



Release Notes for Cisco Industrial Network Director, Release 1.0.x

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This release note contains the latest information about using Release 1.0.x of the Cisco Industrial Network Director (IND) application that manages Industrial Ethernet switches.

Embedded Online Help provides all configuration and management information for Cisco IND.

Organization

This guide includes the following sections:

Conventions	Conventions used in this document.
Installation Notes	Description of the IND application.
New Features	New features in the Release 1.0.x.
IND Licenses	Summary of supported licenses for Release 1.0.x.
System Requirements	System requirements for Release 1.0.x.
Installation Notes	Procedures for downloading software.
Important Notes	Notes about Release 1.0.x.
Limitations and Restrictions	Known limitations in IND.
Caveats	Open and Resolved caveats in Release 1.0.x.
Related Documentation	Links to the documentation associated with this release.

Conventions

This document uses the following conventions.

Conventions	Indication
bold font	Commands and keywords and user-entered text appear in bold font .
<i>italic font</i>	Document titles, new or emphasized terms, and arguments for which you supply values are in <i>italic font</i> .
[]	Elements in square brackets are optional.
{x y z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.

Conventions	Indication
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
courier font	Terminal sessions and information the system displays appear in courier font.
< >	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

Note: Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.

About Cisco IND

Cisco Industrial Network Director provides operations teams an easily integrated system delivering increased operator and technician productivity through streamlined network monitoring and rapid troubleshooting as part of a comprehensive IoT solution from Cisco:

- Easy-to-adopt network management system purpose built for industrial applications that leverages the full capabilities of the Cisco Industrial Ethernet product family to make the network accessible to non-IT operations personnel.
- Creates a dynamic integrated topology of automation and networking assets using industrial protocol (CIP, PROFINET) discovery to provide a common framework for plant floor and plant IT personnel to monitor and troubleshoot the network and quickly recover from unplanned downtime.
- Rich APIs allow for easy integration of network information into existing industrial asset management systems and allow customers and system integrators to build dashboards customized to meet specific monitoring and accounting needs.

Cisco IND Features and Benefits

- Purpose-built user experience for non-IT operations personnel – Rapid adoption by operations teams for improved productivity.
- Targeted discovery of plant floor network assets customized for industrial environments – Ensures that automation devices connected to the network are not affected by discovery process.
- Automation endpoint discovery using CIP and PROFINET industrial protocols – Complete automation infrastructure inventory, not solely network inventory details.
- Optimized alarm management with real-time alerting of network events and reporting of effects to automation assets – Allows for operations and plant IT team to consume network events in context of the industrial process to simplify troubleshooting issues.
- Real-time monitoring of device metrics, traffic statistics, and network infrastructure status – Increased visibility of network health for the operations team and reduced, unplanned downtime.
- Comprehensive RESTful APIs for integration with automation applications and control systems – Rapid adoption and integration with existing systems and customization by system integrators.
- Role-based access control with customizable permission mapping – Restrict system access to authorized users on a per feature basis.
- Detailed audit trails for operational visibility of network changes, additions, and modifications – Record user actions on network devices for change management.
- Search capability integrated with major functions – Easily locate functionality and mine for information.

New Features

- Cisco Active Advisor - Free cloud-based service that provides essential network life cycle information to make sure security and product updates are current.
- Guided tours - Step-by-step guidance to maximize productivity and ease adoption.

New Features

In this first release of the product, there are two primary functions supported: Operations (Operate) and Settings.

Note: No new features are introduced in IND 1.0.1. It is a bug fix release only.

Release 1.0.1 supports all the features first introduced in Release 1.0.0. and summarized in [Table 1](#).

Table 1 New Features in IND 1.0.x

Feature	Description	First released	Related Documentation
IND Device Pack 1.0.1-x	<p>Two new devices are now supported by the IND application with the new device pack:</p> <ul style="list-style-type: none"> ■ IE-4010-4S24P ■ IE-4010-16S12P <p>The device pack supports the following Cisco IOS Releases:</p> <ul style="list-style-type: none"> ■ Cisco IOS Release 15.2(5)E ■ Cisco IOS Release 15.2(4)EA2 ■ Cisco IOS Release 15.2(4)EA1 ■ Cisco IOS Release 15.2(3)E3 ■ Cisco IOS Release 15.2(3)E2 <p>The device pack supports the following Cisco platforms:</p> <ul style="list-style-type: none"> ■ CGS 2520 ■ IE 2000, IE 2000U ■ IE 3000, IE 3010 ■ IE 4000, IE 4010 ■ IE 5000 	1.0.1-x	

New Features

Table 1 New Features in IND 1.0.x (continued)

Feature	Description	First released	Related Documentation
Operate	<p>You can review or perform the following actions at the Operate page:</p> <ul style="list-style-type: none"> ■ Manage Alarms: Open or close an alarm, view alarm details, assign an alarm to someone, add notes to the alarm (Operate > Alarms) ■ Asset Discovery: Search assets by IP Scan or Link Layer. Assets include Industrial Ethernet (IE) switches and clients that connect to IE switches (Operate > Asset Discovery) ■ Audit Trails: See a listing of all operations performed by users. Each entry includes the following information: timestamps, operation, device IP address, status, username, user IP address and details (description of the entry). (Operate > Audit Trail). ■ Inventory: View all devices found from a scan of the network by the application. This page is the default opening page of the IND application. (Operate > Inventory) ■ Tasks: Review information on tasks that are actively running or have completed.(Operate > Tasks) ■ Topology: View a full network topology map of all devices and neighbors discovered by a scan of the network. (Operate > Topology) 	1.0.0	IND Online Help

New Features

Table 1 New Features in IND 1.0.x (continued)

Feature	Description	First released	Related Documentation
Settings	<p>You can view information or perform the following actions at the Settings page:</p> <ul style="list-style-type: none"> ■ Active Sessions: View information on all active sessions, which includes: user ID, login, last accessed, IP address. (Settings > Active Sessions) ■ Alarm Settings: View categories of alarms available on the system and the number of alarms in each category as well as disable/enable alarms and change alarm severity. (Settings > Alarm Settings) ■ Backup: Schedule backups or initiate on-demand backups. (Settings > Backup) ■ Device Pack: Allows you to add support for new device types to the system. (Settings > Device Pack) ■ Group Management: Create groups and assign devices to those groups. (Settings > Group Management) ■ Licenses: Manage Smart and Classic IND Licenses and their details and status. (Settings > Licenses) ■ Network Profiles: Create and manage access credentials used by devices and discovery profiles. (Settings > Network Profiles) ■ Password Policies: Eight password policies are defined by default on the system. You can enable or disable any of the policies or the values of those policies. (Settings > Password Policies) ■ System Settings: Modify system settings for data retention, data collection, Cisco Active Advisor and log levels. (Settings > System Settings) ■ User Accounts: Add new user accounts including assigning user role (Network Administrator, Operator, System Administrator) and view existing users defined for the system. ■ User Roles: Three roles are predefined on the system: <ul style="list-style-type: none"> – Network Administrator: User with this role has permissions to manage network resources. – Operator: User with this role has permissions to monitor the network. – System Administrator: User with this role has all available permissions on the system. 	1.0.0	IND Online Help

IND Licenses

The Cisco Industrial Network Director is licensed on a per-device, term subscription basis and supports two licensing models. For details on the supported IND licenses, refer to the:

[Cisco Industrial Network Director Data Sheet](#)

System Requirements

Table 2 System Requirements

Desktop Requirements	Minimum Requirement
Windows Operating System (OS)	Windows 7 or Windows 10
Browser	Chrome: Version 50.0.2661.102 or later Firefox: Version 46.01 or later
CPU	Dual Core 2.4Ghz
RAM	8 GB
Storage	50 GB

Installation Notes

IND Application Installation

The installation procedure for IND is described in the [Installation Guide for Industrial Network Director for Release 1.0.x](#).

Device Pack Installation

Installation Requirements

IND Device Packs can only be installed with the IND application that has a matching *version* number, and the *release number* **must be** the same or greater than the IND release number.

For example, in release 1.0.1-3, 1.0.1 is the version number and 3 is the release number.

A new Device Pack must be version 1.0.1 and the release must be 3 or higher.

Installation Steps

For Device Pack installation steps, refer to the [Installation Guide for Cisco Industrial Network Director, Release 1.0.x](#).

Important Notes

Please note the following information about Cisco IOS software and PID support on IND.

Unsupported PIDs

The following IE 2000 PIDs are not supported by IND 1.0.x and are not supported by IND Device Packs in 1.0.1-x:

- IE-2000-4TS-G-B-U

Limitations and Restrictions

- IE-2000-8TC-G-B-U
- IE-2000-16TC-G-E-U

Supported but Untested PIDs

The following IE-2000 IP67 PIDs are supported by IND 1.0.1-x. Device Packs but were not tested **and** the following IE-2000 IP67 PIDs are supported by IND 1.0.x. but were not tested:

- IE-2000-8T67-B
- IE-2000-8T67P-G-E
- IE-2000-16T67-B
- IE-2000-16T67P-G-E
- IE-2000-24T67-B

Supported Cisco IOS Software

IND 1.0.x supports the following Cisco IOS Releases:

- Cisco IOS Release 15.2(5)E
- Cisco IOS Release 15.2(4)EA2
- Cisco IOS Release 15.2(4)EA1
- Cisco IOS Release 15.2(3)E3
- Cisco IOS Release 15.2(3)E2

Limitations and Restrictions

Cisco recommends that you review this section before you begin working with IoT IND. These are known limitations that will not be fixed, and there is not always a workaround for these issues. Some features might not work as documented, and some features might be affected by recent changes to the software.

- **CSCvb40831**

Symptom: Face plates for the following IE switches are missing in the user interface: IE-2000U-16TC-GP, IE-2000U-16TC-G, and IE-2000U-4S-G.

Conditions: Missing face plates for some IE switches.

Workaround: There is no workaround.

Caveats

This section presents open caveats in this release and information on using the Bug Search Tool to view details on those caveats.

- [Open Caveats, page 8](#)
- [Accessing the Bug Search Tool, page 11](#)

Open Caveats

■ CSCva80749

Symptom: Trigger Seed Discovery on a switch which has a CIP chassis path with multiple CIP IP addresses and connects to two different two IE switches. A duplicate entry appears in inventory.

Conditions: Dual-Homed Client Device C is connected to Switch A via Single Link (Link1) and Switch B via two links (Link2, Link3). Use RSLinx tool to see this problem clearly.

Workaround: Do the following:

- a. Delete the Duplicate Client Devices.
- b. Decommission the two switches that are connected to the Dual-homed Client device.
- c. Move Switch A to Managed State and wait till the Client Device is discovered.
- d. Move Switch B to Managed State.

■ CSCva97099

Symptom: When you install IND on Windows 10, you might not be able to see the uninstall option. This is because the plug-in used by IND does not claim support for Windows 10 yet.

Conditions: This issue might occur when you install IND in Windows 10.

Workaround: When you want to uninstall IND, go directly to **Control Panel > Uninstall a Program** and then manually uninstall IND and delete all related files in Program Files and in Program Data.

■ CSCvb24719

Symptom: Tasks are an asynchronous way to execute certain operations in IND. When we take a backup of the database, that backup action itself is a task and is in a RUNNING state. So, when we restore the database and startup all the tasks which were in a RUNNING state, they will be moved to FAILED.

Conditions: During the time when we do a backup, there can be some other operations simultaneously running as a task other than the backup task itself.

Workaround: There is no workaround for this issue. But this does not impact any feature or functionality. It is expected that when we backup we are reverting to an older revision of the application and hence some tasks might have failed as you cannot re-create that operation at the current time.

■ CSCvb24728

Symptom: When users access the URL with the parameters: “%” no proper valid error message appears to the user.

Conditions: The problem occurs only when the URL has the “%” special character.

Workaround: In the URL, the user should not use the “%” special character.

■ CSCvb31292

Symptom: When there are client devices which support CIP protocol, they do not have LLDP or CDP support and thus we cannot see its connected devices from the topological view in the API.

Conditions: When there are CIP devices in the network connected to IE switches, then connected devices for that client would be empty though there is a valid physical connection.

Workaround: Client API has extended attributes which shows the connected devices in the UI.

■ CSCvb31945

Caveats

Symptom: The health metrics and bandwidth utilization charts are not available on IE-5000-12S12P-10G for Cisco IOS Release 15.2(5)E.

Conditions: System IE 5000, PID IE-5000-12S12P-10G, had Cisco IOS Release 15.2(5)E release installed.

Workaround: Other IE 5000 family PID works without an issue. Additionally, IE-5000-12S12P-10G PID works with Cisco IOS Releases 15.2(4)E and 15.2(3)E.

■ **CSCvb38948**

Symptom: In the Asset Discovery page, an Export of Discovery Profile entries to a CSV file results in a missing value. The discovery profile Type column is not populated in the CSV.

In the VLANs section of the Forwarding tab of the Network Device Details page, an Export of VLANs entries to a CSV file results in an incorrect column formatting in the CSV file. Multiple values in the single "Switch Port Names" column are exported to multiple columns in the CSV file

Conditions: A Discovery Profile is of two types: IP Scan or Link Layer. This is populated in the Type column in the Asset Discovery page. An export of Discovery profile entries to CSV results in a missing value in the Type column of the CSV file.

When a network device is moved to the Managed state, clicking on the device name in the Inventory page gives the Network Device Details page. The Forwarding tab has a VLANs column. If the "Switch Port Names" column has multiple values, then an export of VLANs to CSV gives an incorrect column formatting in the CSV file. The multiple values are formatted into multiple columns.

Workaround: Since the exported Discovery Profiles CSV file is available for the user to edit, a manual addition of the discovery profile Type values can solve the problem.

Since the exported VLANs CSV file is available for the user to edit, a manipulation of the Switch Port Names values can solve the problem.

■ **CSCvb40505**

Symptom: On the Port Detail page, sometimes the Connected Devices field is empty even though the device is displayed on the Connected Devices grid in the Device Detail page.

Conditions: When a port on the device has a neighbor and the topology discovery has been run, sometimes the field is empty when IND does not have enough information to display properly.

Workaround: Information is displayed on the Connected Devices grid regarding the neighbors of each device and the port on which each neighbor is connected to.

■ **CSCvb41224**

Symptom: When multiple ports are in Admin State down and half-duplex mode, and a device is either moved to managed or an On demand refresh is triggered or during metrics poller run, there is only one event generated against one of the ports.

Conditions: When multiple ports are in Admin State down and half-duplex mode, and a device is either moved to managed or an On demand refresh is triggered or during metrics poller run, there is only one event generated against one of the ports instead of an alarm each for every port.

Workaround: There is not workaround.

■ **CSCvb41219**

Symptom: The following links are broken under certain conditions:

1. On the Device detail page, Connected Devices grid - links in Source Port and Port columns

Caveats

2. On Client Detail - link in Connected To field
3. On topology, when a link between two connected devices is clicked - Port name link

Conditions: Perform the following operations:

1. Discover a device that has clients and network neighbors
2. Discover topology
3. Move the device to Decommissioned

Workaround: Move the device to Managed and back to Decommissioned.

■ CSCvb41139

Symptom: When editing a network profile in Advanced mode, if the user changes the Access Mechanism from Regular to Secure, the HTTPS port does not auto populate to 443.

Conditions: Create a network profile in regular mode. Edit the network profile. Change the mode to secure mode.

Workaround: Manually edit the HTTPS port field to 443.

■ CSCvb43029

Symptom: The affected devices in the alarm detail page shows client device links for devices that have been moved into the *Other* category. These links lead to an empty or misleading client detail page.

Conditions: There are two conditions:

- 1) The affected devices in the alarm detail page shows client device links for devices that have been moved into the *Other* category, or for client devices that have been deleted. These links lead to an empty or misleading client detail page.
- 2) An alarm is generated where a client device becomes an affected device. Then, the client device is deleted.

Workaround: For the first case, run topology immediately after moving a device from *Client* to *Other*. For the second case, navigate to *Other* to view the device.

Resolved Caveats

■ CSCvb69882

Symptom: Any supported IE switch running for more than an year fails to be transitioned to Managed state. The error indicates that inventory collection failed.

Conditions: When the uptime of the switch is in terms of years, then IND does not parse the value properly.

Workaround: This issue is resolved in Release 1.0.1.

■ CSCvb69894

Symptom: Neighbor Discovery fails for specific neighbor mac addresses when the MAC address start with 00::: or 00:00::: or 00:00:00::. in very old MAC devices.

Conditions: With some special old MAC address formats, Neighbor Discovery will not find the vendor name from the OUI.txt file.

The old MAC address format start with 00 as shown below:

00:ab:cd:ee:ff:AA

00:00:cd:ee:ff:AA

Related Documentation

00:00:00:ee:ff:AA

Workaround: This issue is resolved in Release 1.0.1.

■ CSCvb83055

Symptom: The Java Debug Wire Protocol (JDWP) should be disabled at installation time. Use Windows Firewall to close port 20500.

Conditions: Windows port 20500 is opened for traffic.

Workaround: This issue is resolved in Release 1.0.1.

■ CSCvb88806

Symptom: Device detail UI does not show uptime in years.

Conditions: The UI currently shows uptime in the form of only weeks (and lower units), and never translates it to years.

Workaround: This issue is resolved in Release 1.0.1.

■ CSCvb89978

Symptom: JAXBContext memory is not released by garbage collector under JAVA8. Over time, JVM memory will be used up.

Conditions: When IND is running for a long period of time, the JVM will have no memory to use.

Workaround: This issue is resolved in Release 1.0.1.

Accessing the Bug Search Tool

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

To access the Bug Search Tool, you need the following items:

- Internet connection
- Web browser
- Cisco.com user ID and password

To access the Bug Search Tool, use the following URL: <https://tools.cisco.com/bugsearch/search>

To search using a specific bug ID, use the following URL: <https://tools.cisco.com/bugsearch/bug/<BUGID>>

Related Documentation

Installation Guide for Industrial Network Director Application for Release 1.0.0 at:

<http://www.cisco.com/c/en/us/products/cloud-systems-management/industrial-network-director/index.html>

Find documentation for the Cisco Industrial Ethernet Switches at: (select the link for the relevant switch to access user guide)

<http://www.cisco.com/c/en/us/products/switches/industrial-ethernet-switches/index.html>

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](#).

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