show cable video sess remote gqi all command for viewing correct information.</p>
CSCui15834	<p>Symptom: The following error message is displayed:</p> <pre>%RFGW-3-LINECARD_ERRMSG_ERR: SLOT 12:LC_ERRMSG_IPC_SEND_FAILED bb_depi RPC MSG_TYPE_MB_QUERY_DEPI_SESSION_STATE reply - error timeout</pre> <p>Conditions: This occurs after line card high availability activation twice and SSO per iteration, and requires more than 5 iterations to encounter this error.</p> <p>Workaround: There is no service or operational impact. All the depi and video sessions are active and modems remain online. Therefore, no workaround is required.</p>

Resolved Caveats for Cisco IOS-XE Release 3.3.0SQ

Caveat	Description
CSCth96571	<p>Symptom: Standby Supervisor card reloads and fails to become active.</p> <p>Conditions: This occurs when active Supervisor card fails while the standby supervisor card is still booting.</p> <p>Workaround: If redundancy force-switchover command is used induce failover, ensure that standby Supervisor state is in Standby-hot state.</p>
CSCua65765	<p>Symptom: When the speed of the management ethernet port is increased to 10, 100, or 1000 Mbps, and autonegotiation is enabled, autonegotiation fails.</p> <p>Conditions: Supervisor 7E in RFGW-10 platform running Cisco IOS XE Software Release 3.2.2SQ; RFGW-10 3.2.2SQ is based on Catalyst 4K 3.2.0SG with Fa1 functionality ported from 3.4.0SG.</p> <p>Workaround: There is no workaround.</p>
CSCud76381	<p>Symptom: The upconverter (UPX) Timing, communication and control card fails. The Alarm LED of slot 4 turns on.</p> <p>Conditions: This occurs when the TCC card is switched over.</p> <p>Workaround: Verify that the standby TCC card clock functions properly before performing a switchover. Connect both RFGW TCCs and CMTS to DTI servers that are traceable to a common clock source.</p>

Caveat	Description
CSCue76243	<p>Symptom: The Supervisor 7E, the Supervisor 7LE or the Catalyst 4500X cards lose all layer 3 connectivity to or from the switch IP address. Switching continues to work, but IP traffic to or from the switch fails. This includes snmp, ntp, telnet, ssh, and other traffic.</p> <p>Conditions: Supervisor 7E in RFGW-10 platform running Cisco IOS XE Software Release 3.2.2SQ; RFGW-10 3.2.2SQ is based on Catalyst 4K 3.2.0SG with Fa1 functionality ported from 3.4.0SG.</p> <p>Workaround: Disable Cisco Express Forwarding (CEF) on the layer 3 interfaces to temporarily restore service. When the problem occurs, the switch must be rebooted. To prevent the problem from occurring, shutdown interface Fa1.</p>
CSCue91581	<p>Symptom: The show controllers qam downstream command output displays incorrect values after Annex change.</p> <p>Conditions: This issue when:</p> <ul style="list-style-type: none"> • Minimum two QAM channels with Annex B come up. • Active sessions with rf-profile configured and used by QAM channels have the modulation value modified from Annex B to Annex A. <p>Workaround: Unconfigure and reconfigure using no cable downstream rf-profile rf-profile-id command at the QAM channel.</p>
CSCuf29838	<p>Symptom: Management Interface status shows initializing and not become active.</p> <p>Conditions: This occurs while the Supervisor card becomes active Supervisor card following a SSO.</p> <p>Workaround: Use the shutdown and no shutdown on Management Interface.</p>
CSCuh27505	<p>Symptom: The fastethernet 1 interface turns to the status administrative up from administratively down.</p> <p>Conditions: This occurs when the Supervisor card switches over.</p> <p>Workaround: There is no functional impact and therefore, no workaround is required.</p>

Related Documentation

These documents are available for the Cisco RFGW-10 platform on Cisco.com:

- [Cisco RF Gateway 10 Hardware Installation Guide](#)
- [Configuring the Cisco RFGW-10 DS-384 Line Card](#)
- [Cisco RF Gateway 10 Command Reference](#)
- [Cisco RF Gateway 10 GUI](#)
- [Cisco RF Gateway 10 Software Feature and Configuration Guide](#)
- [Software License Activation for Cisco RF Gateway 10 Line Cards](#)
- [Cisco RF Gateway 10 MIB Specification Guide](#)

- [Cisco RF Gateway 10 Quick Start Guide](#)
- [Release Notes for Cisco RF Gateway 10](#)
- [Cisco RF Gateway 10 Remote Provisioning Utility User Guide](#)

Documentation Modules

Each module in the Cisco IOS documentation set consists of more than one hardware installation guides, configuration guides, and command references. Hardware Installation Guides describe the hardware components and procedure to remove and install these components. Configuration guides describe protocols, configuration tasks, and Cisco IOS software functionality, and contain comprehensive configuration examples. Command reference provides complete command syntax information.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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