Release Notes for Cisco IC3000 Industrial Compute Gateway for Release 1.1.1

The following release notes support the Cisco IC3000. These release notes are updated to describe new features, limitations, troubleshooting, recommended configurations, caveats, and provide information on how to obtain support and documentation.

Release 1.1.1 adds in features to support IOx version 1.8 and FND version 4.5.1

Contents

This publication consists of the following sections:

Image Information

Note: You must have a Cisco.com account to download the software.

Cisco IC3000 operates on the following Cisco images:

- IC3000-K9-1.1.1.SPA

- IOx version 1.8

- FND version 4.5.1

Software Downloads

The latest image file for the IC3000 can be found here:

https://software.cisco.com/download/home/286321914

Cisco Systems, Inc.   www.cisco.com

Limitations and Restrictions

New IC3000 devices will ship from the factory running version 1.1.1. Older devices that are running 1.0.1 and are upgrading to 1.1.1 need to consider how this affects their applications. Applications may need to be repackaged to run on IOx version 1.8 or they may fail to start.

Major Enhancements

The following features are included in this release.

Note: FND can support Virtual Machine deployment in tar and OVA format. Local Manager can only support Virtual Machine deployment in tar format.

Remote Device Management Support

The remote device management feature provides the user with the ability to enable or disable the remote access to the device configuration page from Cisco IOx Local Manager over a non-link local address.

More information can be found in the Cisco IC3000 Industrial Compute Gateway Deployment Guide.

Manual Date and Time Options

The date, time and timezone can be set manually on the IC3000 via Local Manager (LM) GUI under the Device Configuration tab.

Note: This option is available via the LM in developer mode only. After modifying the date and time, the device should be reloaded to make sure that features depending on time and date function properly.

Manual DNS Settings

Previously, DNS configuration through only a DHCP server was supported. This is called auto DNS. Now there is a manual option to allow users to add DNS configuration. A user configured DNS configuration will co-exist with the configuration received through DHCP server, but given priority.

During the mode change from Auto to Manual and vice versa, DHCP on the interface will be not restarted. Therefore, no network disruption is introduced. Save and restore on a reload of user DNS configuration is supported.

The following DNS options are user configurable:

- Up to 3 name servers

- Up to 3 search directives

- Only 1 domain directive

Feature Assumptions

- This feature is exposed to the user through FND and LM.

- 3 name server entries total can be added either by the user or the DHCP server. If a user adds all 3 entries, then entries added from the DHCP server will not be added to the configuration.

- In the case where 3 name server entries added by the user are deleted, there may be no name server in the configuration. DHCP lease time will decide when entries by the DHCP server are updated again.

- The same assumptions are true for domain and search directives.

Command Line Interface

The following CLI commands are supported:

CLI Command	Status	Result
show dns	Existing Command	Shows the content of resolv.conf
show dns mode	New Command	Shows whether the mode is Auto or Manual. Auto – Configuration is received by only DHCP. Manual – Configuration is received by DHCP and by the user. Both configurations co-exist. User configuration is given precedence.
show dns manual-config	New Command	Configuration done by the user is shown.

Manual NTP Settings

In a manual NTP configuration, the user can configure the NTP servers. The user configuration co-exists with the NTP configuration received by DHCP server.

The following NTP options can be set by the user:

- Up to 5 NTP servers.

- Polling interval includes max and min poll.

- NTP Authentication – User provides the id, type and value of the keys.

Feature Assumptions

- The manual configuration is done through the FND and Local Manager.

Command Line Interface

The following CLI commands are supported:

CLI Command	Status	Result
show ntp	Existing Command	Shows the NTP servers added by DHCP in ntp.conf.
show ntp mode	New Command	Shows whether the mode is Auto or Manual. Auto – Configuration is received by only DHCP. Manual – Configuration is received by DHCP and by the user. Both configurations co-exist. User configuration is given precedence.
show ntp manual-config	New Command	Configuration done by the user is shown.
show ntp association	New Command	Displays a table of the associated servers, status of the servers, including the authentication.
show ntp status	New Command	Shows a description of whether the clock is synchronized or not. Shows reference clock and other time related parameters.
show clock	New Command	Shows date and time.

New Reset Button Options

The device can be returned to the original factory configuration by using the reset button. The reset button is a small button accessed through a pinhole located on the front of the device. For the location, see the IC3000 Hardware Configuration Guide.

The reset button options are:

- Press 10 to 15 seconds – Device is reloaded.

- Press 30 to 35 seconds – All user configurations are removed and device is reloaded.

- Press 60 to 65 seconds – All user configurations are removed, all images are cleared except for the factory image, and the device is reloaded with the factory image.

Reboot Button on Local Manager GUI

The IC3000 can be rebooted remotely with a reboot button in the Local Manager (LM) GUI under the Device Configuration tab.

FND 4.5.1 and IOx 1.8 New Features

FND 4.5.1

Table 1 shows details about the new features in FND release 4.5.1. For additional information see the Release Notes for IoT Field Network Director, Release 4.5.x

Table 1   FND 4.5.1 New Features

Feature	Description	First IoT FND release support	Related Documentation
Support for 4096 bits key size for RSA certificates		4.5.x, 4.4.1	---
Guided Tours	Provides a step-by-step path on how to configure specific items within the FND User Interface. Directions appear in pop-up windows that navigate you thru the configuration process. Once you are on the desired configuration pages (noted below), select Guided Tours from the User drop-down menu, upper-right hand corner, to display a window with the available tours. Guided Tours supported: ■ Add Devices (DEVICES > FIELD DEVICES) ■ Device Configuration ■ Device Configuration Group Management ■ Tunnel Group Management ■ Tunnel Provisioning ■ Provisioning Settings ■ Firmware Update **Note:** The Guided Tour feature **must be** enabled by the first-time FND root user that logs into the FND system before you can use the feature.	4.5.x	Cisco IoT Field Network Director User Guide, Release 4.5 See "Monitoring System Activity" chapter.
Domain Name Support (DNS) Support in the IC3000 Local Manager (LM) User Interface	You can configure and manage the following items for a DNS server in the IC3000 LM user interface: – Add and configure server NTP SETTINGS > NTP SERVER: Add/Edit Settings page	4.5.x	Cisco IC3000 Industrial Compute Gateway Deployment Guide
Oracle Real Application Clusters (RAC)	Oracle RAC supports clustering of multiple Oracle databases to appear as one to support high availability in the network. IoT FND can validate up to 250,000 endpoints.	4.5.x	Real Application Clusters Administration and Deployment Guide
Dashboard Page Enhancements	On the Endpoint Inventory chart and Endpoint states Over Time Chart, there is a new state: Registering. DASHBOARD	4.5.x	Cisco IoT Field Network Director User Guide, Release 4.5

Feature	Description	First IoT FND release support	Related Documentation
Zero Touch Deployment Enhancements for the Router Template for Greater Error Handling	Error handling enhancements for the router template include: ■ Automatic import of a SUDI certificate upon FND startup ■ Error handling checks and validation of the following items: Bootstrap and Configuration templates, ZTD properties and Keystore ■ Generating a sample csv file from the template ■ Saving template version history ■ A Tour wizard which validates configurations and settings used for bootstrapping DEVICES > FIELD DEVICES	4.5.x	Cisco IoT Field Network Director User Guide, Release 4.5

IOx 1.8

The following are the new features for Cisco IOx Release 1.8.0. For additional information see Release Notes for Cisco IOx Release 1.8.0.

■ All /myapps and /localapps APIs have been deprecated and a single unified API /apps has been provided for all apps related operations.

■ Support to add authorized devices into Fog Director.

■ Subscription for alerts call back feature.

■ Support for installing any version of an app on a set of devices from Fog Director.

■ App health monitoring inside containers.

■ New appearance of apps dashboard on Fog Director.

■ Support for importing ova files into Fog Director.

■ Support for installing docker apps from Fog Director and Local Manager.

■ Support for installing docker apps from the docker hub without any additional IOx metadata.

Related Documentation

The following documentation is available:

■ All of the Cisco IC3000 documentation can be found here:

https://www.cisco.com/c/en/us/support/routers/3000-series-industrial-compute-gateways/tsd-products-support-series-home.html

■ IoT Field Network Director

https://www.cisco.com/c/en/us/support/cloud-systems-management/iot-field-network-director/tsd-products-support-series-home.html

- Cisco IOx Documentation is found here:

    https://www.cisco.com/c/en/us/support/cloud-systems-management/iox/tsd-products-support-series-home.html

- Cisco IOx Developer information is found here:

    https://developer.cisco.com/docs/iox/

Caveats

Caveats describe unexpected behavior in Cisco IOS releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

Caveats listed below are related to the IC3000 and do not include Field Network Director or IOx.

FND release notes are found here:

https://www.cisco.com/c/en/us/support/cloud-systems-management/iot-field-network-director/products-release-notes-list.html

IOx release notes are found here:

https://www.cisco.com/c/en/us/support/cloud-systems-management/iox/products-release-notes-list.html

Note: You must have a Cisco.com account to log in and access the Cisco Bug Search Tool. If you do not have one, you can register for an account.

For more information about the Cisco Bug Search Tool, see the Bug Search Tool Help & FAQ.

Open Caveats

- **CSCvq81535**

    On re-installation of an application, FD sends the same runtime option which caused the failure during first try.

    Conditions: Trigger docker app installation on a device with invalid/ black listed runtime options. For example: --name Application deploy failed with "Error while changing app state:App Activation error: Given option:'--name' is black listed!" Trigger a re-installation on the same failed device with the correct run time option -p 5201:5201. The browser console shows that ? action payload has correct run time option which was used.

    Workaround #1: Uninstall the application and install again with the correct runtime options. The list of run time options that are not supported can be found here:

    https://developer.cisco.com/docs/iox/#!platform-information/cisco-ic3000-gateway

    Workaround #2: Retry and remove forever, then trigger the application installation with the correct run time options.

- **CSCvr04482**

    Factory reset operation fails to clean up and delete CAF partitions.

    Symptoms: Pressing the factory reset button fails to delete applications. This occurs when Release 1.1.1 is not a factory image, or devices which were running a previous version of Release 1.0.1 as a factory image.

    Workaround: Perform factory reset operation again when the device returns to 1.0.1 image by pressing the reset for more than 10 seconds.

Obtaining Documentation and Submitting a Service Request

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

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