



Release Notes for Cisco IOx, Release 1.2.0

December 8, 2016

These release notes provide information for Cisco IOx Release 1.2.0.

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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.

Cisco IOx release 1.2.0 focuses on the following:

- Simplifying the user experience to make it appealing for developers to bring applications to the platform
- Broadening the platform to support a wider set of use cases, including manufacturing, utilities, and transportation

New Features in this Release

New features in Cisco IOx Release 1.2.0 include the items that the following sections describe:

- [Developer Tools, page 2](#)
- [Cisco Fog Director, page 2](#)

- [Cisco IOx Local Manager, page 2](#)
- [Platforms, page 3](#)

Developer Tools

- Support for Docker tooling to generate Cisco IOx-ready containers:
 - Support for Docker tooling integrated with Cisco IOx workflows to generate Cisco IOx-ready containers (this feature is available for the Cisco IR809 and IR829 Integrated Services Router only)
 - Availability of starter images in devhub.cisco.com to assist developers
- Developer sandbox in DevNet:
 - Self-service sandbox that includes Cisco Fog Director and two devices
 - A developer can specify the length of time that the sandbox is available for use

Cisco Fog Director

- Cisco Fog Director API provide access to most Cisco Fog Director features
- When adding or upgrading an app, you can choose to have Cisco Fog Director create and upload an app package from a Docker image that is in the Cisco Docker registry (DevHub) or in a third party registry such as Docker Hub
- When upgrading an app, you can instruct Cisco Fog Director to retain or to update existing configuration information for the app, and whether to retain existing information that the app has written to the device
- Support for action plans, which are Cisco Fog Director policies that instruct Cisco Fog Director to retry an app installation, configuration, upgrade, or uninstallation action if the action fails due to certain conditions, or to perform the action within a designated maintenance window
- Support for assigning a static ip address for an app interface that is connected to a bridge network
- Support for configuring Cisco Fog Director to instead permit logging in only by users whose user names and passwords successfully authenticate against a RADIUS database on a designated RADIUS server
- Support for configuring virtual CPUs for an app that requests VCPUs in its descriptor file
- Support for configuring a VNC password for an app that requests a VNC password in its descriptor file
- Cisco Fog Director provides information that you can use to access an app via a console
- Support for managing the Cisco Industrial Ethernet 4000 Series Switch
- Support for the management of up to 5,000 devices simultaneously
- Support for downloading selected cartridges from Fog Portal (fogportal.cisco.com), a Cisco website that provides an online repository for cartridges and applications
- Support for setting up password for VNC access to Windows VMs

Cisco IOx Local Manager

- Updates to the *App-ID* > Resources page to add the **Disk** field, the **Vcpu** field, and the **Max VCPU/AP** field
- Updates to the *App-ID* > App-info page:
 - Reorganized layout
 - New fields, including **VNC Access**, **Vcpu**, and various fields in the Network Information and Resource Usage areas

Platforms

- Administrator utility for reconfiguring resources for the Cisco IOx VM when installing Cisco IOX on a Cisco IR829 Integrated Services Router
- For the Cisco IR829 Integrated Services Router:
 - Increased memory availability for an app from 374MB to 720 MB
 - Increased maximum total storage available for an app to 1,600 MB (this value also is the default storage size for an app)
- For the Cisco Industrial Ethernet 4000 Series Switch (LXC apps only):
 - Support for Cisco Fog Director, Cisco IOx Local Manager IOxClient, and the Cisco IOx SDK

Image Information and Supported Platforms

Download the Cisco IOx images from the following DevNet page:

<https://developer.cisco.com/site/iox/downloads/>

Table 1 provides information about the available Cisco IOx images.

Table 1 Cisco IOx Images

Image	Description
cisco-fog-director_1_2_0.ova	Cisco IOx Fog Director software.
ir800-ioxvm.1.2.4.2-T.bin	Cisco IOx Fog Node image for Cisco IR809 Integrated Services Router and Cisco IR829 Integrated Services Router.
ie4000-iox-mz.1.2.0.bin	Cisco Industrial Ethernet 4000 Series Switch IOX Compute Platform Firmware.
ioxsdk-1.1.0.1.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_1.2.1.0_darwin_386.zip ioxclient_1.2.1.0_darwin_amd64.zip ioxclient_1.2.1.0_linux_386.tar.gz ioxclient_1.2.1.0_linux_amd64.tar.gz ioxclient_1.2.1.0_windows_386.zip ioxclient_1.2.1.0_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.

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, page 4](#)
- [Known Bugs, page 4](#)
- [Resolved Bugs, page 4](#)

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 2](#) describes known bugs in this release.

Table 2 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.
CSCuz66608	Log files are not downloaded with the actual log file names.
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.
CSCuz94177	Container does not 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.

Resolved Bugs

[Table 3](#) describes resolved bugs in this release.

Table 3 Resolved Bugs

ID	Description
CSCux30175	IOx-fd: Only one log file is shown in monitor app - view log.
CSCux33707	AppMonitor page shows STOPPED after cartridge install fails during app update.
CSCuz26979	Fog Director: Network information is not updated automatically when app settings are updated.
CSCuz32813	Fog Director: App configs are cleared if app-details refresh is done for a device.
CSCuz42851	IE4K-IOx custom port mapping does not work.
CSCuz66950	CPU count going from 500 to 5000 after sync drive.
CSCuz67647	CAF is leaking memory and eventually crashes during a file upload.
CSCuz68480	Fog Director: App downtime chart is not getting updated.
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.
CSCva02872	IOx Fog Director: SSH key name displayed needs to be changed in Fog Director 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.

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 1.2
<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 1.2
<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, 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.

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