# cisco.



## Cisco iNode Manager User Guide, Release 3.2.0

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## **Cisco iNode Manager Application**

The Cisco Intelligent Node (iNode) Manager application enables you to provision and monitor the intelligent nodes in the network.

This *User Guide* provides information on the Cisco iNode Manager and how to use the application. For details of installing the application, see the Cisco iNode Manager Installation Guide

- Cisco iNode Manager Application, on page 1
- Logging into Cisco iNode Manager Application, on page 1
- Cisco iNode Manager Dashboard, on page 2

## **Cisco iNode Manager Application**

The following are some of the features of the Cisco iNode Manager application:

- Intelligent Node Inventory: iNode inventory operations such as monitoring the status of iNodes, current software version of the iNodes, searching for iNodes based on specific criteria.
- Remote configuration of iNodes: RF port configuration and general configuration are available.
- Spectrum analysis: Forward path and Reverse path.
- Alarm monitoring
- Configuration profiles: iNode settings and the RF port settings profile.
- DB import and export. Option to set schedule for DB export.
- RPD information.
- Debugging the iNode: Viewing the latest logs and the boot parameters in the UI.

## Logging into Cisco iNode Manager Application

Access the Cisco iNode Manager Web UI using the following URL:

• With FQDN disabled:

```
https://<ingress-ip>.nip.io
```

- For all-in-one (AIO) cluster, the ingress IP address is the management IP address of the ops node or VM.
- For multi node, the ingress IP address is the virtual IP address that is configured for the management network.
- With FQDN enabled:

https://<ingress-hostname>

You can log into the Cisco iNode Manager application by entering the credentials that are provided for inode manager operations center while installing the Cisco iNode Manager. Currently, admin is the only user profile that is allowed.

Enter the password that you mentioned while creating the Cisco iNode Manager cluster.

The LDAP user credentials can be entered if LDAP is configured in the Cisco iNode Manager cluster. For information on how to configure LDAP authentication in the Cisco iNode Manager, see the *Cisco iNode Manager Installation Guide*, *Release 3.2.0*.

Ø

**Note** The login page is locked for one minute if there are three consecutive unsuccessful attempts to log into the iNode Manager.



To logout from the iNode Manager application, click **Settings** icon > **Log out**.

## **Cisco iNode Manager Dashboard**

The Cisco iNode Manager application **Dashboard** gives you a snapshot view of all nodes that are managed and monitored by the Cisco iNode Manager application.

n	Dashboard iNodeManager v3.2.0		
=		Installed Nodes	
8		Nodes 24840     Cred Profiles 1	ONLINE OFFLINE
			Launch
			521739 521739

Click the Launch button to open the Cisco iNode Manager application page.



## How to Use Cisco iNode Manager

This section describes how to use the Cisco iNode Manager application:

- Cisco iNode Manager Application, on page 3
- Overview, on page 3
- Config Profiles, on page 12
- Node Config, on page 16
- Alarms, on page 23
- System, on page 24
- Inventory Dashboard, on page 29

## **Cisco iNode Manager Application**

The Cisco iNode Manager application page provides you options to add, organize, and update information about the iNodes in the network.

The Cable iNode Manager page has five tabs:

- Overview
- Config Profiles
- Node Config
- Alarms
- System

## **Overview**

The **Overview** page provides the total number of iNodes, their connectivity status, software version running on them, and the number of active alarms. It also has an **Inventory** table which shows details of all iNodes in the network. You can perform the following tasks on this page:

- · Add a new iNode to the inventory
- Update the name of the iNode in the inventory
- · Delete iNodes from the inventory

- Export the iNode details from the inventory table in the CSV format
- Download log files that are in the iNode, view the latest logs, and the boot parameters of an iNode
- Perform bulk operations: Initial setup in bulk, assign configuration profiles, and bulk reboot

	Overview	V Cor	fig Profiles Node Con	fig Alarms	System								
3		2	484(	C	14	99 Coo Dis 3341	nasted connected uncern	786 12500 11553	● 02 00.09 ● 02 02.05S ● 01.02.05S ● 01.02.05S		1499	● Critical ● Mişor ● Minor	
			Nodes			Connectiv	ity Status		SW Version			Alarms	
	Inven	tory										Selected 1 / Total 24840	00
	•	00								Number	r of Rows : 10 ▼	Search	٩
	Ξ	Status	iNode IPv4 Address	iNode IPv6 Ad	dress	iNode Name	iNode MAC Address	RPD MAC Address	Node Profile	Model Number	Software Version	Safe Image Version	Se
	Ø	~	-	2002::afal	:c927	iNodec929	02:42:af:af:c9:27	f4:db:e6:b4:ea:ae	-	GS7Ki-HSG-1.2G	01.02.05S	-	
		~	-	2002::afaf	:20fb	iNode20f7	02:42:af:af:20:fb	f4:db:e6:b4:ea:ae		GS7Ki-HSG-1.2G	01.02.05S	-	
		~	-	2002::afaf	b2be	iNodeb2b3	02:42:af:af:b2:be	f4:db:e6:b4:ea:ae	-	GS7Ki-HSG-1.2G	01.02.04S	-	
		~	-	2002::afaf	7899	iNode7894	02:42:af:af:78:99	f4:db:e6:b4:ea:ae	-	GS7Ki-HSG-1.2G	01.02.05S	-	
		~		2002::afaf	9c59	iNode9c5f	02:42:af:af:9c:59	f4:db:e6:b4:ea:ae		GS7Ki-HSG-1.2G	01.02.04S	-	
		~	-	2002::afaf	2957	iNode2955	02:42:af:af:29:57	f4:db:e6:b4:ea:ae	-	GS7Ki-HSG-1.2G	01.02.055	-	
		×	-	2002::afaf	6f8e	iNode6f84	02:42:af:af:6f:8e	f4:db:e6:b4:ea:ae	-	GS7Ki-HSG-1.2G	01.02.04S	-	

The following table contains the descriptions of the graphs on the **Overview** page and the fields in the inventory table:

Name	Description		
Nodes	Total number of iNodes in the inventory.		
Connectivity Status	Shows a pie chart of the connectivity status of the iNodes in the network. The following statuses are displayed:		
	• Connected		
	• Disconnected		
	• Unknown		
SW Version	Shows a pie chart of the number of iNodes running different software versions.		
Alarms	Shows a pie chart of the number of active alarms in the iNodes in the network. The following categories are displayed:		
	• Critical		
	• Major		
	• Minor		
	Note The muted alarms are not counted in total alarms. Refer to Alarm Settings, on page 24 for more information.		
Inventory Table Fields			

Name	Description
Status	Current Status of the iNode.
iNode IPv4 Address	IPv4 address of the iNode.
	A hyphen (-) indicates that the iNode does not have an IPv4 address.
iNode IPv6 Address	IPv6 Address of the iNode.
	A hyphen (-) indicates that the iNode does not have an IPv6 Address.
iNode Name	Name of the iNode.
iNode MAC Address	MAC address of the iNode.
RPD MAC Address	MAC address of the RPD that is connected to the iNode.
Node Profile	Name of the Configuration Profile that is assigned to the iNode.
Model Number	Model number of the iNode.
Software Version	Software version of the iNode.
Safe Image Version	Software version of the secondary image in the iNode.
Serial Number	Serial number of the iNode.
RPD IPv4 Address	IPv4 address of the RPD that is connected to the iNode.
RPD IPv6 Address	IPv6 address of the RPD that is connected to the iNode.
RPD Serial Number	Serial number of the RPD that is connected to the iNode.
RPD Software Version	Software version of the RPD that is connected to the iNode.
×	Adds an iNode to the inventory.
×	Updates the iNode information.
0	Deletes iNodes from the inventory.
•	Exports iNode details to a CSV file.
	Downloads the iNode's logs.
	Perform bulk operations.

Name	Description
☆	Sets the columns in the inventory table.
Search	Allows you to search for iNodes based on the search criteria.

## Add an iNode to Inventory

Step 1	Log into the Cisco iNode Manager application, and cli <b>Overview</b> .	ck <b>Dashboard</b> > <b>Launch</b> or choose <b>Cable iNode Manager</b> >
Step 2	Click the icon to add a node to the Inventory.	
	The Add iNode pop-up window appears.	
		×
	Add iNode	
	Node Name iNodeATL106	
	iNode IPv4 Address ** 10.0.0.1	
	<i>iNode IPv6 Address</i> ** Connectivity IPv6	
	Save Cancel	
	** Denotes one or the other field is required.	

**Step 3** Enter the IPv4 address or the IPv6 address of the iNode and click **Save**.

The Cisco iNode Manager retrieves the rest of the details of the iNode, such as the name, MAC address, software version, serial number, and so on from the iNode and stores it in the inventory.

## Update the iNode Name

You can update only the name of an iNode.

- Step 1
   Log into the Cisco iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Overview.
- **Step 2** In the **Inventory** table, check the check box of the iNode which you want to update.

Step 3	Click the icon to update the name of the iNode.	
	The <b>Update iNode</b> pop-up window appears.	
	Update iNode	×
	Node Name * iNode20fb	
	iNode IPv4 Address Connectivity IPv4	
	iNode IPv6 Address 2002::afaf:20fb	
	MAC Address 02:42:af:af:20:fb	
	Save Cancel	
	* Denotes that the field is required.	

**Step 4** Update the node name and click **Save**.

## **Delete iNode from Inventory**

You can delete multiple iNodes from the Inventory.

Step 1	Log into the Cisco iNode Manager application, and click <b>Dashboard</b> > <b>Launch</b> or choose <b>Cable iNode Manager</b> > <b>Overview</b> .
Step 2	Select the iNodes from the <b>Inventory</b> table and click the icon.
	A confirmation message appears.
Step 3	Click <b>Delete</b> to confirm.

## **Export the Inventory**

You can export the details of all iNodes listed in the Inventory in the CSV format.

Step 1 Log into the iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Overview.
 Step 2 In the Inventory table, check the check boxes for the iNodes of which you want the details exported in a CSV file.

Step 3	Click the conto export iNodes in the inventory.
	A request message to allow downloads appears. This request appears only once for a user profile.
Step 4	Click Allow.
	The CSV file is saved to your downloads location on your device. The file name is in the following format:

## **Download Logs**

You can view and download the logs to your device.

Step 1Log into the iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Overview.

- **Step 2** Check the check boxes for the iNodes of which you want to download the logs.
- **Step 3** Click the **Step 3** icon to view the download options.

The Download Logs pop-up window appears.

### **Download Logs**

Latest Logs & Boot Params	Historical Logs			
Get Latest Logs	File Name	File Size(MB)		
	messages	4.88		
O View / Download only the latest 130 KB of the iNode	messages.0	10.25		
logs	messages.1	10.24		
Get Boot Parameters	messages.2	10.25		
• View Boot parameters of	Download	Close		

### **Step 4** Click the option based on your requirement.

Option	Description
Get Latest Logs	View or download the latest logs. The <b>Latest Logs from iNode</b> window appears. The maximum size of the file is limited to 130 KB.
Get Boot Parameters	View and save the boot parameters.
Historical Logs	Download the entire log file. Downloading the file takes several minutes depending on the size of the log file. The progress bar indicates the current status of the log file download.

### Get Latest Logs:

#### Latest Logs from iNode

Save	Interval	: <u>60 🔅</u> sec	onds Auto Refresh 🗌 🧧	Refresh		Select font	color:	Font Size: S	ML	Close
IP Address:	10.90.149.1	08 MAC A	Address: 70:7d:b9:01:02:03							
			Dload Upload Total	Spent Left	Speed					
0	0 0	0 0	0 0 0:	:::	- 0					
0	0 0	0 0	0 0 0:	::::-	- 0					
% Tota	1 % Rece	ived % Xfer	d Average Speed Time	Time Time	Current					
			Dload Upload Total	Spent Left	Speed					
0	0 0	0 0	0 0 0:		- 0					
0	0 0	0 0	0 0 0::-	::	- 0					
% Tota	1 % Rece	ived % Xfer	d Average Speed Time	Time Time	Current					
			Dload Upload Total	Spent Left	Speed					
0	0 0	0 0	0 0 0:		- 0					
0	0 0	0 0	0 0 0:	::::-	- 0					
% Tota	1 % Rece	ived % Xfer	d Average Speed Time	Time Time	Current					
			Dload Upload Total	Spent Left	Speed					
0	0 0	0 0	0 0 0:		- 0					
0	0 0	0 0	0 0 0::-	:::::-	- 0					
Oct 31 0	0:42:12 imx	6uloib user	.notice RPDDEVICEPARAMS: 1	Adding rpd-devic	e-params.sh	CRON job with min	ute offset 0			
Oct 31 0	0:42:12 imx	6uloib cron	.info crontab[21939]: (ro	ot) LIST (root)						
Oct 31 0	10:42:12 imx	6uloib cron	.info crontab[21938]: (ro	ot) REPLACE (roc	ot)					
Oct 31 0	10:43:01 imx	6uloib cron	h.info crond[544]: (root)	RELOAD (/var/spc	ol/cron/root	t)				
Oct 31 0	10:43:01 imx	6uloib cron	.info CROND[21941]: (root	) CMD (/etc/init	.d/rpd-devi	ce-params.sh >> /	media/log/mes:	sages 2>&1)		
Oct 31 0	0:43:01 imx	6uloib user	.notice RPDDEVICEPARAMS: :	Starting rpd-dev	vice-params					
Oct 31 0	10:43:01 imx	6uloib cron	n.info crontab[21945]: (ro	ot) LIST (root)						
Oct 31 0	10:43:01 imx	buloib user	.notice RPDDEVICEPARAMS:	Deleting IP Moni	tor CRON jol	b				
Oct 31 0	10:43:01 imx	6uloib cron	1.info crontab[21948]: (ro	ot) LIST (root)						
Oct 31 0	10:43:01 imx	6uloib cron	.info crontab[21950]: (ro	ot) REPLACE (roc	ot)					
s Tota	LL % Rece	ivea % Xfer	a Average speed Time	Time Time	current					

• Auto Refresh: Enable the Auto Refresh option in the Latest Logs from iNode window, to get the latest logs periodically. The available range of the auto refresh interval is 10–600 seconds. You can also click the **Refresh** button to manually get the latest logs.

The Refresh button is disabled when you enable the Auto Refresh option.

• Font color: Click the color in the Select font color option to set the color of the font. You can also set the size of the font using the Font Size options.

Click Save to download the logs to your device. The log file name is in the following format: inode-<IP address>-latest

### **Get Boot Parameters**:

Click Save to download the boot parameters.

Bo	ot Parameters of iNode : IP	(10.90.149.108), MAC (70:7d:b9:01:02:03)
#	Name	Value
1	ALLOW_FORCED_DOWNLOAD	yes
2	CURRENT_IMAGE_INDEX	1
3	CURRENT_SW_VERSION	02.00.08
4	IMAGE_2_VALID	yes
5	IPV6_TFTP_SVR	
6	SAFE_IMAGE_INDEX	2
7	SW_VERSION_1	02.00.08
8	SW_VERSION_2	02.00.08
9	TFTP_FILE	undefined
10	TFTP_SVR	0.0.0.0
11	U_BOOT_ENV_VERSION	0.1.3
12	U_BOOT_PKG_VER	02.00.08
13	altbootcmd	echo Failback to Booting Safe Imge; if test S(CURRENT, IMAGE_INDEX) - eq 1; then echo Marking Image 1 as failed; setem VMAGE_1_VAUID no; else if test S(CURRENT_IMAGE_INDEX) - eq 2; then echo Marking Image 2 as failed; setem VMAGE_2_VAUID (r, if it test S(SAFE_IMAGE_INDEX) - eq 1; then echo Booting to Safe Image - Image 1; if test S(IMAGE_1_VAUID) = no; then echo ERROR: Unable to boot Safe Image - Image 1 is invalid; else run bootimage1; fi; else if test S(SAFE_IMAGE_INDEX) - eq 2; then echo Booting to Safe Image - Image 2; if test S(IMAGE_2_VAUID) = no; then echo BROR: Unable to boot Safe Image - Image 1; if test (IMAGE_2 2 vAUID) = no; then echo BROR: Unable to boot Safe Image - Image 2; is invalid; else run bootimage2; fi; else echo ERROR: Unable to Safe Image - Image 2; if test S(IMAGE_2_VAUID) = no; then echo BROR: Unable to boot Safe Image - Image 2; is invalid; else run bootimage2; fi; else echo ERROR: Unable to Safe Image - Image 2; if test S(IMAGE_2_VAUID) = no; then echo BROR: Unable to boot Safe Image - Image 2; is invalid; else run bootimage2; fise echo ERROR: Unable to Battack Image available; fi, fi;
14	baudrate	115200
15	boot_fdt	try
16	boot_net	no
17	bootargs	console=ttymxc0,115200 root=/dev/mmcbik1p2 rootwait rw
18	bootcmd	mmc dev §(mmcdev); mmc dev §(mmcdev); echo MMC selected = \$(mmcdev); mmc info; mmc dev; mmc part; echo Checking for U-Boot ENV version = 0.1.3; if test \$(U_BOOT_ENV_VERSION) != 0.1.3; if then echo Updating U-Boot ENV from Version \$(U_BOOT_ENV_VERSION) to version 0.1.3., env default -a -f; seterv U_BOOT_ENV_VERSION 0.1.3; saveenv; reset; else echo U-Boot ENV is at the correct version; f; run finddt; if mmc rescar; then if test \$boot_net = yes; then run netboot; bei / run loadbootscript; then nu hootscript; desi if run loadinage; then run mmcboot; else run netboot; fi; fi; fi; les run netboot; fi; fi; run finddootscript; then nu hoot; fi; fi; run finddootscript; fi; fi; fi; fi; fi; fi; fi; fi; fi; fi
19	bootemd mfa	run mfotool aros:bootz Síloadaddrì Sílinitrd addrì Sífdt addrì:

 $\times$ 

**Historical Logs**: Check the check boxes for the files that you want to download and click **Download**. The log file is saved to the default download location on your device. the file name is in the following format: inode-<IP address>-messages-complete

## **Bulk Operations on the iNodes**

You can do the following bulk operations on the iNodes that are selected in the inventory:

- Assign or clear the configuration profile
- Initial setup
- Reboot

### **Assign Configuration Profile**

Step 1 Step 2

Step 3

og into the iN	ode Manager appli	cation, and click <b>D</b>	ashboard > Laun	h or choose Cable iNode Manager > (	Overviev
heck the chec	k boxes for the iN	odes of which you	want to assign the	configuration profiles.	
lick the	icon				
he Bulk Nod	e Operations pop-	up window appear	-S.		
	• • <b>F</b> • • • • • • • •	-F	~		
Bulk Node	Operations		~		
Bulk Operation	: Assign Profile		•		
		2			

Step 4 Choose the Assign Profile from the Bulk Operation drop-down list.

 Step 5
 Choose the profile name from the Node Profile Name drop-down list.

 Clear Config Profile: If you choose None for Node Profile Name, the configuration profile is disassociated from the selected iNodes.

Step 6 Click Apply.

The node profile is assigned to the iNodes that are selected in the inventory. A warning message appears if the selected iNodes are already associated with different profiles.

You can see the status of this bulk operation in the System > Bulk Operation Status page.

### **Initial Setup on iNodes**

- Step 1 Log into the iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Overview.
   Step 2 Check the check boxes of the iNodes for which you want to run the initial setup.
- **Step 3** Click the *icon to view the bulk operations options.*

The Bulk Node Operations pop-up window appears.

Bulk Node Operations							
Bulk Operation :	Initial Setup						
<b>-</b>							
Type "yes" to confi	m: yes						
Type "yes" to confi	m : yes						

- Step 4Choose Initial Setup from the Bulk Operation drop-down list.
- **Step 5** Enter **yes** in the **Type ''yes'' to confirm** field.
- Step 6 Click Trigger.

You can see the status of this bulk operation in the System > Bulk Operation Status page.

### **Bulk Reboot of iNodes**



**Step 3** Click the *step 4* icon to view the bulk operations options.

### The Bulk Node Operations pop-up window appears.

Bulk	Node Operations
Bulk O	peration : Reboot
Type " y	yes" to confirm : yes
	Trigger Cancel
	This will trigger Reboot of all the selected iNodes! Service will be impacted!
	Reboot from the Bulk Operation drop-down list.
choose	• • •
boose nter <b>ye</b> lick <b>T</b> i	es in the <b>Type ''yes'' to confirm</b> field.

View the status of the **Reboot** operation in the **System** > **Bulk Operation Status** page.

## **Config Profiles**

Step 4 Step 5 Step 6

You can apply the same node configuration to one or more iNodes in the inventory using the options available in the **Config Profiles** tab. The iNode Manager application provides two configuration profile options:

• **RF Profiles**: Contains RF port parameters such as the target frequency and amplitude, wink switch, wink attenuation (in dB, if the Wink Switch is set as variable), and the port status.

The RF profiles are associated to a particular port in the node profile and node profiles are assigned to iNodes.

You cannot apply RF Profiles directly to the iNodes.

• Node Profiles: Contains general node settings such as forward and reverse segmentation, power saving modes, OIB reverse attenuation (in dB), and the SNMP community string. In addition, the node profile also contains the RF port settings profiles which are assigned to the RF ports in the iNode.

You can assign a Node Profile to one or more iNodes in the inventory.

Using the Config Profiles tab, you can do the following:

- · Add new node and RF port configuration profiles
- Update the configuration profile

- · Assign the node configuration profile to one or more iNodes in the inventory
- Clear the association of the node configuration profiles from one or more iNodes in the inventory
- View the list of configuration profiles
- Delete configuration profiles

## **Create Node Profile**

The **Node Profiles** tab lists the node settings profiles. Each profile in the list shows the number of iNodes to which the Node Profile is assigned to.

You can do the following with node profiles:

- Create a new node profile
- · Edit the profile
- · Search for profiles
- Delete the profile
- · Duplicate the profile
- Assign the profile

Step 1Log into the iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Config<br/>Profiles.

### Step 2 Click the Node Profiles tab.

Profiles RF Profiles		Edit Nada Drafila			
Search	٩	Name * NodeSettingsProfile01			
odeSettingsProfile01 de Settings	O Assigned	Description			
deSettingsProfile02 le Settings	O Assigned	Node Settings		Access Control Config	
		Forward Segmentation : 1x	<b>v</b>	SNMP Access : Read Only	Ŧ
		Reverse Segmentation : x1	v	SNIMP Community String : public	
		Power Saving Mode : Power Saving	Ψ.		
		OIB Rev Attenuator #1 : 1			
		ONB Rev Attenuator #2 : 1			
		RF Port Settings	Apply to all ports		
		Port 1 RF Profile ; RIPortSettingsProfile01	Ŧ	Port 2 RF Profile : RfPortSettingsProfile02	v
		Port 4 RF Profile : RfPortSettingsProfile02	Ψ.	Port S RF Profile : RfPortSettingsProfile01	v
		Save Delete Duplicate Reset	t Assign		

Step 3

Licor

Click the

icon to create a node profile.

**Step 4** Enter the following details in the appropriate fields.

Field	Description
Name	Name of the node configuration profile.
Description	A short description of the node profile.
Node Settings	
Forward Segmentation	Number of forward paths to the headend. Intelligent Node supports only one forward path.
Reverse Segmentation	Number of reverse paths to the headend. Intelligent Node supports two reverse paths.
Power Saving Mode	Choose whether the node is in power saving mode or in full power.
OIB Rev Attenuator #1	The attenuation in the reverse transmitter #1.
OIB Rev Attenuator #2	The attenuation in the reverse transmitter #2.
Access Control Config	
SNMP Access	To toggle access of the iNode through SNMP.
SNMP Community String	The community string with which the iNode parameters can be viewed and set.
RF Port Settings	
Apply to all ports	Check the check box to apply the settings to all ports.
Port 1 RF Profile	Choose the RF profile from the drop-down list.
	You can choose profiles for 4 ports.

### Step 5 Click Save.

The new node profile is listed on the left pane in the Node Profiles page.

## **Create RF Profile**

The **RF Profiles** tab lists the RF port settings profiles which are already created. Each RF profile panel shows whether the RF profile is in use or not.

You can do the following with RF port profiles:

- Create a new RF port profile
- · Edit the profile
- · Search for profiles
- Delete the profile
- Duplicate the profile

Step 1	Log into the iNode Manager application, and click <b>Dashboard</b> > Launch or choose Cable iNode Manager > Config
	Profiles.

- **Step 2** Click the **RF Profiles** tab.
- **Step 3** Click the icon to create an RF port profile.

Node Profiles RF Profiles	٩	Create new RF Profile				
RfPortSettingsProfile01 RF Settings		Name *				
RfPortSettingsProfile01-02\$ RF Settings	•	RF Settings				
RfPortSettingsProfile02 RF Settings		Lower Target Center Frequency (MHz) :	111	٥	Wink Switch : MAX	Ŧ
RfPortSettingsProfile02-01#	•	Upper Target Center Frequency (MHz) :	891	٥	Port Status : Enabled	
		Lower Target Amplitude (dBmV) : Upper Target Amplitude (dBmV) :	36.9			
		Calculated Tilt : 🚯	16.67			
		Target Power @1215MHz : 0	52.75			

**Step 4** Enter the following details in the appropriate fields.

Field	Description
Name	Name of the RF port configuration profile.
Description	Short description of the port profile.
RF Settings	
Lower Target Center Frequency (MHz)	Lower end frequency of the RF port.
Upper Target Center Frequency (MHz)	Upper end frequency of the RF port.
Lower Target Amplitude (dBmV)	Lower level of output power of the RF port.
Upper Target Amplitude (dBmV)	Upper level of output power of the RF Port.
Calculated Tilt	<pre>Tilt is the difference in the signal level between the lower and upper end frequencies of the RF port. It is calculated using the following formula: ((UpperTargetAmplitude - LowerTargetAmplitude) * ((1215 - 54)) / (UpperTargetFrequency - LowerTargetFrequency)))</pre>
Target Power @1215MHz	The power level at the highest frequency of the RF port. Formula: (UpperTargetAmplitude + (tilt * (1215 - UpperTargetFrequency) / (1215 - 54)))
Wink Switch	To toggle the addition of extra attenuation.
Wink Attenuation (dB)	Reduction in the amplitude of the RF.

Field	Description
Port Status	Click to disable the port. By default, the port status is enabled.

### Step 5 Click Save.

The new RF profile is listed on the left pane in the **RF Profiles** page.

## **Assign Node Profile to iNodes**

- Step 1
   Log into the iNode Manager application, and click Dashboard > Launch or choose Cable iNode Manager > Config

   Profiles.
- **Step 2** Click the **Node Profiles** tab and click the right arrow () next to the profile name in the left pane.

The Inventory table appears with the Assign and Clear options.

Or click the profile that you want to assign and click Assign in the Edit Node Profile page

			-,					
Node Profiles RF Profiles		Inver	ntory					Selected 3 / Total 999 💍 🟌
+ O Search	٩	Ass	ign C	llear		Number of	Rows : 10 🔻 Search	. q
NPPowerSave6732	O	Ξ	Status	iNode IPv4 Address	iNode IPv6 Address	iNode Name	iNode MAC Address	RPD MAC Address
Node Settings	2 Assigned		~	-	2002::afaf:20fb	iNode20f9	02:42:af:af:20:fb	f4:db:e6:b4:ea:ae
			$\checkmark$	-	2002::afaf:21a5	iNode21a4	02:42:af:af:21:a5	f4:db:e6:b4:ea:ae
		V	~	-	2002::afaf:20bb	iNode20b1	02:42:af:af:20:bb	f4:db:e6:b4:ea:ae
		Ø	$\checkmark$	-	2002::afaf:1fef	iNode1fee	02:42:af:af:1f:ef	f4:db:e6:b4:ea:ae
			$\checkmark$	-	2002::afaf:207e	iNode2076	02:42:af:af:20:7e	f4:db:e6:b4:ea:ae
			$\checkmark$	-	2002::afaf:2154	iNode2152	02:42:af:af:21:54	f4:db:e6:b4:ea:ae
		V	~	-	2002::afaf:200a	iNode2007	02:42:af:af:20:0a	f4:db:e6:b4:ea:ae
			~	-	2002::afaf:1eed	iNode1eec	02:42:af:af:1e:ed	f4:db:e6:b4:ea:ae
			~	-	2002::afaf:1f6c	iNode1f64	02:42:af:af:1f:6c	f4:db:e6:b4:ea:ae
			$\checkmark$	-	2002::afaf:1ef4	iNode1ef1	02:42:af:af:1e:f4	f4:db:e6:b4:ea:ae

<sup>1</sup> to 10 of 999 << < Page 1 of 100 > >>

**Step 3** Check the check boxes of the iNodes to which you want to assign the profile.

### Step 4 Click Assign.

A message appears showing that assigning the profile is initiated.

View the status in the System > Bulk Operation Status page.

## **Node Config**

The Node Config tab provides the following information:

• Displays operational data of the selected iNode, along with the information on its submodule.

- Allows you to configure the general settings of the iNode, and the settings of each of the RF ports of the iNode.
- Allows you to query and view the forward and reverse path spectrum graphs (Amplitude (dBmV) versus frequency (MHz)) of each of the RF ports of the selected iNode.
- Displays active alarms on the iNode.
- Allows you to trigger the initial setup on the iNode, and then reboot the iNode.

### **iNode Selection Box**

You can use the iNode selection box to list the names and IPv4/IPv6 address of the iNode's that are in inventory.

You can search for any substring in the name or the IP address of the iNode using the search bar. The filtered list that is based on the search query would be displayed in the drop-down box, and you can select the iNode from the list. After you select the iNode, the current operational data of the iNode is displayed.

Figure 1: iNode Selection Box

Node :	Please select the iNode	~	3
_	Q Search iNode		
	iNode000108 - 175.175.0.108		
	iNode004108 - 175.175.4.108		
	iNode007108 - 175.175.7.108		
	iNodeATL108 - 10.90.149.108		
	iNode002108 - 175.175.2.108		
	iNode001083 - 175.175.1.83		
	iNode001081 - 175.175.1.81		
	iNode001084 - 175.175.1.84		
	iNode001088 - 175.175.1.88		
	iNode001082 - 175.175.1.82		

### **Operational Data of the Selected iNode**

The operational data of the iNode is displayed in the form of scorecards. To view the operational data, complete the following steps:

- 1. On the iNodeManager, click Node Config.
- 2. Select an iNode from the drop-down list.
- 3. Click Dashboard. The following information is displayed by default:
  - iNode and RPD IP addresses
  - Software version and model information
  - OIB temperature

- Lid status
- Spectrum capture device status
- Initial setup status
- · Power saving mode

To view all the operational data, click **More Details**. To view the default scorecards, click **Show Less**. *Figure 2: Dashboard Page with all Operational Data of the iNode* 



### Information About Sub Modules of the iNode

The SubModules pane on the Node Config tab displays the description, serial number, part number, product identifier, and version of the sub-modules of the iNode.

You can view the SubModules pane by completing the following step:

- 1. On the iNodeManager, click the Node Config tab.
- 2. Select the iNode for which you want to view the settings from the drop-down list.
- 3. Click SubModules. Information on the following sub-modules is displayed:
  - OIB
  - · Forward Amplifier
  - Reverse Amplifier

#### Figure 3: SubModules Pane of the Node Config Tab

National Additional Description : Opical Interface Board Part Number : obdef01234 Part Number : 73-18300-02 Part Number : 3.0 Version : 3.0 Description : Forward amplifier board Serial Number : - Part Number : - Product Identifier : - Version : 2.0 Forward Amplifier Forward Amplifier	National Additional Description : Optical Interface Board Part Number : obcdef01234 Part Number : 73-18300-02 Part Number : - Product Identifier : - Version : 3.0 OIB Description : Forward Amplifier board Serial Number : - Part Numbe	Description     Cprical Interface Roard     Description     Forward amplifier board     Description     Reverse amplifier board       Serial Number     :     > boddef0 1234     Serial Number     :     -       Part Number     :     ? 7-1800-02     Part Number     :     -       Product Identifier     :     3.0     Product Identifier     :     -       Version     :     2.0     Product Identifier     :     -       Utel     Forward Amplifier     :     2.0     Reverse Amplifier			Wode :	NodeATL108 - 10.50.149.108		<ul><li>✓</li></ul>	
htModele Description : Opical Interface Board Serial Number : or	htModele Description : Optical Interface Board Board Sorial Number : obcoeffol 234 Part Number : 73-18300-02 Part Number : 73-18300-02 Part Number : - Part Number : - Par	Autorials Schall Number : Cpfical Interface Board Schall Number : - Part Number :	Deshboard						
Description         :         Opical Interface Board         Description         :         Forward amplifier board         Description         :         Reverse amplifier board           Serial Number         :         addefD1234         Serial Number         :         -         Serial Number         :         -           Part Number         :         73-18300-02         Part Number         :         -         Part Number         :         -           Product Identifier         :         GS7Ki-HSG-1.2G         Product Identifier         :         -         Product Identifier         :         -           Version         :         3.0         Version         :         2.0         Version         :         2.0	Description     :     Optical Interface Board     Description     :     Forward amplifier board       Serial Number     :     abdef011234     Serial Number     :     -       Part Number     :     73-18300-02     Part Number     :     -       Product Identifier     :     0657Ki-15G-12G     Part Number     :     -       Version     :     3.0     Version     :     2.0	Description     Cytical Interface Board     Description     Forward amplifier board     Description     Reverse amplifier board       Serial Number     ± ebdet/01234     Serial Number     : -     Serial Number     : -       Part Number     : 73-18300-02     Part Number     : -     Part Number     : -       Product Identifier     : GS7K1-145G-12G     Product Identifier     : 2-0     Product Identifier     : 2-0       Version     : 3.0     : 20     Forward Amplifier     : 2-0     Reverse Amplifier	SubModules						
QIB Forward Amplifier Reverse Amplifier	OIB Forward Amplifier Reverse Amplifier	CIB Forward Amplifier Reverse Amplifier	Description Serial Number Part Number Product Identifier Version	: Optical Interfa abcdef01234 : 73-18300-0 : GS7KI-HSG- : 3.0	ice Board 2 1.2G	Description Serial Number Part Number Product Identifier Version	: Forward amplifier board : - : - : 2.0	Description Serial Number Part Number Product Identifi Version	: Reverse amplifier board : - : - ter : - : 2.0
				OIB			Forward Amplifier		Reverse Amplifier

## **Settings**

You can configure the forward segmentation, reverse segmentation, power-saving mode, and the SNMP community string on the Settings pane. You can also view and modify the general settings of the iNode and of each of the RF ports of the iNode using the Settings pane.

To view the Settings pane, complete the following steps:

- 1. On the iNodeManager, click the Node Config tab.
- 2. Select the iNode for which you want to view the settings from the drop-down list.
- 3. Click Settings.

#### Figure 4: General Settings Tab

Setting	js				
	Node Settings RF Settings				
	Configured Profile : NPPowerSave6732				
	Node Configuration			Access Control Configuration	
	Forward Segmentation : 1x	$\nabla$		SNMP Community String : public	<b>A</b>
	Reverse Segmentation : x2	*			
	Power Saving Mode : Power Saving	*			
		Reset	Update		

If you have assigned a Node Setting Configuration Profile to the iNode, the profile name and profile information is displayed when you click the profile name.

A warning icon is displayed against settings that are different in the iNode and Node Profile. Values present in the Configuration Profile are displayed when you point to the warning icon.

#### Figure 5: RF Settings Tab

ode Settings RF Setting	js			
Port1 / Port2 / Port4 / Port5			Configured RF Profile : RfPortSettingsProfile01-02\$	
Lower Target Center Frequency (MHz) :	111	0	Wink Switch : MAX	v
Upper Target Center Frequency (MHz) :	891	۲	Wink Attenuation (dB) : 16 OIB Reverse Attenuation (dB) : 1.0	
Lower Target Amplitude (dBmV) :	36.9			
Upper Target Amplitude (dBmV) :	48.1		Port Status : Enabled	
Calculated Tilt : 🕕	16.67			
Target Power @1215MHz : 🔞	52.75			

You can choose to set the Lower Target Center Frequency and Amplitude, Upper Target Center Frequency and Amplitude, Wink Switch, Wink Attenuation (in dB, if the Wink Switch is set as variable), the OIB Reverse Attenuation (in dB), and enable/disable each of the RF Port on the Settings pane. You can also apply the settings that are configured on an RF Port to all the other ports of the iNode by selecting the **Apply Config to all ports** check box.

You can calculate the value of tilt using the following formula:

```
((UpperTargetAmplitude - LowerTargetAmplitude) * ((1215 - 54)) /
(UpperTargetFrequency - LowerTargetFrequency)))
```

**Note** You can set the RF parameters on the iNode only if the value of tilt is calculated to be 0-22 dBmV.

The target power at maximum frequency is also calculated, and the RF Port Config is allowed to be set on the iNode only if the target power is less than 58 dBmV.

You can calculate the target power at max frequency using the following formula:

(UpperTargetAmplitude + (tilt \* (1215 - UpperTargetFrequency) / (1215 - 54)))

If you have assigned an RF Port Configuration Profile to the iNode, the profile name and profile information are displayed when the profile name is clicked.

A warning icon is displayed against settings that are different in the iNode and RF Port Profile. Values present in the Configuration Profile are displayed when you point to the warning icon.

### Spectrum Graph

You can query and view the Forward Path and the Reverse Path Spectrum Graph (amplitude (in dBmV) and frequency (in MHz)) of each of the RF Ports on the Forward and Reverse Path pane.

To view the Spectrum Graphs, complete the following steps:

- 1. On the iNodeManager, click the Node Config tab.
- 2. Select the iNode for which you want to view the settings from the drop-down list.
- 3. Click Forward and Reverse Path.

The Forward Path Spectrum Graph displays the full range of frequencies (102–1214 MHz) by default and it refreshes every 30 seconds. You can change the refresh interval, select the sample size (in KHz), the range of frequencies, and refetch the data from the iNode. The current and the average amplitude at the frequency is displayed when you hover on the graph.

Figure 6: Forward Path Spectrum Graph



The Reverse Path Spectrum Graph displays the full range of frequencies (5–85 MHz) by default and it would refresh every 30 seconds. You can choose to change the refresh interval, select the sample size, the range of frequencies and refetch the data from the iNode. The current and the Max Hold amplitude at the frequency is displayed when you hover on the graph.





### **Alarms**

You can view the list of active alarms, and also the history of alarms for the selected iNode by using the Alarms pane.

To view the Alarms, complete the following steps:

- 1. On the iNodeManager, click the Node Config tab.
- 2. Select the iNode for which you want to view the settings from the drop-down list.
- 3. Click Alarms.

#### Figure 8: Active Alarms Pane

The Muted column indicates whether the alarm is muted by the user.

You can export the list of active alarms as a CSV file by clicking the Export CSV <sup>↑</sup> button.

The Alarms History table lists the timestamp at which the alarms were set and cleared on the iNode. The table lists the active alarms as *SET*.

#### Figure 9: Alarms History Pane

Alarms					
Active Alarms Alarms History					
Alarms History & Ŧ			Group Alarms	Search	٩
Time Stamp	Alarm State	Alarm Message			
05/04/2021 3:45:55 PM UTC (GMT0:0	D) 🔺 SET	iNode is not reachable			
04/30/2021 10:15:18 AM UTC (GMT0:	0) 🗢 CLEAR	Tamper			
04/30/2021 10:15:18 AM UTC (GMT0:	0) OCLEAR	Spectrum analyzer status			
04/30/2021 10:15:18 AM UTC (GMT0:	0) OCLEAR	Port 4 AGC lock			
04/30/2021 10:15:18 AM UTC (GMT0:	0) 🗢 CLEAR	Port 2 AGC lock			
04/30/2021 10:15:18 AM UTC (GMT0:	0) 🗢 CLEAR	Port 1 AGC lock			
04/30/2021 10:15:18 AM UTC (GMT0:	0) 🗢 CLEAR	Auto setup status			
04/23/2021 6:55:16 AM UTC (GMT0:0	0) 🔺 SET	Lid of the iNode is currently open.			
04/23/2021 6:55:16 AM UTC (GMT0:0	0) 🔺 SET	Device used to capture the frequency spectrum is not functioning properly.			
04/23/2021 6:55:16 AM UTC (GMT0:0	D) 🔺 SET	Port 5 AGC not lock			
1 to 14 of 14 << Page 1 of 1	> >>				

You can also choose to group the alarms based on the category, and then select each category to view the timestamps.

You can also export the alarm history as a CSV file by clicking the Export CSV <sup>↑</sup> button.

### Maintenance

The Maintenance pane allows you to trigger the initial setup operation in the selected iNode, and allows you to reboot the selected iNode.

To view the Maintenance pane, complete the following steps:

521268

- 1. On the iNodeManager, click the Node Config tab.
- 2. Choose the iNode for which you want to view the settings from the drop-down list.
- 3. Click Maintenance.

#### Figure 10: Maintenance Pane

Node Operations	
Initial Setup	Start
Reboot iNode	Reboot

### **Initial Setup**

When initial-setup is triggered, the output level of the input source is measured and the attenuators on the OIB are adjusted to optimize the input level into the forward amplifier. After successful completion, the Initial Setup Status on the Dashboard turns green (status: Normal)



**Note** Before you click the **Start** button for the **Initial Setup**, set the port frequencies and levels, enable at least Port 1, and save the configuration on the RF configuration pages.

Perform the Initial Setup in the following scenarios:

- Replacing RPD or iNode
- Changing the RF band, especially when modifying high and low frequencies
- Modifying the power level from CCAP core

## Alarms

You can use the Alarms tab to list the total number of unmuted alarms in the iNode's, along with the number of unmuted alarms based on their severity in a table. You can select the number of rows to be displayed on page and can filter the alarms that are displayed by specifying a substring using the search. You can also filter the alarms based on severity by clicking the corresponding scorecard.

To view the Alarms, complete the following step:

1. On the iNodeManager, click the Alarms tab.

To view the muted alarms, click the Muted Alarms scorecard.

#### Figure 11: Alarms Tab

rerview Config Profiles Node Config	Alarms System						
<b>1</b> 499		<b>≭</b> 1499		<b>▲</b> 0	<b>▲</b> 0	3498	3
Total Alarms		Critical		Major	Minor	Muted Alarr	ns
Alarm Settings							v
Alarms o					Numbe	er of Rows : 10 V Search	٩
Time Stamp	IP Address	Node Name	Severity	Alarm Message			
05/04/2021 3:30:16 PM UTC (GMT0:00)	2002::afaf:6f8e	iNode6f84	Critical	iNode is not reachable			
05/04/2021 3:35:11 PM UTC (GMT0:00)	2002::afaf:6ed1	INode6ed0	Critical	Node is not reachable			
05/04/2021 3:20:14 AM UTC (GMT0:00)	2002::afaf:3550	iNode3558	Critical	iNode is not reachable			
05/04/2021 3:40:30 PM UTC (GMT0:00)	2002::afaf:71cc	iNode71c2	Critical	iNode is not reachable			
05/04/2021 3:45:28 PM UTC (GMT0:00)	2002::afaf:709c	iNode7092	Critical	Node is not reachable			
05/04/2021 3:40:33 PM UTC (GMT0:00)	2002::afaf:71eb	iNode71ed	Critical	iNode is not reachable			
	2002afaf-6ef7	iNode6ef4	Critical	iNode is not reachable			
05/04/2021 3:35:37 PM UTC (GMT0:00)	LOOLINGUIDOIT						
05/04/2021 3:35:37 PM UTC (GMT0:00) 05/04/2021 3:30:14 PM UTC (GMT0:00)	2002::afaf:6f8b	iNode6f84	Critical	Node is not reachable			
05/04/2021 3:35:37 PM UTC (GMT0:00) 05/04/2021 3:30:14 PM UTC (GMT0:00) 05/04/2021 3:35:33 PM UTC (GMT0:00)	2002::afaf:6f8b 2002::afaf:6e87	iNode6f84 iNode6e86	Critical	iNode is not reachable			

## **Alarm Settings**

In Alarm Settings section, all alarm categories are enabled by default. You can uncheck the box corresponding to the alarm category to mute that category of alarms. The muted alarms are not displayed in the Alarms table, and they are not counted as part of the alarm statistics.

All Power Supply related alarms can be muted by checking the corresponding PS (Power Supply) checkbox at the bottom of the section. After making the change, click the **Enable** button to update the Alarm Settings.

### Figure 12: Alarm Settings

Alarm Settings					^
Auto setup status	PS 1 +12V (Volts DC)	PS 1 AC input (Volts AC)	PS 2 -6V (Volts DC)	Spectrum analyzer status	
<ul> <li>Launch Amp temperature (degrees C)</li> </ul>	PS 1 +24V (Volts DC)	PS 2 +12V (Volts DC)	PS 2 AC input (Volts AC)	Tamper	
<ul> <li>Node temperature (degrees C)</li> </ul>	PS 1 +34V (Volts DC)	PS 2 +24V (Volts DC)	Port 1 AGC lock		
<ul> <li>Optical RX 1 input power (dBm)</li> </ul>	PS 1 +5.5V (Volts DC)	PS 2 +34V (Volts DC)	Port 2 AGC lock		
<ul> <li>Optical TX 1 output power (dBm)</li> </ul>	PS 1 +8.5V (Volts DC)	PS 2 +5.5V (Volts DC)	Port 4 AGC lock		
Optical TX 2 output power (dBm)	PS 1 -6V (Volts DC)	PS 2 +8.5V (Volts DC)	Port 5 AGC lock		
		PS 1	✓ PS 2	Enable	

## System

You can choose to take backup of the database, import a database file into the iNode Manager, and to view the results of the bulk operations using the System tab.

L

### **Database Backup and Restore**

You can create a backup of the database, and also restore the iNode Manager to an earlier state by importing a database file by using the Database Backup and Restore pane. You can also view the results and status of the backup and restore operations that were performed earlier.

To view the Database Backup and Restore pane, complete the following steps:

- 1. On the iNodeManager, click the System tab.
- 2. Click Database Backup and Restore.

Figure 13: Database Backup and Restore Pane

rver IP :												
er Name :												
seword :												
ectory :												
aname (For Impo	ort Only *) :											
hedule DB Expo	ort : None					v						
	Export	Import		Re	set							
	Export	Import		Re:	set							
atabase Ex	Export cport Schedule	Import		Re	set							
atabase Ex	Export kport Schedule Server	Import • O User	Freq	Re	Time	Next schedule	Upload Directory					
atabase Ex	Export cport Schedule Server 10.78.229.203	Import c O User incdemgruser	Freq Weekly	Re: Every Mon	Time 22:00	Next schedule 05/24/2021 10:00:00 PM I	Upload Directory UTC /home/inodemgruss	er/				
atabase Ex	Export export Schedule Server 10.78.229.203	User incdemgruser	Freq Weekly	Res Every Mon	Time 22:00	Next schedule 05/24/2021 10:00:00 PM 1	Upload Directory UTC /home/inodemgruss	er/				
atabase Ex	Export sport Schedule Server 10.78.229.203	Import	Freq Weekly	Re: Every Mon	Time 22:00	Next schedule 05/24/2021 10:00:00 PM I	Upload Directory /home/inodemgruse	er/				
atabase Ex T	Export cport Schedule Server 10.78.229.203 cport/Import Sc	Inport O User inoderngruser atus O	Freq Weekly	Re: Every Mon	Time 22:00	Next schedule 05/24/2021 10:00:00 PM I	Upload Directory /home/inodemgruse	er/				
atabase Ex atabase Ex Operation	Export sport Schedule Server 10.78.229.203 sport/Import S <sup>2</sup> Status	Unport O User inodemgruser atus O Start Time	Freq Weekly	Re: Every Mon	Time 22:00 En	Next schedule 05/24/2021 10:00:00 PM 1 d Time 1	Upload Directory IUTC /home/inodemgruss	er/				
atabase Ex atabase Ex Operation EXPORT	Export xport Schedule Server 10.78.229.203 xport/Import St Status V	traport transformer transforme	Freq Weekly UTC (GMT0:	Re: Every Mon 00) 05/'	Time 22:00 En	Next schedule           05/24/2021 10:00:00 PM I           d Time         1           00:14 PM UTC (GMT0:00)	Upload Directory UTC /homelinodemgruss Message Successfully exported fil	er/ e: 10.78.229.203:J	ome/inodemgruser/	'incdemgr_inode	⊳-manager-chn-	mm1_backup_2021051
atabase Ex atabase Ex Operation EXPORT EXPORT	Export sport Schedule Server 10.78.229.203 sport/Import Sc Status	traport     traport     traport     transfer     todemgruser     todemgru	Freq Weekly UTC (GMT0: UTC (GMT0:	Every           Mon           000         05/'           000         05/'	En 17/2021 10:0	Next schedule           05/24/2021 10:00:00 PM           d Time         1           00:14 PM UTC (GMT0:00)           D0:13 PM UTC (GMT0:00)	Upload Directory UTC /home/incdemgruss Message Successfully exported fill	er/ e: 10.78.229.203:/ e: 10.78.229.203:/	ome/inodemgruser/	finodemgr_inode	9-manager-chn-1	mm1_backup_2021051

Note

The Database Import operation is possible only if the iNode Manager does not have any data. Ensure that the iNode Manager does not have any iNode, configuration profile, and the DB export schedule.

### **Database Import Validation**

Starting from Cisco iNode Manager release 3.2.0, the exported database file contains important metadata and the checksum. The checksum is used to validate the database file during the import operation. The metadata in the database file is displayed to the user during the import operation. The user can confirm/cancel the database import operation after checking the metadata.

#### Figure 14: Database Import Confirmation

Database import o	confirmation	$\times$
Кеу	Value	
Profiles Count	7	
iNodes Count	23329	
Export Date	06/07/2021 06:15:52 AM UTC	
Export File	inodemgr_inode-manager-chn-mm1_backup_20210607_061552.tar.gz	
1 to 4 of 9 <<	of 3 > >>	
Confirm Cancel		¢

If you try to import a database file that was exported from the iNode Manager prior to release 3.2.0, you can see the following warning message and confirm/cancel the database import.

No Metadata found. The file may be exported from old version of iNode manager.	]
Import Cancel	21752

If the database file is found to be corrupt while importing, the database import will stop and you will see the following message.

	×
Meta d	ita extract failed!
	Import Cancel

### **Database Export Scheduling**

You can schedule the database export at the following intervals:

- every 1 to 6 days
- every week
- every month

Figure 15: Database Export Scheduling

Server IP : 10.78.210.20	03					
User Name : cabuchn						
Password : •••••••						
Directory : /home/cabud	chn/srkrish2/iN	odeMgr				
Filename (For Import Onl	y *):					
Schedule DB Export :	Daily					V
Every	1 day(s)					V
Export schedule time :	10:06 AM				C	9
Export		Im	oort		Poset	
Lxport					Reset	
y one schedule can be c	onfigured. To	delete 1	the schee	lule, clio	ck on the Delete 🛡 t	outton.
Server	User	Frea	Everv	Time	Next schedule	Unload Directory

## **Bulk Operation Status**

Ì

10.78.229.203

You can view the status of the bulk operations using the Bulk Operation Status pane.

Weekly

Mon

22:00

To view the Bulk Operation Status, complete the following steps:

inodemgruser

1. On the iNodeManager, click the System tab.

05/24/2021 10:00:00 PM UTC /home/inodemgruser/

521761

#### 2. Click the Bulk Operation Status pane.

#### Figure 16: Bulk Operation Status

Operation Status							
Bulk Operation Status 🔿							
Operation Type	Status	Start Time	End Time	Total iNodes	Failed iNodes	Additional Info	
ASSIGN_PROFILE	~	10/20/2020 9:07:27 AM UTC (GMT0:00)	10/20/2020 9:07:41 AM UTC (GMT0:00)	10	0	Profile Name: nodeSettingsProfile	
POST_PROFILE	×	10/20/2020 6:31:56 AM UTC (GMT0:00)	10/20/2020 6:38:49 AM UTC (GMT0:00)	8501	13	Profile Name: nodeSettingsProfile	
POST_PROFILE	×	10/20/2020 6:16:48 AM UTC (GMT0:00)	10/20/2020 6:23:16 AM UTC (GMT0:00)	8501	6	Profile Name: nodeSettingsProfile	
POST_PROFILE	×	10/20/2020 6:08:49 AM UTC (GMT0:00)	10/20/2020 6:16:06 AM UTC (GMT0:00)	8501	7	Profile Name: nodeSettingsProfile	
ASSIGN_PROFILE	~	10/20/2020 6:02:05 AM UTC (GMT0:00)	10/20/2020 6:06:54 AM UTC (GMT0:00)	8501	0	Profile Name: nodeSettingsProfile	
DELETE_INODE	~	10/19/2020 2:10:24 PM UTC (GMT0:00)	10/19/2020 2:11:06 PM UTC (GMT0:00)	4000	0	-	
ASSIGN_PROFILE	×	10/19/2020 1:21:35 PM UTC (GMT0:00)	10/19/2020 1:33:09 PM UTC (GMT0:00)	12500	15	Profile Name: test	
RETRACT_PROFILE	~	10/19/2020 1:14:02 PM UTC (GMT0:00)	10/19/2020 1:16:46 PM UTC (GMT0:00)	12500	0		
ASSIGN_PROFILE	×	10/19/2020 12:55:05 PM UTC (GMT0:00)	10/19/2020 1:06:24 PM UTC (GMT0:00)	12500	16	Profile Name: test	
DETRACT DOOFILE	~	10/19/2020 12:49:48 PM UTC (GMT0:00)	10/19/2020 12:52:25 PM UTC (GMT0:00)	12500	0	-	

For Bulk Configuration Profile operations such as *Post Profile* and *Assign Profile*, the configuration profile name is listed in *Additional Info*. The table displays the status of the last 15 bulk operations carried out. The status of the operation on each iNode can be viewed by clicking the corresponding record on the table.

```
Figure 17: Bulk Operation Details
```

Bulk Operation	Details				$\times$
Retry					
MAC Address	^ St	Error Type	Error Code	Error Message	
02:42:af:af:71:7c	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:87:5d	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:97:79	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:c5:79	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:73:37	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:be:dc	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:84:82	×	SYSTEM	DEVICE_COMMUNICATION_ERROR	Error while setting the configuration of the ports.	
02:42:af:af:6e:02	~				
02:42:af:af:6e:03	~				
02:42:af:af:6e:04	~				
1 to 10 of 8,501 <<	< Page 1 of	851 > >>	]		

Click **Retry** to reattempt the bulk operation on the failed iNodes. The corresponding records related to the bulk operation would be updated with the *retry* status.

For bulk operations that might be In Progress for a long time, you can choose to click the Abort button.

## **Inventory Dashboard**

The Inventory dashboard provides you utilities to add, organize, and update information about the network devices. The Inventory dashboard also allows you to create credential profiles that applies credential settings consistently across devices.

### Inventory

You can use the **Inventory** tab to add, organize, and update information about the network devices. This includes non cable devices too, and hence the information to be provided is more exhaustive than in the iNode Manager's view of the inventory.

A new iNode can be added in the inventory table or via the iNode Manager Dashboard.

Name	Description	
Status	Shows a graphical pie chart of all devices in the network, which is categorized by status:	
	• Online	
	• Offline	
Туре	Shows a graphical pie chart of the type of devices in the network	
Manufacturer	Shows a graphical pie chart of manufacturer of the devices in the network	
Status	Current Status of the device	
Hostname	Hostname of the device	
Кеу Туре	MAC ADDRESS / IP ADDRESS	
IP Address	IP Address of the device	
MAC Address	MAC Address of the device	
UUID	Universally Unique Identifier of the device	
Product Type	Product Type of the device	
Credential Profile	Credential Profile Name	
Latitude	Latitude of the device	
Longitude	Longitude of the device	
Location	Location of the device	
Description	Description of the device	

#### Table 1: Descriptions of the Inventory Table

Name	Description
Software Version	Software Version of the device
Model Number	Model Number of the device
×	Adds a device to existing inventory.
0	Deletes a device from inventory.
0	Exports device information to a CSV file.
•	Imports devices by using a CSV file.
Details	Displays a dialog box with the history of the connectivity status of the selected device.
\$	Sets the columns in the device table.
Search	Allows you to search for and filter the network devices.

## **Credential Profiles**

Credential profiles are collections of device credentials for SNMP, and Telnet/SSH to network devices. Using credential profiles allows you to apply credential settings consistently across devices. When you add or import devices, you can specify the credential profile that the devices should use. If you must make credential changes, such as changing a device password, you can edit the profile to update the settings across all devices that use that profile.



Note The Credential Profile is not applicable for iNode's.

To create a Credential Profile, complete the following steps:

- 1. On the iNodeManager, click **Inventory** > **Credential Profiles**.
- 2. Click Create New.
- 3. Provide a profile name, username and other credentials for the profile.

We recommend that you provide the profile with a detailed description, as it will be displayed on the Credential Profiles panel. Note that when a device is added or updated using this profile, the content you specify here is applied to the device.

4. Click Save.

#### Figure 18: Creating a New Credential Profile

Inventory Credential Profiles		
Credential Profiles	New Profile	Selected 0 / Total 1 🔿
- Create New	Profile Name *	
	Username *	
silver	Enable Password	
	Connectivity Type * SSH	*
	Part Number * 22	
	Save Cancel	

Table 2: Descriptions of the Credential Profiles Form

Name	Description
Create New	Allows you to add or edit a credential profile.
	Note: Mandatory fields are marked with an asterisk.
Profile Name	Name of the profile
Username	Username of the device
Password	Password of the device
Connectivity Type	Choose to use either an SSH or a Telnet connection type
Port Number	Port number of the router