Release Notes for Cisco IOx, Release 1.3.0

May 25, 2017

These release notes provide information for Cisco IOx Release 1.3.0.

Contents

Documentation Links

- DevNet
  - Cisco IOx: Getting Started with the Cisco 809 or 829 Industrial Integrated Services Router
    https://developer.cisco.com/site/iox/docs/index.gsp#getting-started-with-iox
  - Cisco IOx Application Developer Guide
    https://developer.cisco.com/site/iox/docs/#application-development-concepts
  - Cisco IOx Services documentation
    https://developer.cisco.com/docs/iox/#iox-services-architecture
  - Application Networking
    https://developer.cisco.com/site/iox/docs/index.gsp#application-networking
  - ioxclient
    https://developer.cisco.com/docs/iox/#what-is-ioxclient

- Cisco IOx Data Sheet

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

- Cisco Fog Director

  http://www.cisco.com/c/en/us/support/cloud-systems-management/fog-director/tsd-products-support-series-home.html

- Cisco IOx Local Manager Reference Guide

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

Overview

Cisco IOx provides uniform and consistent hosting capabilities for various types of apps across various Cisco platforms. This platform 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.

With Cisco IOx, developers can create a wide variety of IoT apps, such as data aggregation system and control systems.

New Features in This Release

New features in Cisco IOx Release 1.3.0 include the items that the following sections describe:

- Developer Experience, page 2
- IOx Services, page 2
- USB Interfaces, page 2
- Cisco Fog Director, page 3
- Layer 2 Traffic and VLAN, page 3

Developer Experience

- IOx automatically configures IOS NAT rules to provide northbound network access to application containers.
- Platform configuration of application containers is simplified by using IOx Docker based software development environment.

IOx Services

The IOx services C SDK allows developers to create and publish IOx micro services, which can be readily consumed by multiple IOx applications via language agnostic Rest API or websockets. SDK is supported on IR8x9 platforms.

USB Interfaces

This release includes support for USB-Serial devices that allow IOx apps to access data from variety of sensors connected to a USB interface. This USB support is only applicable to IR8x9 platforms.

Cisco Fog Director

- Fog Director can manage application life-cycle on 150,000 devices.
- When you add or upgrade an app and upload an app package from a Docker image, you no longer need to specify a package.yaml app descriptor file. If you do not specify this file, Cisco Fog Director generates metadata from the Docker image automatically.
- When installing or reconfiguring an app, Configure Resource Profile now includes the Allocate all available resources option, which assigns all CPU and memory resources that are available on each device on which you are installing, and the Custom profile option, which assigns on each device the CPU and memory resources that you specify.
- When retrying a failed action for an app, the VIEW DEPLOY ACTION HISTORY button displays the Actions History window, which provides information about devices on which the action is in Outstanding state or Expired state.
- The new Additional Actions button on the Devices View page provides access to new pages that let you rediscover, manage tags for, or delete multiple devices at once.
- The new Device Filters field on the Devices View page lets you display devices that meet specified reachable, last heard, and discovery status criteria.

Layer 2 Traffic and VLAN

This release includes support of Layer 2 traffic and VLAN to IOx application containers.

Supported Platforms

Cisco IOx Release 1.3.0 is supported on the following platforms:

- IR809
- IR829
- ISR4K
- New platforms supported in Release 1.3.0
  - Enterprise—ISR4K running on Cisco's Polaris network operating system
  - Utility—Pluggable CGR compute module for CGR1120 and CGR1240
  - IE4000

Image Information

Download the Cisco IOx images from the following DevNet page:

https://developer.cisco.com/site/iox/docs/index.gsp#downloads

Table 1 provides information about the available Cisco IOx images.

Table 1 Cisco IOx Images

Image	Description
ir800-ioxvm.1.3.0-T.bin	Cisco IOx Fog Node image for Cisco IR809 Integrated Services Router and Cisco IR829 Integrated Services Router.
ie4000-iox-mz.1.3.0.bin	Cisco IOx image for the Cisco IE4000 Switch.
cisco-fog-director_1_3_0.ova	Cisco IOx Fog Director software.
iox-core-services-1.0.0.tar	The IOx services C SDK.
ioxsdk-1.2.0.0.bin	Cisco IOx SDK, which is a set of tools and software that developers can use to enable their applications to execute on Cisco IOx enabled platforms.
ioxclient_1.3.0_darwin_386.zip ioxclient_1.3.0_darwin_amd64.zip ioxclient_1.3.0_linux_386.tar.gz ioxclient_1.3.0_linux_amd64.tar.gz ioxclient_1.3.0_windows_386.zip ioxclient_1.3.0_windows_amd64.zip	IOxClient, which is a command line tool provided as part of the Cisco IOx SDK and that is meant primarily to assist with app development for Cisco IOx platforms. IOxClient is available for Linux 32/64 bit, MAC OS 32/64bit, and Microsoft Windows 32/64bit platforms.

Table 2 provides the support information for Fog Director and CAF in the IOx releases.

Table 2 Fog Director and CAF Support Matrix

	CAF 1.3	CAF 1.2	CAF 1.1	CAF 1.0
Fog Director 1.3	Yes	Yes	No	No
Fog Director 1.2	No	Yes	Yes	No
Fog Director 1.1	No	No	Yes	Yes
Fog Director 1.0	No	No	No	Yes

Limitations and Restrictions

- IPv6 support is not available for apps.

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. Enter information in the Search For, Product, and Releases field as needed, then press **Enter**.

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

Known Bugs

Table 3 describes known bugs in this release.

Table 3 Known Bugs

ID	Description
CSCux38540	Fog Director honors replays v1 asks instead of using v2 asks.
CSCux51965	IOx Fog Director: Sometimes “250x250” seen instead of application name.
CSCuz04865	De-registering a Not-registered device is allowed in Fog Director again.
CSCuz32364	App installation takes forever for 256MB disk ask on 819.
CSCuz39548	Changes in package_config.ini file from app is not reflected in Fog Director.
CSCuz43245	App start also should be included in 100% app installation that succeed.
CSCuz77185	App-monitor page loading time is more than 3sec-metrics. REST takes 21secs.
CSCuz94177	Container does not seem to have a pid. App is running, but it is not.
CSCvd26926	Fog Director has a Bad error message on device discovery failure.
CSCvd45990	Kernel version compatibility check fails for valid scenario.

Resolved Bugs

Table 4 describes resolved bugs in this release.

Table 4 Resolved Bugs

ID	Description
CSCuz66608	Log files are not downloaded with the actual log file names.
CSCuz99926	App-log is not visible, and name of the log file has to be mentioned.

Cisco Support

Use the following resources if you have any questions or require assistance with Cisco IOx:

- Go to DevNet Developer Support:

  https://developer.cisco.com/site/devnet/support/
- Go to Cisco Support:

  https://www.cisco.com/c/en/us/support/index.html
- 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, and 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.