What's New in Cisco Intelligent Node Software 2.x

Note

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Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements that were added. It also includes links to detailed documentation, where available.

Intelligent Node Software 2.0.9

Note

It is recommended to enable the force upgrade option in the DHCP configuration for this release, so that both images are upgraded automatically. Refer to Intelligent Node Software 2.0.8, on page 2 section *Supports force upgrade option in DHCP* on how to enable this option.

- Migrates to Python 3:

Python 2.x is no longer supported by the Python community. Hence, all the application code is migrated to Python 3.

• Upgrades ConfD to 7.3 from 6.5:

> **Note**
>
> For the first time upgrade to iNode software 2.0.9, new ConfD 7.3 CDB (ConfD Database) will be created. All the configuration from 6.5 CDB will be copied to 7.3 CDB. The old 6.5 CDB will be retained for 2.0.8 or earlier versions. Only one CDB can be active at any point of time, CDB version in use will be based on version of the active image.
>
> Any configurations changes done after the 2.0.9 upgrade will not be available if older image (iNode software 2.0.8 or earlier versions) becomes active. Similarly, any new configuration changes done when older image (iNode software 2.0.8 or earlier versions) is active will not be available when iNode active image changes back to 2.0.9 image.
>
> If the changes made in iNode software 2.0.9 are needed in iNode software 2.0.8 or earlier versions, refer to the backup xml file (confd732bkup.xml) in '/media/log' directory (this backup file is also available in the iNode manager download log page) and manually apply changes using iNode manager UI.

• Optimizes large scale deployment:

Randomise the DHCP request and iNode registration to avoid contention at iNode manager.

• iNode logging improvement:

Adds audit information to existing system logs for efficient debugging.

Intelligent Node Software 2.0.8

• Improvement on field debugging:

  • Enables SSH support in iNode via RPD shell. This new feature helps Cisco to troubleshoot remotely and possibly reduce the need to direct physical access to the device.

  • Syslog time field update. Before ToD (Time of Day) is received from DHCP server, the time component of Syslog uses the default time which is the image build time. Sometimes it causes confusion when analyzing the log files in identifying the sequence of events. With this enhancement, Syslog will take the last log entry time until correct Time of Day (ToD) is received from DHCP server.

  • Enables iNode manager to fetch boot params-related information from the iNode via iNode REST APIs. Also adds support to provide secondary image of iNode (OIB) along with current active image for iNode manager.

• Supports force upgrade option in DHCP:

When enabled, force upgrade option will upgrade the current image in the following scenario:

  • Current image on the device is not the same as the image configured in DHCP config.

- The safe image on the device is the same as the image configured in DHCP but declared as INVALID.

The following table describes the iNode image upgrade behaviour for both force upgrade and normal download scenarios based on iNode DHCP configuration file :

Active image (running)	Secondary/Safe image	Safe ImageValid	Normal Download	Force Download
Different from DHCP config	Same as DHCP config	Yes	Switch to Safe image	Download & Switch
Different from DHCP config	Same as DHCP config	No	Stay in Current image	Download & Switch
Different from DHCP config	Different from DHCP config	Yes	Download & Switch	Download & Switch
Different from DHCP config	Different from DHCP config	No	Download & Switch	Download & Switch
Same as DHCP config	Same as DHCP config	Yes	No Action	No Action
Same as DHCP config	Same as DHCP config	No	No Action	No Action
Same as DHCP config	Different from DHCP config	Yes	No Action	No Action
Same as DHCP config	Different from DHCP config	No	No Action	No Action

For software upgrade, specific DHCP options are used to provide the iNode with the IP address of the TFTP server, Vendor identification, and image version information. The force download is one of these DHCP options. Force upgrade option can be enabled by configuring the following value: TLV 44: Sub type = 01 (Force Upgrade) length = 0x00.

The following figure shows how the contents of the configuration file is displayed using the Excentis DOCSIS Config File Editor. In this example, an IPv4 TFTP server address is also shown but it is not necessary for IPv6.
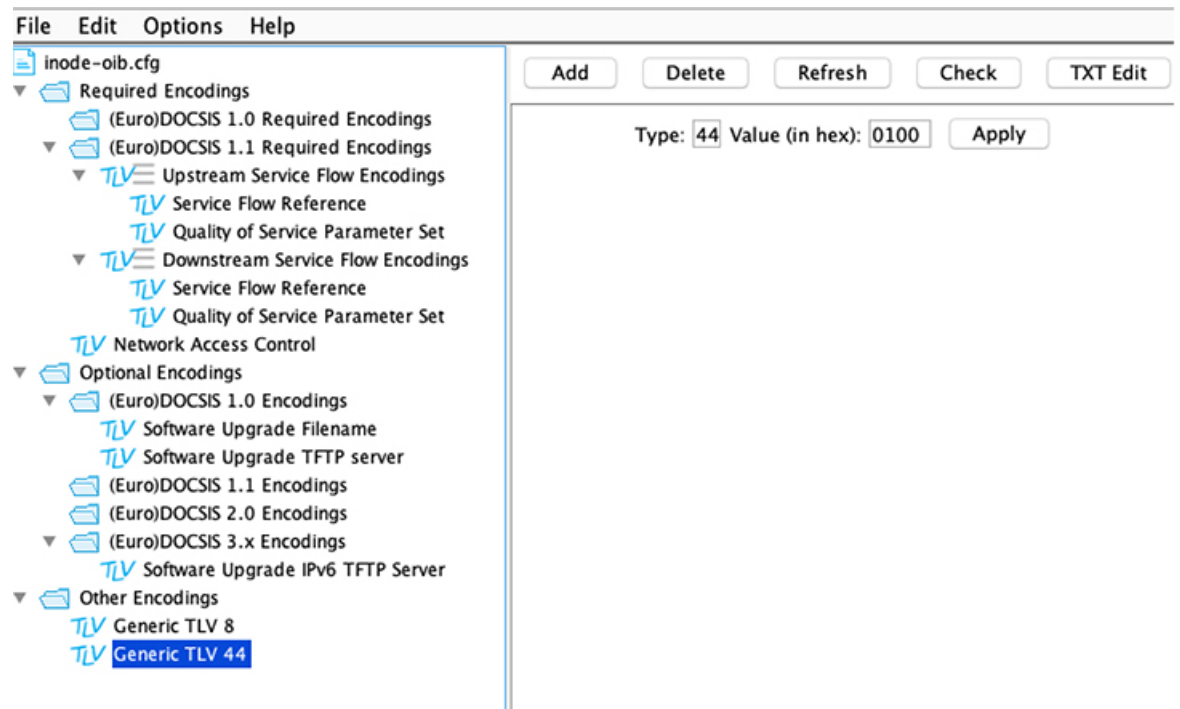
- Supports iNode Manager SMI:

  Supports both iNode Manager SMI (Subscriber Microservice Infrastructure) 3.x.x and iNode Manager Tricoder 2.x.x based releases.

Intelligent Node Software 2.0.7

- Enables customers to fetch RPD related information from the iNode. Following RDP information is provided via iNode REST APIs:

  - MAC address

  - Serial number

  - IPV4/IPV6 address

  - Current software version

Intelligent Node Software 2.0.6

- Enables customer to download a new image, such that iNode always has 2 images in its memory location.

Intelligent Node Software 2.0.5

- Support for configurable periodic Intelligent Node Manager re-registration. This feature automatically re-registers the Intelligent Node with Intelligent Node Manager irrespective of DHCP lease renewal time. This is configurable via an option in the DHCP message.

- Security enhancements

- Bug fixes

Intelligent Node Software 2.0.3

- Bug fixes

Intelligent Node Software 2.0.1

- Support for remote access through iNode Manager, which includes the following features:

  - Monitoring and Configuration

  - Spectrum Capture

  - Remote Reset

  - Remote Log File Retrieval

  - Auto-registration with iNode Manager

- IPv6 enhancements include the following features:

  - Solicited-Node multicast packet support

  - Support of Neighbor Discovery for IPv6 ICMPv6 packets

- Ability to set the SNMP community string using LCS or iNode Manager

- Performance improvements including better MER at temperature

- Security updates