Release Notes for Cisco IOx, Release 1.1.0

July 18, 2016

These release notes provide information for Cisco IOx Release 1.1.0

Contents

This document includes following sections:

Overview

Cisco IOx provides uniform and consistent hosting capabilities for a wide variety of apps across various Cisco platforms. Cisco IOx brings together Cisco IOS, the industry-leading networking operating system, and Linux, the leading open source platform. Linux-based applications can run on Cisco devices in the Cisco IOx framework, so using this platform, you can bring custom applications and interfaces to the network.

New Features in Cisco IOx Release 1.1.0

New features in Cisco IOx Release 1.1.0 include the following:

- Support for Linux containers (LXC):
    - Ability to bring applications along with run-time on to supported platforms
    - Tooling (SDK) to help with packaging, deployment, and management of the containers
- Cisco Fog Director enhancements:
    - Ability to manage up to 5,000 devices, which offers a substantial increase from the previous limit of 500 devices

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- Support for securely logging in to the Cisco Fog Director Administration Console, which enhances the ability to debug issues
- Enhancements to container security for improved isolation between containers and between containers and the kernel
- DevNet enhancements:
  - Updated Cisco IOx documentation that explains system concepts, and that provides how-to information and examples
  - Sandbox for testing code
  - Actively monitored online forum
- Orderability:
  - Cisco IOx is available with subscription-based pricing that offers 1,3, or 5 year terms for Cisco IOx-enabled devices
  - Pricing includes Cisco IOx and Cisco Fog Director and support and upgrades for these products
- Cisco IOx services, which are provided as early availability (alpha) features on an as-is basis to facilitate early feedback:
  - The services provide a set of building blocks that can be connected together and customized for rapid development of apps development
  - Developers can use an SDK to deploy and customize services to meet specific needs
  - The services include:

    - Sensor data acquisition—Provides the ability to acquire data from sensors and controllers that use industry specific protocols

    - Data transport—Enables transporting of data to a data center or the cloud using by using protocols, such as, HTTP, HTTPS, or MQTT

    - Data processing—A store-and-forward service that provides data smoothening in high-latency situations

Supported Platforms

Cisco IOx Release 1.1.0 is supported on the following platforms:

- IR 809
- IR 829
- ISR8xx/C8xx

The minimum IOS version that is supported for Cisco IOx release 1.1.0 is 15.6.2(T).

Download the images from the following DevNet page:

https://developer.cisco.com/site/iox/documents/developer-guide/?ref=downloads

Limitations and Restrictions

- IPv6 support is not available for apps.

■ When a PaaS app is installed under Cisco IOx Release 1.0.0 and Cisco IOx is upgraded Release 1.1.0, the PaaS app does not move to RUNNING state. Instead, it remains in ACTIVATED state. Any attempt to start the app results in a failure.

To workaround this issue, follow these steps:

1. Before upgrading to Cisco IOx Release 1.1.0, and while the app is in RUNNING state, access the app via a console using either of these methods:

   – Via Cisco IOx Local Manager, as described in the "Accessing an App via a Console" section in *Cisco IOx Local Manager Reference Guide* (http://www.cisco.com/c/en/us/support/cloud-systems-management/iox/products-technical-reference-list.html)

   – Via the ioxclient, as described in "Connecting to application console" on DevNet (https://developer.cisco.com/media/iox-dev-guide-7-12-16/troubleshooting/troubleshooting-debugging/#connecting-to-application-console)

2. Use the **rm –f /tmp** command to delete the /tmp directory in the root file system of the app.

3. Exit the console.

4. Use Cisco Local Manager or Cisco Fog Director to put the app in STOPPED state.

5. Use Cisco Local Manager or Cisco Fog Director to deactivate the app.

6. Upgrade to Cisco IOx Release 1.1.0.

7. Use Cisco Local Manager or Cisco Fog Director to activate and start the app.

Bugs

The following sections provide information about bugs in this Cisco IOx release:

Using the Bug Search Tool

You can use the Bug Search Tool to find information about bugs for this release, including a description of the problems and available workarounds. The Bug Search Tool lists both open and resolved bugs.

To use the Bug Search Tool:

1. Go to https://tools.cisco.com/bugsearch/.

2. Log in with your Cisco.com user ID and password.

3. To look for information about a specific problem, enter the bug ID number in the Search For field, then press **Enter**.

4. To look for information if you do not know the bug ID number, enter keywords which search for text matches in the following sections of a bug:

   – headline/title

   – release note text

   – product

   – known affected releases/ known fixed releases

For more information about the Bug Search Tool, click Help on the main Bug Search Tool page:

https://tools.cisco.com/bugsearch/

Known Bugs

Table 1 describes known bugs in this release.

Table 1 Known Bugs

ID	Description
CSCux30175	IOx-fd: Only one log file is shown in monitor app - view log.
CSCux33707	AppMonitor page shows STOPPED after catridgeInstal fails during app update.
CSCux38540	FD honors replays v1 asks instead of using v2 asks.
CSCux51965	IOx FD: Sometimes "250x250" seen instead of application name.
CSCuz04865	De-registering a Not-registered device is allowed in FD again.
CSCuz26979	FD: Network information is not updated automatically when app settings are updated.
CSCuz32364	App installation takes forever for 256MB disk ask on 819.
CSCuz39548	Changes in package_config.ini file from app is not reflected in FD.
CSCuz43245	App start also should be included in 100% app installation that succeed.
CSCuz66608	Log files are not downloaded with the actual log file names.
CSCuz66950	CPU count going from 500 to 5000 after sync drive.
CSCuz67647	CAF is leaking memory and eventually crashes during a file upload.
CSCuz67865	Port range is supported for an app with schema version 2.0.
CSCuz77185	App-monitor page loading time is more than 3sec-metrics. REST takes 21secs.
CSCuz83724	Top5 cpu/memory/network REST API failing - exception in logs.
CSCuz85282	Error description has to used - kernel version incompatible CAF ERROR.
CSCuz90152	LM: Display an error while fetching app-config on a deployed state app.
CSCuz94177	Container doesn't seem to have a pid. App is running, but it is not.
CSCuz99926	App-log is not visible, and name of the log file has to be mentioned.
CSCva01266	IOx 819: App IP address fetch fails as nsenter is unavailable.
CSCva02872	IOx FD: ssh key name displayed needs to be changed in FD for app console.
CSCva05369	Upgrading IOXVM from Release 1.0.0 to Release 1.1.0 fails for PaaS apps.
CSCva05544	No line breaks on the app logs on device details page.

Resolved Bugs

Table 2 describes resolved bugs in this release.

Table 2   Resolved Bugs

ID	Description
CSCux29993	IOX-CAF: Unable to get app network info [inconsistent].
CSCux76378	Stopping/starting the app on 104 device from App Monitor page.
CSCux84950	500 error not handled while deleting unused cartridges from Fog Director.
CSCuy00331	IOX-CAF: 819 device does not support apps of size greater than 10 MB.

Documentation Links

- DevNet–Cisco IOx Developer Guide

  https://developer.cisco.com/site/iox/documents/developer-guide/

- Cisco IOx Data Sheet

  http://www.cisco.com/c/en/us/products/collateral/cloud-systems-management/iox/datasheet-c78-736767.html

- Cisco Fog Director Reference Guide, Release 1.1

  http://www.cisco.com/c/en/us/support/cloud-systems-management/fog-director/products-technical-reference-list.html

- Cisco IOx Local Manager Reference Guide, Release 1.1

  http://www.cisco.com/c/en/us/support/cloud-systems-management/iox/products-technical-reference-list.html

Cisco Support

If you have any questions or require assistance with Cisco IOx, please contact Cisco Support:

- Visit the Cisco Support site at http://support.cisco.com/.
- Email Cisco Support at tac@cisco.com.
- Call Cisco Support at 1.408.526.7209 or 1.800.553.2447.

Obtaining Documentation and Submitting a Service Request

For information about obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, or gathering additional information, see *What's New in Cisco Product Documentation*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the What's New in Cisco Product Documentation RSS feed. The RSS feeds are a free service.