Release Notes

For iDX Release

4.1.3.x

July 15, 2019

ST Engineering

iDIRECT

ST Engineering iDirect, Inc. dba iDirect, a Delaware corporation and subsidiary of ST Engineering North America, with its headquarters in Herndon, Virginia, is a global leader in satellite communications providing technology and solutions that enable our partners worldwide to optimize their networks, differentiate their services and profitably expand their businesses. For more than 20 years, ST Engineering iDirect has focused on meeting the economic and technology challenges across the satellite industry. Today, the product portfolio, branded under the name iDirect, sets new standards in performance and efficiency, making it possible to deliver voice, video and data connectivity anywhere in the world. ST Engineering iDirect is the world's largest TDMA enterprise VSAT manufacturer and is the leader in key industries including mobility and military/government. In 2007, iDirect Government was formed to better serve the U.S. government and defense communities. For more information please visit www.idirect.net.

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iDirect Government™, created in 2007, is a wholly owned subsidiary of iDirect and was formed to better serve the U.S. government and defense communities.

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Revision History

The following table shows all revisions for this document. To determine if this is the latest revision, check the TAC Web site. Refer to *Getting Help on page xi* for TAC access information.

Revision	Date Released	Reason for Change
A	05/17/2019	Initial Document Release for iDX Release 4.1.3.0.
B	05/22/2019	Updated bulleted item about Mesh support at *Features Not Supported in iDX Release 4.1.3.x on page 5*.
C	06/04/2019	Reported EVO-18857 as resolved.
D	07/15/2019	Updates include: • Removed EVO-24667 from Known Issues and added an Important Notice regarding this issue. • Added EVO-25296 to Known Issues. • Added EVO-25283 to Known Issues. • Changed remote package for 8-Series remotes at *Decoupling of Remote Versions on page 13*. • Added note about 9-Series remotes/GRE tunnels at *Features Not Supported in iDX Release 4.1.3.x on page 5*.

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About

Purpose

These Release Notes support iDX Release 4.1.3.x. The release notes are updated with each iDX 4.1.3.x release.

Intended Audience

This document is intended for use by network operators and network architects that work with the iDirect network system.

Contents Of This Guide

This document contains the following sections:

- *New Features and Enhancements* - provides a summary overview of new product features and enhancements.
- *Supported Features and Hardware* - Lists supported hardware and provides upgrade paths.
- *Important Notices* - Provides important information that should be reviewed before installing the software for iDX Release 4.1.3.x.
- *Resolved Issues* - Describes all issues that have been resolved in iDX 4.1.3.x.
- *Known Issues* - Describes known issues in iDX Release 4.1.3.x.

Getting Help

The iDirect Technical Assistance Center (iDirect TAC) and the iDirect Government Technical Assistance Center (iDirectGov TAC) are available to provide assistance 24 hours a day, 365 days a year. Software user guides, installation procedures, FAQs, and other documents that support iDirect and iDirectGov products are available on the respective TAC Web site:

- Access the iDirect TAC Web site at http://support.idirect.net
- Access the iDirectGov TAC Web site at http://tac.idirectgov.com

The iDirect TAC may be contacted by telephone or email:

- Telephone: (703) 648-8151
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The iDirectGov TAC may be contacted by telephone or email:

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iDirect and iDirectGov strives to produce documents that are technically accurate, easy to use, and helpful to our customers. Please assist us in improving this document by providing feedback. Send comments to:

- iDirect: techpubs@idirect.net
- Direct Government: techpubs@idirectgov.com

For sales or product purchasing information contact iDirect Corporate Sales at the following telephone number or email address:

- Telephone: (703) 648-8000
- Email: sales@idirect.net

Related Documents

The following additional iDirect documents are available on the TAC Web sites and may also contain information relevant to this release. Please refer to these documents for additional information on installing and using iDirect satellite network software and equipment.

- *Installation, Support, and Maintenance (ISM) Guide*
- *Hub Line Card Specifications Guide*
- *iBuilder User Guide*
- *iDirect Features and Chassis Licensing User Guide*
- *iDirect Hardware Matrix*
- *iDirect Software Features Matrix*
- *iMonitor User Guide*
- *Link Budget Analysis Guide*
- *Network Upgrade Procedure*
- *NMS Redundancy and Failover*
- *Satellite Router Installation and Commissioning Guide*
- *SatManage Integration and Configuration Guide*
- *Software Installation Guide for New Hubs*
- *Technical Reference Guide*
- *Web iSite User Guide*
- *Terminal WUI User Guide*
- *TRANSEC User Guide*
- *Virtual Server Configuration Guide*
- *Technical Note on Setting Up Defense and Universal Line Cards*
- *iVantage API Technical Note*

New Features and Enhancements

4.1.3.x Features and Enhancements

For information about new features in iDX Release 4.1.3.x, see Table 1-1. For information about enhancements to existing features in iDX Release 4.1.3.x, see Table 1-2.

Table 1-1. Features Introduced in iDirect 4.1.3.x Releases

Release	Feature

4.1.3.0	• Link encryption and Multicast Fastpath encryption support for iQ Series remotes.
	• iQ LTE remote provides satellite and cellular connectivity.
	• 16QAM Modulation for ATDMA
	  • Supported Remotes:
	  • iQ Desktop with upstream carrier size of 128 ksps to 7.5 Msps and maximum upstream data throughput of 21 Mbps (with proper upstream throughput license).
	  • iQ 200 Rackmount / iQ 200 Board / iQ LTE with upstream carrier size of 128 ksps to 15 Msps and maximum upstream data throughput of 40 Mbps (with new 40 Mbps license).
	  • Supported hub line cards
	  • ULC-R
	  • DLC-R
	  • Supported payload sizes
	  • 170B
	  • 438B
	  • Supported FEC code rates
	  • 3/4
	  • 4/5
	  • 6/7

Table 1-2. Enhancements Introduced in iDirect 4.1.3.x Releases

Release	Enhancement
4.1.3.0	• A 40 Mbps pool license is available for iQ 200 Series and iQ LTE remotes using 16-QAM inroutes. • Added new Beam Status page to Web iSite for X7 remotes only; includes AntennaPointToSat support for X7/WebiSite to prevent beam switching during beam lock. See the *Web iSite User Guide* for more information. • Added ability to configure Output Back Off (OBO) limit for iQ Series remotes to avoid saturating the amplifiers when operating at 16QAM. The value for this number is determined during commissioning. For more information, refer to the *Technical Reference Guide*. • Improved system performance of roaming networks by reducing the overall load to NRD server through disabling the archive of elsewhere remote stats.

Legacy Supported Features

iDX Release 4.1.3.x inherits the system features and capabilities present in iDX Releases 4.1.x.x. Refer to the *Release Notes for iDX Release 4.1.x.x* for more information.

Supported Features and Hardware

This chapter provides information about supported features and hardware for iDX Release 4.1.3.x.

The following sections are included:

Supported Features

All major iDX feature sets are supported in this release. New features and enhancements for this release are covered in *New Features and Enhancements* on page 1.

For details on which features are supported in iDX Release 4.1.3.x, refer to the *iDirect Software Feature Matrix* for iDX Release 4.1. For a list of features that are not supported in iDX Release 4.1.3.x, see *Features Not Supported in iDX Release 4.1.3.x* on page 5.

Hardware Feature Licensing Requirements

For information about licensing, refer to *iDirect Features and Chassis Licensing Guide* and "Managing NMS Licenses" in the *iBuilder User Guide*.

NMS Client Operating Systems

iDX Release 4.1.3.x NMS clients are supported on the following platforms:

- Windows 7
- Windows 10

NOTE: Windows XP is not supported in iDX Release 3.5.4.0 and forward. For remote installers with PCs using Windows XP, iSite from 3.3.x can be used to provision remotes.

NOTE: Virtual Machine Minimum Resource Configuration Requirements for Windows Clients:
• CPU 4 core
• MEM 4 GB

Supported Upgrade Paths

The upgrade path for iDX Release 4.1.3.0 is shown below.

- iDX Release 4.1.2.x
- iDX Release 4.1.1.x
- iDX Release 4.1.0.x
- iDX Release 4.0.0.x
- iDX Release 3.5.4.x
- iDX Release 3.5.3.0
- iDX Release 3.5.2.x
- iDX Release 3.5.1.1
- iDX Release 3.5.1
- iDX Release 3.4.3.5
- iDX Release 3.4.3
- iDX Release 3.4.1
- iDX Release 3.3.6
- iDX Release 3.3.5
- iDX Release 3.3.4
- iDX Release 3.3.2.5
- iDX Release 3.3.2.2
- iDX Release 3.3.2.1
- iDX Release 3.2.x
- iDX Release 3.1.x
- iDX Release 3.1.1.2
- iDX Release 3.0
- iDX Release 2.3.1

NOTE: iDX Release 3.1.4 is not a supported upgrade path for iDX Release 4.1.3.0.

Features Not Supported in iDX Release 4.1.3.x

The following features are not supported in iDX Release 4.1.3.x:

- 9350, 900, and CX700 2nd receiver functionality (MPE or One-Way TRANSEC) is not supported.
- Upstream Persistent Multicast Traffic is not supported with 9350 remotes.
- Multicast Fastpath traffic is not supported on the X1 and e150 remotes.
- 32APSK is not supported on X1/e150 remotes.
- Layer 2 over Satellite (L2oS) is not supported on 950mp, 900, and 980 remotes.
  - With iDX Release 4.1.0.3, 9350 remotes and iQ Series remotes support L2oS capability.

NOTE: For QinQ deployments (SP/CE tags), use of transparent inner-tagging functionality and the CE-TT feature is supported through the use of custom keys; refer to the iBuilder User Guide for information.

NOTE: The CE-TT feature is not supported with 9350 remotes.

- Link Encryption is not implemented on 9350, 950mp, 900, and 980 remotes.
- GRE tunnels are not supported on 9350, 950mp, 900, and 980 remotes (i.e., there is no support for TCP acceleration and GQoS on the payload of the GRE packets).
- TRANSEC is not supported on the 980 remote.
- Adaptive Spread upstream carriers are not supported.
- e8350, e850mp and e800 remotes cannot support an inroute group with 16QAM carriers configured.
- Mesh is not supported in this release. All Mesh deployment should use iDX 4.1.1.x until further notice.
- For iQ Series remotes, the following are not supported:
  - Spread Spectrum
  - 2nd Ethernet port for customer traffic use – support remains limited at VLAN1 use only which allows for Terminal WUI and OpenAMIP functionality for antenna.
  - DVB-S2X carrier limits are 5 Msym-100 Msym and continue to exclude the Q-1/2, Q-1/3 and Q-2/5 lowest MODCODs).
  - DVB-S2 carrier limits are 1 Msym to 45 Msym from QPSK-1/4 to 32APSK-8/9 (LBA performance is slightly degraded below 3 Msym, but not in a way that drops traffic). See the *Link Budget Analysis Guide* for more information.

Supported Hardware

This section describes iDirect hardware supported by iDX Release 4.1.3.x, including server support for NMS and Protocol Processor servers.

Chassis Types

The table below shows the only iDirect chassis hardware supported by iDX Release 4.1.3.x networks.

Table 2-1. Supported Chassis Types

Supported Chassis	Supported Line Cards	Notes
15152, 5 IF 20 Slot TDMA Hub (1500 W)	ULC-R, ULC-T, DLC-R, DLC-T, XLC-10, XLC-11, XLC-M, eM1D1, eM0DM	This is the only chassis that supports S2X.
15052, 5 IF 20 Slot TDMA Hub (800 W)	XLC-10, XLC-11, XLC-M, eM1D1, eM0DM	
12102, 4 IF 4 Slot TDMA Hub	XLC-10, XLC-11, XLC-M, eM1D1, eM0DM	
12202, 4 IF 4 Slot Industrial TDMA Hub		
11000 Series Tactical Hub	DLC-R, DLC-T	Supports these line cards only.

NOTE: Refer to Technical Bulletin *Introduction of the RCM-PPS* and the *Hub Installation, Support, and Maintenance Guide*.

Satellite Routers and Line Cards

The table below lists iDirect Satellite Routers and Hub Line Cards supported in iDX Release 4.1.3.x.

CAUTION: When upgrading a network with any of the unsupported components, ensure to remove or replace the unsupported components before upgrading.

Table 2-2. Supported Satellite Routers and Line Cards

Supported Satellite Routers	Supported Hub Line Cards
• 900 • 9350 • 950mp • 980 (For Lab/Integrator use only; non-TRANSEC mode only) • e8350 • e8350-48 • e8350-FIPSL2 • e8350-FIPSL2-48 • iConnex e150 • iConnex e800 • iConnex e800-FIPSL2 • iConnex e850mp • iConnex e850mp-FIPSL2 • iConnex e850mp-IND with heat sink • iConnex e850mp-IND without heat sink • iQ Desktop • iQ 200 Board • iQ 200 Rackmount • iQ LTE • X1 Indoor • X1 Outdoor • X3 • X5 • X7 • X7-EC • X7-ER	• XLC-10 • XLC-11 • XLC-M • eM1D1 • eM0DM • ULC-T • ULC-R • DLC-T • DLC-R

The table below lists iDirect Satellite Routers and Hub Line Cards not supported in iDX Release 4.1.3.x.

Table 2-3. Unsupported Satellite Routers and Line Cards

Unsupported Satellite Routers	Unsupported Hub Line Cards
• CX780 • iNFINITI 8350 • iNFINITI 7300, 7350 • iNFINITI 5300, 5350 • iNFINITI 5100, 5150 • iNFINITI 3100, 3125, 3100-NB (Narrowband) • iConnex 700 • iConnex 300, • iConnex 100 • eP100	• iNFINITI M1D1 • iNFINITI M0D1 • iNFINITI M0D1-NB • iNFINITI M1D1-T • iNFINITI M1D1-TSS • iNFINITI 10000 series Private Hub • iNFINITI 10000 series Mini Hub

NMS and Protocol Processor Servers

The table below lists the hardware platforms for NMS and Protocol Processor servers supported in iDX Release 4.1.3.x.

Table 2-4. Supported Server Platforms for NMS and Protocol Processor

Component	Supported Hardware Platform
NMS and Protocol Processor Servers	• Dell PowerEdge R420 • Dell PowerEdge R610 • Dell PowerEdge R630 • Dell PowerEdge R640
Protocol Processor and iGateway Servers	• Dell PowerEdge FX2 with Dell PowerEdge FC630 / FC640 half-height compute sleds **NOTE:** Requires a server rack able to accommodate the 2RU height and mounting depth of 85.16 cm (33.52 in).

NOTE: For R630 and R640 NMS servers on any software release, iDirect supports installation to the V-Server Guest OS only as described in *Virtual Server Configuration Guide*.

For R630 and R640 PP servers running in S2 mode on any software release, iDirect supports installation to the V-Server Guest OS only as described in *Virtual Server Configuration Guide*.

NOTE: For iDX 4.1.3.x, an iGateway server with a Dell PowerEdge FX2 supports three vPPs and one Encapusulator in a DVB-S2X network. iDirect is standardizing on three vPPs for all applications because it has been found that this more efficiently utilizes the processing resources and results in better performance and easier system management. For more information, refer to the *Network Upgrade Procedure*.

Supported System Interfaces

This section briefly describes the various system interfaces supported by iDX Release 4.1.3.x.

Antenna Controllers

iDX Release 4.1.3.x is fully compliant with OpenAMIP v1.6. The appropriate protocols are used to issue antenna controller commands and are automatically selected by the software based on the reflector configured for use with the system. The following equipment is supported:

- SeaTel (DAC-97)
- Orbit Marine (AL-7104)
- Schlumberger
- OpenAMIP Compliant Solutions

NOTE: The 980 and 9-Series remotes support OpenAMIP only.

NOTE: iQ LTE and iQ 200 support the following GPS input modes: Manual, Serial or NMEA. Serial or NMEA can use any configurable baud rate. The serial port does not support RSSI, LOCK or MUTE. In addition iQ LTE and iQ 200 support an OpenAMIP Compliant Antenna Solution.

Web-Based User Interfaces

iDX Release 4.1.3.x uses the following web-based user interfaces:

- **Web iSite** - Used in the commissioning of iDirect e150 and Evolution X1, X7 Satellite Routers.
- **Terminal WUI** - Used in the commissioning of iDirect 9350, 900, 980, 950mp, and iQ Series Satellite Routers.

Both interfaces provide important identifier and network information and support the loading of software packages and configuration options files on the Satellite Routers. They also support antenna alignment and cross polarization as well as the setting of transmit power for the supported Satellite Routers.

Important Notices

This chapter provides important information that should be reviewed before installing the software for iDX Release 4.1.3.x.

Serial Interface Restrictions with iQ 200 Board, iQ 200 Rackmount, and iQ LTE Remotes

The console port for iQ 200 Board, iQ 200 Rackmount, and iQ-LTE remotes can be used to support remote console connectivity and GPS serial input but this cannot be done concurrently. For information about configuring the serial interface for these remotes, refer to Technical Bulletin T0001096 available at http://support.idirect.net.

16QAM Backward Compatibility with Older Remote Software Versions

Immediately after the hub is upgraded to iDX 4.1.3, none of the inroute groups will have 16QAM carriers. At this time, backward compatibility with legacy remote versions since iDX 3.3.2 is maintained on all remote types because no carriers are using 16QAM. However, only a small subset of remote types in legacy versions are compatible with inroute groups that have 16QAM carriers. Please see the table below for details. iDirect strongly recommends that operators upgrade their remotes to the packages bundled in iDX 4.1.3 before introducing 16QAM carriers in their inroute groups.

Table 3-5. 16QAM Backward Compatibility with Older Remote Software Versions

Major Release Version	Remote Software Versions Compatible with Inroute Groups with Both 16QAM and Non-16QAM Carriers
iDX 3.3.7.2	X1 (15.0.7.2)
iDX 3.5.4.x where x=3 or 4	X3 (17.0.4.x), X5 (17.0.4.x), X7 (17.0.4.x) where x=3 or 4
iDX 4.1.1.x	X3 (21.0.1.x), X5 (21.0.1.x), X7 (21.0.1.x), 9350 (21.0.1.x)
iDX 4.1.2.x	X3 (21.0.1.x), X5 (21.0.1.x), X7 (21.0.2.x), 9350 (21.0.2.x)

NOTE: e8350, e800 and e850MP remotes cannot be part of an inroute group with any 16QAM carriers regardless of the remote software version.

iBuilder Support for Non-iQ Series Remotes in Hybrid 16QAM / Non-16QAM Inroute Groups

iBuilder support for non-iQ Series remotes in hybrid 16QAM and Non-16QAM inroute groups is as follows:

- Non-iQ remotes go to deactivation pending when moved to the IG.
- Non-iQ remotes go to an incomplete state when created from the IG.
- Non-iQ remotes go to the complete state when at least one inroute carrier is supported by the remote; i.e., the carrier is non-16QAM with a remote-supported symrate.
  - For X5 and X7 remotes, the symrate is not more than 7.5 Msps.
  - For X1 remotes, the symrate is not more than 4 Msps.

TDMA QEF Thresholds Used for ATDMA Operation Differ By +0.1 dB When LBA Threshold Has An Odd Decimal Point From Values Provided by Link Budget Analysis Guide for Certain MODCODs

The modem C/N performance threshold for ATDMA control differs by +0.1 dB when the LBA threshold has an odd decimal point from the values listed in the C/N for QEF (dB) column of the TDMA SNR Performance Limit tables in the Link Budget Analysis Guide for certain MODCODs. In effect, the overall margin is 0.1 dB more than M1+M2 in these cases.

High Aggregate Receive Power, High Aggregate Symbol Rate (>25Msps), and High Channel SNR (>10dB) May Cause CRC Errors and Low SNR Reporting for Superburst in ULC-R/DLC-R Line Cards

The IF AGC has an if_agc_threshold value (default = 0x180) that is good for most cases; however, this value may not work properly if the wideband receive power reported by the line card is high (> -35 dBm) and is configured to receive a high aggregate symbol rate (> 25 Msps) with a high channel SNR (> 10dB) carriers. The following symptoms were observed in some cases:

- Channels may show trickling CRC errors even though the reported SNR appears good.
- Channels may show a discrepancy between the acquisition burst (Superburst or Traditional) SNR and the traffic SNR. In particular, SNR appears lower than nominal for acquisition bursts.

The presence of the following conditions will further increase the likelihood of experiencing this issue:

- The slots in the channels are not fully allocated to remotes.
- Traffic and acquisition guard bands are high due to fast mobility and/or inclined orbit satellite.

The CRC errors and SNR discrepancies can be corrected by modifying the default `if_agc_threshold` setting. This can be set in iBuilder at the Rx line card's Custom tab using the following custom key:

```
[FPGA]
if_agc_threshold = 256
```

Decoupling of Remote Versions

Remote software versions are now decoupled from major release versions to enable them to continue to operate independently. This software best practice allows remotes to be optimally be supported in 4.1.3 based on the most robust and reliable iDX software version for the given remote model leveraging iDirect's strict backwards compatibility policy.

The remotes shown in Table 3-6 use individual software versions other than iDX 4.1.3.x. It is recommended that you upgrade these remotes with the appropriate packages shown below that are included in iDX Release 4.1.3.x. iDX 4.1.3.x is backward-compatible with remotes running these software releases.

NOTE: For information about decoupled remote versions in prior releases, refer to the appropriate *Network Upgrade Procedure*.

Table 3-6. iDX Release 4.1.3.1 Decoupled Remote Versions

Remote	iDX /iDS Versions	Remote Package
X1 Indoor	3.3.7.2 (15.0.7.2)	evo_x1_indoor_rmt-15.0.7.2
X1 Outdoor	3.3.7.2 (15.0.7.2)	evo_x1_outdoor_rmt-15.0.7.2
e150	3.3.7.2 (15.0.7.2)	evo_e150_rmt-15.0.7.2
X3	4.1.1.4 (21.0.1.4)	evo_x3_rmt-21.0.1.4
X5	4.1.1.4 (21.0.1.4)	evo_x5_rmt-21.0.1.4
8-Series	4.1.1.4 (21.0.1.4)	e8_rmt-21.0.1.4.pkg
980	4.2.0.0 (22.0.0.0)	980_rootfs_rmt-22.0.0.0-4283.pkg
9800AE	4.2.0.0 (22.0.0.0)	980_rootfs_rmt-22.0.0.0-4283.pkg
9800AR	4.2.0.0 (22.0.0.0)	980_rootfs_rmt-22.0.0.0-4283.pkg

NOTE: iDirect no longer supports DVB-S2 32APSK MODCODs on X1/e150 remotes because introduction of this feature starting in iDX 3.5 led to bugs in the X1. To improve quality and robustness, the X1 remotes use stable iDX version 3.3.7.0 which does not support 32APSK. iDirect surveyed the customer base and found few using 32APSK on X1 remotes. Like other remotes that do not support 32APSK, the X1 can still exist in a shared network with remotes than can do 32APSK. To ease upgrade and adoption, the NMS upgrade checks for this and iBuilder will no longer support configuration of 32APSK for X1/e150. See the *Network Upgrade Procedure* for more details on upgrade checks.

NOTE: Before assigning any of the remotes in the tables above to an inroute group that has large symbol rate carriers, verify that the remote supports the carriers.

Admin State for iQ Series Remotes Port 1 and Port 2 Defaults to ENABLED

For iQ Series remotes, the default Admin State for Port 1 and Port 2 at the Remote Ports tab is changed to Enabled. A user can set the admin state to Disabled through the GUI for operational or security reasons. Users should not set both ports to disabled as the remote will become unreachable and require advanced recovery by TAC.

Multiple ULC-R/DLC-R Line Cards Per IRG Cause Packets To Arrive Out of Order

When multiple ULC-R/DLC-R hub line cards are assigned to an inroute group (IRG), the total number of slots per frame of all carriers assigned to each of the line cards individually must not exceed 3000 to prevent packets arriving out of order. If this limit must be exceeded, only one ULC-R/DLC-R line card is permitted per IRG. Otherwise packets will arrive out of order.

This occurs with the following modulation/coding combinations (MODCODs) where >3000 aggregate slots per frame can be expected:

- 438B - Not affected.
- 170B - Starts to impact for aggregate carriers exceeding 15 Msps.*
- 100B - Starts to impact for aggregate carriers exceeding 10 Msps.*

For the second and third bullets above, combinations are allowed that exceed the aggregate sym-rate limit if aggregate slots per frame do not exceed 3000. The aggregate slot limit depends on the number of assigned channels, MODCODs, and symbol rates to the ULC-R/DLC-R line cards.

Network Level Changes Cause Processing Nodes to Go To Unknown or Never Applied Configuration States

In the iDX 4.1.0.0 release, the Processing Node may experience an options file recalculation error. When in this state, a network change may cause a previously fully-configured, Nominal state Processing Node to enter the Unknown state or Never Applied state. The Unknown state

is indicated by a partial, gray Processing Node icon. The Never Applied state is indicated by a complete, gray Processing Node icon.

- Clear the Unknown state by creating or deleting Processing Node under any Encapsulator. A dummy node with no valid configuration can be created and then deleted, or a real node can be deleted and recreated.
- Clear the Never Applied state by retrieving the active options file from the Processing Node. Do not directly apply changes without retrieving the active options. Processing Node changes must be applied after remote, line card, and network options are applied.
- Either of these recovery steps may put the Processing Node in the Changes Pending state if the earlier configuration change triggered a new options file calculation. Those changes should be applied as normal, after applying changes to the rest of the network.

iQ Series Remotes Dedicated Software Upgrade Mode

During package upgrades, the iQ Series remotes enter a dedicated software upgrade mode. In this mode, no user traffic is processed by the remote. Only Terminal WUI access on the default VLAN is permitted. After the package upgrade, the operator must perform a reboot of the remote, at which point it exits the software upgrade mode and is able to process traffic normally.

Minimum Guard Intervals for TDMA Bursts

In iDX Releases 4.0 and 4.0.0.1, in order for iQ Desktop remotes to transmit TDMA bursts properly for the symbol rates 1.25 Msym/Sec and below, it was necessary to adjust the guard time and padding for different symbol rates.

- Changing the guard time was done at the iBuilder Inroute Group dialog box.
- Adjusting the padding required entering the following Remote-Side custom key on the remote's Custom tab:

  ```
  [TX]
  symbol_padding_low = x
  ```

  where x was a padding value.

For iDX Release 4.1.3.x, these adjustments are unnecessary and should be removed if previously applied.

PP Automatically Configures Simulated Delay When Running as an IF Network

When the "IF Network" check box is selected at the Network level within iBuilder, the PP automatically configures a simulated delay for the IP traffic to simulate the round trip delay experienced from earth to satellite and back to earth. This allows for realistic traffic testing and end user experience without a a real satellite. iBuilder calculates the simulated delay for an IF network in ms units (260 ms by default); this can be changed in the network level options file as shown below:

```
[NETWORK_DEFINITION]
delay_avg = 260
```

Users can use the "delay_avg" custom key to adjust the simulated delay if required but there is no reason to.

NOTE: The "delay_avg" custom key is only effective for IF network; in RF networks this custom key is ignored.

NOTE: The PP console command samnc delay is deprecated.

Automatic Login to iBuilder and iMonitor Clients

Optional command line arguments for network IP address, username, and password allow automatic login to iBuilder and iMonitor.

The three optional command line options are shown below.

Purpose	Syntax	Example
Specify network IP address	/n <ip_addr>	iBuilder.exe /n 1.2.3.4
Specify username	/u <username>	iBuilder.exe /u Matt
Specify password	/p <password>	iBuilder.exe /p iDirect

Users can combine any of the three options. For example:

- Use the network *IP address*, *username*, and *password* options to completely automate login.

  The following command logs the user fully into the iBuilder client as long as the credentials are correct for the network:

  ```
  "c:\Program Files (x86)\iDIRECT\NMS\17.0.3.0>iBuilder.exe" /n
  172.17.125.10 /u admin /p iDirect1
  ```

- Use the network *IP address* and *username* options to open the client **Login Information** dialog box while requiring the user to enter a password to login.

  The following command populates the username and network IP address but requires the user to input a password to login:

  ```
  "c:\Program Files (x86)\iDIRECT\NMS\17.0.3.0>iBuilder.exe" /n
  172.17.125.10 /u admin
  ```

Guidelines

- The username and server IP address default to the last used configuration if not specified in command line. This is the same as opening the client without the command line arguments.

  For example, if a user does not specify a username and the last client login username was "Matt", then the username "Matt" populates the **User Name** entry in the client **Login Information** dialog box.

- A completely automatic login to the client requires specifying all three options. If the username or server IP address are missing, they default to the last configuration as described above and the user must click **OK** to start the login process.
- If the automatic login authentication fails because the username, password, or server IP address is wrong, then the **Login Information** dialog box opens for the user to supply the correct information and click **OK**.

Swagger Limitation When Sending Request for POST or PATCH Remote Causes cxpd Service Crash

When using the iVantage NMS API, the cxpd service crashes when sending a request from Swagger for a POST or PATCH remote operation. This occurs because of a limitation in Swagger.

Maintaining Historical Stats Across Multiple Time Zones Requires NTP Time Synchronization

Maintaining accurate historical stats across all NMS servers in a Distributed NMS requires synchronizing servers with Network Time Protocol (NTP). NTP uses UTC (Coordinated Universal Time) to ensure time synchronization.

NMS server processes must be in NTP time sync. The Windows client communicates with the NMS server; if there is a difference of more than 10 seconds, the NMS provides a warning message to the operator indicating that historical stats may not report properly.

iDirect recommends that customers configure URL addresses for one or more NTP servers to ensure that configured sites and servers maintain clock synchronization. Customers may also procure URL addresses for NTP servers from external, public NTP pool sets.

Throughput Limitation for DLC-T/ULC-T Line Cards Payload Sizes

The DLC-T/ULC-T line cards have the following throughput limitations for performance with 45Msps/32APSK-8/9 at the following frame byte sizes:

- @1456B: 15820 FPS (Frames per second)
- @1500B: 14800 FPS
- @IMIX**: 40000 FPS
- @512B: 35500 FPS

(iMIx = 20% 1500B, 40% 512B, 40% 64B Frame size)

Not strictly following these limits can cause data drops in the ULC-T/DLC-T datapath packet processor (Raven), Rx overflows, and OTA signaling information drops that can lead to remote outages.

In cases where it is necessary to limit outroute bps to avoid packet drops, use the following custom key at the network level; note however, exceeding 170 M can cause intermittent buffer overflows.

```
[NETWORK_DEFINITION]
net_outroute_bps = 170000000
```

Initial TX Power Offset Defaults to New Tx Initial Power Algorithm

Initial TX power offset defaults to the new Tx initial power algorithm to allow for a straightforward upgrade experience for customers who have regenerated their maps with Maptools 1.2 or higher and no customer action is required.

For customers using Maptools 1.0/1.1 generated maps and who will continue to do so, the custom key below must be applied using the legacy Tx initial power algorithm to ensure that remotes reacquire into the network upon upgrading.

```
[MOBILE]
tx_init_pwr_map_1_2 = 0
0 - Legacy algorithm for 1.0/1.1 generated maps
1 - (default) New algorithm for 1.2/1.3+ generated maps
```

iMonitor Always Reports FO Offset as Zero for X1 and 9-Series Remotes

In iMonitor, the FO (frequency oscillator) Offset stats for an X1 and 9-Series remote are always reported as zeros at the Remote Status tab. This is correct behavior as the X1 and 9-Series remotes do not report this status.

9350 Remote Does Not Write Option File When Two [OPTIONS_FILE] Groups Exist in Option File

In iBuilder, if a 9350 remote is incorrectly configured with a mobile remote in one beam and a stationary instance in another beam, the remote does not write the Options File. The 9350 remote does not support a mix of mobile and stationary instances.

Revision Server Dialog Box Does Not Display Events Messages Correctly

In iBuilder, when using the Revision Server to download a package to a remote, the flash completed and reboot messages are not shown. However, iMonitor does display the event messages for the remote.

Remotes with NAT Enabled Can Experience ICMP Packet Loss

Latency timeouts from the NMS to the remote management interface can occur when generating ICMP traffic on the remote LAN with NAT enabled. This issue occurs only when there is a simultaneous ping session initiated from a PC behind the remote pinging NMS.

To avoid conflicts, iDirect recommends configuring a VLAN to manage each ICMP session.

With 64-Bit OS tcpdump Command Only Captures Outgoing Packet in Default VLAN

With a 64-bit OS, the tcpdump command in a PP only captures the outgoing packets in the default VLAN.

Because the VLAN layer is filtered by the kernel, it appears untagged. Therefore, it is necessary to filter the untagged VLAN output through another tcpdump as shown in this example:

```
tcpdump -Uw - | tcpdump -en -r - vlan 200
```

IGMPv2 Does Not Work with Satellite Routers Capable of Running IGMPv3

Internet Group Management Protocol (IGMP) version 2 (IGMPv2) has been the default setting and the accepted version for interoperability with iDX Release 3.4.x. However, it has been observed with recent installations that when routers have IGMP Version 3 (IGMPv3) capability, IGMPv2 no longer works. iDirect customers must switch from IGMPv2 to IGMPv3.

Unsupported ‘-b’ Token For DB Replication In a DNMS System

When setting up the Database Replication on a DNMS system using the cr8DBMaster, the ‘-b’ token, which is normally supported in a non-DMNS system, will cause replication to fail due to MySQL access violation. Refer to the *Technical Reference Guide* document for additional details.

ATDMA Return Channels

With the high level of flexibility and the large number of configurable parameters, designing ATDMA inroute groups can pose challenges for a network designer. In general, the following two inroute group design objectives can easily be achieved by applying these guidelines:

- In a network of terminals with similar clear sky link budgets, efficiency and/or availability can be improved with rain or edge-of-beam margin provisioning.
- In a network of terminals with different clear sky link budgets, efficiency and/or availability can be improved if terminals are kept in different inroute groups.

Other design objectives often require full understanding of all system trade-offs, as it is in the case of merging existing inroute groups to allow terminals with different clear sky link budgets to share the same bandwidth pool.

Adding 16QAM carriers to an existing inroute group requires similar consideration as merging existing inroute groups because only a subset of remotes, specifically iQ remotes, can access the 16QAM carriers. In general, these designs will behave well if the bandwidth accessible by those remotes that cannot use all carriers in the inroute group is not severely congested.

For these more complex situations, iDirect will only support those designs that were done through direct consultation and review with iDirect systems engineers.

In general, we strongly encourage our network operator partners to engage their iDirect systems engineers when they plan their ATDMA designs.

Remotes May Not Acquire on an Upstream Carrier with High Symbol Rate and Large Block Size

Remotes may have difficulty acquiring the network when using iDirect traditional acquisition and transmitting on a TDMA upstream carrier with a high symbol rate and large block size. This can occur when there are no other carriers in the IF bandwidth of the receive line card (only applicable to XLC/eMxDx receive line cards; ULC-R/DLC-R line cards are not affected). Examples include IF test networks, or when there is a single RF carrier on a transponder. This problem is unlikely to occur in an operational RF network.

If experiencing this problem, one of the following work-arounds should be applied:

1. Add the following custom key to the Custom tab of the receive line card:

```
[MODEM_PARAMETERS]
  rx_agc_ddc_gain_thresh = 1024
```

2. Add attenuation to the line card RF port such that the receive power is below -50 dBm.
3. If this is an IF test network, add a large adjacent carrier similar to the carrier under test.

Symbol Rate and Transmit IF Frequency Restrictions for Some Evolution e8350 and e800 Remotes

These restrictions generally apply to Evolution e8350 and e800 remotes with serial numbers below 30500. Customers with active Evolution e8350 and/or e800 remotes with serial numbers below 30500 should contact the iDirect TAC to verify that these restrictions apply to the specific remotes.

NOTE: A very small number of e8350/e800 remotes with serial numbers higher than 30500 are also affected. iDirect will directly contact all customers who have purchased affected remotes with serial numbers above 30500.

Other remote model types, including Evolution e850mp, e8000AR, e8000AR XL and e8000AE, are not subject to these restrictions.

The following rules should be followed for these remotes:

- In the 950 MHz to 1500 MHz transmit band, the modem supports operation over the power level range of +5 to -35 dBm per specification.
- In the 1500 MHz to 2000 MHz transmit band, the modem supports operation over the restricted power level range of -10 to -35 dBm. The maximum power configured for network operation in this frequency band should not exceed -10 dBm.
- The symbol rates of the upstream carrier must be greater than or equal to 1 Msps. For spread spectrum carriers the chip rate must be greater than or equal to 1 Mcps.
- Affected remotes should only be commissioned or re-commissioned using CW carriers. The commissioning procedure using a PN modulated carrier should not be performed.
- All modulation types may be used. However, these remotes should not be used in Inroute Group Compositions that combine BPSK modulation with QPSK or 8PSK modulation.

Reconfiguration of Initial/Maximum Powers for Some Evolution e8350 and e800 Remotes

NOTE: This notice only applies when upgrading from a pre-iDX 3.2 release.

As with the previous notice, this notice generally applies to Evolution e8350 and e800 remotes with serial numbers below 30500. Customers with active Evolution e8350 and/or e800 remotes with serial numbers below 30500 should contact the iDirect TAC to verify that this notice applies to the specific remotes.

NOTE: A very small number of e8350/e800 remotes with serial numbers higher than 30500 are also affected. iDirect will directly contact all customers who have purchased affected remotes with serial numbers above 30500.

Other remote model types, including Evolution e850mp, e8000AR, e8000AR XL and e8000AE, are not affected.

Overview

In earlier releases, the actual transmit power of these remotes could differ from the commanded transmit power by as much as 4.0 dB, depending on the modulation of the waveform being transmitted. This problem has been corrected in iDX Release 3.2. However, as a result of the correction, the initial power and maximum power determined during commissioning and configured in iBuilder are no longer valid.

iDirect strongly recommends performing the following operations on all affected Evolution e8350 and e800 remotes after upgrading to iDX Release 3.3 from a pre-iDX 3.2 release:

1. Re-determine the correct TDMA Initial Power or SCPC Initial Power.
2. Re-determine the 1 dB compression point.
3. Based on the results of these operations, reconfigure the initial power and maximum power on the iBuilder Remote Information tab.

If these operations are not performed, a number of problems may occur. Some examples for a TDMA remote include:

- If the TDMA Initial Power is too low, a remote may have difficulty acquiring the network, or may never acquire the network.
- If the TDMA Initial Power is set to high, the acquisition bursts transmitted by the remote may cause carrier interference, violation of satellite regulatory constraints, or problems with the UCP algorithm operating at the hub. In some cases, the remote may be unable to acquire the network, causing CRC errors on other active remotes.
- If the TDMA Maximum Power is set too low, the remote may be unable to acquire the network, or may not have sufficient transmit power margin to stay in the network during a fade or when moved to a more efficient carrier.
- If the TDMA Maximum Power is set too high, the remote may be allowed to transmit at an unacceptably-high power causing operational problems.

The general procedures for determining the 1 dB compression point, maximum power, and initial power are contained in the *Satellite Router Installation and Commissioning Guide* for iDX Release 3.3. That document is available on the TAC Web site. However, the procedure for determining the 1 dB compression point assumes that an installer is present at the remote site. To avoid a site visit, the procedure in the next section is performed over-the-air using only iBuilder and iMonitor. The procedure assumes that the remote is locked to the downstream carrier even if the remote failed to re-acquire the network after the upgrade due to misconfiguration of the initial and maximum powers.

It is important to prevent interference from any remotes that were operational before the upgrade but failed to re-acquire the network after the upgrade. If some remotes failed to re-acquire and there are indications of interference, perform Step 1 and Step 3 on all suspect remotes as soon as possible, even if re-commissioning is to be performed later. This will set the initial power to -35 dBm and prevent the remotes from transmitting acquisition bursts

For Customers Using iDirect Maps, Minimum Tx Gain Must Be Adjusted for Some Beam Maps

NOTE: Customers upgrading from a pre-iDX 3.2 release must perform this adjustment.

iDirect customers upgrading from iDX Release 3.2 who have already performed this adjustment do not need to perform it again.

This special notice only affects iDirect customers with mobile remotes that use iDirect Beam Maps with Tx Gain contours defined, and either or both of the following are true:

- **Maximum Skew** is defined for the satellite or for individual mobile remotes on the iBuilder Remote Geo Location tab.
- **Maximum C/N** is defined for remotes on the iBuilder Remote QoS tab.

For networks using the above features, failure to perform this procedure could allow the remotes to transmit with excessive power in some locations. Other customers using beam maps are not required to perform the procedure in this section.

NOTE: The Tx Gain values in the map can be adjusted before upgrading to iDX Release 4.1.3.x.

NOTE: The following procedure assumes that if the `min_gain` parameter is already defined for a beam in the GXT header file, the assigned value correctly represents the minimum value of the Tx Gain of all usable contours defined in the beam file.

Follow these steps to adjust the minimum Tx Gain for all beams when using GXT beam maps:

1. Log on to the root account of the server machine running the iDirect Map Server.
2. Change to the directory containing the GXT beam header file. (For example, `/etc/idirect/map/Beams`.)
3. Copy the current GXT beam header file (named `headerfile`) to a new file name as backup. (For example `headerfile.sav`.)
4. Edit the GXT beam header file.
5. For each beam (`BEAM_<n>`) defined in the header file:
   a. if the `min_gain` parameter is not configured for this beam in the header file:
      - Examine the Tx Gain file (`gain_file`) to determine the minimum Tx Gain value of all defined contours.
      - Set `min_gain` in the header file to the determined value.
   b. Set the `gain_offset` in the header file to `0.2`.
6. Save the GXT beam header file.
7. Enter the following command from the `/etc/idirect/map/` directory to re-generate the map:

   ```
   newmap_gxt
   ```

8. Wait until the conversion is complete.
9. Enter the following command to restart the map server:

   ```
   service idirect_map restart
   ```

For example, if the minimum gain of all contours for `BEAM_2` as defined in the gain file is `-3`, set the `min_gain` in the `BEAM_2` section of the header file to `-3`. Then set the `gain_offset` in the `BEAM_2` section of the header file to `0.2`.

The following GXT header file shows a single beam that has been adjusted in accordance with this procedure. The name of the `gain_file` is `Provider1.gxt`. By examining `Provider1.gxt`, the minimum Tx Gain for all contours of the beam has been determined to be `-3`. Therefore, `min_gain` has been set to `-3` and `gain_offset` has been set to `0.2`, as required by the procedure.

```
# Map Server Inputs
# created 2014-05-12:0800UTC

[BEAM_1]
   provider = SATELLITE_PROVIDER_1
```

```
format = 0.1
beam_name = Beam1_SAT_PROV_1
file = Provider1.gxt
quality_1 = -3.0;0.1
quality_2 = -2.0;3
quality_3 = -1;7
quality_4 = 1000;14
gain_file = Provider1.gxt
gain_offset = 0.2
min_gain = -3
```

QoS Allocation Fairness Relative to Operating MODCOD

Although Allocation Fairness Relative to Operating MODCOD can be seen in iBuilder on various Group QoS configuration screens, this feature is not supported in this release. This setting should not be selected.

Reference Clock Module (RCM-PPS) Requirement

To accommodate timing changes related to Adaptive-TDMA and network synchronization, iDirect networks running iDX Release 3.2 and beyond require a PPS clock source that is only provided by the new Reference Clock Module - Pulse Per Second (RCM-PPS). With this new requirement, all chassis in iDirect networks require the new RCM-PPS component installed prior to any upgrades. The old RCM is not supported beginning in iDX Release 3.3 and future releases.

The RCM-PPS retains the functionality of the RCM and is backward-compatible with the following software releases:

- iDS 6.x, 7.x, and 8.x
- iDX 1.x, 2.x, and 3.x

For full details refer to TAC Web site Technical Bulletin *Introduction of the RCM-PPS*, and the *Hub Installation, Support, and Maintenance Guide*.

Configuring Database Replication on NMS Backup Server

You can replicate key configuration files to the Backup NMS Server by enabling replication with the `-b` option. Replication allows the Backup NMS Server to be easily brought on line as the Primary NMS Server in the event the primary server fails. However, if you use this option, the backup server cannot act independently in another role (such as a GKD server.) This is because the configuration on the backup server will be overwritten by the configuration from the Primary NMS Server. See the full command explanation and syntax in the *Technical Reference Guide,* under the section “Setting Up NMS Database Replication.”

CAUTION: Do not configure GKD and Replication using the `-b` option in the same server.

Power Requirements for Multichannel Line Card

At least 60 watts of power must be allotted for each Multichannel Line Card in a 20 slot chassis. The total power available for each 20 slot chassis model type is specified in the *Series 15100 Universal Satellite Hub (5IF/20-Slot) Installation and Safety Manual*.

Line Card Power Usage Details

Table 3-7 shows power consumption requirements for eM0DM and XLC-M line cards in multichannel mode, compared to eM1D1 and XLC-11 line cards in various modes of operation. This information may be used to calculate the cumulative power consumption of all line cards installed in a chassis.

Table 3-7. Line Card Power Usage

Line Card	Power Dissipation	Mode of Operation
XLC-10	35 W	DVB-S2 outbound only
eM1D1/XLC-11	35 W	DVB-S2 outbound only
eM1D1/XLC-11	40 W	DVB-S2 outbound, with non-spread and Spread Spectrum return channel using Spread Factor (SF) of 4 or lower
eM1D1/XLC-11	50 W	DVB-S2 outbound, with Spread Spectrum return channel using Spread Factor (SF) of 8 or 16
eM0DM/XLC-M	60 W	Multichannel mode (Multiple Channel TDMA and Multiple Channel SCPC)
ULC-R	40 W	All supported modes of operation
ULC-T	30 W	All supported modes of operation
DLC-T	35 W	All supported modes of operation
DLC-R	45 W	All supported modes of operation

Newer Versions of OpenSSL Require SH2 Key Exchange for Remote / Line Card Connections

Beginning with iDX Release 3.2.3, user connections from NMS servers or protocol processor servers to remotes or line cards in TRANSEC mode require SHA2 key exchange. As a consequence, the default versions of SSH and SCP provided with Red Hat Linux no longer work for user connections to TRANSEC remotes and line cards. However, alternate versions of OpenSSH applications that support SHA2 key exchange are now included on the servers in the directory `/usr/local/openssh/bin/`.

Because of this change:

- In TRANSEC networks, direct connections from the command line of an NMS server or protocol processor server to a remote or line card must be made using the following alternate version of SSH:

  `/usr/local/openssh/bin/ssh`

- Version 0.63 of PuTTY, which supports SHA2 connections, is now included with the iDirect client software. This allows connections established by right-clicking a remote or line card in iMonitor and selecting **Connect** to continue to work in TRANSEC networks.
- Any externally-developed client that connects directly to a remote or a line card in TRANSEC mode must use SHA2 key exchange.

The default Red Hat versions of SSH and SCP provided in earlier releases still exist unchanged in `/usr/sbin/`and continue to be used under other circumstances. This ensures that features such as Distributed NMS, database replication, and other uses of SSH and SCP continue to function.

NMS Fast Fade Stats Report Higher Than Actual Count

In iMonitor, the Fast Fade Counts reported by the X1 remote is much higher than expected. In addition to the fast fade event itself, the X1 remote is incrementing the count on a secondary parameter. The result is that for every fast fade event, 6-8 counts are actually registered. However, the SNR and other information required in the ACM process are not adversely affected.

Resolved Issues

This chapter describes all issues that have been resolved in iDX 4.1.3.x.

Issues resolved in a release may include specific maintenance issues, or specific issues that were previously reported as “Known Issues” or as specific limitations.

NOTE: iDX Release 4.1.3.0 supports all resolved issues made in previous iDX 4.1.x releases.

Resolved Issues

This section lists all resolved issues.

iDX Release 4.1.3.0

This section describes the issues resolved in iDX Release 4.1.3.0.

Table 4-1. Issues Resolved in iDX Release 4.1.3.0

Issue ID	Title and Description	Issue Reported In
EVO-24557	**iVantage 32-Bit / 64-Bit Clients Not Installing on Windows 10 PCs** iVantage 32-bit and 64-bits clients now install properly on Windows 10 PCs.	
EVO-24482	**Remote Does Not Accept Multicast NMS Package Download If Download Monitor Value > 2147483647** A multicast package download to a remote works properly when the Download Monitor credentials value set at the Protocol Processor dialog box is higher than 2147483647.	4.1.2.2 4.1.2.1
EVO-24428	**950mp/9350/iQ Series Remotes Crash Using Chrome v73 or Above to Access Terminal WUI** Using Chrome browser v73 or above to access the Terminal WUI for 950mp, 9350, and iQ Series remotes no longer causes the remotes to crash.	4.1.2.2 4.1.2.1
EVO-24416	**X1 Remotes Roaming Between Two Beams Unable to Beam Switch** X1 remotes now load the correct beam ID during a beam switch.	3.3.6.9

Table 4-1. Issues Resolved in iDX Release 4.1.3.0 (continued)

Issue ID	Title and Description	Issue Reported In
EVO-24394	**After Beam Switch Remote Reports Stats on Previous and New Beams** After a beam switch, a remote reports stats on the new beam only.	3.5.4.3
EVO-24265	**iMonitor Shows No Information for Inroute Groups at Inroute Distribution Pane** iMonitor now shows Maximum (For Current IGC) and Total Allocated (%) slot information at the Inroute Distribution pane.	3.5.4.3
EVO-24247	**iBuilder Crashes When Adding Static Routes** iBuilder works properly when adding static routes at the Remote IP Config tab.	4.1.2.2 4.1.2.1
EVO-24243	**Modifying Multiple Remotes Changes and Applies Wrong Static Routes** In iBuilder, modifying multiple remotes at the Tree View tab now works properly.	4.1.2.2 4.1.2.1
EVO-24147	**Web iSite Corrupts Options File for X7 Remotes During Downloading or Viewing** Web iSite no longer corrupts options file for X7 remotes when downloading or viewing options files.	3.3.6.6
EVO-23746	**Multiple Unexpected VLAN/Port Changes on iQ Series Remotes After Upgrade** L2 VLAN traffic works properly on iQ Series remotes without any unexpected VLAN/port changes after upgrade.	4.1.2.2 4.1.2.1
EVO-23498	**DHCP Server Intermittently Failing on X3/X5 Remotes with iDX Release 4.1.2.0** The DHCP server no longer fails with X3/X5 remotes operating on iDX Release 4.1.3.0.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23491	**iQ Desktop Remote Crashes When Sending L2 TCP Traffic with L3 TCP Payload Compression Enabled** An iQ Desktop remote no longer crashes when sending L2 TCP traffic with L3 TCP payload compression enabled.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23437	**NMS Server Crashes on Large-Scale Network: "Too many open files"** The nmssvr now closes all files correctly and no longer crashes with a "Too many open files" message.	3.5.4.4
EVO-23355	**No Audible Tone with Web iSite When Pointing Antenna** Web iSite now produces an Audible Tone when antenna pointing for an X1/e150 remote.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23335	**iBuilder Crashes When Modifying iQ Series Remotes If Super User Not Checked in Permissions** When modifying iQ Series remotes, iBuilder operates properly for VNO users with or without super user permissions.	4.1.2.2 4.1.2.1 4.1.2.0

Table 4-1. Issues Resolved in iDX Release 4.1.3.0 (continued)

Issue ID	Title and Description	Issue Reported In
EVO-23261	**iVantage API Does Not Allow User to PATCH/APPLY Line Card Configuration Without Reset** iVantage API now allows user to PATCH/APPLY line card configuration without a reset.	3.5.4.4
EVO-23162 (EVO-20614)	**Issues with Hide Elsewhere Feature within iMonitor Preferences** Activating the Hide Elsewhere feature from within iMonitor Preferences now works properly and shows correct status.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23160	**Roaming Remote Options Files Become Corrupted When Added to a Network in Never Applied State** The NMSSVR no longer generate options files with an additional beam ID when network level changes have not been applied.	3.5.4.3
EVO-23023	**iMonitor Remote Availability Shows Incorrect Information When Start Date/time is Within Outage Period** iMonitor Remote Availability no longer shows incorrect Information when the start date/time is within the period when the remote is down.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23021	**iBuilder Does Not Always Enforce Assigning a VLAN in the Ports Tab for iQ Series Remotes** iBuilder now triggers a warning and does not allow a user to leave the Port tab empty without any VLAN selected: • When the iQ Series remote belongs to more than one network. • When deleting a VLAN from the iQ Series remote that is assigned to a discrete port and applying the changes.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22613	**Multicast Traffic Not Received Under iQ Series Remotes in DVB-S2 Network** iQ Series remotes now correctly receive packets when Multicast is configured.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22601	**X1 Remotes Not Preserving DSCP Marking on ICMP Reply Packets** X1 remotes now properly preserve DSCP marking on ICMP packets.	3.3.4.8
EVO-22474	**Continuous Link Layer Bouncing Causes X1 Remote Instability** In some cases of increased downstream MIR or increased latency between the modem and the equipment behind the modem, the modem might run out of memory; this could cause Link Layer bouncing and IP packet drops. This issue is fixed in this release, however, it exists in iDX 3.3.7.1 and older releases.	3.3.6.11
EVO-22375	**Memory Corruption Causing Intermittent SARMT Process Crashes in Large-Scale Networks** The SARMT process is no longer experiencing intermittent crashes in large-scale networks.	3.5.4.3

Table 4-1. Issues Resolved in iDX Release 4.1.3.0 (continued)

Issue ID	Title and Description	Issue Reported In
EVO-22353	**Latency Tab Does Not Always Show Correct Management IP Address When Remotes Change Network** The iMonitor Latency tab now lists the correct Management IP Address when remotes change networks.	4.1.1.2
EVO-21723	**iQ Series Remotes in DVB-S2X Network Randomly Show Local LAN Disconnect Warning and Stop Passing Traffic** In a DVB-S2X network, iQ Series remotes now pass network traffic properly and no longer randomly show Local LAN Disconnect Warnings.	4.1.0.3
EVO-20356	**iQ Series Remotes Show Instability When Passing US/DS Traffic During Rain Fade** iQ Series remotes are able to more robustly handle fast fade situations to remain in network and quickly reestablish network services in the event of a complete signal fade.	4.1.1.0
EVO-19805	**Pointing Graph and Text Box for Web iSite Antenna Pointing Graph Show Different Voltage Values** When using the Web iSite Antenna Pointing Graph to monitor the Tx port voltage of an X1 remote, the orange area of the graph and the text area both correctly show around 8 V.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18857	**iQ Desktop Output Power Higher After Turning CW Signal On / Off** After using the Terminal WUI to turn a CW signal on and off for an iQ Desktop remote, the output power is correct and the remote no longer requires a reset.	4.1.2.2 4.1.2.1 4.1.2.0 4.1.1.x
EVO-18826	**iMonitor General and Latency Tabs Show Incorrect Information for X7-EC Remote** At the iMonitor Control Panel, the General tab and the Latency tab no longer incorrectly show another remote in place of the X7-EC remote. Additionally, the General tab no longer shows an incorrect Mgmt IP Address.	4.1.2.2 4.1.2.1 4.1.2.0

Known Issues

This chapter describes known issues in iDX Release 4.1.3.x and contains the following sections:

Known Issues in iDX Release 4.1.3.x for iVantage

The table below lists known issues in iDX Release 4.1.3.x for iVantage.

NOTE: For iQ Desktop, iMonitor does not report Encapsulator status (for example, PP stats) in this release.

Table 5-1. Known Issues in iDX Release 4.1.3.x for iVantage

Issue ID	Title and Description	Reported In
EVO-25296	**e8350 Remotes in iDX 4.1.2.2 Network Cannot Communicate with ACU After Upgrade to iDX 3.4.3.5** When an e8350 remote has Handshake Signaling enabled at the remote Geo Location tab, the remote modem incorrectly provides a negative (zero) voltage to the antenna control unit (ACU) whether it is locked or not locked. The correct operation is to provide a negative voltage (0) when locked to the downstream and a positive voltage (1) when not locked. **Work-around**: Downgrade remotes to iDX 3.3.4.5.	4.1.2.2 3.4.3.5
EVO-25283	**Activating a Mobile Remote That Uses Antenna for GPS with iVantage API Configures Antenna Reflector Type to Orbit AL-7104** After configuring a mobile remote in iBuilder, using the iVantage API to activate the remote causes the API to select an Orbit AL-7104 as the antenna reflector type. **Work-around**: The PATCH verb on mobile remotes that use Antenna for GPS source requires full remote JSON object due to the order of operations in the background. API users should proceed as follows: 1. GET the Remote object by ID. 2. Modify the Active to true. 3. Use the entire Remote Object in the body for PATCH verb.	4.1.2.1
EVO-24794	**iMonitor Does Not Display S2X Network Level MODCOD Utilization Data** iMonitor does not support displaying MODCOD Utilization data for DVB-S2X remotes at the network level as it does for DVB-S2 networks. **Work-around**: For DVB-S2X networks, view MODCOD Utilization data at the remote level, where it is supported.	
EVO-24772	**HNO Unable to Assign SCPC Carrier to Remote When VNO Group has Network Visibility** After an HNO enables VNO TDMA remote visibility, SCPC upstream carriers are no longer visible for the HNO at the Carrier Name pull-down menu at the Remote Information tab; as a result, the HNO is unable to assign SCPC carriers to a remote. **Work-around**: To populate the carriers on the Carrier Name pull-down menu for the SCPC remote, temporarily disable network visibility for the VNO Group.	4.1.2.2

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-24706	**Remote Does Not Go to Incomplete State After Removing SCPC Carrier from Line Card** After removing an SCPC carrier from a Rx line card, the line card goes into the Incomplete state; however, the remote still retains the configuration and does not go into the Incomplete state. **Work-around**: Manually remove the carrier from the remote.	
EVO-24626	**Tag Packets Check Box Not Checked or Grayed Out for 9350 Remotes** In iBuilder at the IP Config tab for a 9350 remote, the Tag Packets check box is not checked and grayed out. As a result, a user may think that untagged mode is supported for 9350 remotes when it is not. **Work-around**: Enable the Tag Packets check box after adding the VLAN to the remote.	
EVO-24518	**API Created Remotes Do Not Display Non-Default VLAN Static Route in iBuilder** After using the API to create a remote with at least one non-default VLAN included in the post, iBuilder does not display the static route for the non-default VLAN. **Work-around**: Logoff and then log back on to iBuilder.	4.1.2.2 4.1.2.1
EVO-24430	**Unable to Login to iBuilder as a User After Creating VNO/CNO User Group** After creating a new VNO user group and adding a guest/super user, iBuilder freezes when attempts are made to login as the new user or as an admin user. **Work-around**: To login into the new VNO user group, proceed as follows: 1. After creating the new VNO User group, restart the nmssvr. 2. Create a new VNO user or admin user. 3. Login to iBuilder with the newly created VNO or admin user.	4.1.2.2
EVO-23701	**Inconsistency in Deleting IP Address from Multiple Processing Nodes Simultaneously at iBuilder Encapsulator Dialog Box** When deleting the IP address for more than two processing nodes at the iBuilder Encapsulator dialog box, sometimes a processing node that was intended to remain is deleted. **Work-around**: Remove one processing node at a time: 1. Right click on the Encapsulator and select Modify to open the Encapsulator dialog box. 2. In the Processing Node area, select a processing node and click on Delete. 3. Click on OK to save the configuration. 4. Right click on the Encapsulator and select Modify to open the Encapsulator dialog box. 5. In the Processing Node area, select a second processing node and click on Delete. 6. Click on OK to save the configuration.	

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-23180	**iBuilder Forces L2 Local ID Rewrite for QinQ SDT Mode with X1/9350 Remotes** After configuring an L2 SVN in QinQ SDT mode at the L2oS tab for an X1 or a 9350 remote, iBuilder throws an error stating that both the outer and inner local ids need to be defined. After configuring the same SVN ID for both Local ID(CE) and Local ID(SP), iBuilder throws another error stating that the used local ID is invalid because it has been used by the global SVN. **Work-around**: Use the same VLAN IDs in the local re-write fields.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23006	**Unable to Upgrade E8350 Remote with Multicast Package Download** While upgrading a network from the iDX 4.1.1.3 release to iDX using the Multicast Download feature, the upgrade fails for a E8350 remote. After upgrading the entire network, however, the Multicast Download feature works for the E8350 remote. **Work-around**: Use the TCP Download feature to upgrade the E8350 remote.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22925	**iBuilder Automated Configuration Downloader Does Not Apply Changes to Encapsulator and Processing Node** When applying configuration changes to multiple elements at the network level using the Automated Configuration Downloader, changes are not applied to the Encapsulator or to the Processing Node. **Work-around**: Right-click on the Encapsulator and Processing Nodes that show Changes Pending and select Apply Configuration.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22918	**Unable to Create User Group with Owned Permission at Teleport Level in iBuilder** In iBuilder, a user is unable to create a user group after creating a VNO user group owned at the teleport level. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22915	**iMonitor Does Not Display Idle/Dormant State Icons for iQ Desktop Remote** When the iQ Desktop remote goes to Idle or Dormant states, iMonitor does not display the corresponding icon for the remote. It continues to display the active icon for the remote. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-22913	**iMonitor Probe Does Not Display Remote Protocol Layer Stats** In iMonitor, after opening the Probe dialog box for a remote, selecting a layer at the Protocol Layer drop-down list, and clicking View Stats, no stats are displayed. **Work-around**: Proceed as follows: 1. Right-click a remote and select Control Panel. 2. Select the Probe tab. 3. Select a layer at the Protocol Layer drop-down list. 4. Click View Stats. The selected stats are displayed.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22905	**iBuilder Does Not Restrict Minimum Chip Rate for 170B Adaptive Spread Configuration** When configuring 170B adaptive spread carrier, iBuilder does not restrict the minimum chip rate even though the minimum chip rate for MCD TDMA and MCD TDMA (Wide Channel) is 1000kchips/second. Remotes configured in this way will not join the network. **Work-around**: When configuring adaptive spread, be sure to configure a chip rate above 1000Kchips.	4.1.2.2 4.1.2.1 4.1.2.0

EVO-22871	**Ethertype 0x8100 Option Not Displayed When CE-TT Selected as SDT Mode for iQ Series Remotes**
	In iBuilder at the Port Configuration pane of the Remote Ports tab, the 0x8100 option not displayed in the Ethertype 1 column when CE-TT is selected as the SDT mode for iQ Series remotes.
	Work-around: Enter the following custom key at the Remote Custom tab Remote-side Configuration area:
	`[SDT]`
	`ethertype = 0x8100`
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-22689	**iBuilder Shows Incorrect Incompatibility Warning When Assigning 50 MHz BUC to X7 Remote**
	When assigning a BUC with a 50 Mhz reference to an X7 remote, iBuilder incorrectly reports an X7 incompatibility error message. X7 remotes support the 50 MHz reference for a BUC.
	Work-around: Enter the following custom key at the Remote Custom tab Remote-side Configuration area:
	`[ODU]`
	`odu_tx_clk_ref = 50`
		4.1.2.2
		4.1.2.1
		4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In

EVO-22563	**TCP Traffic Cannot Get Above 80% of MIR without Custom Key**
	After configuring the maximum MIR for a remote in iBuilder, TCP traffic is only 80% of the configured rate. This happens because the Link Layer (LL) window fills before reaching its configured MIR.
	Work-around: To determine a new LL window size that allows TCP traffic to attain the configured rate, use following the formula:
	*Upstream LL window size = ((US MIR/8 bit-to-bytes) * OTA RTT) / IP payload size*
	The example below uses the formula to determine the LL window size for a MIR of 5 Mbps and a payload size of 438B.
	*US LL window = ((5000000/8)*0.7/426 = 1026*
	Then enter the new LL window size at the remote's Custom tab in the Hub-side Configuration area:
	`[REMOTE_DEFINITION]`
	`ll_rx_window = 1026`
	`[RMT_LL]`
	`ll_tx_window = 1026`
	NOTE: This is the design limit for X1, X3, and X5 remotes.
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-22454	**iMonitor SAT Traffic Graph Shows Incorrect Symbol Rate for DVB-S2X Networks** In DVB-S2X networks, the iMonitor SAT traffic graph shows an incorrect symbol rate. As a result, it is difficult to determine downstream capacity. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22392	**L3 SVN Address End Field Shows Same Address as Address Start Field** In iBuilder, when using the Protocol Processor Add/Edit SVN dialog box to add or edit an L3 SVN, the "Address End" field incorrectly displays the same address as the "Start Address" field. This is a display issue as the correct addresses are maintained internally; however, it is unclear to users whether the end address is being set correctly and what its actual value is. **Work-around**: Note the value entered in the "Address End" field.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-20779	**Automated Configuration Downloader Dialog Box Shows Incorrect Component Status on Occasion** On occasion, after making changes to a downstream carrier and selecting Apply Configuration → Multiple to apply the options file changes at the Automated Configuration Downloader dialog box, the status area of the dialog box shows incorrect status. **Work-around**: Apply configuration to each remote individually.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-20495	**iMonitor Not Reporting Rx2 Stats for X7-ER Remotes in Network Data Snapshot View** In iMonitor, the Network Data Snapshot is not reporting Rx2 stats for some X7-ER remotes using the second demodulator. **Work-around**: Use the Control Panel Remote Status tab to view the data.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-20255	**Processing Node goes to Incomplete State When Encapsulator Assigned to DVB-S2X Network** After adding a new Encapsulator and a processing node in iBuilder, the processing node goes to the Incomplete state when the Encapsulator is assigned to a DVB-S2X network. **Work-around**: Assign the new Encapsulator to the network before adding processing nodes.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19972	**iBuilder Does Not Allow Adding Carrier with 8PSK MODCOD, 170B Payload Size, and 15M Symrate to DLC-R Line Card** After a user creates a carrier with an 8PSK MODCOD, a 170 byte payload size, and a 15 M symbol rate, iBuilder displays an error message and does not allow the carrier to be assigned to a DLC-R line card. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19888	**Saving the DVB-S2 Configuration without Changing Any Parameters Shows Changes Pending on Fast Fade Margin and Steady State Margin** Modifying the DVB-S2 setting and clicking OK triggers changes pending on Steady State Margin and Fast Fade Margin. **Work-around**: Apply the changes pending. **NOTE:** This is not service affecting; the hub-side has the correct DVB-S2 configuration parameters.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18880	**Incorrect Time Slot Reporting for Get Past and Historical Time at iMonitor Network Timeplan Display** In iMonitor, the network Timeplan reporting (ATDMA Stats→Time Plan) for Get Past or Historical time reporting is incorrect. The total of the Allocated Slots and Free Slots do not equal Capacity (Capacity is lower). The Date display is inconsistent, sometimes displaying in 30 second, 1 minute, 1.5 minutes and 2 minute increments. It also reports 0 for Allocated Slots and Free Slots when the network is busy. Real Time reporting, however, is correct. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-18616	**Cannot Disable AcqHubModemCRC and TrafficHubModemCRC Warnings at iBuilder Modify Global Warning Dialog Box** In iBuilder, after disabling the AcqHubModemCRC and TrafficHubModemCRC warnings (Edit menu→Global Warning for Linecards→Modify Global Warning dialog box→Edit), iMonitor still reports both warnings. **Work-around**: At the Modify Global Warning dialog box, use the Edit button to increase the Limit Value for the AcqHubModemCRC and TrafficHubModemCRC warnings based on average CRCs reported.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18526	**iMonitor Network Data Snapshot Does Not Provide CRC8 and CRC32 Error Stats for Remotes in S2X Network** After right-clicking an S2X network in the iMonitor tree, selecting a Network Data Snapshot to open the Select Items and Stats dialog box and then selecting an iQ Desktop remote, the Select Stats pane has no option to select CRC8 or CRC32 Error Stats. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17926	**Spacecraft Elements Missing After VNO User Group is Created with Visible Permission at Teleport Level** In iBuilder, after creating a VNO user group in an S2X network with visible permission at the Teleport level, Spacecraft elements are missing. **Work-around**: Restart the NMS services when a new VNO user is created. **NOTE:** This issue was previously documented as AR-6660.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17721	**Graph Tab at DVBS2X MODCOD Distribution Display Shows Incorrect Historical Data** In iMonitor, the Graph tab at the DVB-S2X MODCOD Distribution display shows historical values for MODCODs that are no longer configured in the network for real-time or Historical data. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17661	**iBuilder Maximum Download Rate for Multicast Package Download Increased** The maximum download rate for a Multicast package download increased from 512 kbps to 524 kbps. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17606	**No Changes Pending (Remote Options File Not Generated) After Enabling EIR at Application Level and at Virtual Remote Level** After enabling EIR for a remote at the Application level and the virtual remote level, new options file keys are not generated and the iBuilder tree does not show the Changes Pending state. As a result, EIR will not work for any virtual remote. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-17562	**Local Computer Time and NMS Server Time Out of Sync** When logging into a large network, iMonitor displays `The local computer time and nms server time is out of sync` message. This occurs because the login message that contains the server time is produced at the beginning of a login process that can take up to a minute or two for large networks. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17442	**Modifying a Remote Locked to Inroute Generates Error Message** In iBuilder, after enabling the Carrier Grooming (Debug Mode) check box at the iBuilder Inroute Group Information tab and the Show Lock to Inroute check box under the Reference Carrier section of the Remote Information tab, the following error message appears when modifying the remote: `Carrier: is not valid and cannot be selected; it may be removed from your configuration.` **Work-around**: Click OK at the error message and the remote details are displayed.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17438	**iMonitor Reports Historical Stats Inconsistently** iMonitor reports Historical Stats Inconsistently. For example, when viewing Historical stats at the Condition tab, multiple duplicate entries are displayed for a single stat. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17437	**iMonitor Does Not Respond on Occasion When ATDMA Stats Report is Executed for Longer Duration** After right-clicking a network or inroute group in the iMonitor tree and selecting ATDMA Stats→IGC Usage, iMonitor does not respond at times when the stats report is executed for longer duration (e.g., 12 hours). **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17371	**iBuilder Does Not Update Correctly After Deleting PP Blade** After deleting a PP blade in iBuilder at View → Details → Collapse Details Hierarchy, the PP blade is removed from the iBuilder tree but remains visible at the Details View with Collapsed Hierarchy window. **Work-around**: Log off and then login to iMonitor.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17365	**IP Long Term Bandwidth Report Includes Data Out of Time Range** In iMonitor, after selecting an IP Long Term Bandwidth Usage query with Interval of 1 Month and Sort by Timestamp selected, the resulting report incorrectly includes data from an additional month. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-17222	**Decimal Values Cause Issue When Modifying Frequency For X7 Rx2 Demodulator** When changing the frequency for an X7 Rx2 demodulator in iBuilder at the Remote VSAT-2 tab, modifying only the value after the decimal point when that value was previously set at zero (e.g., 1200.00) does not work. In that case, successfully modifying the frequency requires changing the values both before and after the decimal point (e.g., 1201.85). **Work-around**: Do not configure values after the decimal point with zero.	4.1.2.2 4.1.2.1 4.1.2.0

EVO-17062	**X1 and X7 Remotes Come Out of Rx-Only State When L2oS Enabled**
	X1 and X7 remotes configured in Rx-only mode come out of the Rx-only state when L2oS is enabled in iBuilder.
	Work-around: Apply the following custom key to Remote-side configuration area of the Remote Custom tab.
	`[MODEM_PARAMETERS]`
	`rx_only=1`
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-16994	**iMonitor Displays Erroneous AGC Out of Range Warnings for 900, 9350, and 950mp Remotes** The AGC thresholds in iMonitor are incorrect and may cause erroneous warnings for 900, 9350, and 950mp remotes. **Work-around**: Manually set the limits to 5 for the low limit and 65530 for the high limit for 900, 9350, and 950mp remotes.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-16105	**iBuilder Allows Users to Configure Incorrect Maximum TDMA Power for iQ Desktop** iBuilder allows users to configure a maximum TDMA transmit power of 5 dBm for iQ Desktop remotes; however, iQ Desktop remotes support a TDMA transmit power of 0 dBm to -35 dBm. **Work-around**: Do not configure a TDMA transmit power of more than 0 dBm.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15911	**iMonitor Reports Upstream QoS Stats Incorrectly** iMonitor is reporting Upstream QoS Stats that are not in agreement with data reported at the Sat Traffic Graph. **Work-around**: Restart the nrdsvr. This clears the issue.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15700	**Latsvr Pings New IP Address When Remote in Changes Pending State** If the remote's Management IP address is modified, the Latency server pings the new Management IP address before applying the changes to the hub side; as a result, iMonitor issues a LAT Timeout alarm. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-15642	**Misleading Certificate Warning Messages Observed When Downloading EM1D1 Line Card Package During TRANSEC Network Upgrades** During an upgrade from iDX 3.4.3.5 to iDX 3.5.4 in a TRANSEC network, iBuilder displays "Flash Failed" status and certificate-related options warning messages during an EM1D1 line card package download. The messages are misleading as there are no issues during the upgrade. When the package download is completed, iBuilder displays a "Flash completed" message. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15457	**iBuilder Displays Inaccurate Message When Cloning a Remote** When cloning a remote when there are no other iBuilder clients running, iBuilder displays the message "Another user has modified some configuration." **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15456	**DLOAD Error Occurs When Remote Options File Contains Special Characters** Using special characters (e.g., the degree symbol°) in remote options file causes DLOAD errors and could strand the remote when applying a TCP or UDP configuration. **Work-around**: Do not use special characters in remote options file.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14939	**Event Server Incorrectly Reports UCP_OUT_OF_NET Alarm for Remotes in Never Applied State** The Event server incorrectly reports a UCP out of Network alarm for remotes in the Never Applied configuration state. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14777	**iMonitor Reports Huge Numbers in Downstream BW QoS Stats** When QoS changes are made and applied in the QoS Application and/or Remote profiles, iMonitor reports huge numbers for downstream QoS stats in the requested bandwidth, allocated bandwidth, and free bandwidth columns of the Group QoS List tab. This huge number is inaccurate; previous or subsequent stats may be more accurate. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14326	**Fake ACQs Causing ACQ CRC Warning in iMonitor** In a TRANSEC network, fake ACQs cause iMonitor to display an ACQ CRC Warning. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14168	**iMonitor Displays Line Card Conditions Not Associated with CNO Network** After an administrator gives a CNO user visibility to line cards associated with a remote, iMonitor displays line card conditions associated with other remotes not associated with that CNO network. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-13015	**Empty TCP Download Package Area When Auto-Accept Disabled with Changes Pending** In iBuilder, if auto-accept changes feature is disabled (Edit→Preferences) with changes pending, the Package area Selection section of the TCP Download dialog box is empty. **Work-around**: Click on the accept changes button before launching the TCP download package.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12749	**After Disabling L2oS Cannot Add Removed VLAN to Layer 3** After disabling the L2oS feature at the PP Information tab, changes pending shows a VLAN and L2oS feature removed. However, adding the same VLAN to Layer 3 is not allowed and an error message appears saying that the VLAN already exists. **Work-around**: Before applying the Layer 3 VLAN, remove the VLAN from the L2oS configuration and then disable L2oS.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12647	**iMonitor Event/Conditions Tab Reports Incorrect Conditions Data** In iMonitor, when looking at the past 10 or 15 minutes of data in the Events/Conditions tab, the Events panel shows the correct stats but the Conditions panel shows stats for different dates. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12229	**% of Max for Sat Long Term Bandwidth Usage Report at Network Level Calculated Incorrectly** In iMonitor, when generating a SAT Long Term Bandwidth Usage report for a network with more than one IRG, the Up % of Max column on the Average tab is not calculated correctly. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-11993	**Toggling Between Nominal and Changes Pending Can Show Intermediate States** When making changes to remotes, iBuilder element and child elements states may flash through Nominal and Changes pending states in short succession before showing the final state. These toggling states can indicate intermediate values; however, the system will show the final state, typically under one second. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-11922	**Lock to Inroute Check Box Remains Checked When Carrier Grooming (Debug) Mode Deselected with Remotes Still Locked to Inroute** When Carrier Grooming is deselected with remotes still locked to the inroute, the following warning prompt appears: `There are remotes locked to inroutes. Do you want to unlock the remotes?` Selecting Yes triggers Changes pending and applying the changes deselects Carrier Grooming and disables the lock to inroute for the remote. However, the Lock to Inroute check box is still selected. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-11674	**Decommissioned Chassis Remains in Nominal State in iBuilder** After decommissioning a chassis, the chassis shows as Nominal on the iBuilder tree. While this shows the chassis as in use and available, there is no operational impact because all slots show as Off - Not Licensed and cannot enabled. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-10538	**Cannot Assign 438 Bytes Payload with QPSK Rate-1/2 to Upstream Carrier for XLC-11 Line Card** A customer is unable to assign a 438 bytes payload with MODCOD of QPSK 1/2 to an upstream carrier on an XLC-11 line card. However, the customer can assign both the MODCOD and the payload to eM1D1 and XLC-M line cards. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7586	**Symbol Button Does Not Work at Sat Traffic Tab** In iMonitor, clicking the Symbol button at the SAT Traffic tab does not change the data rate to kilo symbols. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7532	**NMS Server Fails to Talk to PP Controller** In rare cases when deactivating a network, iBuilder fails with the message "Failed to connect to PP. " **Work-around**: Restart the nmssvr.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7319	**After Kickstart iMonitor Tree Does Not Display Added Components** After using Kickstart to start an NMS and opening one iBuilder and one iMonitor session, components added with iBuilder do not appear in the iMonitor tree view. **Work-around**: Log out and then log back in to the iMonitor session or else open another concurrent iMonitor session. The components will display properly.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-7298	**iBuilder BUC Parameters Change After Upgrade** After upgrade from iDX 3.1.1.2 to iDX 3.3.5.3 or 3.3.6.x, the entries in the Power and Manufacturer Part fields at the BUC Information dialog box (Components→Remote Antenna Components→BUC) change. **Work-around**: Manually change the BUC parameters to the desired values.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7206	**OpenAMIP Not Listed as a Default Reflector in iBuilder** iBuilder lists all the other default reflectors except OpenAMIP. **Work-around**: In iBuilder, under Reflector, manually add the OpenAMIP reflector. Ensure the controllable check box is enabled as an option to add controllable parameters on the Remote VSAT tab.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7004	**Configuring Unlimited Queue Size for Upstream Unreliable Service Level Limits Queue Size to 3084 Bytes** In iBuilder at the Add Service Level dialog box, configuring a queue size of Unlimited for an upstream Unreliable Service Level causes the max_depth_bytes parameter to go to 3084 bytes. As a result of the smaller queue size, packets frequently drop. **Work-around**: Manually configure queue size.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6962	**Left Side of iMonitor Sat Traffic Graph Shows Traffic Spike For Minute/Hour Intervals** in iMonitor, after selecting a Sat Traffic Graph for a remote and clicking Get Past to view some past period of traffic, both upstream and downstream graphs show a spike at the left-side of the graph. This spike is often many times higher than any actual traffic being sent OTA. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6764	**NMS Does Not Enforce QoS Limits for X1 Remote** When the number of Service Levels assigned to an X1 remote exceeds its maximum of 10 (total), the remote's state does not change, as expected, to Incomplete in the iBuilder Tree. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6707	**Modifying All Instances of Roaming Remotes Configured for SCPC and TDMA Produces Unexpected Changes Pending** For roaming remotes where the upstream is a combination of SCPC and TDMA carriers, selecting Modify All Instances in the Roaming section of the menu deselects the SCPC remote instance and produces an unexpected remote side changes pending. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-6701	**Upper Limit of Download Credentials for TCP Package Download Not Enforced Properly** In iBuilder, after entering large download credentials (the upper limit is 2147483647) at the Protocol Processor dialog box, upgrading line cards using either Multicast or TCP Package Download does not work. **Work-around**: Do not use numbers greater than 2147483647.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6698	**For Remotes Other Than 9-Series NMS Uses Unsupported Carrier Rate To Calculate Upstream Data Rate in Heterogeneous Inroute Group** In a heterogeneous inroute group, the NMS calculates an upstream data rate for remotes other than 9-Series remotes based on an unsupported carrier rate (i.e., > 7.5 Msps). If the remote has no upstream MIR, then the LL window size and ReTxbuffer size will be equal to the Maximum/upper limit for each remote type. If the NMS then assigns slots on a smaller physical carrier, the LL window size and ReTxbuffer will be larger than physically possible. This can affect TCP performance. **Work-around**: Always configure a MIR.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6367	**iBuilder Shows False Changes Pending After Swapping Tx Line Cards** In iBuilder, after swapping an active Tx line card with a standby Tx line card, both cards show changing pending. **Work-around**: Retrieve the active line card configuration.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6360	**Adding Remote to Multiple Networks Leaves Remote in Unknown State** In iBuilder, after right clicking a remote and selecting Add to Networks to add the remote to multiple networks, the remote correctly appears in the activation pending state. However, for subsequent networks, the remote appears in an unknown state. **Work-around**: Modify each remote instance in the unknown state and click OK. The modem instance comes back in the activation pending state (the expected state) and not the unknown state.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6346	**iBuilder Allows Adding 9350 Remotes to SCPC Inroute Group** iBuilder allows a user to add a 9350 remote to an inbound SCPC group. This is incorrect; 9350 remotes do not support upstream SCPC return functionality. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-6254	**Details Pane Does Not Update Correctly After Update to Roaming Properties Update Dialog Box** After updating the values for a remote in the Roaming Properties Update dialog box, iBuilder incorrectly displays an additional instance of the same physical remote in the Details pane (View→Details) indicating the addition of a new instance. **Work-around**: Manually trigger a refresh by clicking on any other node in the tree and then click back again on the required node.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6248	**Active Conditions Tab Does Not Filter HLCs Per CNO/VNO Permissions** In iMonitor, the Active Conditions tab fails to filter HLCs based on CNO/VNO Visibility or Ownership; instead, it incorrectly shows the outstanding conditions for all HLC instances. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5931	**Maximum C/N in Remote Option File Instead of Hub Option File** Modifying the Maximum C/N in 9350, 900, 950mp, and 980 remotes triggers a changes pending on the remote side. Clearing the Changes pending requires a remote reboot to complete modification of this setting. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5920	**iMonitor Fails to Generate Historical Statistics for Upstream C/N_0 and Thresholds** iMonitor fails to generate historical statistics for Upstream C/N_0 and Thresholds at both the remote level or inbound group level. **Work-around**: Use the **Remote UCP Graph** or **Remote Status and UCP Info** to view this information.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5889	**iMonitor Does Not Clear Nominal Carrier Equivocation Warning** The Nominal Carrier Equivocation warning is not clearing from iMonitor after the remote stops the carrier equivocation and returns to valid parameters. **Work-around**: Restart the evtsvr service.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5665	**iMonitor Incorrectly Reports Gateway Address Status** In iMonitor, a line card incorrectly reports GigE port as UP when the IP address for the GigE port was misconfigured to a subnet other than the default gateway. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-5500	**Certificate Revocation in CA Does Not Generate iMonitor Warning** iMonitor does not generate a warning when a certificate is revoked for a line card or remote. The component continues to work normally until two ACC keyrolls have been completed. This could lead to the scenario where if an operator incorrectly revokes a certificate for the wrong component and does not issue a new certificate, then in two+ months the component could stop working without warning. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5484	**iBuilder Does Not Show Selected Remote Profile** In iBuilder, after clicking Edit at the Remote Service Group section to open the QoS Profile Select window, selecting a Remote Profile, and completing the configuration by clicking OK, the QoS is added to the options file correctly. However, when a user returns to the QoS Profile Select window, the previously selected Remote Profile check box is unchecked; this makes it difficult for the user to determine which Remote Profile is assigned to a remote. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5362	**iBuilder Allows Selection of Maximum Tx Power Not Available to Line Card** iBuilder allows a user to select a maximum Tx power of +7 dBm for DLC-T line cards whose maximum Tx power is +5 dBm. Selecting the higher power does not affect the line card power. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5155	**iMonitor Does Not Display Rx Only Icon for 980, 950mp, 9350, 950mp Remotes in Receive Only Region** iMonitor does not display the Rx Only icon indicating receive-only mode when 980, 950mp, 9350, or 950mp remotes move into a receive only region based on OpenAMIP input. Instead, it incorrectly indicates an alarm state. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5128	**VNO User Unable to View Downstream Carrier Properties** In iBuilder, a VNO user is unable to view downstream carrier properties in the iBuilder tree. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5113	**Event Message Not Observed for X1 Remote During Package Download** iBuilder does not display the "Session started" event message for an X1 remote during a package download. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-4500	**Allocation Fairness Relative to Operating MODCOD Does Not Work in iBuilder** Selecting Allocation Fairness Relative to Operating MODCOD at the Bandwidth Group dialog box to adjust the bandwidth allocation based on the current operating MODCOD of the remotes does not work. **Work-around**: None. Allocation fairness relative to Nominal MODCOD is the default working mode and should be used.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4365	**DVB-S2 MODCOD Distribution Displays Incorrect Report** In iMonitor, the List Data tab of the MODCOD Distribution Display for a DVB-S2 carrier occasionally shows an incorrect report where it appears as if the remote is idle and not passing traffic when traffic is being passed. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4363	**Remote Status Not Displayed Correctly in TCP and Multicast Download Dialog Boxes** After performing a remote package download at the TCP Download dialog box or the Multicast Download dialog box, the status of the remote remains OK even if the R/T State is WARNING or ALARM. **Work-around**: Observe R/T State during download.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4035	**Changing Transponder LO Value Does Not Trigger Recalculation of Remote-Side Options for Remote** In iBuilder, after changing the transponder local oscillator (LO) value, the changed value shows correctly in the iBuilder tree and Remote Information tab. However, the changed value does not trigger the expected recalculation of option files for the remote's remote-side options. **Work-around**: Use one of the following: • Run the cfg status recalc netmodem.* command at the nmssvr. • Change the carrier(s) under the transponder to trigger a recalculation.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4030	**iBuilder Erroneously Reports Remote Package File Flash Failure** When upgrading from iDX Release 2.3.1 to iDX Releases 3.4.x and newer, iBuilder erroneously reports “Download Failed” for the remote package file flash. Users can ignore this error.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-3679	**iBuilder Does Not Permit 32APSK Multicast MODCOD Unless All Network Remotes Support 32APSK** After creating a new downstream Multicast Application Profile and selecting a 32APSK Multicast MODCOD at the QoS Application dialog box, iBuilder gives the error "Multicast MODCOD is not supported by some remotes assigned!" if any network remotes do not support 32APSK. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-1. Known Issues in iDX Release 4.1.3.x (continued) for iVantage

Issue ID	Title and Description	Reported In
EVO-3678	**Modifying DS Carrier Max MODCOD to 32APSK Incorrectly Changes Multicast MODCOD for Default Application at Network Level** After configuring a downstream carrier on a transmit line card with a Maximum MODCOD of 32APSK, the Multicast MODCOD of the Default Application automatically changes to 32APSK at the Network level; this occurs even though there are other remotes that do not support 32APSK. **Work-around**: At the Network level, manually modify the Multicast MODCOD for the Default Application to 16APSK.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-3466	**TDMA Remote Displays as SCPC Remote in iSite Tree** A TDMA remote incorrectly displays as an SCPC remote in the iSite tree. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-3169	**9350 Remote Reset Message Missing Under Event Description in TCP Download Dialog Box** In iBuilder, after selecting a TCP package download for a 9350 remote and resetting the remote, the status of the remote shows as Reset in the Remotes section of the TCP Download dialog box; however, there is no reset message under Event Description in the real-time event pane at the bottom of the dialog box. **Work-around**: View the status of the remote in the Remotes section of the TCP Download dialog box.	4.1.2.2 4.1.2.1 4.1.2.0

Known Issues in iDX Release 4.1.3.x for Remotes

The table below lists the known issues in iDX Release 4.1.3.x for remotes.

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes

Issue ID	Title and Description	Reported In
EVO-24892	**Terminal WUI Rx LED Does Not Change to Green after Rx Lock is Secured for iQ Series Remote in Commissioning Mode** Terminal WUI Rx LED does not change to solid Green after a solid Rx lock is achieved during commissioning for an iQ Series remote, instead it incorrectly remains amber. **Work-around**: Do not use the wizard but go to action that you want to execute.	
EVO-24877	**TCP Traffic Does Not Pass Through GRE Tunnel for X7 Remote** When GRE Tunnels are enabled at the iBuilder IP Config tab for an X7 remote, UDP traffic passes and TCP traffic fails to pass. When GRE Tunnels are not enabled, both UDP and TCP traffic pass. **Work-around**: None.	

EVO-24751	**Beams Removed from beam_state.opt File During Round Robin Beam Selection When Quality Value Becomes Zero or Positive**
	When a remote with four beams operates in mapless mode and remains out of coverage for more than two hours, the round-robin selection algorithm removes two beams from the beam_state.opt file when the quality value becomes zero or positive (indicating that the beams are unusable).
	Work-around: Proceed as follows:
	1. Determine the beam_use_timeout value by multiplying the number of beams times 60.
	For example, with 15 beams the beam_use_timeout value is 900 (15 x 60). Therefore, the beam_unuse_timeout should be greater than 900.
	2. Configure the beam_unuse_timeout custom key in the Remote-side Configuration area of the remote Custom tab.
	For example:
	`[BEAMS_LOCAL]`
	`beam_unuse_timeout = 1000`
		4.1.2.2

EVO-24686	**Line Cards Show Changes Pending After Switchover to Backup Teleport** After a switchover to the backup teleport in a Geographic Redundant hub, all line cards show changes pending related to tunnel_control_credentials. This occurs even though the line cards have the new/correct NMS IP address because the tunnel credentials are calculated based on the currently active NMS; as a result, changes pending always appears on the line cards. **Work-around**: For a custom key to determine the tunnel credentials, contact the TAC. See *Getting Help* on page xi.	4.1.2.2 4.1.2.1

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-24682	**iQ Series Remote Unable to Use 15% Roll-Off Factor When Antenna Pointing with Terminal WUI** When using the Terminal WUI for Antenna Pointing, an iQ Series remote can use 5%, 10%, and 20% roll-off values but is unable to use the 15% roll-off value. As a result, when using the 15% roll-off value, the commissioning process stops with an error message. **Work-around**: Modify the remote options file to use a roll-off value of 10%, load the options file to the remote, and then continue the commissioning.	4.1.2.2 4.1.2.1
EVO-24669	**Web iSite Cannot Download Current Downstream Config File for X7 Remote** At the Web iSite Downstream Configuration page, clicking "Download an example configuration file with current values" does not work and returns a "Site cannot be reached" message. **Work-around**: Use the Manual Configuration section of the Downstream Configuration page to download the config file.	
EVO-24616	**Unable to SSH as Root User for Newly Added 9-Series/iQ Series Remotes Because Previously Configured Password Remains in Effect** In iBuilder, after deleting an existing 9-Series/iQ Series remote and then adding it to the network with a different password and applying the changes or when adding a new 9-Series/iQ Series remote for the first time and applying the changes, a user is unable to login to the remote in either case using SSH because the previously configured password is in effect. **Work-around**: Modify the admin and user password for the remote after it comes in network and apply the changes again.	
EVO-24615	**Unable to Push Options File/Package for iQ Series Remotes OTA After Using Downstream Template** After using the Web iSite Downstream Template to configure an iQ Series remote in an S2X network, the remote Rx locks but pushing the options file or downloading an image package with iBuilder does not work. **Work-around**: Load the iQ Series remote with a full options file generated by the NMS.	4.1.2.2 4.1.2.1
EVO-24540	**Enabling RoHC Compression for iQ Series Remotes Compresses L2 and L3 SVN Traffic** In iBuilder, after adding L2/L3 SVNs to an iQ Series remote and enabling RoHC compression at the Compression dialog box, L3 SVN traffic is incorrectly compressed addition to the L2 SVN traffic. **Work-around**: None.	
EVO-24490	**Upstream CRC Errors Observed on iQ Series Remotes in OTA Network for Downstream Symbol Rates < 3 Msps** Upstream CRC errors are observed on iQ Series remotes in OTA networks for downstream symbol rates < 3 Msps resulting in traffic drops. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-24359	**iQ Series: Sleep Mode Does Not Work in a Multi-Beam Environment** In a multi-beam environment, an iQ Series remote fails to go into Sleep Mode when Sleep Mode is enabled; instead it immediately triggers a beamswitch. **Work-around**: None.	
EVO-24263	**iQ Series Remotes Experience Upstream Packet Drops/Higher Latency When Discrete Port 1 Configured with L2/L3 Native VLAN Compared to Non-Native VLAN** iQ Series remotes demand more slots for upstream traffic sent on Native L2 or L3 SVNs when configured at Port 1 at the Ports tab in the Port column under Discrete. This results in more upstream traffic sent OTA as compared to upstream traffic sent on non-native VLANs. As consequence, upstream packet drops and higher latency are experienced. **Work-around**: None.	
EVO-24134	**iQ Series Remotes Not Populating All Parameters in OpenAMIP C Message** iQ Series remotes are not populating four of five parameters in the OpenAMIP C message; as a result, it is not possible to move from an X7 to an iQ Series remote using the same AVL antenna. **Work-around**: None.	
EVO-23502	**Duplicate MAC Address for Eth_0 on Remotes When Native BGP Enabled** On a DNMS system, when Native BGP is enabled on an X7-ER remote at the iBuilder Remote L2oS tab, duplicate MAC addresses are produced on the remote's eth0 port. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-23043	**Higher Latency Occurring Using Remote Profiles with Multiple Applications/VRs** When Remote Profiles are configured in iBuilder with multiple applications/VRs, unacceptably high latency is observed with traffic. **Work-around**: Configure the Remote Profiles under a single Application Profile.	
EVO-23013	**iQ 200 Rackmount / iQ LTE Remote Does Not Send "Remote goes into RxOnly mode" Message to evtsvr port 2860** An iQ 200 Rackmount / iQ LTE remote does not send the "Remote goes into RxOnly mode" message to the evtsvr port 2860; as a result, the remote appears as an ALARM in iMonitor. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-22999	**Occasionally Switching Partitions in IQ Desktop Remote Using the Terminal WUI Does Not Work** When trying to switch between partitions in an iQ Desktop remote using the Terminal WUI, the following warning message appears on occasion: `This release couldn't be activated. Please try again.` **Work-around**: Reboot remote and try again.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22979	**9350 Remote Goes Into Waiting for ACQ When Switched Back to Rx Only Beam** When a 9350 remote configured as an Rx Only remote at the iBuilder Remote Information tab is switched to a normal beam and then back to an Rx Only beam, it goes into a Waiting for Acquisition state until the netstate_timeout value expires. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22876	**iQ Series Remotes Report Incorrect Beam ID and Beam Type When Alternate Carrier is Configured** With a primary and alternate beam configured on a Tx line card, iQ Series remotes correctly report the beam id and beam type when switching from the primary to an alternate beam. When switching back to the primary beam, however, the remotes incorrectly report the beam id and beam type even though the remotes are functioning properly. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22617	**X7 / e8350 Remotes Configured as DHCP Servers Do Not Provide IP Address for First DHCP Discover Message** X7 / e8350 remotes configured as DHCP servers do not provide an IP address for the first DHCP Discover message from the client even if a free IP address is available. The X7 / e8350 remotes offer an IP address for the second DHCP Discover message. **Work-around**: Send request from the device twice.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22593	**Beam_State.Opt File Displays Timeout Value as Seconds for 9350 Remote and Milliseconds for X7 Remote** After setting a timeout value of 180 in the beam_state.opt file for both a 9350 remote and a X7 remote, the timeout value for the 9350 shows as 180 and the timeout value for the X7 shows as 180000. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22578	**Using NMS API to Patch QinQ VLANs with Specific Ethertypes Does Not Work Properly on iQ Series Remotes** For iQ Series remotes in S2/S2X networks, when using the NMS API to patch a QinQ VLAN with a specific Ethertype, 9100 or 8100, the VLAN is created in the iBuilder Remote Layer 2 tab, but the Ethertype is set incorrectly to 88A8. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-22576	**Using NMS API to Patch VLAN with VLAN Local ID Does Not Work Properly on iQ Series Remotes** For iQ Series remotes in S2/S2X networks, when using the NMS API to patch the remote VLAN with the VLAN Local ID, the VLAN fails to get assigned in the iBuilder Remote Ports tab. Patching the remote VLAN without the VLAN Local ID works properly. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22481	**Reassigning IP Address for Multiple DHCP Clients Does Not Work for e150 and X1 Remotes** Reassigning of IP address for multiple DHCP clients does not work for e150 and X1 remotes. As a result, a user is not able to reassign the IP address to multiple DHCP clients although the IP is released. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-22222	**X7 Hub-Side Peers Sometimes Take a While to Establish During SBC BGP to X7 Native BGP Conversions** During some SBC BGP to X7 Native BGP conversions, the hub side peers take a while to establish when the X7 ARP request is delayed and the BGP termination router is unable to update its ARP table with the X7's MAC address. **Work-around**: Clear the ARP table on the termination router.	4.1.2.2
EVO-21939	**GPS NMEA Parsing Fails for 9350 / iQ 200 Board / iQ LTE Remotes** At the iBuilder Remote Geo Location tab, after configuring a 9350 remote for Serial or NMEA and a 9600 baud rate or configuring an iQ 200 Board / iQ LTE remote for Serial or NMEA and a 115,200 baud rate, each remote joins the network. However, "GPS NMEA Parsing Failed" is observed at each remote's console. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-21824	**iQ-200 / 9350 Remotes and X5 Remotes Calculate Different Initial Power When Configuring GPS Input as Manual or as Serial or NMEA** When configuring the GPS input at the iBuilder Remote Geo Location tab by clicking Manual or by clicking Serial or NMEA, X5 remotes use antenna elevation gain to calculate initial power and iQ-200 / 9350 remotes do not. As a result, the initial power calculated by X5 remotes differs from that calculated by iQ-200 / 9350 remotes. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-21443	**iQ Series Remote Does Not Perform Beam Switching as Expected After Package Download** An iQ Series remote does not perform beam switching as expected when Flash complete displays at the iBuilder Download dialog box. Instead, the remote waits for the next GPS update before beam switching. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In

EVO-20701	**iQ Desktop Remote Stops Forwarding VLAN1 Multicast Traffic for SatMotion to ETH2 When Running "CW" Test**
	Starting a "CW" test for an iQ Desktop remote using iBuilder causes the forwarding of VLAN1 multicast traffic to Port-2 of the remote to stop. As a result, it is not possible to auto-commission iQ Desktop remotes using SatMotion.
	Work-around: Use the following remote-side custom key so that the iQ Desktop remote forwards VLAN1 239.250.250.1 multicast traffic to Port-2:
	`[ETH0_1]`
	`group1 = 239.250.250.1`
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-20477	**Terminal WUI Manual_Downstream Option Page Fails to Load for 9350 Remote** The Terminal WUI manual_downstream option is not supported for 9350 remotes and returns an HTTP 404 ERROR page. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-20000	**iQ Series Remotes Always Show 10 Degrees Celsius as Average Temperature Under iMonitor General Tab Real-Time Summary** The IQ Series remotes always show 10 degrees Celsius as the average temperature under the iMonitor General tab real-time summary. This occurs because these remotes do not have a temperature sensor that can be read by software. As a result, these remotes cannot show their actual temperature. Remote status shows correctly as N/A. However, the General tab incorrectly shows 10 degrees Celsius as the average temperature. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19735	**X1 Remotes Show LL Instability by Continuously Sending DM Packets** X1 remotes are showing Link Layer instability. The remotes get stuck at the frame opening flag and continuously send disconnect mode (DM) frame packets. **Work-around**: Use a Link Layer bounce or a DFOE bounce to establish the Link Layer state temporarily.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18637	**Unable to Reset X1 Remote Using Remote API** After making changes to a remote using iBuilder, a user can not reset an X1 remote through API calls using endpoint. **Work-around**: Proceed as follows: 1. Modify the Cxpd process at /etc/cxpd.cfg: • Set MessageTimeout to 15 seconds. • Set SessionTimeout to 30 seconds. 2. Restart the Cxpd daemon.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-18398	**9350 Remote Does Not Switch Beams During Package Download** A 9350 remote does not switch beams during a package download even after the download_timeout value expires. Instead, it remains locked to the same beam until the download package completes. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18173	**Download Dialog Box Events Pane Displays "startup_manifest.xml" Not Found Message During iQ Desktop Upgrade** During an iQ Desktop remote upgrade, the remote gets upgraded without any issue; however, the events pane of the download dialog box displays a `"startup_manifest.xml" is not` found message that can be ignored.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17955	**Roaming 9350 Remote Provides LAT-LONG Information When Out of Network** A roaming 9350 remote that is out of network and in an Alarm state provides LAT-LONG information in the iMonitor Events/Conditions tab and in the event_msg table. **Work-around**: Restarting the NMS server and the Event server resolves the issue temporarily.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-17213	**X3/X5 Remotes Using DHCP Options CK Cannot Pass a Zero (00) String Using hex_binary Option Type** X3 and X5 remotes using a DHCP options custom key cannot pass a zero (00) within the Hex string using the option type hex_binary. **Work-around**: Configure the remote custom key with the option type ipv4_address.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-16466	**Incorrect 9350 Remote TRANSEC LED Behavior** There are issues with TRANSEC LED behavior: • While the Cloak module is booting, the TRANSEC LED will flash yellow, regardless of whether TRANSEC is enabled or not. • After booting the Cloak module will analyze both security domains to determine the current state of TRANSEC. If there is only one security domain enabled, the LED will indicate the status of the enabled security domain. If both security domains are enabled, the LED will ONLY indicate the status of the second security domain. **NOTE:** The one exception to this rule is that if either security domain is in a state that results in a Red LED, the LED will be Red.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15808	**rx/<id> Returns Incorrect Values for 9350 API** The 9350 API rx/<id> returns incorrect values because it does not conform to the latest Interface Control Document (ICD). **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-15722	**Applications Do Not Restart for 980 Remotes After Net State Timeout** When the net state timeout expires for 980 remotes in a single beam that have dropped out of network and lost GPS, Mobility logs the activity but does not restart applications as it should for Error Recovery. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-15461	**Manual Beam Selection Works with Incorrect Beam ID in 9-Series and 980 Remotes** 9-Series and 980 remotes in mobile mode allow users to manually switch beams using an incorrect beam ID that is not available in the current map file. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-13690	**Delay in DHCP Server Response** When e8350, X5,or X7 remotes are configured as DHCP servers, there may be a delay when responding to device requests for IP addresses. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-13249	**Rx Lock Signal for 9350 Remote Has Incorrect Polarity Compared to X7 Remote** The Rx lock signal from the 9350 remote has the wrong polarity compared to Rx lock signal from the X7 remote. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12433	**Only One Selectable Antenna Reflector for Stationary X3 Remote** When selecting an antenna reflector for a stationary X3 remote in iBuilder, the only reflector available was an OpenAMIP; there were no other antenna reflectors available. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12227	**X1 Remote Demands Excessive Bandwidth in Layer 2/Layer 3 Hybrid Mode** After selecting L2oS Enabled in iBuilder to configure the Layer 2/Layer 3 Hybrid mode on an X1 remote, the bandwidth demand is excessive (~200 slots). When configuring Layer 2 or Layer 3 separately, bandwidth demand is as expected (~44 slots and ~38 slots, respectively). **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7082	**Disabling Route Redistribution on Remote for One Route Type Disables All Route Types** By default, Route Redistribution is enabled for all types of routes, e.g., static, connected, RIP, and OSPF. Disabling any one route type causes all route types to be disabled. Work-around: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-6803	**X1 Remote LED Does Not Show Yellow for BUC or LNB Power Error Condition** The X1 Remote Power LED does not accurately show yellow for a BUC or LNB power error condition. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6303	**Downstream Distributor Does Not Work for X1, 900, 980, 9350, 950mp Remotes** X1, 900, 980, 9350, 950mp remotes stop passing OTA traffic when the Downstream Distributor is enabled in iBuilder for any segment size. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6207	**Terminal WUI LAN Interface Does Not Populate LAN Ports Properly for 9350 Remote** The Terminal WUI LAN Interface does not populate the LAN Ports properly for a 9350 remote; this happens with Internet Explorer, Chrome, and Firefox browsers. **Work-around**: Refresh the browser several times until the LAN Ports display properly.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5659	**System Assigns ACQ Slots on All Carriers Even When Remotes Do Not Support Carrier** The system assigns acquisition slots on all carriers even when the remote does not support a carrier. While this results in slightly inefficient acquisition slot use, it has no detrimental impact on system operation.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5431	**Remotes Incorrectly Assigned 15 Msps Carrier as Nominal Carrier** The Uplink Control Process (UCP) is incorrectly assigning a 15 Msps carrier as the nominal carrier to remotes that do not support a 15 Msps inbound carrier. While no slots are assigned on the carrier, this may cause physical layer reporting issues. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5326	**980 Remotes Do Not Support NMEA Serial Input** iBuilder allows users to configure 980 remotes as mobile remotes with serial input; however, 980 remotes do not support serial input. **Work-around**: Use OpenAMIP with 980 remotes.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-5212	**Manual Map Request Does Not Work for 9-Series Remotes** After executing the map_newMap console command for 9350 remotes in map mode to request a new map from the map server, the remotes do not receive a map. Additionally, there are no messages observed requesting the map at /var/log/messages. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-5056	**X1 and 9-Series Remotes Do Not Display Sleep Mode Remotestate Output** When Sleep mode is enabled on the remote and the remotestate output is checked to see Sleep mode status, the Sleep mode status is not displayed. **Work-around**: Check the Tx command output to check whether the remote is in Sleep mode.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4953	**Multicast Fastpath Does Not Work for X1 Remote** In iBuilder, after assigning a Multicast fast path profile to an X1 remote at the network level, the remote does not receive multicast traffic. **Work-around**: Add the multicast IP address to the remote at Remote IP Config→Multicast Group.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4047	**X1/iQ Desktop/9-Series Remotes Network Latency Issue** It was observed that the latency on X1, iQ Desktop, and all 9-Series remotes is 30 ms to 50 ms higher than e8x remotes in the same network/inroute group. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-4025	**Remote Web User Interface Reports IF Power and Not RF Power for 9350, 950mp, and 900 Remotes** The receive power for 9350, 950mp, and 900 remotes reported from the Remote Web User Interface and available at iMonitor or by console commands is the estimated IF power and not the estimated RF power. **Work-around**: Use the rx_if_power console command to see both IF power and RF power.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-3997	**9-Series Log Shows Only One Sweep Response** An issue observed when troubleshooting is that although the remote is functioning properly, it fails to display an acquisition sweep response for each acquisition sweep command it receives. All acq sweep commands are displayed, however the only response is a single acq sweep response logged every 2 seconds. This issue may cause confusion when trying to determine why a remote is not acquiring into a network, since one acquisition sweep response message line should appear in the log for every acquisition sweep command logged. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-3521	**Cross Polarization Timeout Functionality Not Working for 9350 Remotes** After enabling cross polarization for a 9350 remote at the iMonitor Probe tab, the remote goes out of network and starts to transmit at the specified frequency. However, after the default timeout period of five minutes, the remote does not rejoin the network. **Work-around**: Reboot the remote.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-2. Known Issues in iDX Release 4.1.3.x for Remotes (continued)

Issue ID	Title and Description	Reported In
EVO-2075	**Reverse Lookup Entries Are Not Updated in DNS Cache List for 900, 980, 950mp, and 9350 Remotes** 900, 980, 950mp, and 9350 remotes do not currently support reverse DNS caching. As a result, reverse lookup entries are not being updated in the remote's DNS cache list. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
AR-7400	**Unable to Change Tx Power for iQ Desktop Remote Using Remote API in CW Mode** After changing the Tx power for an iQ Desktop remote using the Remote API commands in CW mode, there is no change to the Tx power value. **Work-around**: Use the tx.crosspol command to change the Tx power.	4.1.2.2 4.1.2.1 4.1.2.0

Known Issues in iDX Release 4.1.3.x for Hub Chassis and Line Cards

The table below lists the known issues in iDX Release 4.1.3.x for the Hub Chassis and line cards.

Table 5-3. Known Issues in iDX Release 4.1.3.x for Hub Chassis and Line Card

Issue ID	Title and Description	Reported In
EVO-22975	**CRC Errors Observed on Rx HLC without Tx Carrier from Tx HLC** CRC Errors are observed on an Rx line card when there is no Tx carrier from the Tx line card and reported as DGs (Drop Ghost CRCs) to iMonitor. These are false detections that occur when there are no remotes in network and there are no data slots allocated in the time plan. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-20173	**ULC-R HLC Appears Incomplete When Assigned as Warm Standby** A ULC-R HLC appears incomplete after it is assigned as a warm standby. **Work-around**: Refresh the HLC configuration by modifying the HLC and then clicking OK.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-18740	**CRC32 Errors with 32APSK Maximum MODCOD in TRANSEC and Non-TRANSEC Modes** CRC32 errors are seen on 9-Series remotes for symbol rates exceeding 40 Msps with QPSK-1/4 as minimum MODCOD and 32APSK-8/9 as maximum MODCOD. This affects both TRANSEC and Non-TRANSEC networks. **Work-around**: Changing the minimum MODCOD to QPSK-1/3 resolves the issue.	4.1.2.2 4.1.2.1 4.1.2.0

EVO-18413	**TDMA Missing on Remotes With ULC-R When Free Slot Allocation is Disabled Using Custom Key**
	Remotes become unstable and TDMA data is lost on all remotes with ULC-R line card when Free Slot Allocation is disabled using a custom key at the iBuilder tree network level and the number of good bursts received by the line card is less than 100 per second.
	Work-around: Set the MIR such that a minimum of 100 good slots/second is seen on the carrier received by the line cards. This can be reduced to 8 per second, if needed, using the custom key for lower burst counts. This is necessary prevent an AGC sweep that causes data loss. The custom key is entered at the receive line card Custom tab.
	`[FPGA_AGC]`
	`agc_ref_channel_criteria_per_sec = 8`
		4.1.2.2
		4.1.2.1
		4.1.2.0

Table 5-3. Known Issues in iDX Release 4.1.3.x for Hub Chassis and Line Card (continued)

Issue ID	Title and Description	Reported In

EVO-18251	**XLC-11 Line Card Reports Intermittent RxOverflow Frames When Downstream Traffic is High**
	When a 45 Msps downstream carrier is assigned to an XLC-11 line card configured with IP rates over 110 Mbps, intermittent RxOverflowFrames are observed.
	Work-around: Limit the downstream traffic to 110 Mbps. Using iBuilder, proceed as follows:
	1. At the Network Custom tab, configure the following custom key to limit the downstream traffic:
	`[NETWORK_DEFINITION]`
	`net_outroute_bps = 11000000`
	2. Limit the downstream the Maximum Information Rate (MIR) on the network QoS.
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-15938	**DLC-R Line Card Do Not Support 100 Byte Spread Spectrum in TRANSEC Mode** iBuilder permits configuring 100 Byte Spread Spectrum on DLC-R line cards in a TRANSEC network; however, this is not supported and remotes cannot acquire into the SS carriers. **Work-around**: Use legacy line cards for spread spectrum carriers in TRANSEC networks.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14442	**ULC Line Card Fails to Shows Changes Pending After Changes Applied without Reset** After applying a change (e.g., Tx power) to a ULC line card without a reset, the line card fails to show changes pending. **Work-around**: Reset the line card after applying changes.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12757	**DLC-R, DLC-T, ULC-R, ULC-T Line Cards Do Not Reboot OS After Package Download and TCP Reset** After a package download and reset using the TCP Download dialog box in iBuilder, DLC-R, DLC-T, ULC-R, ULC-T line cards continue to run the old package and the operating system does not reboot. This happens because these line cards do not have the logic to perform an OS reboot. **Work-around**: Reset line card manually via UDP from iBuilder after downloading packages.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-7591	**Failover Triggers Changes Pending on Active and Standby Line Cards** In SCD mode, a line card failover (TxRx/Rx) triggers changes pending on the Active and Standby line cards that requires a reset of both the line cards. This is an expected behavior in SCD mode and the changes are associated with INROUTE and INROUTE_GROUP keys that are informational only. **Work-around**: To clear the pending changes, apply the changes and reset the line cards.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-3. Known Issues in iDX Release 4.1.3.x for Hub Chassis and Line Card (continued)

Issue ID	Title and Description	Reported In
EVO-5231	**XLC-M Line Card Shows Tx LED and Chassis LED Both Red During Normal Operation** An XLC-M line card has its Tx LED and Chassis LED both displaying Red. However, neither iMonitor or the log message from /var indicate any issues. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0

EVO-4000	**Superburst SNR Reports Low Values**
	In certain high throughput cases where the aggregate symrate is high (> 25 Msym) and the SNR is high (> 10 SNR), the Superburst reports lower SNR values than that of traffic due to an insufficient dynamic range.
	Work-around: Adjust the agc threshold value from the default value of 0x180 to 0x105 using the custom key:
	`[FPGA]`
	`if_agc_threshold = 261`
		4.1.2.2
		4.1.2.1
		4.1.2.0

Known Issues in iDX Release 4.1.3.x for the NMS

The table below lists the known issues in iDX Release 4.1.3.x for the NMS.

Table 5-4. Known Issues in iDX Release 4.1.3.x for the NMS

Issue ID	Title and Description	Reported In
EVO-24841	**iMonitor IGC Usage Displays Inconsistent Information After Restarting NRDSVR** After the NRDSVR is restarted, the Inroute Group Composition Usage information that iMonitor displays is inconsistent. Anomalies for t_interval values of newly populated entries at the inroute_composit_stats_x table in the Archive Database cause iMonitor to display incorrect information. **Work-around**: None. The anomalies on the reported t_interval are cleared automatically after a short period and then the iMonitor "IGC Usage" graph becomes reliable again.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-24701	**NMS IP Address Not Recalculated for Processing Nodes After Switchover to Backup Teleport** After a switchover to the backup teleport in a Geographic Redundant hub, the correct NMS IP address is enabled in the options files for all components except the Processing Nodes. As a result, the Processing Nodes appear down because they are still sending heartbeat signals to the primary teleport NMS address. **Work-around**: Manually change the NMS heartbeat address in the options files for the Processing Nodes.	4.1.2.2 4.1.2.1

EVO-24681	**Remotes Show Changes Pending After Switchover to Backup Teleport**
	After a switchover to the backup teleport in a Geographic Redundant hub, all remotes show changes pending because the map server changes the NMS IP address for the remotes.
	Work-around: Add the primary teleport's NMS IP address in the ServerConfiguration table as a mapserver as follows.
	1. Log in to the NMS database using the following command:
	`# mysql nms`
	2. Execute the following MySQL command to force the NMS to calculate the options file (map server IP address) using the IP address provided.
	`# mysql> INSERT INTO ServerConfiguration SET Type = 'MAPSERVER', Field = 'x.x.x.x', Value ='5003';`
	NOTE: Replace x.x.x.x with the NMS IP address.
	3. Recalculate the options files for the remotes.
		4.1.2.2
		4.1.2.1

EVO-24445	**Backup NMS Assumes Primary NMS (Master) IP Address When Database Replication Is Used** After enabling database replication in a network using the -b option and then rebooting the backup NMS server or restarting the network services, the backup NMS assumes the primary NMS (Master) IP address. As a result, the backup NMS is not accessible. **Work-around**: Do not use -b option while setting up database replication.	4.1.2.2 4.1.2.1

Table 5-4. Known Issues in iDX Release 4.1.3.x for the NMS (continued)

Issue ID	Title and Description	Reported In
EVO-22403	**iMonitor Displays False FLL DAC Errors for iQ Series Remotes** Ignore all FLL DAC warnings that iMonitor displays for iQ Series remotes. These are false warnings and can be ignored. This can be done using the Global Warnings in iBuilder and disabling that warning for iQ Series remotes. Please contact TAC for help in doing this. See *Getting Help* on page xi.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-20168	**NMS Does Not Recalculate GKD Options File Automatically When GKD Cluster is Modified** GKD nodes do not get recalculated automatically when a GKD Cluster configuration is modified in iBuilder. As a result, a GKD.opt file has incorrect parameters when it is retrieved. **Work-around**: In iBuilder at the GKD Node Information tab, individually modify each GKD node.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19946	**Changing Downstream Carrier Parameters Triggers Unexpected Symrate Changes Pending on All Network Remotes and Tx Line Cards** After an upgrade, configuring a symbol rate with a decimal point and automatically rounds off any symbol rate with a decimal value is not permitted. As a result, after upgrading a network where a downstream carrier symbol rate has a decimal value, modifying any of the downstream carrier parameters (e.g., MODCOD Distribution) automatically triggers a rounding off of the decimal value that changes the configuration states of all network remotes and Tx line cards to the changes pending state. Applying these changes requires resetting all network remotes and Tx line cards. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19101	**During Beam Switch Remote API "POST" Accepts "tx_init_power" in Tenths and Writes Same Value in beam_state.opt File** During a beam switch, the remote API accepts "tx_init_power" in tenths of a dBm and then writes the same value in the beam_state.opt file; as a result, the remote's initial Tx power is very low and the remote never joins the network. **Work-around**: To avoid an out of range power error, set the remote's Tx maximum power to 0 to be in the range for the API to POST the configuration.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19055	**S2X Hub Latency Server Disconnects Intermittently** The latsvr for an S2X hub disconnects intermittently. **Work-around**: Add the hostname of the latsvr to the local hosts file at /etc/hosts.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-4. Known Issues in iDX Release 4.1.3.x for the NMS (continued)

Issue ID	Title and Description	Reported In

EVO-18355	**Processing Node Goes Into Alarm When NMS is Converted to DNMS**
	In iBuilder, a processing node goes into alarm when an NMS is converted to DNMS.
	Work-around: In iBuilder, perform the following:
	1. Right-click on the processing node and open Modify dialog box.
	2. Select processing node 1, go to the Custom tab and add the following custom key pointing to new Events server machine:
	`[NMS]`
	`heartbeat_addr = INET;x.x.x.x;2860`
	3. Go back to Information tab, select processing node 2 and apply the custom key again as stated above.
	4. Apply changes to processing node.
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-17521	**Unable to Consistently Change Tx Power Using Remote API in CW Mode** When changing the Tx power using the Remote API commands in CW mode, the commands work correctly on the first attempt to bring up a CW carrier, change the Tx power, and bring down the CW carrier. The commands then work and fail in a pattern where odd-number attempts succeed and even-number attempts fail. This occurs when the API script attempts to fit too many tasks into a short time window. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-14909	**idsBackup/idsRestore/Replication Fail for DNMS When myisamchk Fails with NetModem Table Index Corrupted** Running idsBackup, idsRestore, and database replication for a DNMS fails when myisamchk runs and fails because the NetModem table does not have correct index. **Work-around**: Proceed as follows: 1. Comment out myisamck on cr8DbSlave script on slave server. 2. Run cr8DbMaster script on master server (because Step 1 script did not exit and continued to finish all required steps on master server). At this point, replication runs but with many crashed tables. 3. Repair the NetModem table with the USE_FRM option (MySQL nms on slave server). 4. Run myisamchk manually on nms and nrd table on slave server. 5. Restart mysqld on the slave server. Replication should now run with no error.	4.1.2.2 4.1.2.1 4.1.2.0

Table 5-4. Known Issues in iDX Release 4.1.3.x for the NMS (continued)

Issue ID	Title and Description	Reported In
EVO-14714	**New 9350 Remote Keeps Root Password as iDirect After Swapping with Another Remote Model (e.g., X7)** After swapping an X7 with a new 9350 remote and applying new options files with updated passwords, the root password does not change and remains iDirect. **Work-around**: Use the passwd command to edit the password for the remote (if the remote has multiple instances use the update property). After the NMS generates the correct passwords for all the password keys, use the passwd command to re-edit the original password.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-12014	**Deactivated Networks Go To Activated State After Upgrade** After an upgrade, the NMS activates all deactivated networks; in the DB the networks remain deactivated. **Work-around**: Apply the network configuration to any affected network. The NMS changes the network status to deactivated and deactivates all remotes under the network.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6974	**Latency Server Incorrectly Pings Remote Mgmt IP Address** In iBuilder, after changing a remote's Mgmt IP address without applying the changes and then restarting the NMS services, the Latency Server incorrectly starts to ping the new IP address. **Work-around**: Apply the changed configuration to both the hub side and the remote side.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-6193	**Entering mysql <database> Does Not Connect to Database** After using the idsRestore procedure to restore a database, entering the mysql <database> command fails to connect to the database. **Work-around**: Manually connect to the database with the correct root password using the following command: `# mysql -u root -p` <-- Use with database that has the root password set. Additionally, see the dbpasswd command in the *Network Upgrade Procedure*.	
EVO-4021	**Network Level Changes Pending Persist** In some instances, after a Protocol Processor configuration change that affects the Network level has been made and applied in iBuilder, the Changes Pending message will persist at the Network level. This incorrect indication, which causes Network changes to appear not to have been applied, is intermittent and will cease to persist after a short period. **Work-around**: Right click on the network, select "compare configurations." When the "active" and "latest" screen appears, it will show no changes, and the changes pending on the network level is removed.	4.1.2.2 4.1.2.1 4.1.2.0

Known Issues in iDX Release 4.1.3.x for the Protocol Processor

The table below lists the known issues in iDX Release 4.1.3.x for the Protocol Processor.

Table 5-5. Protocol Processor Known Issues in iDX Release 4.1.3.x

Issue ID	Title and Description	Reported In
EVO-24299	**Multicast Over L2 SVNs Does Not Work in S2 Networks** Because Multicast/ MCFP/ MCFPE are broadcast OTA in L2 SVNs, they do not work in S2 networks. **Work-around**: None.	
EVO-22165	**Unable to Add L3 VLAN to PP Using API** After obtaining PP details using the curl command, modifying the PP details with the values of the new SVN, and then patching the changes with the curl command, a changes pending is triggered on the PP side; however, not all L3 SVN information is successfully added. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-21146	**NTP Fails to Start After iGW Upgrade and Does Not Set Run-Level 2-5 on vPPs** After performing an iGW upgrade from iDX 4.1.0.3 final to 4.1.1.0, the NTP configuration failed to start and was unable to set run levels 2-5 on the vPPs. **Work-around**: None.	4.1.2.2 4.1.2.1 4.1.2.0
EVO-19850	**IAC Fails After Upstream Carriers Are Unassigned/Reassigned** After removing carriers from an inroute group and applying changes pending, then reassigning the carriers back to the inroute group and applying changes pending, the Inroute Adaptive Controller (IAC) fails. **Work-around**: Use the "killall iac" console command to restart the iac process.	4.1.2.2 4.1.2.1 4.1.2.0

EVO-7600	**PP Blades Send Unnecessary IGMPv2/v3 Queries OTA**
	PP Blades are receiving IGMPv2/v3 queries and then looping IGMPv2/v3 queries OTA for unknown services. This is consuming OTA bandwidth unnecessarily.
	Work-around: Use the following custom key on affected remotes to block IGMP on the upstream:
	`[ETH0]`
	`igmp_leave_ignore = 1`
		4.1.2.2
		4.1.2.1
		4.1.2.0

EVO-3547	**PP Console Shows Multiple Slot Allocated for Dormant Remote** By default, 1 slot out of 32 frames must be allocated for a remote in dormant state; however, the PP console shows multiple slots being allocated. Work-around: None.	4.1.2.2 4.1.2.1 4.1.2.0

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