Network Management Solutions

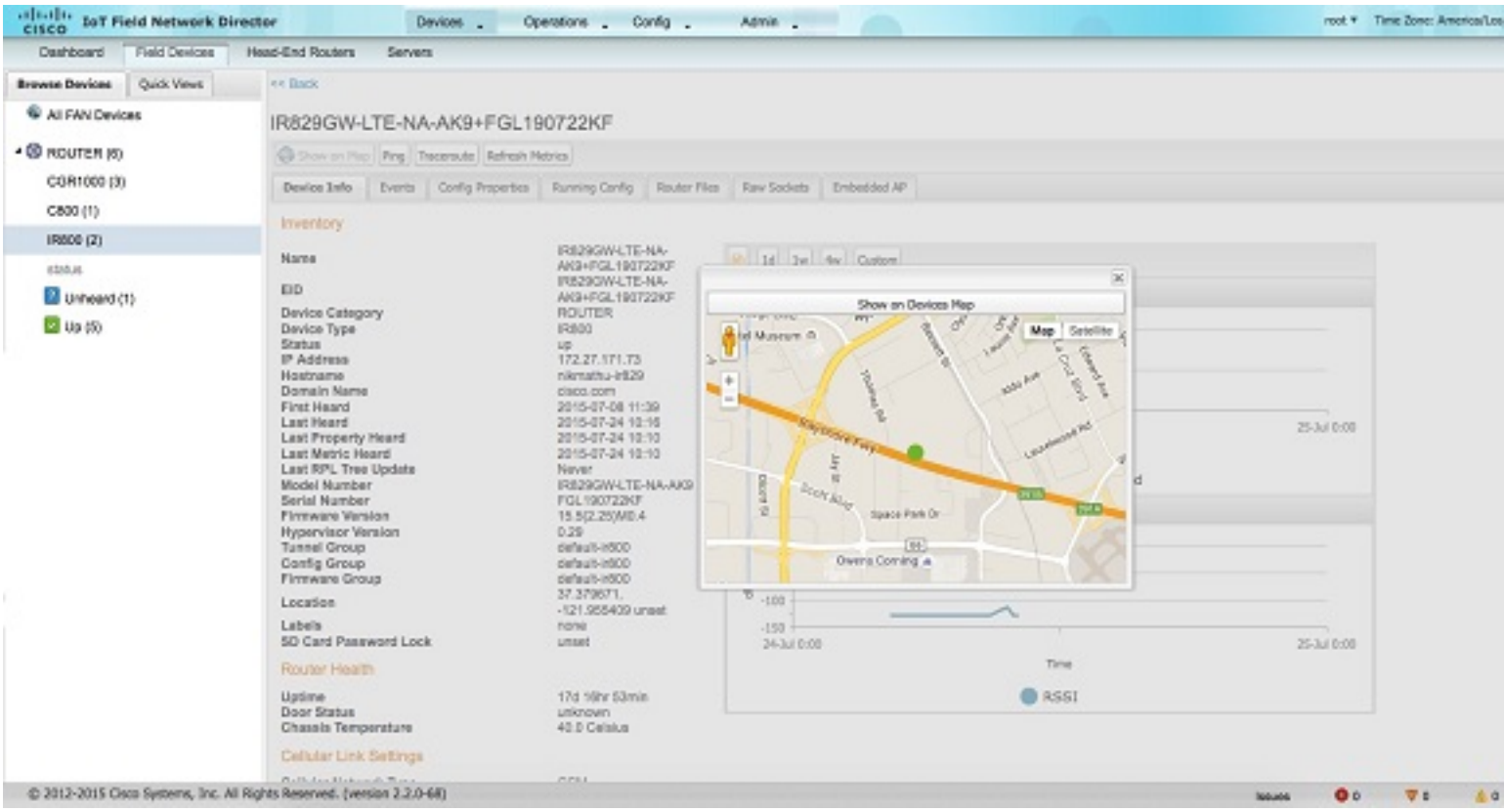
This chapter provides details and links to the various methods of managing the IR800 series.

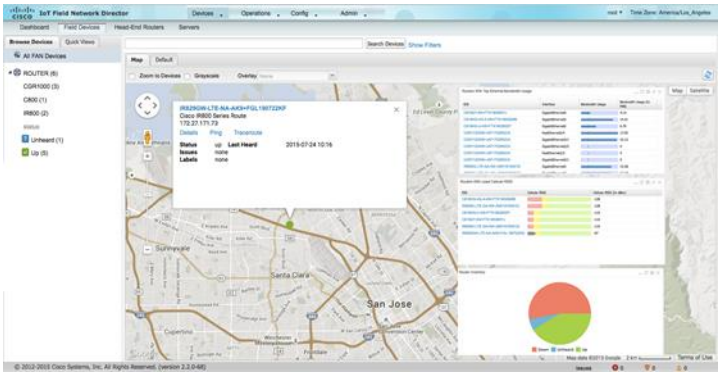
Network Management Solutions (NMS) that are available for the IR800 series consist of the following:

- Cisco IoT Field Network Director (formerly referred to as CG-NMS), on page 1
- Cisco Configuration Professional Express, on page 3
- Cisco Kinetic , on page 3
- Cisco Prime Infrastructure, on page 4
- Davra RuBAN, on page 4
- Cisco IoT Fog Director, on page 4

Cisco IoT Field Network Director (formerly referred to as CG-NMS)

The IR800s are supported with IOT Field Network Director which offers a single platform to manage a complete FAN solution, Raw Socket sessions management, and monitoring.





Some of the key features are:

- Geographic Information System (GIS) map -based, visualization, monitoring, troubleshooting, and alarm notifications
- Group-based configuration management for FAN routers (CGR1000, IR8x9, 819H, IR5x9 and CG-Mesh endpoints
- Rule-engine infrastructure for customizable threshold -based alarm processing and event generation
- Secure network infrastructure (inventory, rollback configuration, work order) of IR809 and IR829
- Zero Touch Provisioning - Automatically provision IR800 and head-end routers with configuration

- Collect metrics and events from FAN Routers, Head-end routers, and CG-mesh endpoints, and store them in a database. Cellular metrics and statistics for cost optimization
- Network status monitoring and diagnosis for issues. Location tracking (historical and geo-fence)
- Update firmware on groups of IR809 and IR829. IR829 AP803 (Autonomous mode only)
- North-bound integration API for transparent integration with utility head-end and operational systems, for example Outage Reporting System
- Raw Socket management and monitoring

Detailed information about the IoT Field Network Director is found at the home page:

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

Cisco Configuration Professional Express

Cisco Configuration Professional Express is an embedded, device-management tool that enables bootstrap configuration and provisioning of a IR800 Series Router.

CCP Express provides you two options to bring up a brand new router. You can use the Quick Setup Wizard to perform the basic configuration tasks and Advanced Setup option for detailed configuration options. For a brand new router, Quick setup wizard is the preferred option.

Caution: If you log into an IR800 Series device as a one-time user with the cisco/cisco username and password, you must create another user through the UI or command line. Otherwise, the one-time user session is deleted, and your configurations are not saved. For more information, refer to the Cisco Configuration Professional Express Quick Start Guide at:https://www.cisco.com/c/en/us/td/docs/routers/access/800/829/software/cisco_configuration_professional_express/v3_5/guides/quickstart/CiscoCPExpress-IR-3-5-qsg.html

For Cisco CP Express to be fully functional, you will need Cisco IOS Software Release 15.6.(3)M2. Cisco CP Express is supported on these browsers:

- Mozilla Firefox 25 or later
- Google Chrome 30 or later
- Microsoft Internet Explorer 11 or later
- Safari 9.1
- Microsoft Edge Version 38

For additional information about Cisco CP Express, see the Cisco Configuration Professional Express Administration Guide:https://www.cisco.com/c/en/us/td/docs/routers/access/800/829/software/cisco_configuration_professional_express/v3_5/guides/adminguide/CCP-admin-guide.html

Cisco Kinetic

Cisco Kinetic is a new class of software platform – an IoT data fabric – designed to address the challenges of a distributed environment.

Cisco Kinetic is a system of software running on distributed nodes of edge, data center and cloud.

This system of software will:

- Get gateways up and running and configured
- Extract data securely and transform it into a usable format for your applications
- Set policies about which data goes where
- Execute those policies or rules – based on business logic you (the customer) have been able to set on different layers
- Provide visualization tools and dashboards with intuitive UI
- Securely move data to the right applications at the right time, based on your policies and rules

There is wealth of information available for Cisco Kinetic at:https://salesconnect.cisco.com/c/r/salesconnect/index.html#/program/PAGE-10238

Cisco Prime Infrastructure

Cisco Prime Infrastructure provides a single platform to manage an infrastructure with a broad range of static Cisco devices. It is available on the IR829 with Cisco Prime Infrastructure release 2.2 and Device Pack 7.

For detailed information on the Cisco Prime Infrastructure, refer to the following:

Readme for Device Pack 7 for Cisco Prime Infrastructure 2.2

Readme for Device Pack 4 for Cisco Prime Infrastructure 3.0

Note Only Inventory and Configuration Archive are supported for the IR829.

Davra RuBAN

Single platform for telematics and network management. See the following for more information:

- Cisco Connected Fleet
- Digital Solutions for Cisco Connected Mass Transit
- Cisco Connected Roadways Drives Safety, Efficiency, Mobility, and Sustainability
- Quickstart guide to setting up the RuBAN Bus

Cisco IoT Fog Director

The Cisco IoT Fog Director brings together the IOx Application Management Module, the ability to Understand your IOx resources, and IOx Application Rollout.

About Cisco IOx

Cisco IOx is an application enablement platform that provides uniform and consistent hosting capabilities for various types of applications, or applications, 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 applications, such as data aggregation system and control systems.

About Cisco Fog Director

Cisco Fog Director allows administrators to manage, administer, monitor, and troubleshoot Cisco IOx applications and devices. It provides a web-based user interface from which you can perform activities that include the following:

- Install and uninstall applications
- Start and stop applications
- Upgrade applications
- View the status of applications
- Backup and restore applications data
- Monitor applications and devices and collect statistics
- Create and obtain debug logs for troubleshooting

Detailed information about the Cisco Fog Director is found at the home page:

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

OID and Inventory

To find out information about your model, use the show inventory oid command:

IR829

```
IR829#show inventory oid
NAME: "IR829GW-LTE-GA-EK9", DESCR: "IR829GW-LTE-GA-EK9 chassis, Hw Serial#: FGL194520VZ,
Hw Revision: 2.0"
PID: IR829GW-LTE-GA-EK9, VID: V01 , SN: FGL194520VZ
OID: 1.3.6.1.4.1.9.12.3.1.3.1582
NAME: "Modem 0 on Cellular0", DESCR: "Sierra Wireless MC7304 4G-GA"
PID: MC7304, VID: 1.0, SN: 352761060426997
OID: 1.3.6.1.4.1.9.12.3.1.9.15.88
```

IR809

```
IR809#show inventory oid
NAME: "IR809G-LTE-GA-K9", DESCR: "IR809G-LTE-GA-K9 chassis, Hw Serial#: JMX1915X00Q, Hw
Revision: 1.0"
PID: IR809G-LTE-GA-K9  , VID: V00, SN: JMX1915X00Q
```

```
OID: 1.3.6.1.4.1.9.12.3.1.3.1581
NAME: "Modem 0 on Cellular0", DESCR: "Sierra Wireless MC7304 4G-GA"
PID: MC7304, VID: 1.0, SN: 352761060206340
OID: 1.3.6.1.4.1.9.12.3.1.9.15.88
```