



*TOMORROW
starts here.*

Cisco *live!*



Enterprise Networking Configuration Management with Prime Infrastructure

BRKNMS-2661

Scott Williamson – Systems Engineer

#clmel

Cisco *live!*

Agenda

- Overview
 - Quick 2.2 Update
- Configuration Management
- Inventory Management
- Tips

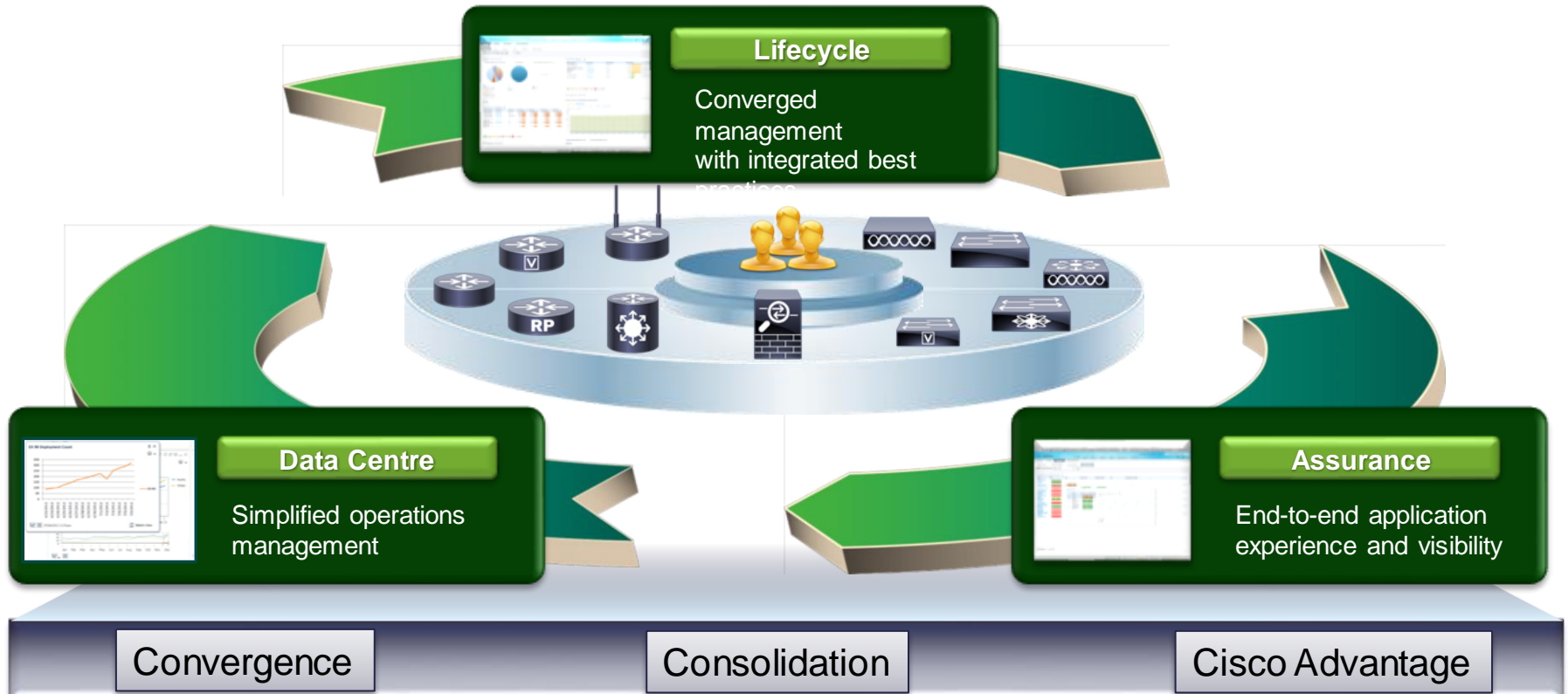


A long-exposure photograph of a city street at night. The foreground is dominated by vibrant, multi-colored light trails from moving vehicles, creating a sense of motion and energy. In the background, modern buildings are illuminated with various lights, and a pedestrian bridge spans across the street. The overall scene is a dynamic urban environment.

Overview and 2.2 Update

Cisco Prime Infrastructure

Realising the Vision of One Management



Prime Infrastructure 2.2

Released December 2014



Cisco Prime Infrastructure

Deployment Guidelines

Deployment

Guidance

Greenfield

Existing NCS 1.0, 1.1
Existing PI 1.2, 1.3.x

Existing PI 2.0

Existing PI 1.4.x or 2.1.x

PI 2.0

PI 2.1

PI 2.1

PI 2.2

Node Licensing
not enforced

Cisco Prime Infrastructure

Deployment Guidelines

WARNING

- No in-place upgrade to Prime Infrastructure 2.2
- Backup and Restore to new appliance/VM
- Minimum Versions for data backup
 - Cisco Prime Infrastructure 2.1.2 (with the UBF patch)
 - Cisco Prime Infrastructure 2.1.1 (with the UBF patch)
 - Cisco Prime Infrastructure 2.1.0.0.87
 - Cisco Prime Infrastructure 1.4.2
 - Cisco Prime Infrastructure 1.4.1
 - Cisco Prime Infrastructure 1.4.0.45

ensing
not enforced

Simplified OVA Install ...1

Prime Infrastructure 2.2 release has been optimised with

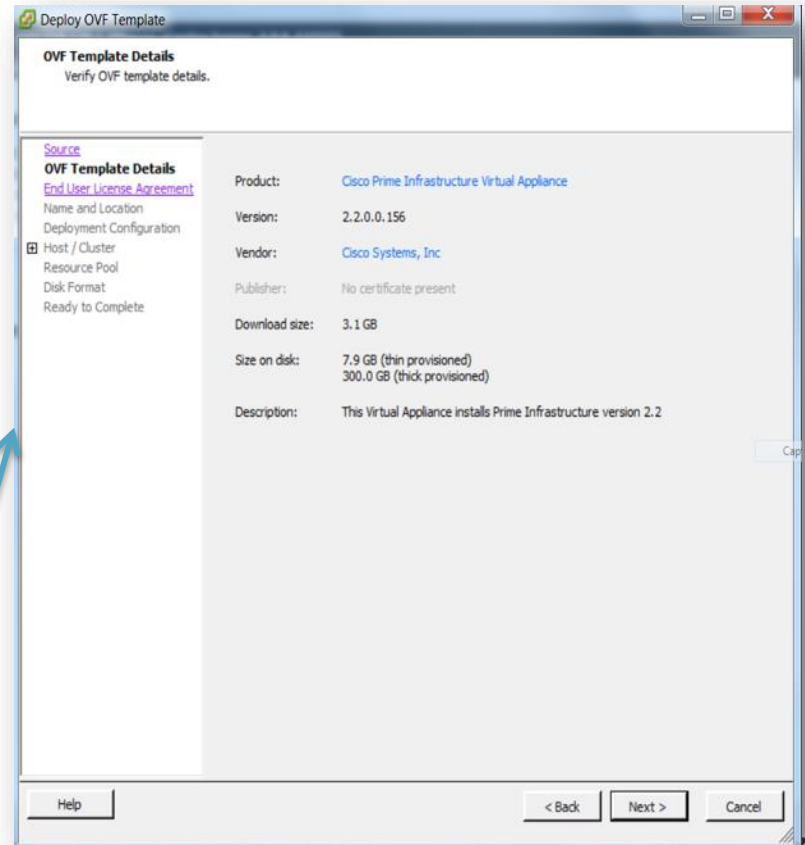
Single OVA file for all installation types.
(Express , Standard or Pro editions)

1

Download [PI 2.2 virtual appliance ova from CCO](#) onto your local machine

2

Login to VMware vSphere client and deploy OVF template as shown



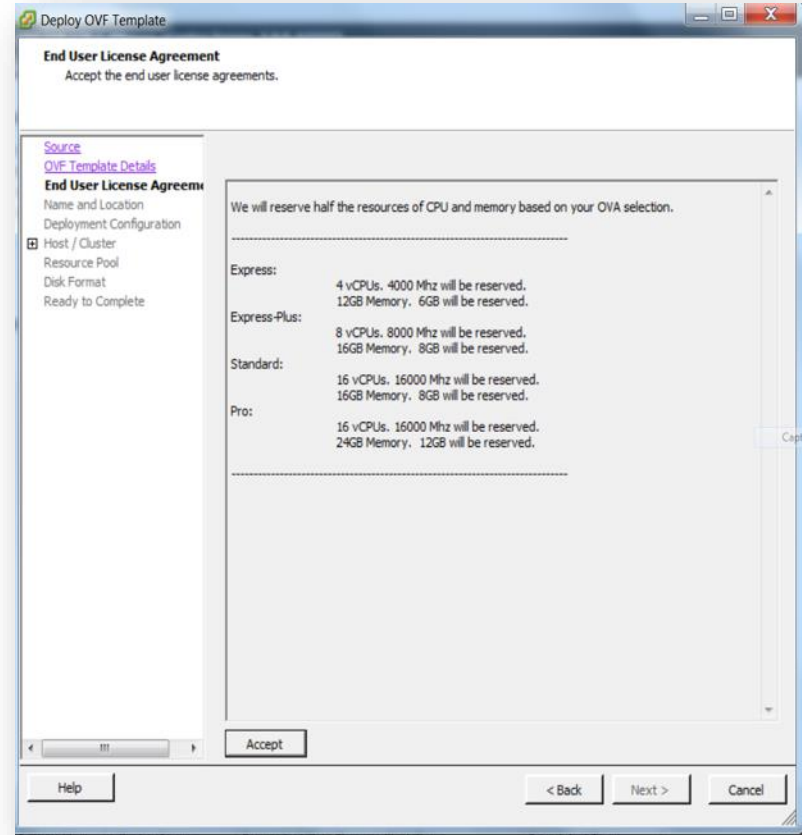
Simplified OVA Install ...2

3

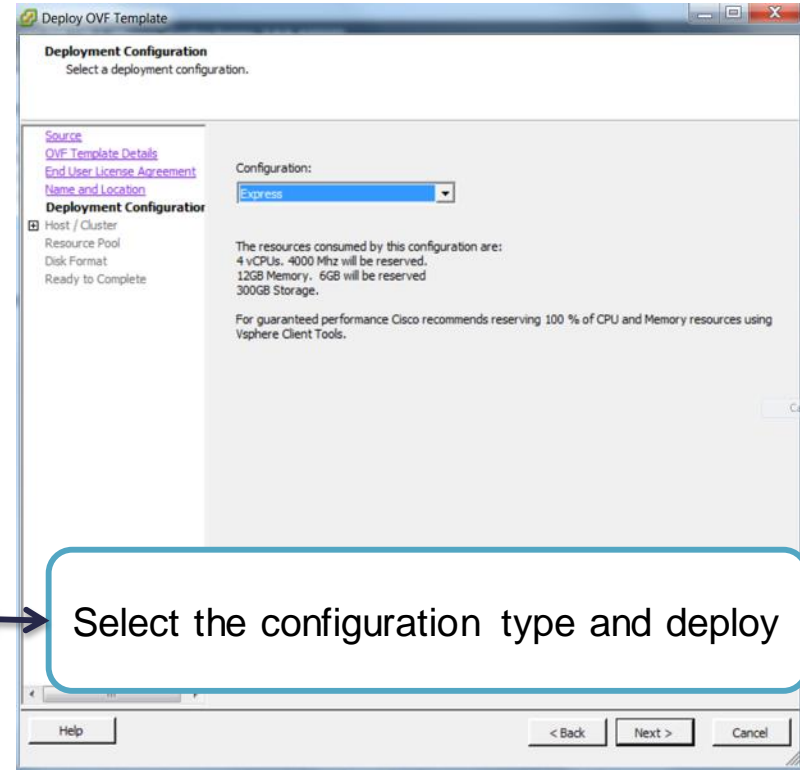
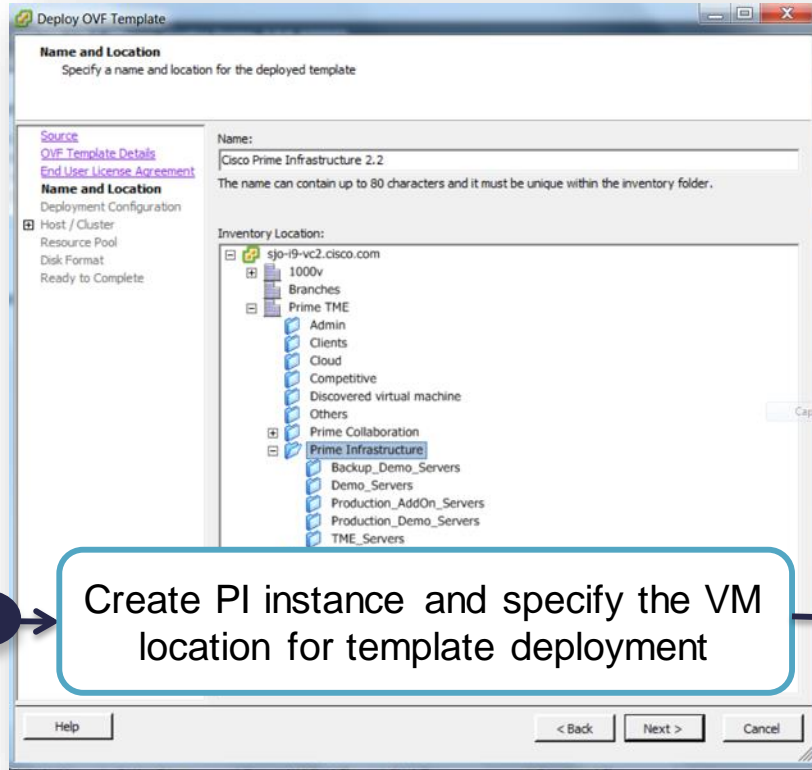
Accept the install type from the option shown here

4

Resources like CPU and memory are automatically allocated based on the type



Simplified OVA Install ...3



Prime Infrastructure 2.2 - Server Requirements

Virtual Appliance Size	Virtual CPU	Memory (DRAM)	HDD Size	Throughput (Disk I/O)	PI 1.X Size
Express	4	12 GB	300 GB	200 MBps	Small
Express Plus	8	16 GB	600 GB	200 MBps	Medium
Standard	16	16 GB	900 GB	200 MBps	Large
Pro	16	24 GB	1200 GB	200 MBps	Extra Large

Physical Appliance	Physical CPU	Memory	HDD Size	Throughput (Disk I/O)	Devices
Prime Appliance (Gen 1)	8 Cores (16 Threads)	32 GB	900 GB (4x300GB RAID5)	200 MBps	10000
Prime Appliance (Gen 2) C200-M4S	10 Cores (20 Threads)	64 GB	1.8TB (4x900GB RAID10)	200 MBps	24000

Prime Infrastructure 2.x Bundle Sizing Matrix

Supported Scale for Express/Standard/Pro Configurations

Parameter (Maximums)	Express	Express-Plus	Standard	Pro	
Devices	Unified AP	300	2500	5000	20,000
	Autonomous AP	300	500	3,000	3,000
	Controllers	5	50	500	1,000
	Wired Devices	300	1000	6000	13,000
	NAMs	5	5	500	1,000
Wired Clients	50,000	50,000	50,000	50,000	
Wireless Clients	30,000	30,000	75,000	200,000	
Changing Clients (every 5 minutes)	5000	5000	25,000	40,000	
Events Sustained Rate (events/sec)	100	100	300	1000	
Netflow Rate (flows/second)	3000	3000	16,000	80,000	
Concurrent GUI Clients	5	10	25	25	
Concurrent API Clients	2	2	5	5	
Number Sites/Campus	200	500	2,500	2,500	
Groups : (User Defined + Out of the Box + Device Groups + Port Groups)	50	100	150	150	
Virtual Domains	100	500	1,200	1,200	
Interfaces	12,000	50,000	250,000	350,000	
NAM Data Polling enabled	5	5	20	40	

Converged Menu

Single Menu for All Operational Tasks

The screenshot displays the Cisco Converged Menu interface, which is a single menu for all operational tasks. The menu is organized into several main categories, each with a dropdown arrow:

- Dashboard**
- Monitor**
 - Overview
 - General
 - Incidents
 - Client
 - Network Devices
 - Network Interface
 - Service Assurance
 - Service Health
 - Wireless
 - Security
 - Mesh
 - CleanAir
 - Context Aware
 - Performance
 - Site
 - Device
 - Access Point
 - Interface
 - Application
 - Voice/Video
 - End User Experience
 - WAN Optimization
- Configuration**
 - Network Devices
 - Compute Devices
 - Monitoring Policies
 - Alarms and Events
 - Clients and Users
- Inventory**
 - Device Management
 - Network Devices
 - Compute Devices
 - Discovery
 - Software Images
 - Credential Profiles
 - Network Audit
 - Configuration Archive
 - Templates
 - Features & Technologies
 - Shared Policy Objects
 - Configuration Groups
 - Controller Configuration Groups
 - Lightweight Access Points
 - Autonomous Access Points
 - Autonomous AP Migration
 - Switch Location
 - Scheduled Configuration Task
 - Plug and Play
 - Bootstrap
 - Initial Device Setup
 - Controller Auto Provisioning
 - Profiles
 - Status
- Maps**
- Services**
 - Grouping
 - Location & Device
 - Port
- Reports**
- Administration**
 - Wireless Technologies
 - Radio Resource Management
 - Interferers
 - RFID Tags
 - Media Streams
 - Unjoined Access Points
 - Chokepoints
 - WIFI TDMA Receivers
 - Access Point Radios
 - Tools
 - Wireless Voice Audit
 - Wireless Voice Diagnostic
 - Wireless Configuration Audit
 - Autonomous AP Migration Analysis
 - Location Accuracy
 - Packet Capture

- Similar to Classic View
- Classic view is deprecated
- Maps and Topology at top level
- Device Work Centre optimised

Monitoring Policies

Improved OOTB Monitoring Setup

Monitor > Monitoring Policies

Monitoring Policies

My Policies

Name	Description	Type	Status	Threshold	Activation History	Collection Status
<input type="checkbox"/> Automonitoring - Device Health	Device Health Automonitoring	Device Health	Inactive	Yes	Activated 1 time	Not Available
<input type="checkbox"/> Automonitoring - WAN Interfaces	Interface Health Automonitoring	Interface Health	Inactive	Yes	Activated 1 time	Not Available
<input type="checkbox"/> MIB	Custom MIB Polling	Custom MIB Polling	Inactive	No		Not Available
<input type="checkbox"/> InterfaceHealth-AVC	Interface Health For AVC Configu...	Interface Health	Inactive	No		Not Available
<input type="checkbox"/> InterfaceHealth-UCS	Interface Health For UCS Interfaces	Interface Health	Inactive	No	Activated 1 time	Not Available

Monitoring

g

eter

Parameter	Polling Frequency	Threshold
Utilization	15 min	Use System Defaults 90 Percent(%)
Priority Pool Utilization	15 min	Use System Defaults 90 Percent(%)
Environment Temperature	15 min	Use System Defaults 80 Degree Celsius
Device Availability	15 min	Threshold N/A

Monitor > Monitoring Policies

Monitoring Policies

Policy Types

- Device Health
- Interface Health
- NAM Health
- Traffic Analysis
- Application Response Time
- Voice Video Data
- DMVPN
- GETVPN Poller
- Wireless AP
- Wireless Controller
- Custom MIB Polling

Interface Parameter

Parameter	Polling Frequency	Threshold
<input type="checkbox"/> WAN Interfaces		
Interface Statistics	5 min	
Interface Inbound Errors		Use System Defaults 10 Percent(%)
Interface Outbound Errors		Use System Defaults 10 Percent(%)
Interface Inbound Discards		Use System Defaults 5 Percent(%)
Interface Outbound Discards		Use System Defaults 5 Percent(%)
Input Utilization		Use System Defaults 90 Percent(%)
Output Utilization		Use System Defaults 90 Percent(%)
Interface Availability		Threshold N/A
QoS Statistics	5 min	
Percent Drop per QoS Class		Use System Defaults 10 Percent(%)

Save and Activate Cancel

Automatically monitor the device health and WAN Interfaces with pre-defined thresholds

Credential Profiles

Update Device Credentials

Inventory > Device Management > Credential Profiles

Credential Profiles

<input type="checkbox"/>	Profile Name	Description
<input type="checkbox"/>	Access-Devices	Credentials for Access Devices
<input type="checkbox"/>	Distribution-Devices	Credentials for Distribution Devices
<input type="checkbox"/>	P1-Devices	Credentials for P1 Devices
<input type="checkbox"/>	P2-Devices	Credentials for P2 Devices

Inventory > Device Management > Credential Profiles > Edit Profile

Edit Profile

Profile Details | Device List

Entering a valid value in either SNMP Read Community, or Protocol Username and Password in Telnet/SSH Parameters, or Protocol Username and Password in Http Parameter is required. *Indicates required fields

General Parameters

* Profile Name: Access-Devices
 Description: Credentials for Access Devices

SNMP Parameters

Version: v2c

SNMP Advanced Parameters

Read Community: *****
 Write Community: []

Confirm Read Community: *****
 Confirm Write Community: []

Telnet/SSH Parameters

Protocol: Telnet

Telnet Timeout

Username: []

Save & Sync | Cancel

Inventory > Device Management > Credential Profiles > Edit Profile

Edit Profile

Profile Details | Device List

Device Name	IP Address/DNS
raleighlab-gateway.cisco.com	10.122.86.2

An easy way to change credentials on a regular basis for compliancy



Hierarchical Location Groups for Inventory

Flexible Group Definitions

Inventory > Grouping > Location & Device
Location & Device

The screenshot shows a tree view of device groups. The hierarchy is as follows:

- Device Groups
 - All Devices
 - Device Type
 - Location
 - All Locations
 - Asia Pacific
 - India Branch
 - Singapore Branch
 - Europe
 - Amsterdam Branch
 - London Branch
 - Paris Branch
 - Management Apps
 - Middle East
 - North America
 - Boxborough Branch
 - Dallas Branch
 - Denver Branch
 - User Defined
 - Access Devices
 - Core Devices
 - Distribution Devices
 - P1 Devices
 - P2 Devices
 - P3 Devices

Multi Level Hierarchy for Location Groups

Inventory > Grouping > Location & Device
Location & Device

The screenshot shows the 'User Defined' group structure:

- User Defined
 - Access Devices
 - Core Devices
 - Distribution Devices
 - P1 Devices
 - P2 Devices
 - P3 Devices

Inventory > Grouping > Location & Device
Location & Device

The screenshot shows the 'P1 Devices' group structure:

- User Defined
 - Access Devices
 - Core Devices
 - Distribution Devices
 - P1 Devices
 - P2 Devices
 - P3 Devices

Device Groups > User Defined > Access Devices
Access Devices

The screenshot shows the 'Edit Device Group' configuration for 'Access Devices':

- Group Name: Access Devices
- Parent Group: User Defined
- Group Description: [Empty]
- Add Devices Dynamically:
 - And: UDF:Device Role
 - Contains: Access
- Add Devices Manually: [Empty]

Devices can now belong to multiple groups based on Device Priority, Device Role etc

Device Groups > User Defined > P1 Devices
P1 Devices

The screenshot shows the 'Edit Device Group' configuration for 'P1 Devices':

- Group Name: P1 Devices
- Parent Group: User Defined
- Group Description: [Empty]
- Add Devices Dynamically:
 - And: UDF:priority
 - Contains: P1
- Add Devices Manually: [Empty]

Network Topology

Views

❑ Network Topology Page

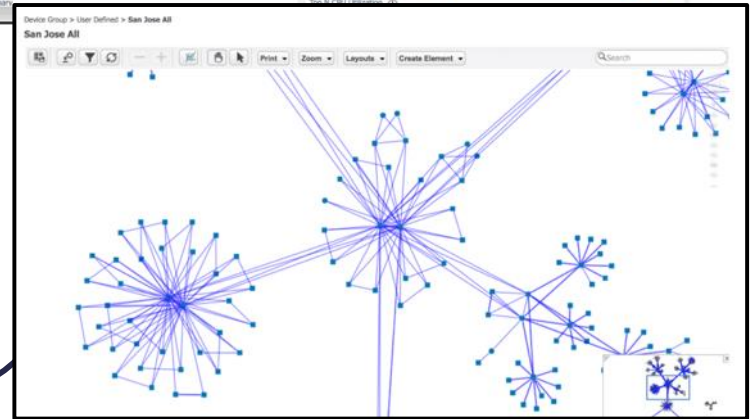
- Maps> Network Topology
- Main landing page for viewing network topology

❑ Topology Dashlets

- Topology Dashlets available for Overview level dashboards
- Multiple Topology dashlets supported
- Any topology map can be viewed in a dashlet

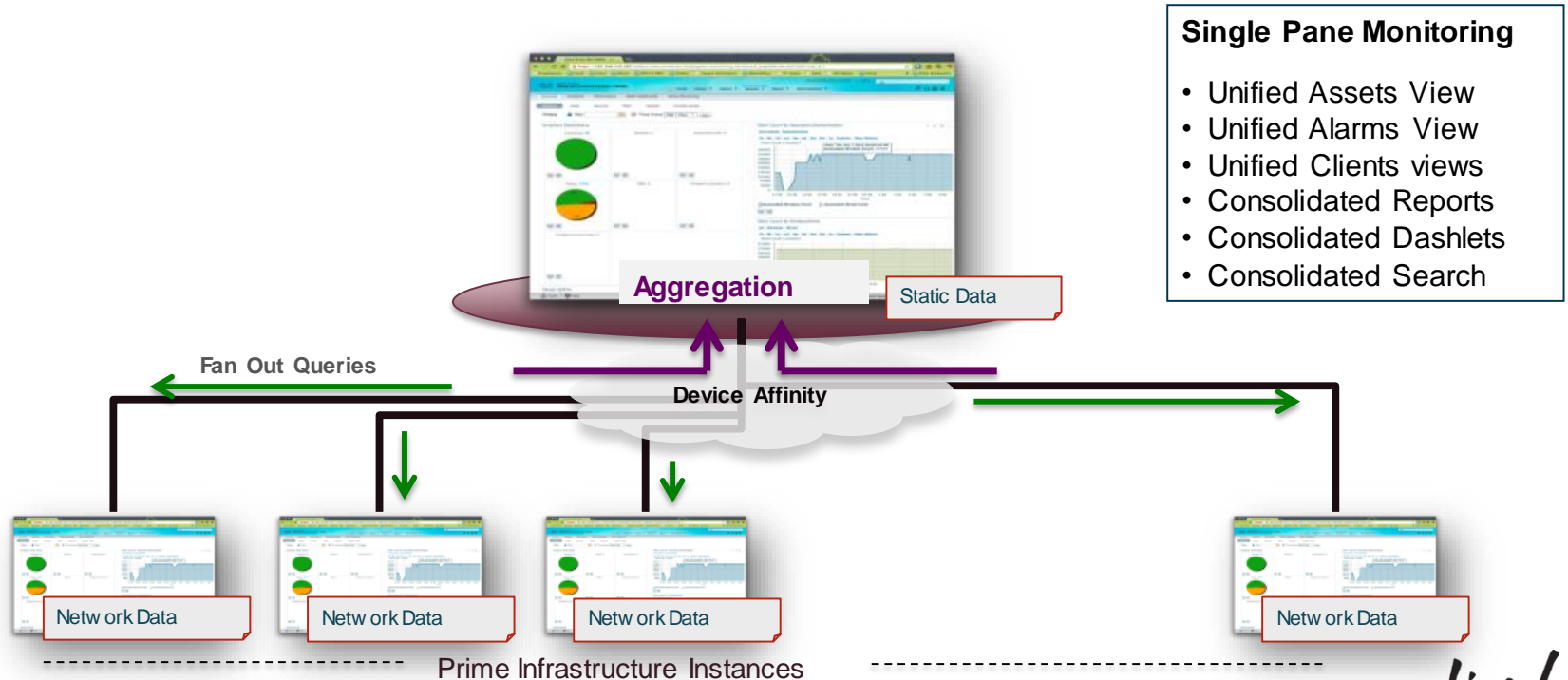
❑ Device 360 “N-Hop” contextual topology view

- Device 360 adds new action icon to see device context topology



Operations Centre

Centralised Visualisation Across Multiple PI Instances



Single Pane Monitoring

- Unified Assets View
- Unified Alarms View
- Unified Clients views
- Consolidated Reports
- Consolidated Dashlets
- Consolidated Search

Enhanced Northbound REST APIs

Following additional RW API's are supported in PI 2.2

API Health Service

- [GET API Health Record](#)
- [GET API Response Time Summary](#)
- [GET API Calls Per Client](#)
- [GET API Request Count Trend](#)
- [GET API Response Time Trend](#)
- [GET API Service Name List](#)

Job Operations

- [GET Job Summary](#)
- [GET Query Job Run History](#)
- [PUT Cancel A Job](#)
- [PUT Cancel A Job running instance](#)
- [PUT Resume A Job](#)
- [PUT Suspend A Job](#)

Access Point Operations

- [PUT Delete Unified Access Point](#)
- [PUT Modify Unified Access Point](#)

CLI Template Configuration

- [PUT Deploy Configuration Template Through Job](#)

Report Service

- [GET Run a ZIP Report](#)

Device Operations

- [GET Export Devices](#)
- [PUT Bulk Import](#)
- [PUT Delete Devices](#)

User Defined Field Management

- [GET User Defined Field Definition](#)
- [PUT Delete User Defined Field Definition](#)
- [PUT Import User Defined Field Definition](#)

Group Summary Service

- [GET Group Specification](#)

WLAN Provisioning

- [GET Wlan Profiles](#)
- [GET Wlan Templates](#)
- [DELETE Delete AP Group](#)
- [DELETE Delete Interface](#)
- [DELETE Delete Interface Group](#)
- [DELETE Delete WLAN Profile](#)
- [DELETE Delete Wlan Template](#)
- [POST Create AP Group](#)
- [POST Create Interface](#)
- [POST Create Interface Group](#)
- [POST Create Wlan Template](#)
- [PUT Deploy Wlan Template](#)
- [PUT Modify AP Group](#)
- [PUT Modify Interface](#)
- [PUT Modify Interface Group](#)
- [PUT Modify Wlan Template](#)

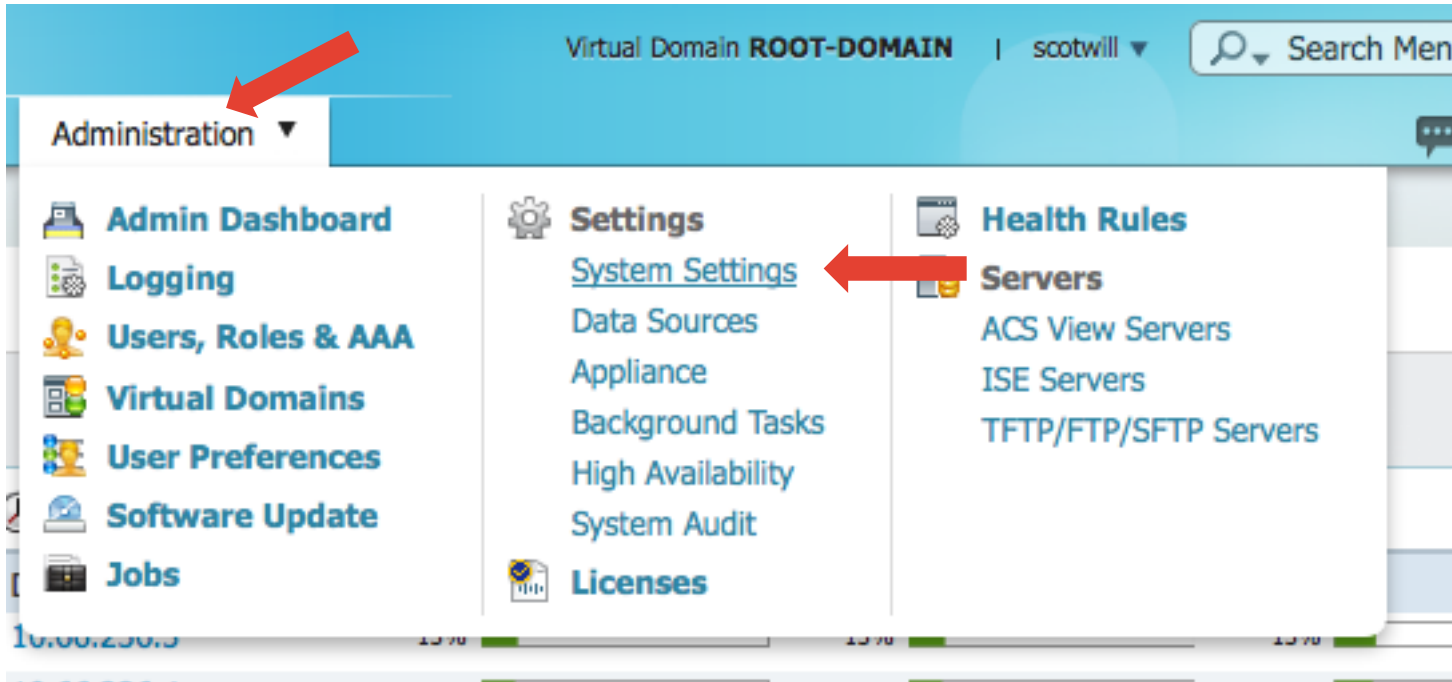
A long-exposure photograph of a city street at night. The foreground is dominated by vibrant, multi-colored light trails from moving vehicles, creating a sense of motion and energy. In the background, modern buildings are illuminated with various lights, and a pedestrian bridge spans across the street. The overall scene is a dynamic urban environment.

Configuration Management

Configuration Management - Agenda

- Settings for Configuration
- Scenario 1 – Configuring a Device via Features
- Scenario 2 – Creating a Configuration Template
- Scenario 3 – Deploying a Configuration

Configuration Management – Systems Settings



Configuration Management – Systems Settings

The screenshot shows the Cisco Prime Infrastructure web interface. At the top, the navigation bar includes the Cisco Prime Infrastructure logo and menu items for Dashboard, Monitor, and Configuration. Below the navigation bar, the breadcrumb trail reads "Administration > Settings > System Settings". The main content area is titled "System Settings" and features a left-hand sidebar with a list of settings categories: Account Settings, Alarms and Events, Audit, Change Audit Notification, CLI Session, Client, Configuration (highlighted), and Configuration Archive. The main panel displays the "Configuration" section with two unchecked checkboxes: "Backup Device Configuration" and "Rollback Configuration", each with a help icon. Below these is a text input field for "Deploy CLI Thread Pool Count" containing the value "10", also with a help icon. At the bottom of the configuration panel are "Save" and "Reset" buttons.

Configuration Management – Systems Settings

Administration > Settings > System Settings

System Settings

Account Settings
Alarms and Events
Audit
Change Audit Notification
CLI Session
Client
Configuration
Configuration Archive
Controller Upgrade Settings
Data Deduplication
Data Retention
Discovery

Basic Advanced

Timeout(ms) ?

Summary refresh hold-off time(min) ?

Thread pool count

Archive Configuration out-of-box? ?

Archive Configuration after Inventory Sync? ?

Archive Configuration on receiving configuration change events? ?

Hold Off Timer(min)

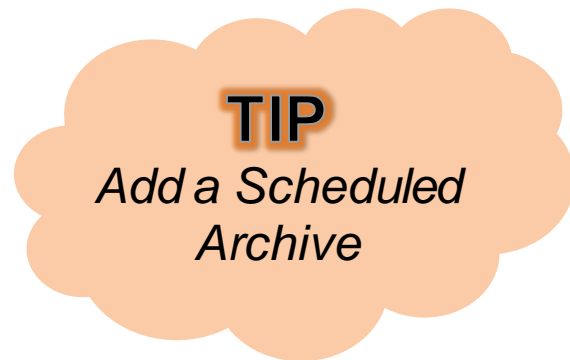
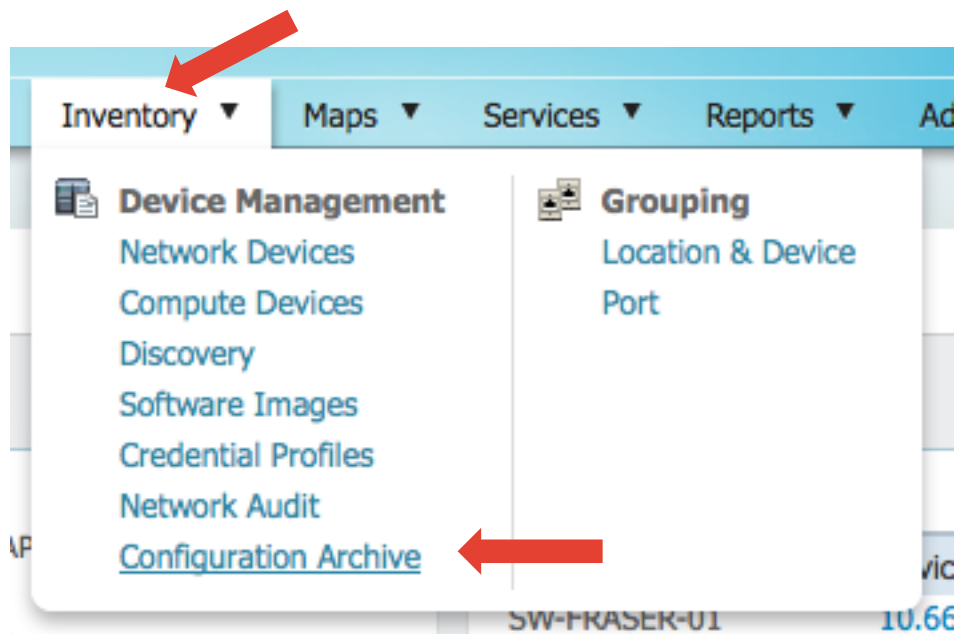
Mask security content while exporting? ?

Max. configuration archives ?

Max. days retained ?

Save Reset

Configuration Management – Schedule Archive



Configuration Management – Schedule Archive

Dashboard | Monitor | Configuration | **Inventory** | Maps | Services | Reports | Administration

Groups > All Devices

All Devices

Total Devices: 36

Out Of Sync Devices: 8

Archive Failed Devices: 16

Schedule Rollback | Schedule Overwrite | Edit Tag | **Schedule Archive**

<input type="checkbox"/>	Name	Type	IP Address/DNS	Site Membership	Latest Archive	Startup/R...	Out of band
<input type="checkbox"/>	2951-HQ	Cisco 2900 Series Integ...	10.66.236.242	All Locations/BNE-Lab/...	February 11, 2015 6:40:58 PM E	Yes	Yes
<input type="checkbox"/>	4451-Branch	Cisco 4400 Series Integ...	10.66.236.247	All Locations/BNE-Lab/...	January 31, 2015 12:17:29 PM E		Yes
<input type="checkbox"/>	4500X-1	Cisco Catalyst 4500 Seri...	192.168.216.1	All Locations/BNE-Lab/...	January 5, 2015 11:52:05 AM E	Yes	
<input type="checkbox"/>	892-BRX.bnelab.ci...	Cisco 800 Series Routers	10.66.236.244	All Locations/BNE-Lab/...	January 5, 2015 11:50:20 AM E		
<input type="checkbox"/>	APJDCUCS1	Unsupported Cisco Device	10.66.238.198	All Locations/BNE-Lab/...			
<input type="checkbox"/>	APJDCUCS3	Unsupported Cisco Device	10.66.238.196	All Locations/BNE-Lab/...			

Configuration Management – Schedule Archive

Catalyst 4500 Ser... 192.168.216.1 All Locations/BNE-Lab/... January 5, 2015 11:52:05 AM ES Yes

Schedule Configuration Archive

WARNING: Scheduling archive for "All Devices" group as no device(s) selected.

Job Name:

Start Time: Now Date: (MM/dd/yyyy hh:mm AM/PM)

Recurrence: None Minute Hourly Daily Weekly Monthly Yearly

Settings

Every week(s):

Sunday Wednesday Saturday

Monday Thursday


Tuesday Friday

End Time

No End Date/Time

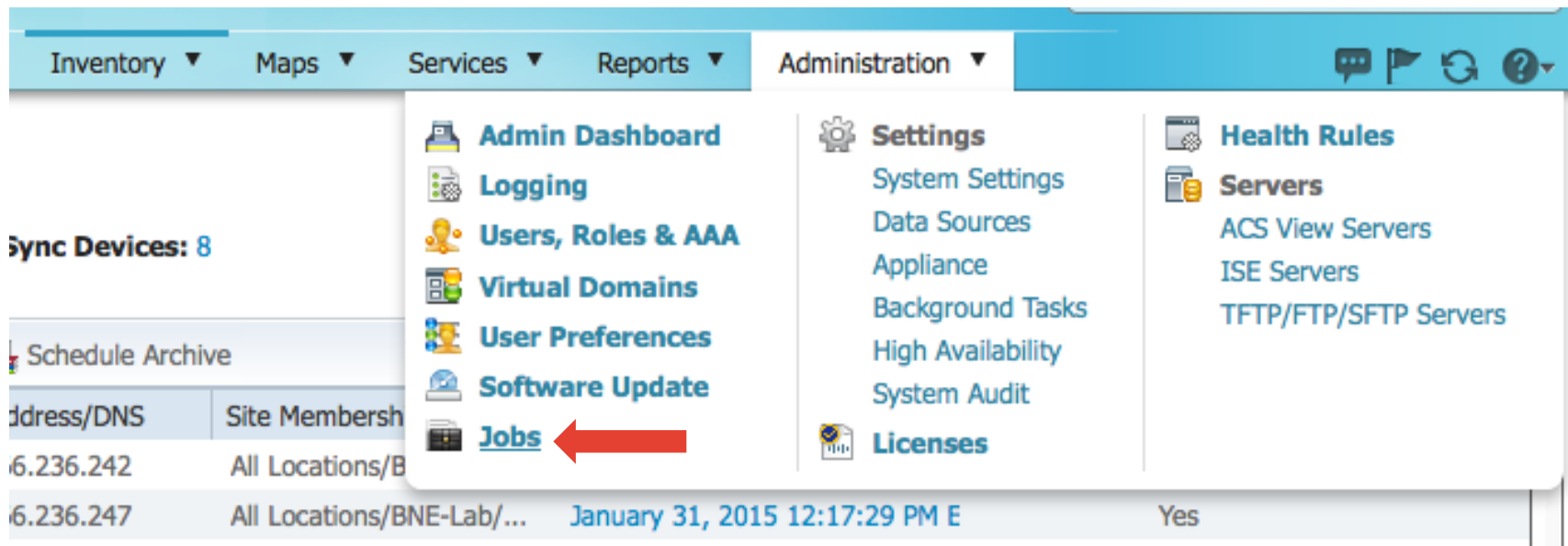
Every Times

End at: (MM/dd/yyyy hh:mm AM/PM)



Party Device 10.66.236.35 All Locations/BNE-Lab/T...

Configuration Management – Schedule Archive



The screenshot shows the Cisco Configuration Manager Administration menu. The 'Administration' dropdown is open, displaying several categories of settings and tools. A red arrow points to the 'Jobs' option, which is highlighted in blue. The 'Jobs' option is located under the 'Software Update' category. The 'Administration' menu includes the following items:

- Admin Dashboard**
- Logging**
- Users, Roles & AAA**
- Virtual Domains**
- User Preferences**
- Software Update**
- Jobs** (highlighted with a red arrow)
- Settings**
 - System Settings
 - Data Sources
 - Appliance
 - Background Tasks
 - High Availability
 - System Audit
- Licenses**
- Health Rules**
- Servers**
 - ACS View Servers
 - ISE Servers
 - TFTP/FTP/SFTP Servers

On the left side of the interface, there is a section for 'Sync Devices: 8' and a table with columns for 'Address/DNS' and 'Site Membersh'. The table contains the following data:

Address/DNS	Site Membersh
6.236.242	All Locations/B
6.236.247	All Locations/BNE-Lab/...

At the bottom of the table, there is a row with the following information: January 31, 2015 12:17:29 PM E Yes

Configuration Management – Schedule Archive








Administration > **Jobs**

Jobs

User-Defined

System-Defined

System-Defined-Poller

 Delete  Edit Schedule  Run  Cancel  Abort  Pause Series  Resume Series

<input type="checkbox"/>	Name	Job Type	Status	Last Run S...	Last Start Time	Duration (Hrs : ...	Next Start Time	Owner
<input checked="" type="checkbox"/>	Weekly Config Archive	Configuration Archive	Scheduled				2015-02-20 23:00	scotwill

IP Address	Status	Fetch Running	Fetch Startup	Fetch VLAN	Fetch Modules	Archive
10.66.236.246	PASS	Success	Success	Success	N/A	ALREADY EXIST
10.66.236.4	PASS	Success	Success	Success	N/A	ALREADY EXIST
10.66.238.37	PASS	Success	Success	Success	N/A	ALREADY EXIST
192.168.216.1	PASS	Success	Success	Success	N/A	ALREADY EXIST
10.66.238.35	PASS	Success	Success	Success	N/A	ALREADY EXIST
10.66.238.36	PASS	Success	Success	Success	N/A	ALREADY EXIST



Configuration Management - Agenda

- Settings for Configuration
- Scenario 1 – Configuring a Device via Features
- Scenario 2 – Creating a Configuration Template
- Scenario 3 – Deploying a Configuration

Configuring Features – Select Device

The screenshot displays the Cisco configuration interface. The top navigation bar includes 'Dashboard', 'Monitor', 'Configuration', 'Inventory', 'Maps', 'Services', 'Reports', and 'Administration'. The 'Configuration' menu is expanded, showing three main categories: 'Network Devices', 'Wireless Technologies', and 'Templates'. A red arrow points to the 'Network Devices' icon. Below 'Network Devices' are sub-items: 'Chokepoints', 'WiFi TDOA Receivers', and 'Access Points Radios'. The 'Wireless Technologies' section is currently expanded, listing: 'Chokepoints', 'WiFi TDOA Receivers', and 'Access Points Radios'. The 'Templates' section lists: 'Features & Technologies', 'Shared Policy Objects', 'Configuration Groups', 'Controller Configuration Groups', 'Lightweight Access Points', 'Autonomous Access Points', 'Autonomous AP Migration', and 'Switch Location'. The 'Scheduled Configuration Task' section is also visible. On the left, a 'reachable Device Count: 6' is shown with a blue semi-circle chart. The background shows a table with columns for 'Network Interface' and 'Services'.

- Dashboard
- Monitor
- Configuration
 - Network Devices
 - Wireless Technologies
 - Chokepoints
 - WiFi TDOA Receivers
 - Access Points Radios
 - Templates
 - Features & Technologies
 - Shared Policy Objects
 - Configuration Groups
 - Controller Configuration Groups
 - Lightweight Access Points
 - Autonomous Access Points
 - Autonomous AP Migration
 - Switch Location
 - Scheduled Configuration Task
- Inventory
- Maps
- Services
- Reports
- Administration

Configuring Features – Select Device

Configuration > Network Devices

Network Devices

Device Group

Search:

← ▾ | ▸ | + ▾

- All Devices
- Device Type
 - Cisco UCS Series
 - Routers
 - Security and VPN
 - Storage Networking
 - Switches and Hubs
 - Third Party Device
 - Unsupported Cisco Device
 - Voice and Telephony
 - Wireless Controller
- Location
- User Defined

Device Group > All Devices

All Devices

✕ Delete | ✎ Edit | 🔄 Sync | 📁 Groups & Sites ▾ | ➕ Add Device | 📦 Bulk Import | 📄 Export Device

<input type="checkbox"/>	Device Name	Reachability	IP Address/DNS	Device Type	Ac
<input type="checkbox"/>	2951-HQ	✓	10.66.236.242	Cisco 2951 Integrated Servic...	M
<input type="checkbox"/>	4451-Branch	✓	10.66.236.247	Cisco 4451 Series Integrated...	M
<input type="checkbox"/>	4500X-1	✓	192.168.216.1	Cisco Catalyst 4500 Virtual S...	M
<input type="checkbox"/>	892-BRX.bnelab.cisco.c...	✓	10.66.236.244	Cisco 892,892W Integrated ...	M
<input type="checkbox"/>	ACIUCS2	✓	10.66.236.77	Unsupported Cisco Device	M
<input type="checkbox"/>	APJDCUCS1	✓	10.66.238.198	Unsupported Cisco Device	M
<input type="checkbox"/>	APJDCUCS3	✓	10.66.238.196	Unsupported Cisco Device	M
<input type="checkbox"/>	ASAv5	✓	10.66.236.62	Unsupported Cisco Device	M
<input type="checkbox"/>	BNE-3850.bnelab.cisco....	✓	10.66.236.246	Cisco Catalyst38xx stack-abl...	M
<input type="checkbox"/>	bne-cm.bnelab.cisco.com	✓	192.168.2.10	Cisco CallManager	M
<input type="checkbox"/>	BNE-LAB-3850-ISE	✗	10.66.236.57	Cisco Catalyst 3850 24P 10/...	M
<input type="checkbox"/>	BNE-ZFSNAS	✓	10.66.238.197	Unsupported Cisco Device	M
<input type="checkbox"/>	CGR1000-2.cisco.com	✓	10.66.238.49	Cisco 1240 Connected Grid ...	M
<input type="checkbox"/>	CGR1000.cisco.com	✓	10.66.238.50	Cisco 1240 Connected Grid ...	M

Configuring Features – Select Feature

Device Group > All Devices > 2951-HQ

2951-HQ

Device Details

Configuration

Applied/Scheduled Templates

Configuration Archive

Image

Features

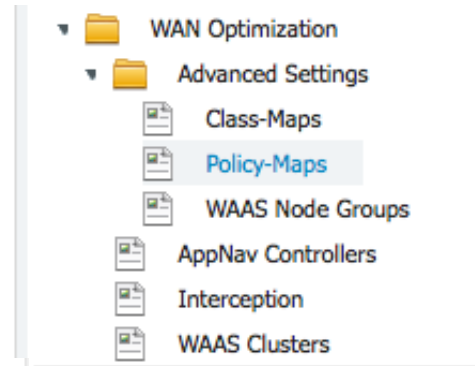
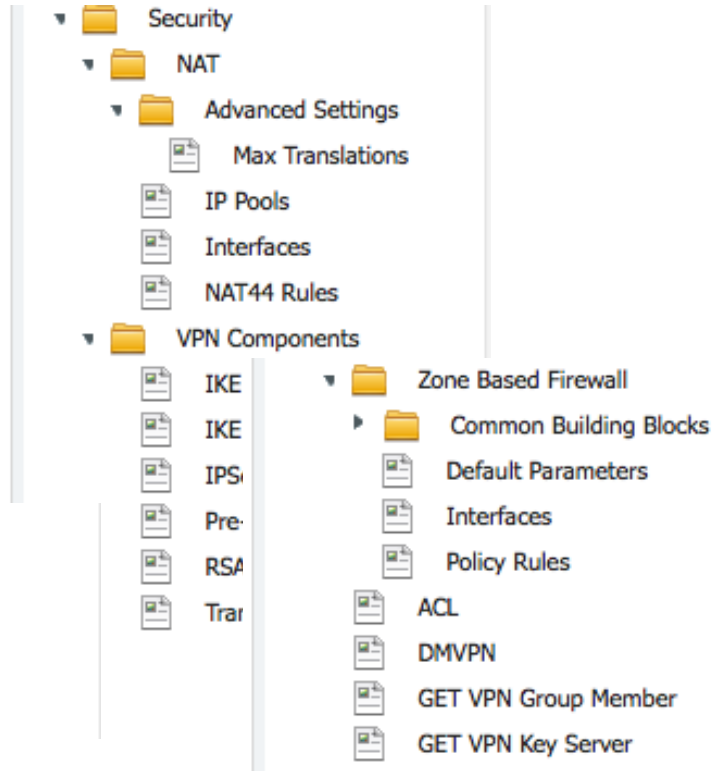
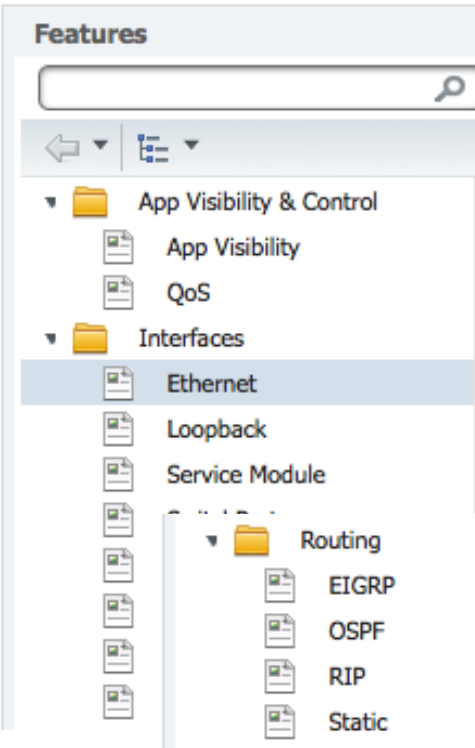
- App Visibility & Control
- Interfaces
 - Ethernet**
 - Loopback
 - Service Module
 - SwitchPort
 - Tunnel
 - Virtual Template
 - Vlan
 - Others
- Routing
- Security
- WAN Optimization

Interfaces


Add Subinterface Edit Delete Enable





<input type="checkbox"/>	Interface	IP Address	Admin Status	Operational Status	Description
<input type="checkbox"/>	▶ GigabitEthernet0/0	10.66.236.61	UP	UP	link to bne-6500 gi3/2
<input type="checkbox"/>	▶ GigabitEthernet0/1	10.66.236.218	UP	DOWN	link to bne-2951-local
<input type="checkbox"/>	▶ GigabitEthernet0/2	10.66.236.221	UP	UP	link to 892-BRX

Configuring Features – Select Feature



Configuring Features – Adding a Subinterface

Interfaces 

 Add Subinterface  Edit  Delete  Disable

<input type="checkbox"/>	Interface	IP Address	Admin Status	Operational Status	Description
<input type="checkbox"/>	▶ GigabitEthernet0/0	10.66.236.61	UP	UP	link to bne-6500 gi3/2
<input checked="" type="checkbox"/>	▶ GigabitEthernet0/1	10.66.236.218	UP	DOWN	link to bne-2951-local
<input type="checkbox"/>	▶ GigabitEthernet0/2	10.66.236.221	UP	UP	link to 892-BRX

Configuring Features – Adding a Subinterface

Create or Edit Ethernet SubInterface

Basic Configuration

Interface Number *

Description

Vlan Number

Native Vlan

IPv4 Address

Primary IP Address

*IP Type

*IP Address /

Configuring Features – Adding a Subinterface

Interfaces

Add Subinterface Edit Delete Disable

<input type="checkbox"/>	Interface	IP Address	Admin Status	Operational Status	Description
<input type="checkbox"/>	▶ GigabitEthernet0/0	10.66.236.61	UP	UP	link to bne-6500 gi3/2
<input checked="" type="checkbox"/>	▼ GigabitEthernet0/1	10.66.236.218	UP	DOWN	link to bne-2951-local

Sub-Interfaces

Edit Delete

<input type="checkbox"/>	Interface	IP Address	Admin Status	Operational Status	Description
<input type="checkbox"/>	GigabitEthernet0/1.1	IPv4 DHCP	UP	DOWN	
<input type="checkbox"/>	GigabitEthernet0/1.300	2.2.2.1	UP	DOWN	Test for CL



Subinterface
Added

```
!  
interface GigabitEthernet0/1.300  
description Test for CL  
encapsulation dot1q 300  
ip address 2.2.2.1 255.255.255.252 BRX  
!
```

<input type="checkbox"/>	▶ GigabitEthernet0/2	10.66.236.221			
--------------------------	----------------------	---------------	--	--	--

Configuring Features – Adding a ACL


Features

Search:

Navigation:

- App Visibility & Control
- Interfaces
- Routing
- Security
 - NAT
 - VPN Components
 - Zone Based Firewall
 - ACL**
 - DMVPN
 - GET VPN Group Member
 - GET VPN Key Server
- WAN Optimization

ACL



		*Name/Number	Applied To
	Delete		
	Add Row		
	Apply to Interface		
<input type="checkbox"/>			
1	<input type="checkbox"/>	100	None
2	<input type="checkbox"/>	waas-wccp-redirect-list	None

Configuring Features – Adding a ACL

ACL

		Delete	Add Row	Apply to Interface			
	<input type="checkbox"/>	*Name/Number	Applied To	Type	Description	Referred	
1	<input type="checkbox"/>	▶ 100	None	EXTENDED	Extended IP access list 100		
2	<input type="checkbox"/>	▶ waas-wccp-redirect-list	None	EXTENDED	WAAS WCCP Pilot Redirect List		
3	<input checked="" type="checkbox"/>	▶ <input type="text" value="CL_Play"/>	<input type="text" value="None"/>	<input type="text" value="EXTENDED"/>	<input type="text" value="CL Play ACL"/>	<input type="text" value="None"/>	

3	<input checked="" type="checkbox"/>	▼ CL_Play	None	EXTENDED	CL Play ACL			
ACEs								
Edit Delete Move to <input type="button" value="Add Row"/>								
	<input type="checkbox"/>	Action	Protocol/SOG	Source IP/NOG	Wild Card:Source	SourcePort	Operator:SP	Destination
No data available								

Configuring Features – Adding a ACL

Add ACE

Action PERMIT

Protocol TCP

***Source IP** 10.66.236.0

Wild Card:Source 0.0.0.64

Source Port Operator GT

Source Port 1024

***Destination IP** 10.66.238.86

Wild Card:Destination

Destination Port Operator EQ

Destination Port 80 (www)

Description Web on 86

ACL

	*Name/Number	Applied To
1	100	None
2	CL_Play	None

ACEs

	Action	Protocol/SOG	Source IP/NOG
1	PERMIT	TCP	10.66.236.0
2	DENY	IP	Any

3 waas-wccp-redirect-list None

Configuring Features – Applying a ACL

ACL

Delete Add Row Apply to Interface

<input type="checkbox"/>	*Name/Number	Applied To	Type
1 <input type="checkbox"/>	▶ 100	None	EXTENDED
2 <input type="checkbox"/>	▶ waas-wccp-redirect-list	None	EXTENDED
3 <input checked="" type="checkbox"/>	▼ CL_Play	None	EXTENDED

ACES

Edit Delete Move to Add Row

<input type="checkbox"/>	Action	Protocol/SOG	Source IP/NOG	Wild Card:Sou
1 <input type="checkbox"/>	PERMIT	TCP	10.66.236.0	0.0.0.64
2 <input type="checkbox"/>	DENY	IP	any	

Select Interface(s)

- OUT:Vlan10
- IN:Vlan11
- OUT:Vlan11
- IN:GigabitEthernet0/0
- OUT:GigabitEthernet0/0
- IN:GigabitEthernet0/1
- OUT:GigabitEthernet0/1
- IN:GigabitEthernet0/2
- OUT:GigabitEthernet0/2
- IN:Loopback0
- OUT:Loopback0
- IN:GigabitEthernet0/1.300
- OUT:GigabitEthernet0/1.30

OK Cancel

Configuring Features – Applying a ACL

ACL

		Delete	Add Row	Apply to Interface	
<input type="checkbox"/>	*Name/Number	Applied To	Type		
1 <input type="checkbox"/>	▶ 100	None	EXTENDED	interface GigabitEthernet0/1.300	
2 <input type="checkbox"/>	▶ waas-wccp-redirect-list	None	EXTENDED	description Test for CL	
3 <input checked="" type="checkbox"/>	▼ CL_Play	OUT:GigabitEthernet0/1.300	EXTENDED	encapsulation dot1q 300	
				ip address 2.2.2.1 255.255.255.252	
				ip access-group CL_Play out	

ACEs

		Edit	Delete	Move to				
<input type="checkbox"/>	Action	Protocol/SOG						
1 <input type="checkbox"/>	PERMIT	TCP						ip access-list extended CL_Play
2 <input type="checkbox"/>	DENY	IP						remark CL Play ACL
								permit tcp 10.66.236.0 0.0.0.64 gt 1024 host 10.66.238.86 eq www
								remark Web on 86
								deny ip any any

ACL Add/Update : Operation Successful.

Save Reset

Warning - Doesn't Overwrite Startup-config

Device Group > All Devices > 2951-HQ

2951-HQ

Device Details

Configuration

Applied/Scheduled Templates

Configuration Archive

Startup/Running Mismatch: **Yes**



Schedule Rollback Schedule Overwrite Edit Tag Schedule Archive Schedule Deploy

	Date	Created By	Tag
<input type="radio"/>	▶ February 11, 2015 6:40:58 PM EST	scotwill	
<input type="radio"/>	▶ February 11, 2015 12:17:09 PM EST	Syslog	
<input type="radio"/>	▶ February 11, 2015 11:54:09 AM EST	Syslog	
<input type="radio"/>	▶ February 3, 2015 12:57:25 PM EST	Syslog	
<input type="radio"/>	▶ January 20, 2015 8:27:14 AM EST	scotwill	

TIP

*copy run start
wri mem*

Warning - Doesn't Overwrite Startup-config

The screenshot shows a 'Configuration Comparison' window with two tabs: 'Processed Configuration' and 'Raw Configuration'. The 'Processed Configuration' tab is active. On the left, a 'Configlets' sidebar is visible, with 'Difference Only' selected and highlighted by a red arrow. The main area is split into two columns. The left column shows the 'Startup Configuration' for '2951-HQ' on February 11, 2015, at 6:40:58 PM EST. It lists 'Interface GigabitEthernet0/1.300' and 'IP AccessList extended CL_Play'. The right column shows the 'Running Configuration' for the same device and time. It lists 'Interface GigabitEthernet0/1.300' with configuration lines: 'ip access-group CL_Play out', 'IP AccessList extended CL_Play', 'ip access-list extended CL_Play', 'remark CL Play ACL', 'permit tcp 10.66.236.0 0.0.0.64 gt 1024 host 10.66.238.86 ex', 'remark Web on 86', and 'deny ip any any'. A legend at the bottom indicates that blue text represents 'Added/Deleted', red text represents 'Updated', and black text represents 'No Change'. A 'Close' button is located in the bottom right corner.

Configuration Comparison

Processed Configuration | Raw Configuration

Configlets

- Configlets
- Difference Only
- All
 - Global
 - IP
 - Flow
 - Voice
 - Archive
 - Redundancy
 - Class Map
 - Policy Map
 - Class
 - Interface
 - IP Router
 - Access Lists

2951-HQ / Startup Configuration / February 11, 2015 6:40:58 PM EST

Interface GigabitEthernet0/1.300

IP AccessList extended CL_Play

2951-HQ / Running Configuration / February 11, 2015 6:40:58 PM EST

Interface GigabitEthernet0/1.300

```
ip access-group CL_Play out
IP AccessList extended CL_Play
ip access-list extended CL_Play
remark CL Play ACL
permit tcp 10.66.236.0 0.0.0.64 gt 1024 host 10.66.238.86 ex
remark Web on 86
deny ip any any
```

■ Added/Deleted ■ Updated ■ No Change

Close

Warning - Doesn't Overwrite Startup-config

Device Group > All Devices > 2951-HQ

2951-HQ

Device Details

Configuration

Applied/Scheduled Templates

Configuration Archive

Startup/Running Mismatch: Yes

Schedule Rollback

Schedule Overwrite

Edit

Date

Schedule Overwrite

WARNING: It copies the running configuration to the startup configuration.

Overwrite Options

Archive after overwrite

Scheduling Options

Job Name Job_Configuration-Overwrite_6_46_59_390_PM_2_11_2015

Start Time Now Date 02/11/2015 06:46 PM (MM/dd/yyyy hh:mm AM/PM)

Submit

Cancel

Configuration Management - Agenda

- Settings for Configuration
- Scenario 1 – Configuring a Device via Features
- Scenario 2 – Creating a Configuration Template
- Scenario 3 – Deploying a Configuration

Why Have Standard Configurations

- Efficient use of resources
- Reduction in errors
- Faster deployment
- Consistency across your environment
- Security

Considerations for Configuration Automation

- Size of your network
- Device Types and Diversity
- Size and Roles of Network Teams
- Level of Perfectionism

Guide to Configuration Management

- Start off Simple
 - Export a Configuration
 - Basic Single CLI Template
 - Break Single CLI Template in Configlets Based on Functions
 - Composite Templates vs Configuration Groups
- Move to Medium
 - Utilise Variables
 - Simple Scripting
- Advanced
 - Complex Scripting
 - Database Lookups
 - Consider APIC-EM

Guide to Configuration Management

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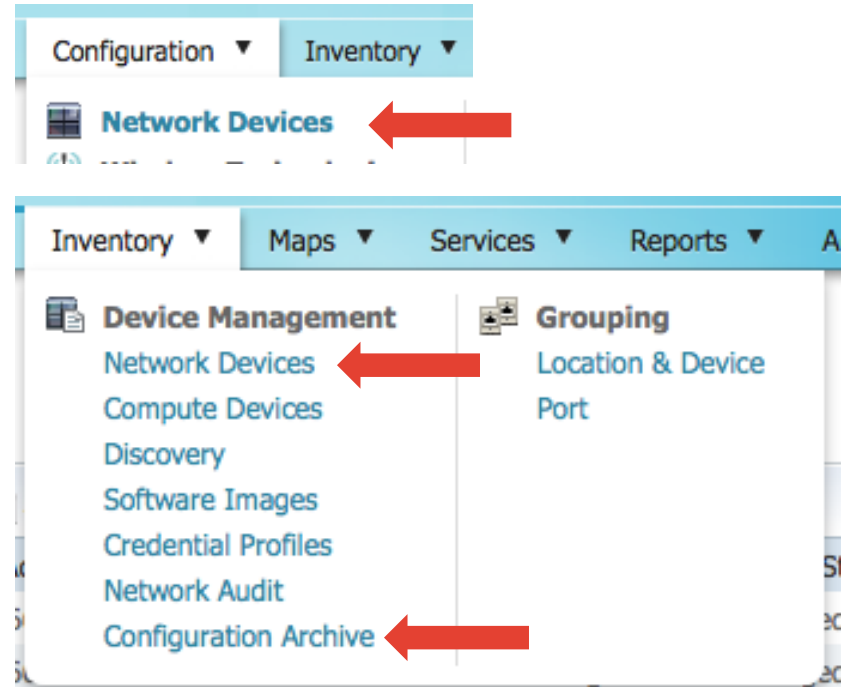
Configuration Template – Export Configuration

Export Configuration

- Telnet/SSH
- Use Prime Export Functionality

Multiple Menu Choices

- Configuration – Network Devices
- Inventory – Network Devices
- Inventory – Configuration Archive



Configuration Template – Export Configuration

Configuration/Inventory – Network Devices

Device Group > All Devices > **CGS2520-1**

CGS2520-1

Device Details Configuration Applied/Scheduled Templates **Configuration Archive** Image

Startup/Running Mismatch: [Yes](#)

Schedule Rollback Schedule Overwrite Edit Tag Schedule Archive Schedule Deploy

Date	Created By	Tag
February 21, 2015 4:59:59 PM EST	Syslog	
Configuration Type		Compare With
Running Configuration		Previous Startup Other Version Other Device
Startup Configuration		Previous Other Version Other Device
Vlan Configuration		

Configuration Template – Export Configuration

Inventory – Configuration Archive

Inventory > Device
Management > Configuration Archive

Configuration Archive

Groups

← ▾ [List Icon] ▾ [Settings Icon]

- All Devices
- ▶ Device Type
- ▶ Location
- User Defined

Groups > All Devices

All Devices

Total Devices: 36

Out Of Sync

Schedule Rollback Schedule Overwrite Edit Tag Schedule

<input type="checkbox"/>	Name	Type	IP Address
▶ <input type="checkbox"/>	CGR1000-2.cisco....	Cisco 1000 Series Conn...	10.66.238
▶ <input type="checkbox"/>	CGR1000.cisco.com	Cisco 1000 Series Conn...	10.66.238
▼ <input type="checkbox"/>	CGS2520-1	Cisco 2500 Series Conn...	10.66.238

	Date	Created By
▼ <input type="radio"/>	February 21, 2015 4:59:59 PM EST	Syslog

Configuration Type ▾

- Running Configuration ←
- Startup Configuration
- Vlan Configuration

Configuration Template – Export Configuration

The screenshot shows the 'Running Configuration' window in Cisco Configuration Assistant. The window title is 'Running Configuration' and it includes a close button (X) in the top right corner. Below the title bar, the configuration details are shown: 'Configuration Details: CGS2520-1 / Running Configuration / February 21, 2015 4:59:59 PM EST'. There are two tabs: 'Processed Configuration' (selected) and 'Raw Configuration'. On the left, there is a 'Configlets' sidebar with a tree view showing 'All' selected. The main area displays the configuration text for the 'All' configlet, starting with 'Global' and listing various system parameters. At the bottom right, there are two buttons: 'Export' and 'Close'. A red arrow points to the 'Export' button.

Running Configuration X

Configuration Details: CGS2520-1 / Running Configuration / February 21, 2015 4:59:59 PM EST

Processed Configuration Raw Configuration

Configlets

- All

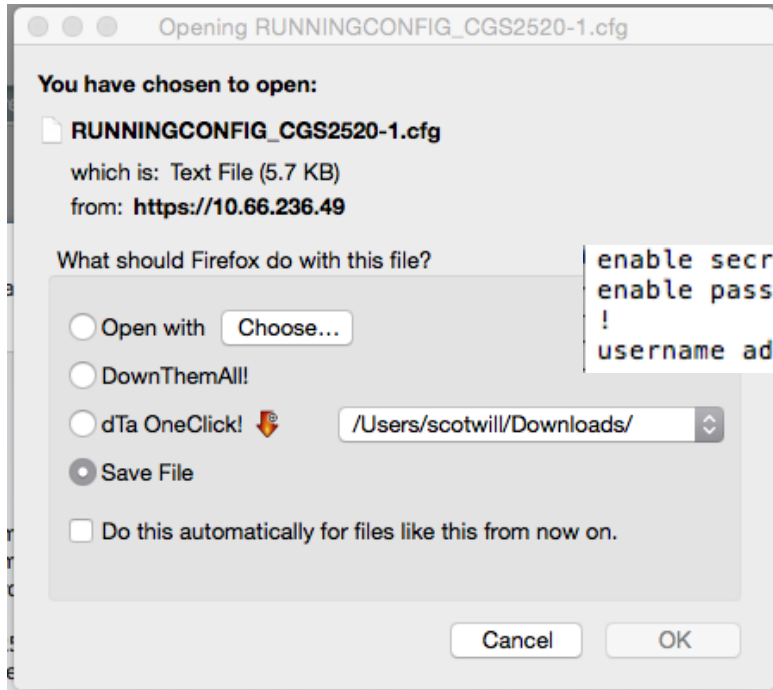
All

Global

```
version 15.0
no service pad
service timestamps debug datetime msec localtime
service timestamps log datetime msec localtime
service password-encryption
no service dhcp
hostname CGS2520-1
boot-start-marker
boot-end-marker
logging buffered 2000000
enable secret 5 *****
enable password 7 *****
username admin privilege 15 secret ***** $1$Z2z3$HJ/3FCmE8FLqQYOwGmPUA1
no aaa new-model
clock timezone EST 10 0
system mtu routing 1500
vtp mode transparent
ptp mode p2ptransparent
alarm profile defaultPort
```

Export Close

Configuration Template – Export Configuration



```
enable secret 5 *****
enable password 7 *****
!
username admin privilege 15 secret ***** $1$Z2z3$HJ/3FCmE8FLqQY0wGmPUA1

snmp-server community ***** RO
snmp-server community ***** RW
snmp-server host 10.66.236.49 *****
snmp-server host 10.66.238.48 *****
snmp-server host 10.66.236.49 *****
```



Configuration Template – Config Security

Administration > Settings > **System Settings**

System Settings

- Account Settings
- Administration
- Client
- Configuration
- Configuration Archive**
- Controller Upgrade Settings
- Data Deduplication
- Data Retention
- Discovery
- Notification
- System Settings

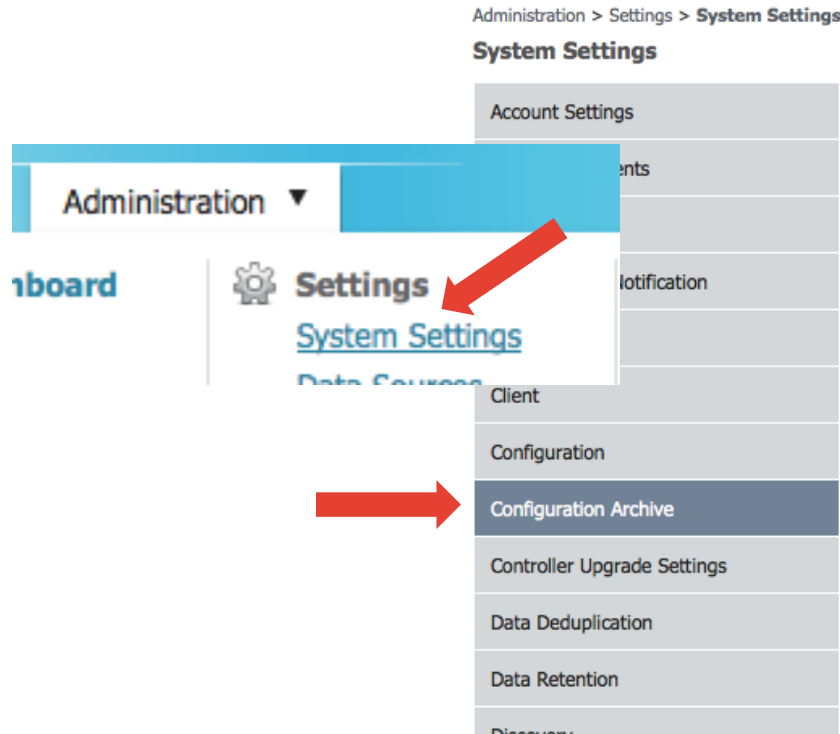
1board

Administration

Settings

System Settings

Data Sources



Configuration Archive

Basic Advanced

Timeout(ms) 360

Summary refresh hold-off time(min) 30

Thread pool count 10

- Archive Configuration out-of-box?
- Archive Configuration after Inventory Sync?
- Archive Configuration on receiving configuration change events?

Hold Off Timer(min) 10

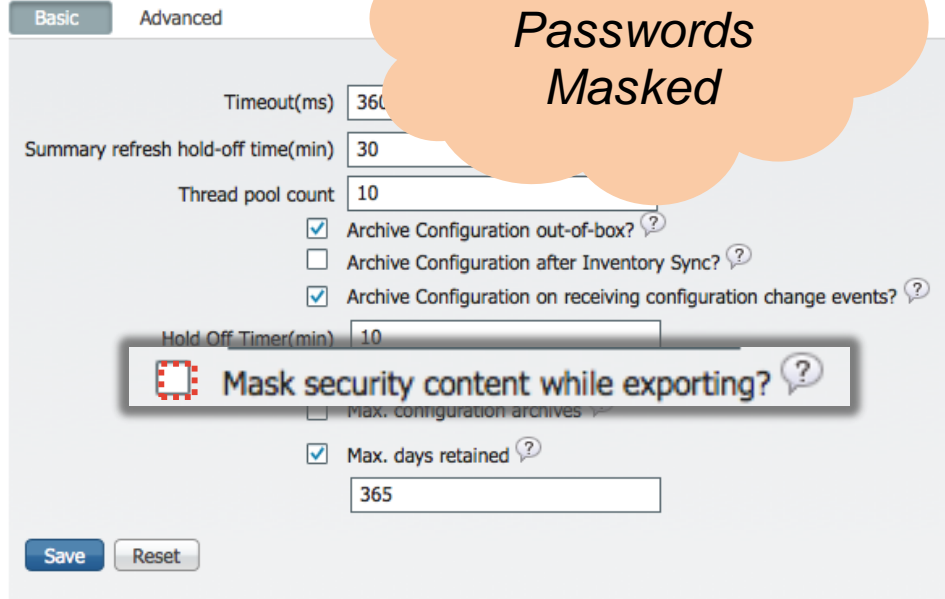
Mask security content while exporting?

Max. configuration archives

Max. days retained

365

Save Reset



TIP
Passwords
Masked

Configuration Template – Export Configuration

Running Configuration
Configuration Details: CGS2520-1 / Running Configuration / February 21, 2015 4:59:59 PM EST

Processed Configuration Raw Configuration

Configlets

- All

All

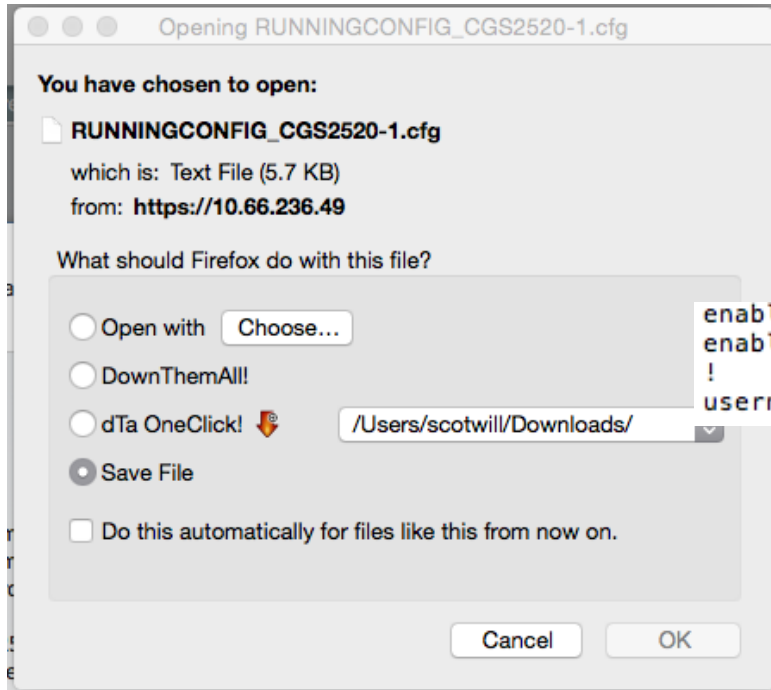
Global

```
version 15.0
no service pad
service timestamps debug datetime msec localtime
service timestamps log datetime msec localtime
service password-encryption
no service dhcp
hostname CGS2520-1
boot-start-marker
boot-end-marker
logging buffered 2000000
enable secret 5 *****
enable password 7 *****
username admin privilege 15 secret ***** $1$Z2z3$HJ/3FCmE8FLqQYOwGmPUA1
no aaa new-model
clock timezone EST 10 0
system mtu routing 1500
vtp mode transparent
ptp mode p2ptransparent
alarm profile defaultPort
```

TIP
Passwords Masked

Export Close

Configuration Template – Export Configuration



```
enable secret 5 $1$y0Ae$uSHuQzdUNFvWgblPSAoGe.  
enable password 7 0307521805006D1D1C5A  
!  
username admin privilege 15 secret 5 $1$Z2z3$HJ/3FCmE8FLq0Y0wGmPUA1  
  
snmp-server community public R0  
snmp-server community private RW  
snmp-server host 10.66.236.49 private  
snmp-server host 10.66.238.48 private  
snmp-server host 10.66.236.49 public
```

Configuration Template

The screenshot displays the Cisco configuration interface. At the top, a blue navigation bar contains the following menu items: Configuration, Inventory, Maps, Services, Reports, and Administration. The 'Configuration' menu is expanded, revealing three main sections: Network Devices, Wireless Technologies, and Templates. The 'Templates' section is further expanded, showing a list of options: Features & Technologies, Shared Policy Objects, Configuration Groups, Controller Configuration Groups, Lightweight Access Points, Autonomous Access Points, Autonomous AP Migration, and Switch Location. Below this list is a 'Scheduled Configuration Task' option. The 'Plug and Play' section is also visible, containing Bootstrap, Initial Device Setup, Controller Auto Provisioning, Profiles, and Status. A red arrow points to the 'Configuration' menu, and another red arrow points to the 'Features & Technologies' link. At the bottom of the interface, the device name 'SW-RK1-01' and IP address '10.66.236.9' are displayed, along with a 11% battery indicator.

Configuration ▾ Inventory ▾ Maps ▾ Services ▾ Reports ▾ Administration ▾

- Network Devices**
- Wireless Technologies**
 - Chokepoints
 - WiFi TDOA Receivers
 - Access Points Radios
- Templates**
 - Features & Technologies
 - Shared Policy Objects
 - Configuration Groups
 - Controller Configuration Groups
 - Lightweight Access Points
 - Autonomous Access Points
 - Autonomous AP Migration
 - Switch Location
- Scheduled Configuration Task**
- Plug and Play**
 - Bootstrap
 - Initial Device Setup
 - Controller Auto Provisioning
 - Profiles
 - Status

SW-RK1-01 10.66.236.9 11%

Configuration Template – CLI Template Options

Configuration > Templates > **Features & Technologies**

Features & Technologies

Templates

Features and Technologies

CLI Templates

Composite Templates

Feature Templates

My Tags

My Templates

Built-in Templates

CLI Templates

- System Templates - CLI
 - 802.1X Change of Authorization-IOS
 - AP Primary Sec Ter Controller Config
 - Access Layer-IOS
 - Authentication Priority
 - Authentication Proxy-IOS For IOS Version above
 - Authentication Proxy-IOS
 - Banner Configuration-IOS
 - CUWN-IOS and UA Ether Channel Configuration
 - CUWN-IOS and UA Radius Auth Server
 - CUWN-IOS and UA User Role Police Parameters
 - Catalyst 3850 Switch Priority
 - Certificate Authority-IOS
 - Collecting Traffic Statistics
 - Configure Device IP
 - Configure FTP TFTP Source Interface

Your Own Templates

CLI Templates

- System Templates - CLI
 - CLI

Configuration Template – Basic Single CLI Template

Configuration > Templates > **Features & Technologies**

Features & Technologies

Templates



▶ Features and Technologies

▼ CLI Templates

▶ System Templates - CLI

CLI

▶ Composite Templates

▶ Feature Templates

▶ My Tags

▶ My Templates

Templates > CLI Templates > CLI

CLI

▼ Template Basic

* Name

Author

Description

Feature Category **CLI**

Tags

▼ Validation Criteria

* Device Type

OS Version

▼ Template Detail

CLI Content Form View

Save as New Template

Cancel

Configuration Template – Basic Single CLI Template

Configuration > Templates > Features & Technologies

Features & Technologies

The screenshot shows the 'Templates' section of the configuration interface. A search bar is at the top. Below it are navigation icons. The main area displays a tree view of templates:

- Features and Technologies
- CLI Templates
 - System Templates - CLI
 - CLI
- Composite Templates
- Feature Templates
- My Tags
- My Templates (highlighted with a blue dashed border and a plus icon)
- CLI Templates (L)
- Discovered Templates

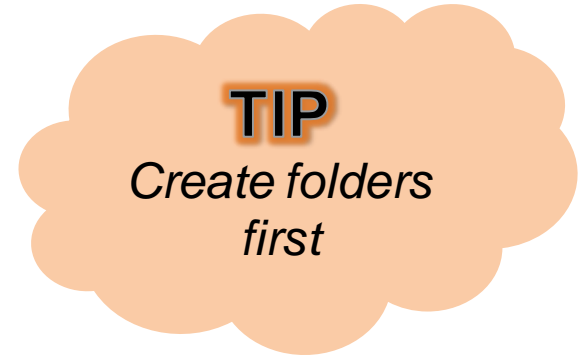
Templates > My Template

C_NTP

Template Basic

The 'My Templates' dialog box is open, showing the following information:

- Group Name: **My Templates**
- No of Children: **2**
- Actions:
 - Add Folder

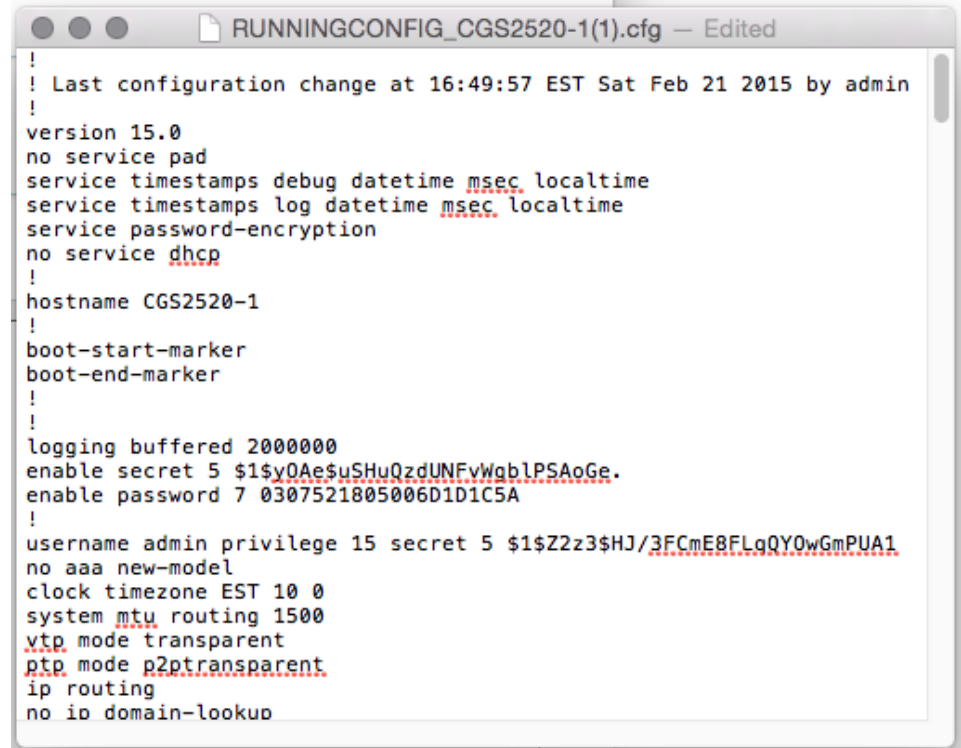


The 'Create Folder' dialog box is open, showing the following information:

- *Name:
- Buttons: Create, Cancel

Configuration Template – Basic Single CLI Template

- Open Exported Config
- Copy and Paste into CLI Template
- Save as New Template



```
!
! Last configuration change at 16:49:57 EST Sat Feb 21 2015 by admin
!
version 15.0
no service pad
service timestamps debug datetime msec localtime
service timestamps log datetime msec localtime
service password-encryption
no service dhcp
!
hostname CGS2520-1
!
boot-start-marker
boot-end-marker
!
!
logging buffered 2000000
enable secret 5 $1$y0Ae$uSHuQzdUNFvWqblPSAoGe.
enable password 7 0307521805006D1D1C5A
!
username admin privilege 15 secret 5 $1$Z2z3$HJ/3FCmE8FLqOY0wGmPUA1
no aaa new-model
clock timezone EST 10 0
system mtu routing 1500
vtp mode transparent
ptp mode p2pttransparent
ip routing
no ip domain-lookup
```

Configuration Template – Basic Single CLI Template

▼ Template Detail

CLI Content

Form View



```
!  
! Last configuration change at 16:49:57 EST Sat Feb 21 2015 by admin  
!  
version 15.0  
no service pad  
service timestamps debug datetime msec localtime  
service timestamps log datetime msec localtime  
service password-encryption  
no service dhcp  
!  
hostname CGS2520-1  
!  
boot-start-marker  
boot-end-marker  
!  
!  
logging buffered 2000000
```

Save as New Template

Cancel

Configuration Template – Configlets

Template Basic

* Name: C_NTP
Description: NTP Common Config
Tags: Common

Validation Criteria

* Device Type: [Dropdown]

Template Detail

CLI Content | Form View

```
ntp server 10.66.236.1
```

Save as New Template | Cancel

Device Type

- Cisco Interfaces and Modules
- Routers
- Storage Network
- Switches and H
- Voice and Telep
- Wireless Contro
- Cisco Catalyst 3750-X Series Switches
- Cisco Catalyst 3750X-12S-S Switch
- Cisco Catalyst 3750X-24P-L,S Switch
- Cisco Catalyst 3750X-24S-S Switch
- Cisco Catalyst 3750X-24T-L,S Switch
- Cisco Catalyst 3750X-48PF-L,S Switch

Clear Selections

OK | Cancel

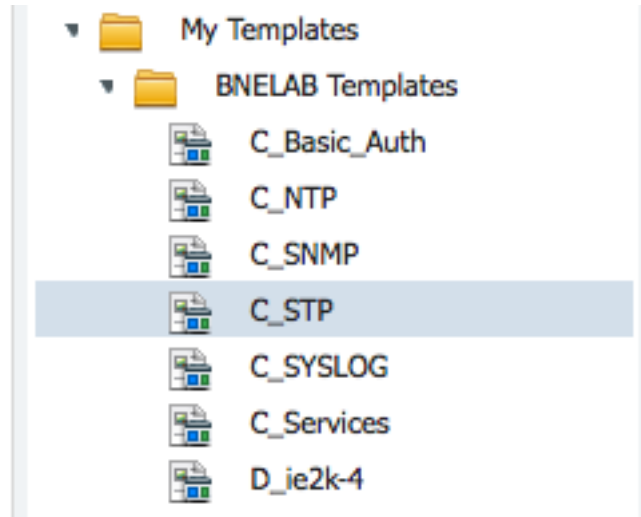
Save Template

* Folder: BNELAB Templates

Save | Cancel

Configuration Template – Configlets

We end up with a number Configlets



What Next?

Tie all these Configlets Together

- Composite Templates

Configuration > Templates > **Features & Technologies**

Features & Technologies

Templates

Features and Technologies

CLI Templates

Composite Templates

- System Templates - Composite
- Composite Templates

Feature Templates

My Tags

My Templates

- Configuration Groups

Configuration > Templates > **Configuration Groups**

Configuration Groups

Configuration Group

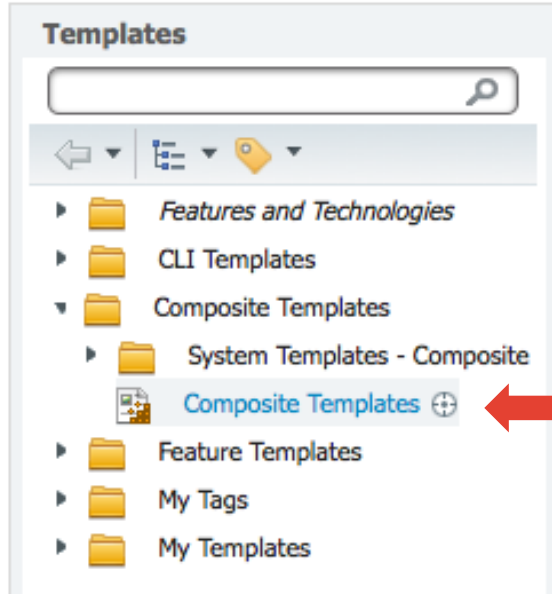
Configuration Group

Configuration Group

Composite Templates

Configuration > Templates > **Features & Technologies**

Features & Technologies



The screenshot shows the 'Templates' section of the Cisco configuration interface. It includes a search bar, navigation icons, and a list of folders. The 'Composite Templates' folder is expanded, showing sub-folders like 'System Templates - Composite' and 'Composite Templates'. A red arrow points to the '+' icon next to the 'Composite Templates' folder, indicating that it is the active selection.

- ▶ *Features and Technologies*
- ▶ CLI Templates
- ▼ Composite Templates
 - ▶ System Templates - Composite
 - Composite Templates** +
- ▶ Feature Templates
- ▶ My Tags
- ▶ My Templates

Composite Templates

▼ Template Basic

* Name


Description

Tags 

Author






Feature Category **Composite Template**


▼ Validation Criteria

Device Type 

▼ Template Detail

Selected 0 | Total 0 

 Delete  Move to    Add

Show 

<input type="checkbox"/>	Name	Group	Description	Feature Category	Device Type	IOS Version
--------------------------	------	-------	-------------	------------------	-------------	-------------

No data available

Composite Templates

Template Detail

Delete Move to Add

<input type="checkbox"/>	Name	Group
--------------------------	------	-------

No data available



Templates

- My Templates
 - BNELAB Templates
 - C_Basic_Auth
 - C_NTP
 - C_SNMP
 - C_STP
 - C_SYSLOG
 - C_Services
 - D_ie2k-4
 - System Templates - CLI

Add Cancel

Template Detail

Delete Move to Add

	<input type="checkbox"/>	Name	Group
1	<input type="checkbox"/>	C_BASIC_AUTH	My templates/BNELAB...
2	<input type="checkbox"/>	C_NTP	My Templates/BNELAB...
3	<input type="checkbox"/>	C_SNMP	My Templates/BNELAB...
4	<input type="checkbox"/>	C_STP	My Templates/BNELAB...
5	<input type="checkbox"/>	C_SYSLOG	My Templates/BNELAB...
6	<input type="checkbox"/>	C_Services	My Templates/BNELAB...

Save as New Template

Cancel



Composite Templates

Templates > My Templates > BNELAB Templates > BNELAB_Switch

Configuration > Templates > Features & Technologies

BNELAB_Switch

Features & Technologies

Templates



- Features and Technologies
- CLI Templates
- Composite Templates
- Feature Templates
- My Tags
- My Templates
 - BNELAB Templates
 - BNELAB_Switch**
 - C_Basic_Auth
 - C_NTP
 - C_SNMP
 - C_STP

Template Basic

* Name
Description
Tags

Author

Feature Category **Composite Template**

Validation Criteria

Device Type

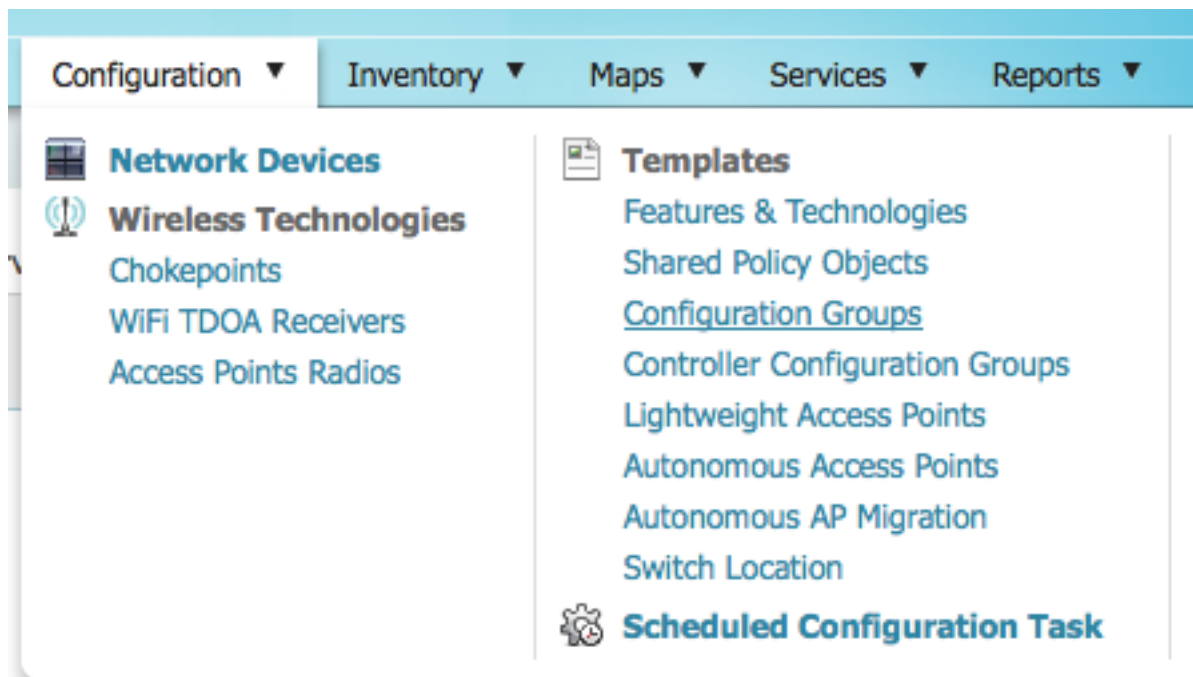
Template Detail

Selected 0 | Total 6

✕ Delete Move to Add Show All

	<input type="checkbox"/>	Name	Group	Description	Feature Category	Device Type	IOS Version
1	<input type="checkbox"/>	C_Basic_Auth	My Templates/BNELAB...		CLITemplate	Routers,Switches and ...	
2	<input type="checkbox"/>	C_NTP	My Templates/BNELAB...	NTP Common Config	CLITemplate	Routers,Switches and ...	
3	<input type="checkbox"/>	C_SNMP	My Templates/BNELAB...		CLITemplate	Routers,Switches and ...	
4	<input type="checkbox"/>	C_STP	My Templates/BNELAB...		CLITemplate	Switches and Hubs	
5	<input type="checkbox"/>	C_SYSLOG	My Templates/BNELAB...		CLITemplate	Routers,Switches and ...	
6	<input type="checkbox"/>	C_Services	My Templates/BNELAB...		CLITemplate	Routers,Switches and ...	





Configuration Groups



The screenshot displays a navigation menu with the following structure:

- Configuration ▾
- Inventory ▾
- Maps ▾
- Services ▾
- Reports ▾

Under the Configuration menu, the following items are listed:

-  **Network Devices**
-  **Wireless Technologies**
 - Chokepoints
 - WiFi TDOA Receivers
 - Access Points Radios
-  **Templates**
 - Features & Technologies
 - Shared Policy Objects
 - Configuration Groups
 - Controller Configuration Groups
 - Lightweight Access Points
 - Autonomous Access Points
 - Autonomous AP Migration
 - Switch Location
-  **Scheduled Configuration Task**

Configuration Group Basic

*Name Author
Description

Validation Criteria

Device Type

Template Selection

Selected Templates

	<input type="checkbox"/>	Name	Group	Description	Feature Category
1	<input type="checkbox"/>	C_Basic_Auth	My Templates/BNELA...		CLITemplate
2	<input type="checkbox"/>	C_NTP	My Templates/BNELA...	NTP Common Config	CLITemplate
3	<input type="checkbox"/>	C_SNMP	My Templates/BNELA...		CLITemplate
4	<input type="checkbox"/>	C_SYSLOG	My Templates/BNELA...		CLITemplate

Device Selection

To enable device selection at least one template needs to be added to the 'Selected Templates' table
Add and select devices to save the configuration group for deployment.

Selected Devices

	<input type="checkbox"/>	Name	Description	Type	IP Address	Vendor
1	<input type="checkbox"/>	ie2k-8port	ie2k-8port	Switches and Hubs	10.66.238.37	Cisco
2	<input type="checkbox"/>	CGS2520-2	CGS2520-2	Switches and Hubs	10.66.238.43	Cisco
3	<input type="checkbox"/>	CGS2520-1	CGS2520-1	Switches and Hubs	10.66.238.42	Cisco
4	<input type="checkbox"/>	ie2ku	ie2ku	Switches and Hubs	10.66.238.36	Cisco
5	<input type="checkbox"/>	ie2k-4port	ie2ku	Switches and Hubs	10.66.238.35	Cisco

Templates

← ▾ ▾

- My Templates
 - BNELAB Templates
 - C_Basic_Auth
 - C_NTP
 - C_SNMP
 - C_STP
 - C_SYSLOG
 - C_Services
 - D_ie2k-4
 - System Templates - C

Device Details

Devices

- Name
 - SW-FRASER-01
 - 4451-Branch
 - ie2k-8port
 - 4500X-1
 - CGS2520-2
 - CGS2520-1
 - CGR1000-2 cisco.com

▼ Configuration Group Basic

*Name Author
Description

▼ Validation Criteria

Device Type

▼ Template Selection

Selected Templates

Selected 0 | Total 4

Delete Move to Add Show

	<input type="checkbox"/>	Name	Group	Description	Feature Category	Device Type	IOS Version
1	<input type="checkbox"/>	C_Basic_Auth	My Templates/BNELA...		CLITemplate	Routers,Switches and...	
2	<input type="checkbox"/>	C_NTP	My Templates/BNELA...	NTP Common Config	CLITemplate	Routers,Switches and...	
3	<input type="checkbox"/>	C_SNMP	My Templates/BNELA...		CLITemplate	Routers,Switches and...	
4	<input type="checkbox"/>	C_SYSLOG	My Templates/BNELA...		CLITemplate	Routers,Switches and...	

▼ Device Selection

To enable device selection at least one template needs to be added to the 'Selected Templates' table
Add and select devices to save the configuration group for deployment.

Selected Devices

Selected 0 | Total 5

Delete Add Show

	<input type="checkbox"/>	Name	Description	Type	IP Address	Vendor
1	<input type="checkbox"/>	ie2k-8port	Cisco IOS Software, IE2000 ...	Switches and Hubs	10.66.238.37	Cisco
2	<input type="checkbox"/>	ie2ku	Cisco IOS Software, IE2000U...	Switches and Hubs	10.66.238.36	Cisco
3	<input type="checkbox"/>	CGS2520-1	Cisco IOS Software, CGS252...	Switches and Hubs	10.66.238.42	Cisco
4	<input type="checkbox"/>	ie2k-4port	Cisco IOS Software, IE2000 ...	Switches and Hubs	10.66.238.35	Cisco
5	<input type="checkbox"/>	CGS2520-2	Cisco IOS Software, CGS252...	Switches and Hubs	10.66.238.43	Cisco

Template Deployment- Prepare and schedule : BNELAB_Switch

Templates

Total 4



	Name	Revision	Group	Description	Feature Category	Device Type	IOS Version
1	C_Basic_Auth		My Templates/BNELA...		CLITemplate	Routers,Switches and Hubs	
2	C_NTP		My Templates/BNELA...	NTP Common Config	CLITemplate	Routers,Switches and Hubs	
3	C_SNMP		My Templates/BNELA...		CLITemplate	Routers,Switches and Hubs	
4	C_SYSLOG		My Templates/BNELA...		CLITemplate	Routers,Switches and Hubs	

Deployed on Device

Total 5



Show

	Name	Description	Type	IP Address	Vendor	Status
1	ie2k-8port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.37	Cisco	PENDING
2	ie2ku	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.36	Cisco	PENDING
3	CGS2520-1	Cisco IOS Software, C...	Switches and Hubs	10.66.238.42	Cisco	PENDING
4	ie2k-4port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.35	Cisco	PENDING
5	CGS2520-2	Cisco IOS Software, C...	Switches and Hubs	10.66.238.43	Cisco	PENDING

OK

Cancel

▼ Value Assignment

Select Template ▼

Devices

- | Name |
|----------------------------------|
| <input type="radio"/> ie2k-8port |
| <input type="radio"/> ie2ku |
| <input type="radio"/> CGS2520-1 |

▼ Job Option

Failure Policy Ignore failure and continue ▼

Copy Running Config to Startup

Archive Config after Deploy ?

► Summary

Start time Now ▼ Date 02/21/2015 04:15 PM ⌘ (mm/dd/yyyy hh:mm AM/PM)








Recurrence None Minute Hourly Daily Weekly Monthly Yearly

OK

Cancel

OK

Cancel

 Delete  Edit Schedule  Run  Cancel  Abort  Pause Series  Resume Series

<input type="checkbox"/>	Name	Job Type	Status	Last Run Status
<input checked="" type="checkbox"/>	BNELAB_Switch_2	Config Deploy - Deploy View	Completed	Success
<input type="checkbox"/>	Weekly Config Archive	Configuration Archive	Scheduled	Partial-Success

Details

History

Creation Time **2015-02-21 16:24** Recurrence **None**

Job summary **Successful deployment on 5 device(s).**

Job Results for BNELAB_Switch

Device	Status	Transcript
10.66.238.35	Success	Deploy Success
10.66.238.37	Success	Deploy Success
10.66.238.42	Success	Deploy Success
10.66.238.43	Success	Deploy Success
10.66.238.36	Success	Deploy Success

How to Check if the Current Config is Deployed

Configuration > Templates > Configuration Groups

Configuration Groups

Configuration Group



Configuration Group

BNELAB_Switch

Configuration Group

Save Save as New Configuration Group Cancel Deploy

Total 5

Show All

	Type	IP Address	Vendor	Status	
1 ie2k-8port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.37	Cisco	SUCCESS
2 ie2ku	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.36	Cisco	SUCCESS
3 CGS2520-1	Cisco IOS Software, C...	Switches and Hubs	10.66.238.42	Cisco	SUCCESS
4 ie2k-4port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.35	Cisco	SUCCESS
5 CGS2520-2	Cisco IOS Software, C...	Switches and Hubs	10.66.238.43	Cisco	SUCCESS

Modify One of the Templates

Configuration > Templates > **Features & Technologies**

Features & Technologies

Templates

Search:

← ▾ [List View] [Favorite] ▾

- ▶ Features and Technologies
- ▶ CLI Templates
- ▶ Composite Templates
- ▶ Feature Templates
- ▶ My Tags
- ▶ My Templates
- ▶ **BNELAB Templates**
 - ▶ BNELAB_Switch
 - ▶ C_Basic_Auth
 - ▶ C_NTP
 - ▶ C_SNMP
 - ▶ C_STP
 - ▶ **C_SYSLOG** ←
 - ▶ C_Services

Template Basic

* Name:

Description:

Tags: ?

Validation Criteria

*Device Type: ?

Template Detail

CLI Content Form View

```
logging host 10.66.236.49
logging host 10.66.236.48
```

Add another syslog server

How to Tell if You Need to Re-deploy

Configuration > Templates > Configuration Groups

Configuration Groups

Configuration Group



Configuration Group

BNELAB_Switch

Configuration Group

Save

Save as New Configuration Group

Cancel

Deploy

Total 5

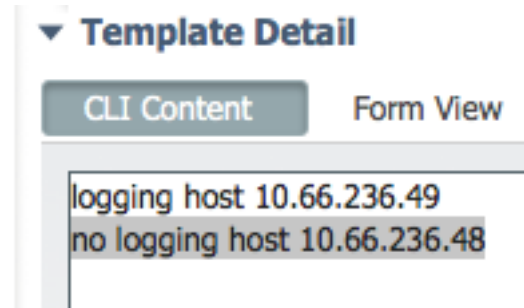
Show

All

	Name	Description	Type	IP Address	Vendor	Status
1	ie2k-8port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.37	Cisco	PENDING
2	ie2ku	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.36	Cisco	PENDING
3	CGS2520-1	Cisco IOS Software, C...	Switches and Hubs	10.66.238.42	Cisco	PENDING
4	ie2k-4port	Cisco IOS Software, IE...	Switches and Hubs	10.66.238.35	Cisco	PENDING
5	CGS2520-2	Cisco IOS Software, C...	Switches and Hubs	10.66.238.43	Cisco	PENDING

Points on Configuration Groups

- It does not do a compare
- It is additive only
- Example to remove a known syslog server will need the 'NO' command



Guide to Configuration Management

- Start off Simple
 - Export a Configuration
 - Basic Single CLI Template
 - Break Single CLI Template in Configlets Based on Functions
 - Composite Templates vs Configuration Groups
- Move to Medium
 - Utilise Variables
 - Simple Scripting

Configuration – Using Variables

- Data Types for Variables
 - Drop-down
 - Radio Button
 - Check box
 - Text Area – Multi-line field, example Banner and MOTD
 - String – can include validation and default value
 - Integer – can include validation, default value and range
 - DB – lookup of internal DB for values
 - IPv4 Address – IP address only, can include validation and default value
- Variables are per template and not global

Configuration – Using Variables

Drop Down

Configuration > Templates > Features & Technologies

Features & Technologies

Templates

Features and Technologies

CLI Templates

Composite Templates

Feature Templates

My Tags

My Templates

BNELAB Templates

- BNELAB_Switch
- C_Basic_Auth
- C_NTP
- C_SNMP
- C_STP
- C_SYSLOG
- C_Services
- D_CGS2520
- D_ie2k-4

Template Detail

CLI Content Form View

```
ntp server 10.66.236.1
```

Original NTP CLI Configlet

Template Detail

CLI Content Form View

```
ntp server $NTP_Server
```

Manage Variables

If highlighted then the Variable is automatically created

Configuration – Using Variables

Drop Down

Variable name : the string that will appear after the '\$' in your template

Type : type of form field

Display Label : What to show in the GUI

Description : Help text

Required : Whether or not the field is required

Managed Variables

Edit Add Row Delete

Name	Type	Display Label	Description	Required
NTP_Server	Dropdown	NTP_Server	NTP Server	<input checked="" type="checkbox"/>

Default Value 36.1,10.66.236.250,64.104.222.16 ?

Save

Cancel

Values are comma separated

Add To CLI

Close

Configuration – Using Variables

Radio Button

▼ NTP_Server2 Radio Button ▼ NTP Server 2 10.66.236.1 ,10.66.236.250

Default Value ?

Values are comma separated

Configuration – Using Variables

Checkbox

The screenshot shows a configuration interface for a variable. At the top, there is a search bar with a dropdown arrow, followed by a text input field containing 'prefer', a dropdown menu set to 'Checkbox', a text input field containing 'NTP ServerPrefer', another text input field containing 'NTP Server Prefer', and a checked checkbox. Below this, there is a 'Default Value' label, a text input field containing 'false', and a help icon (a question mark in a speech bubble). At the bottom left, there are two buttons: 'Save' and 'Cancel'.

Values can be anything?
But only **true** and **false** are
recognised, default is **true**.

Configuration – Using Variables

How does this look for the user and in CLI

▼ **Template Detail**

CLI Content **Form View**

*NTP_Server 10.66.236.1

*NTP ServerPrefer

*NTP Server 2 10.66.236.1 10.66.236.250 64.104.222.16

Templates can be as simple as straight CLI, or marked up with programmatic logic using the Apache Velocity Template Language (see <https://velocity.apache.org/engine/releases/velocity-1.5/user-guide.html> for the reference).

Simple scripting –
if, else

▼ **Template Detail**

CLI Content **Form View**

```
#if ( ${prefer} eq "true" )
  ntp server $NTP_Server prefer
#else
  ntp server $NTP_Server
#end
ntp server $NTP_Server2
```

Programmatic Velocity logic

Straight CLI

Configuration – Using Variables

Text Area

Name	Type	Display Label	Description	Required
MOTD	Text Area	Message of the Day	Enter MOTD Message	<input type="checkbox"/>

Validation Expression	<input type="text"/>	?
Default Value	If you are not Unauthorised to log	?

Configuration – Using Variables

String

▼ encap String Encapsulation (Enter dot1q, isl or ne Encapsulation (Enter dot1q,

Validation Expression

Default Value

Configuration – Using Variables

Integer

Timeout Integer Console Timeout Console Timeout

Range From To

Validation Expression ?

Default Value ?

Configuration – Using Variables

IPv4 Address

Validation Expression ?

Default Value ?

Configuration – Using Variables

DB

▼ DB_serial DB Device Serial Number Device Serial Number

Validation Expression ?

Default Value ?

Configuration – Using Variables

DB

- IntfName=select u.name from EthernetPro
- UpIntfName=select u.name from Ethernet
- DownIntfName=select u.name from Ethern
- AllIntf=select u.name from EthernetProtoc
- EveryIntf=select u.name from InterfacePro
- DeviceName=select u.name from Network
- ProductSeries=select u.productSeries.valu
- tyld = select u.sysObjectId from Manag
- IPAddress=select replace(u.management
- SoftwareVersion=select u.softwareVersion
- SerialNumber=select u.serialNumber from
- ModelNumber=select u.partNumber from
- ImageName=select u.imageName from Sc
- ImageFileName=select u.installPath from
- ImageVersion=select u.imageVersion from
- VlanId=select STR(u.vlanId) from VLANIn
- VlanName=select vlan.name from VLANIn
- ProductType=select u.productType.value f

- Additional data can be extracted from the database and used in Velocity expressions
- Reference server file
`/opt/CSColumos/conf/ifm/template/inventoryTagsInTemplate/CLITemplateDbVariablesQuery.properties`
for existing keys or to define your own using SQL
- Define variables in the feature templates using the DB type
- Variable values will be enclosed in '[' '']; E.g.:

```
- #if ($SerialNumber == "[FDO1323Z10Q] ")
```


Configuration Management - Agenda

- Settings for Configuration
- Scenario 1 – Configuring a Device via Features
- Scenario 2 – Creating a Configuration Template
- Scenario 3 – Deploying a Configuration

Deploy

Templates > My Templates > BNELAB Templates > C_NTP

C_NTP

▼ Template Basic

* Name
Description
Tags ?

▼ Validation Criteria

*Device Type ?

▼ Template Detail

CLI Content Form View

```
#if ( ${prefer} eq "true" )  
ntp server $NTP_Server prefer  
#else  
ntp server $NTP_Server  
#end  
ntp server $NTP_Server2
```

Save

Save as New Template

Cancel

Deploy



Template Deployment- Prepare and schedule : C_NTP

▶ Device Selection

▶ Value Assignment

▶ Schedule

▶ Job Option

▶ Summary

Deploy

Template Deployment- Prepare and schedule : C_NTP

Device Selection

Devices

Show All

<input checked="" type="checkbox"/> Name	Description	Type	IP Address/DNS	Vendor
<input type="checkbox"/> CGR1000.cisco.com	CGR1000.cisco.com	Routers	10.66.238.50	Cisco
<input type="checkbox"/> ie2ku	ie2ku	Switches and Hubs	10.66.238.36	Cisco
<input type="checkbox"/> FAN-819.yourdomain.com	FAN-819.yourdomain.com	Routers	10.66.238.44	Cisco
<input checked="" type="checkbox"/> ie2k-4port	ie2k-4port	Switches and Hubs	10.66.238.35	Cisco
<input type="checkbox"/> RT-BNELAB.bnelab.cisco.com	RT-BNELAB.bnelab.cisco.com	Routers	10.66.232.110	Cisco
<input type="checkbox"/> Device Type	Device Type			
<input type="checkbox"/> Location	Location based groups			
<input type="checkbox"/> User Defined	User Defined Device Groups			

Select Devices or
Groups

Deploy

Value Assignment

Devices

- | Name |
|---|
| <input checked="" type="radio"/> All Selected Devices |
| <input type="radio"/> ie2k-4port |

*NTP_Server

10.66.236.1

*NTP ServerPrefer

*NTP Server 2 10.66.236.1 10.66.236.250 64.104.222.16

Apply



Import and Export
Variables via CSV

TIP

*Make sure you
apply the
Variables here*



Success

Global value(s) customized for C_NTP.

Deploy

▼ Schedule

Job Name

Start Time Now Date (MM/dd/yyyy hh:mm AM/PM)

Recurrence None Minute Hourly Daily Weekly Monthly Yearly

Schedule Time and
Recurrence

Deploy

▼ Job Option

Failure Policy

Copy Running Config to Startup

Archive Config after Deploy ?

Can be set or overridden here
from System Settings

▼ Summary

Template **C_NTP**

Deploy to number of devices **1**

Deployment scheduled at **2015-Feb-22 15:04:00 AEST**

OK Cancel

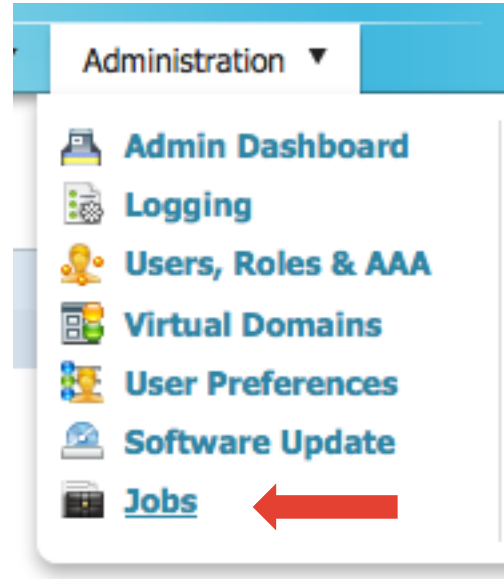
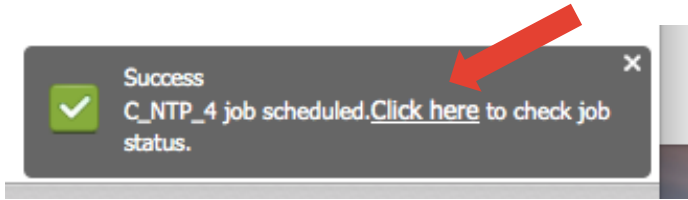


Success

C_NTP_4 job scheduled. [Click here](#) to check job status.

Cisco live!

Deploy – Check Status



Deploy – Check Status








Administration > Jobs

Jobs

User-Defined

System-Defined

System-Defined-Poller

 Delete  Edit Schedule  Run  Cancel  Abort  Pause Series  Resume Series

<input type="checkbox"/>	Name	Job Type	Status	Last Run Status	Last Start Time	Duration (Hrs : Min : Sec)
<input checked="" type="checkbox"/>	C_NTP_4	Config Deploy - Deploy View	Completed	Success	2015-02-22 15:09	00 : 00 : 02
<input type="checkbox"/>	C_NTP_3	Config Deploy - Deploy View	Completed	Success	2015-02-22 14:59	00 : 00 : 02
<input type="checkbox"/>	C_NTP_2	Config Deploy - Deploy View	Completed	Success	2015-02-22 14:56	00 : 00 : 02
<input type="checkbox"/>	C_NTP_1	Config Deploy - Deploy View	Completed	Failure	2015-02-22 14:32	00 : 00 : 02
<input type="checkbox"/>	Job_Configuration-Overwrite_9_42_05_647_AM_2...	Configuration Overwrite	Completed	Success	2015-02-22 09:42	00 : 00 : 04
<input type="checkbox"/>	BNELAB_Switch_5	Config Deploy - Deploy View	Completed	Success	2015-02-21 16:49	00 : 00 : 07
<input type="checkbox"/>	BNELAB_Switch_4	Config Deploy - Deploy View	Completed	Success	2015-02-21 16:41	00 : 00 : 07
<input type="checkbox"/>	BNELAB_Switch_3	Config Deploy - Deploy View	Completed	Success	2015-02-21 16:37	00 : 00 : 07
<input type="checkbox"/>	BNELAB_Switch_2	Config Deploy - Deploy View	Completed	Success	2015-02-21 16:24	00 : 00 : 07

Deploy – Check Status








Administration > Jobs

Jobs

User-Defined

System-Defined

System-Defined-Poller

 Delete  Edit Schedule  Run  Cancel  Abort  Pause Series  Resume Series

<input type="checkbox"/>	Name	Job Type	Status	Last Run Status	Last Start Time	Duration (Hrs : Min : Sec)
<input checked="" type="checkbox"/>	C_NTP_4	Config Deploy - Deploy View	Completed	Success	2015-02-22 15:09	00 : 00 : 02
<input type="checkbox"/>	C_NTP_3	Config Deploy - Deploy View	Completed	Success	2015-02-22 14:59	00 : 00 : 02

Details History

Creation Time **2015-02-22 15:09** Recurrence **None**

Job summary **Successful deployment on 1 device(s).**

Job Results for C_NTP

Device	Status	Transcript
10.66.238.35	Success	configlet: ntp server 10.66.236.1 prefer ntp server 10.66.236.250 response: terminal width 0 config t ntp server 10.66.236.1 prefer ntp server 10.66.236.250 Copying running to startup : Successful

Deploy – Check Status

Administ

Jobs

Results

Job summary **Successful deployment on 1 device(s).**

Job Results for C_NTP

Device	Status	Transcript
10.66.238.35	Success	configlet: ntp server 10.66.236.1 prefer ntp server 10.66.236.250 response: terminal width 0 config t ntp server 10.66.236.1 prefer ntp server 10.66.236.250 Copying running to startup : Successful



BRKLAB_SWITCH_2

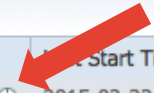
Config Deploy - Deploy view

Completed

Success



Start Time	Duration (Hrs : Min : Sec)
2015-02-22 15:09	00 : 00 : 02
2015-02-22 14:59	00 : 00 : 02
2015-02-22 14:56	00 : 00 : 02
2015-02-22 14:32	00 : 00 : 02
2015-02-22 09:42	00 : 00 : 04
2015-02-21 16:49	00 : 00 : 07
2015-02-21 16:41	00 : 00 : 07
2015-02-21 16:37	00 : 00 : 07
2015-02-21 16:24	00 : 00 : 07





Inventory Management

Cisco *live!*

Inventory Management - Agenda

- Settings for Inventory
- Scenario 1 – Discovery, Import and Export
- Scenario 2 – Grouping
- Scenario 3 – Reporting

Inventory Management – Systems Settings

The screenshot shows the 'Administration' menu in the Cisco Inventory Management interface. The menu is open, displaying several categories of settings. A red arrow points to the 'Administration' menu item, and another red arrow points to the 'System Settings' link under the 'Settings' category. The interface includes a search bar and a user profile dropdown.

Virtual Domain **ROOT-DOMAIN** | scotwill ▾ Search Menu

Administration ▾

- Admin Dashboard**
- Logging**
- Users, Roles & AAA**
- Virtual Domains**
- User Preferences**
- Software Update**
- Jobs**
- Settings**
 - System Settings
 - Data Sources
 - Appliance
 - Background Tasks
 - High Availability
 - System Audit
- Licenses**
- Health Rules**
- Servers**
 - ACS View Servers
 - ISE Servers
 - TFTP/FTP/SFTP Servers

Inventory Management – Systems Settings

Administration > Settings > **System Settings**

System Settings

Discovery

Discovery

IPv4/v6 Preference for Management Address 

Save

Reset

Inventory Management – Systems Settings

Administration > Settings > System Settings

Inventory

System Settings



Device Custom Prompt

Selected 0 | Total 4

Edit	Delete	Add Row	Show	All	
<input type="checkbox"/> Prompt Type	Prompt Text				
<input type="checkbox"/> username	ogin[:\s]*\z				
<input type="checkbox"/> username	ame[:\s]*\z				
<input type="checkbox"/> username	User:\s				
<input type="checkbox"/> password	assword[:\s]*\z				

Automatically add PI host for
SYSLOG and SNMP-TRAPS

- Enable event based inventory collection
- Enable Syslog And Traps on device

Save Reset

logging host 10.66.236.49
snmp-server host 10.66.236.49 public

Inventory Management - Agenda

- Settings for Inventory
- Scenario 1 – Discovery, Import and Export
- Scenario 2 – Grouping
- Scenario 3 – Reporting

Credential Profiles

The screenshot shows the Cisco Inventory web interface. The top navigation bar includes 'Inventory', 'Maps', 'Services', and 'Reports'. The left sidebar menu is expanded to show 'Device Management' with sub-items: 'Network Devices', 'Compute Devices', 'Discovery', 'Software Images', 'Credential Profiles', 'Network Audit', and 'Configuration Archive'. A red arrow points to 'Credential Profiles'. The main content area shows the breadcrumb 'Inventory > Device Management > Credential Profiles' and the title 'Credential Profiles'. Below the title are action buttons: 'Add', 'Edit', 'Delete', and 'Copy'. A table header is visible with a checkbox and the text 'Profile Name'.

Inventory > Device Management > Credential Profiles > Add Profile

Add Profile

Add Profile

Entering a valid value in either SNMP Read Community, or Protocol Username and Password

General Parameters

* Profile Name

Description

SNMP Parameters

Version

SNMP Advanced Parameters

Read Community

Write Community

Telnet/SSH Parameters

Protocol

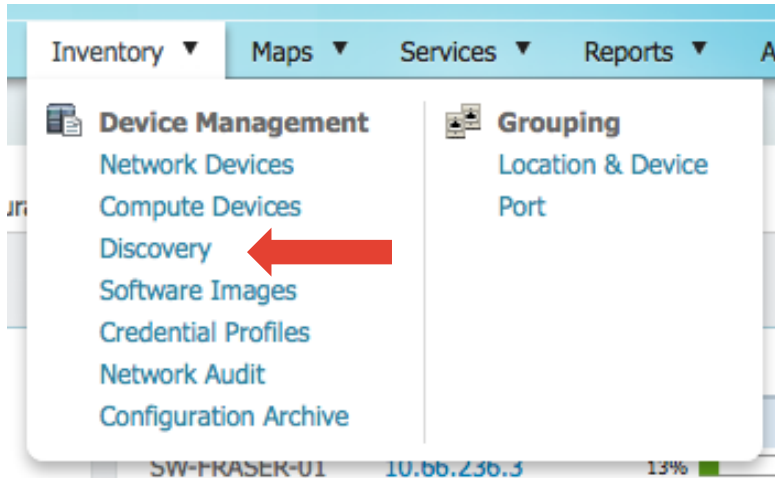
Telnet Timeout

Username

Save Changes

Cancel

Discovery Settings



- Refer to here for more on how Discovery works: <https://supportforums.cisco.com/document/33526/understanding-lan-management-solution-lms-discovery>

Inventory > Device Management > Discovery

Discovery

Quick Discovery Discovery Settings

Quick Discovery Discovery Settings

Discovery Jobs

Delete Show

	Name	Status	Start Time	End Time	Discovery Settings	Reachable	Filtered	Unreachable	
<input type="radio"/>	Job Discovery 12 04 43 608 PM 1 5 20...	SUCCESS	2015-Feb-14 12:05:00	2015-Feb-14 12:17:03	bnelab	32	0	79	
<input checked="" type="radio"/>	Job Discovery 11 48 38 17 5 1 2015	SUCCESS	2015-Jan-05 11:48:38	2015-Jan-05 12:02:35	bnelab	33	0	81	

Quick Discovery



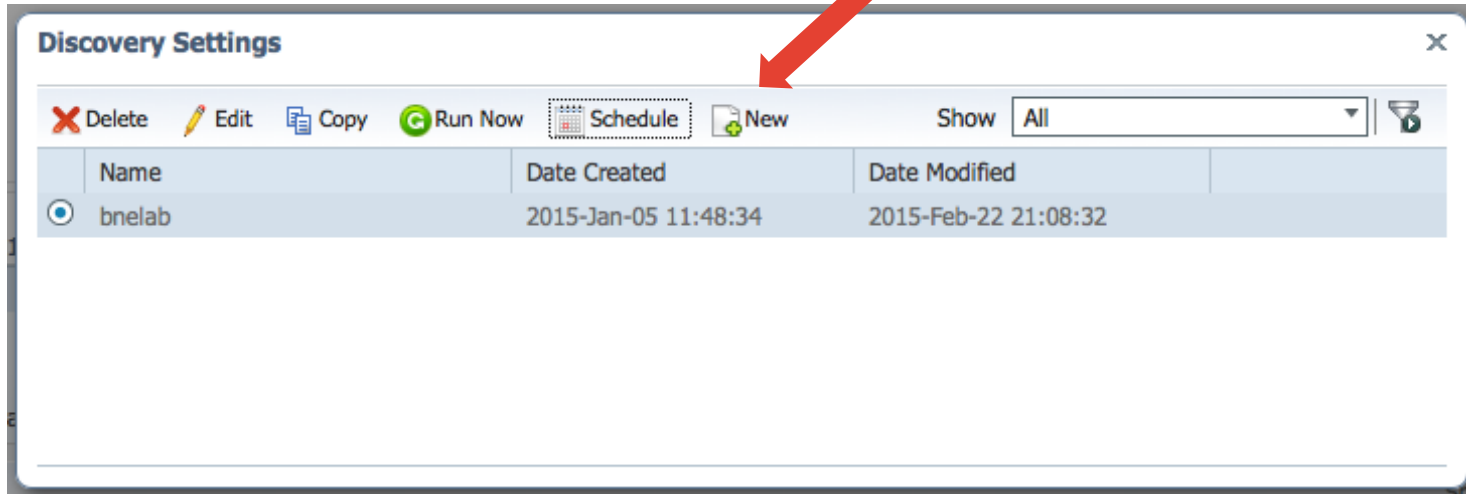
Quick Discovery Settings

* CLI parameters are optional.

Name	<input type="text" value="Lab_QD"/>
SNMP Community	<input type="password" value="*****"/> ?
CLI Protocol	<input type="text" value="SSH"/>
CLI Username	<input type="text" value="admin"/>
CLI Password	<input type="password" value="*****"/>
CLI Enable Password	<input type="password" value="*****"/> ?
Seed IP	<input type="text" value="10.66.236.0"/>
Subnet Mask	<input type="text" value="255.255.254.0"/>

Discovery Settings

Discovery Settings



The screenshot shows a window titled "Discovery Settings" with a toolbar and a table. The toolbar includes buttons for Delete, Edit, Copy, Run Now, Schedule, and New. A red arrow points to the "New" button. The table has columns for Name, Date Created, and Date Modified. One entry is visible: "bnelab" with a creation date of "2015-Jan-05 11:48:34" and a modification date of "2015-Feb-22 21:08:32".

Name	Date Created	Date Modified
bnelab	2015-Jan-05 11:48:34	2015-Feb-22 21:08:32

Discovery Settings

Discovery Settings

*Name

Protocol Settings

PingSweep Module ?

▶ Layer 2 Protocols

▶ Advanced Protocols

Filters ?

IP Filter ?

▶ Advanced Filters

Credential Settings ?

Credential Set ?

SNMPv2 Credential ?

SNMPv3 Credential ?

Telnet Credential ?

SSH Credential ?

Preferred Management IP ?

Use Loopback

Current Discovery Settings

PingSweep Module

Credential Set

PingSweep Module

Enable PingSweep

Seed Device	Subnet Mask
<input type="radio"/> 10.66.236.0	255.255.252.0

Credential Set

Enable Credential set

	IP	Credential Profile
1	<input type="radio"/> 10.66.[236-238].*	bnelab <input type="button" value="v"/>

TIP

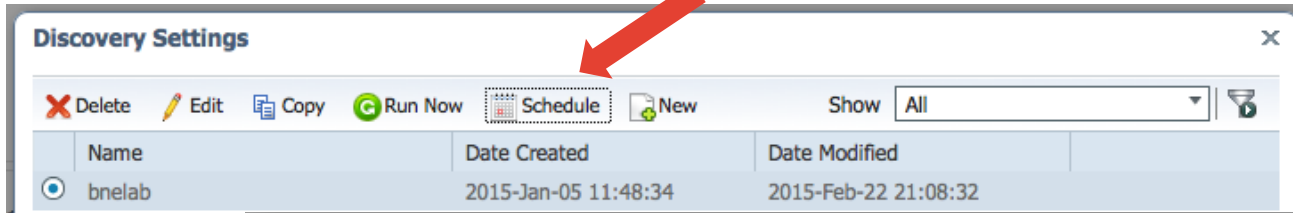
Ping sweep and CDP are the two most commonly used discovery modules.

TIP

Using loopback is the best way to pick a management address

Cisco *live!*

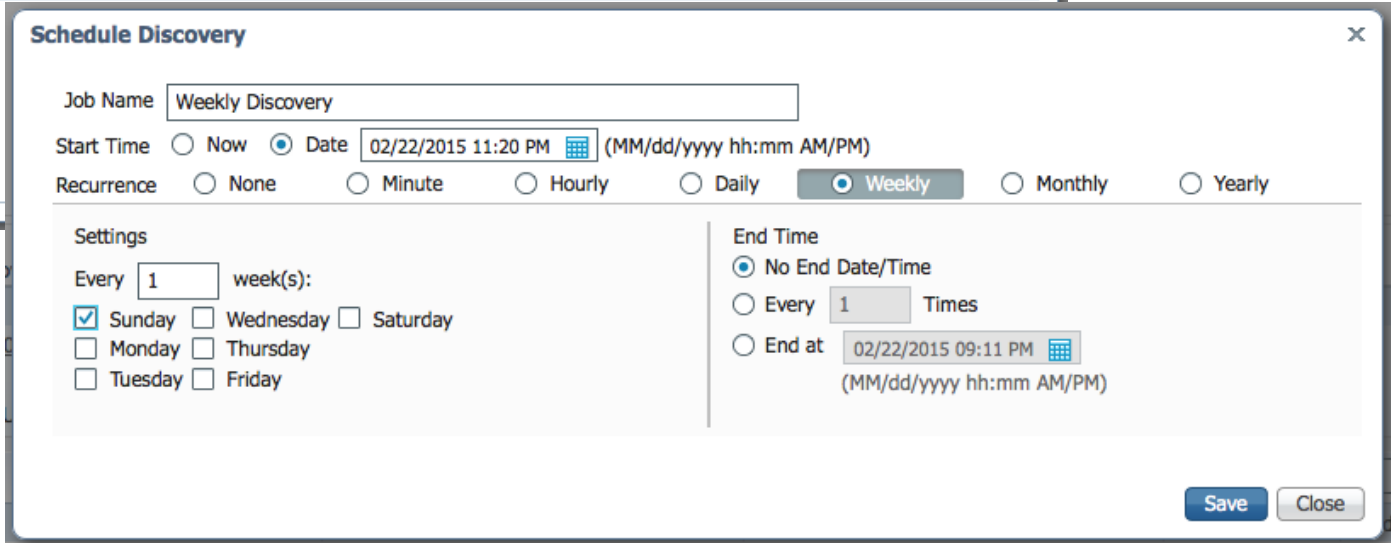
Discovery Settings



Discovery Settings

Delete Edit Copy Run Now **Schedule** New Show All

Name	Date Created	Date Modified
<input checked="" type="radio"/> bnelab	2015-Jan-05 11:48:34	2015-Feb-22 21:08:32



Schedule Discovery

Job Name

Start Time Now Date (MM/dd/yyyy hh:mm AM/PM)

Recurrence None Minute Hourly Daily Weekly Monthly Yearly

Settings

Every week(s):

Sunday Wednesday Saturday
 Monday Thursday
 Tuesday Friday

End Time

No End Date/Time
 Every Times
 End at (MM/dd/yyyy hh:mm AM/PM)


Save Close

Discovery Job Results

Inventory > Device Management > **Discovery**

Discovery

Discovery Jobs

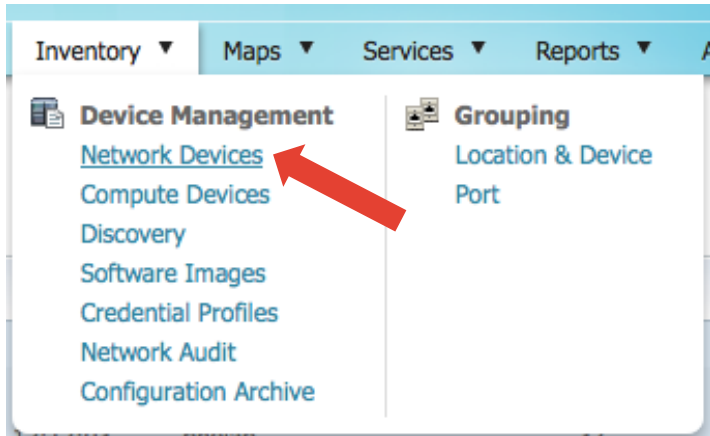
 Delete

	Name	Status	Start Time	End Time
<input type="radio"/>	Job Discovery 21 16 10 367 22 2 2015	RUNNING	2015-Feb-22 21:16:10	
<input checked="" type="radio"/>	Job Discovery 12 04 43 608 PM 1 5 20...	SUCCESS	2015-Feb-14 12:05:00	2015-Feb-14 12:17:03
<input type="radio"/>	Job Discovery 11 48 38 17 5 1 2015	SUCCESS	2015-Jan-05 11:48:38	2015-Jan-05 12:02:35

Discovery Jobs Instances of [Job_Discovery_12_04_43_608_PM_1_5_2015](#)

	Name	Status	Start Time	End Time	Discovery Settings	Reachable	Filtered	Unreachable
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Feb-14 12:...	2015-Feb-14 1...	bnelab	32	0	79
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Feb-07 12:...	2015-Feb-07 1...	bnelab	32	0	72
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Jan-31 12:...	2015-Jan-31 1...	bnelab	32	0	67
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Jan-24 12:...	2015-Jan-24 1...	bnelab	32	0	76
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Jan-17 12:...	2015-Jan-17 1...	bnelab	32	0	76
▶	Job Discovery 12 04 43 608 P...	SUCCESS	2015-Jan-10 12:...	2015-Jan-10 1...	bnelab	34	0	79

Add, Import and Export Devices



- Single Device Import
- Bulk CSV Import
- Export to password-protected zip file

Device Group > **All Devices**

All Devices



Import Devices

Add Device

Add Device ✕

* Indicates required fields

General Parameters *

IP Address

DNS Name

License Level

License Level ?

Credential Profile

Credential Profile ?

SNMP Parameters

Version

SNMP Advanced Parameters

* Read Community ?

* Confirm Read Community

Write Community ?

Bulk Import

Bulk Import ✕

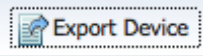
Operation

Select CSV File ExportDevice.csv

Bulk device add sample template can be downloaded [here](#)
Bulk site add sample template can be downloaded [here](#)

*Note:CLI Enable Password is required for Collecting Few Inventory Collection Details. CLI Enable Password & SNMP Write Credential are required for Configuration related Features to work such as Image Management , Config Changes & Config Archive.

Export Devices



Export Device [X]

Enter a password to lock the exported file.

* Password [.....] ?

* Confirm Password [.....] ?

Export **Close**

Downloads

Name	Date Modified	Size
ExportDevice(1).zip	Today 9:37 pm	808 bytes
C_NTP.csv	Today 2:31 pm	753 bytes
RUNNINGCONFIG_CGS2520-1(1).cfg	Today 10:54 am	6 KB

The Unarchiver

You need to supply a password to open the archive "ExportDevice(1).zip".

[.....]

Password encoding: Default encoding

Apply to all

Stop **Continue**

4	192.168.216	full	2c
5	10.66.236.24	full	2c
6	10.66.238.15	full	2c
7	10.66.238.15	full	2c
8	10.66.236.62	full	2c
9	10.66.236.24	full	2c
10	10.66.236.24	full	2c

ExportDevice-1.csv

ip_address	D	E	F	G	H	I	J	K	L
snmp_comm		snmp_write	snmp_retrie	snmp_timeo	snmp_port	protocol	cli_username	cli_password	cli_enable_
public		private	2	10	161	telnet	admin	cisco,123	cisco,123
public		private	2	10	161	telnet	admin	cisco,123	cisco,123
public		private	2	10	161	telnet	admin	cisco,123	cisco,123
public			2	3		ssh2			
public			2	3		ssh2			
public			2	10	161	ssh2			
public		private	2	10	161	telnet	admin	cisco,123	cisco,123

Inventory Management - Agenda

- Settings for Inventory
- Scenario 1 – Discovery, Import and Export
- Scenario 2 – Grouping
- Scenario 3 – Reporting

Device Groups

Inventory > Device Management > Network Devices

Network Devices

Device Group

- All Devices
- Device Type
- Location
 - All Locations
 - BNE-Lab
 - IoT
 - North
 - here
 - ie4000
 - test
- System Campus
- Unassigned
- User Defined

Device Group > All Devices

All Devices

Device Name Location Realtime

- 2951-HQ
- 4451-Branch
- 4500X-1
- 892-BRX.b
- APJDCUCS
- APJDCUCS
- ASAv5
- BNE-3850
- BNE-AC
- bne-cm.br
- BNE-LAB-3
- BNE-ZFSNA
- CGR1000-2
- CGR1000.c

Device Group

← [List Icon] + [Dropdown Icon]

- Create User Defined Group
- Create Location Group
- Create Site

Name IoT

Description

Type Device

No. of Members 6 Direct, 0 Children

No. of SubGroups 5 Total (2 Direct, 3 Children)

No. of Rules 0

Actions

- + Add SubGroup
- ✎ Edit Group
- ✖ Delete Group
- 📄 Duplicate Group

Dynamic Groups

Edit Location Group

Edit Preview

* Group Name * Parent Group

Group Description

▼ **Add Devices Dynamically** ?

And ▼ Device Name ▼ Starts with ▼ BNE-North - +

Device Name ▼ Device Name Location(sysLocation) City City Division Country County Postal Code State	Starts with ▼ Contains Does not contain Does not equal Ends with Is empty Is exactly (or equals) Is not empty Starts with
--	---

Save **Ca**


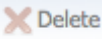
TIP

User Defined Groups has Different Fields then Location Groups

- Contact ▼
- Contact**
- Description(sysDescr)
- Location(sysLocation)
- Management Address
- Device Name
- Product Family
- Product Series
- Product Type
- Software Type
- Software Version

Manual/Static Groups

▼ **Add Devices Manually** ?


 Add  Delete


<input type="checkbox"/>	Device Name	IP Address/DNS
<input type="checkbox"/>	CGR1000-2.cisco.com	10.66.238.49
<input type="checkbox"/>	CGR1000.cisco.com	10.66.238.50
<input type="checkbox"/>	CGS2520-1	10.66.238.42
<input type="checkbox"/>	CGS2520-2	10.66.238.43
<input type="checkbox"/>	ie2k-8port	10.66.238.37
<input type="checkbox"/>	ie4000	10.66.238.46

Save **Cancel**

Add Devices [X]

Filter by [v]

Selected 4 | Total 38 

Show 

<input type="checkbox"/>	Device Name	IP Address/DNS
<input type="checkbox"/>	BNE-LAB-3850-ISE	10.66.236.57
<input type="checkbox"/>	BNE-ZFSNAS	10.66.238.197
<input checked="" type="checkbox"/>	CGR1000-2.cisco.com	10.66.238.49
<input checked="" type="checkbox"/>	CGR1000.cisco.com	10.66.238.50
<input checked="" type="checkbox"/>	CGS2520-1	10.66.238.42
<input checked="" type="checkbox"/>	CGS2520-2	10.66.238.43
<input type="checkbox"/>	FAN-819.yourdomain.com	10.66.238.44
<input type="checkbox"/>	FAS3210.bnelab.cisco.com	10.66.238.204
<input type="checkbox"/>	FS-NSS326-NAS	10.66.236.35

Add **Cancel**

Inventory Management - Agenda

- Settings for Inventory
- Scenario 1 – Discovery, Import and Export
- Scenario 2 – Grouping
- Scenario 3 – Reporting

Inventory Reporting

The screenshot displays the Cisco Prime Infrastructure web interface. At the top, the navigation bar includes 'Home', 'Design', 'Deploy', 'Operate', 'Report', 'Administration', and 'Workflows'. The 'Report' section is active, showing a 'Report Launch Pad' with a red box around the 'Report > Report Launch Pad' link. The left sidebar lists various report categories, with 'Device' highlighted by a red arrow. The main content area is divided into several sections: 'Autonomous AP', 'CleanAir', 'Client', 'MSE Analytics', and 'Network Summary'. Each section contains a list of reports, many of which are marked as 'New'. An orange callout box on the right contains the text: 'PI unifies all reports under The Report Launch Pad. For inventory reports, expand the *Device* section.'

Autonomous AP

- Autonomous AP Memory and CPU Utilization [?] New
- Autonomous AP Summary [?] New
- Autonomous AP Tx Power and Channel [?] New
- Autonomous AP Uptime [?] New
- Autonomous AP Utilization [?] New
- Busiest Autonomous APs [?] New

CleanAir

- Air Quality vs Time [?] New
- Security Risk Interferers [?] New
- Worst Air Quality APs [?] New
- Worst Interferers [?] New

Client

- Busiest Clients [?] New
- CCX Client Statistics [?] New
- Client Count [?] New
- Client Sessions [?] New
- Client Summary [?] New
- Client Traffic [?] New
- Client Traffic Stream Metrics [?] New
- Dormant Clients [?] New

MSE Analytics

- Client Location [?] New
- Client Location Density [?] New
- Device Count by Zone [?] New
- Device Dwell Time by Zone [?] New
- Guest Location Density [?] New
- Interferer Location Density [?] New
- Interferer Location Density by Zone [?] New

Mesh

- Alternate Parent [?] New
- Link Stats [?] New
- Nodes [?] New
- Packet Stats [?] New
- Stranded APs [?] New
- Worst Node Hops [?] New

Network Summary

The Inventory Reports

AP Radio

- AP Radio Downtime Summary
- AP Summary
- Busiest APs
- CPU Utilization
- Classmap QOS Statistics
- Detailed Hardware
- Detailed Software
- Device Credential Verifica...
- Device Health
- Dmvpn Reports
- EOX Hardware Detailed
- EOX Module Detailed
- EOX Software Detailed
- EOX Summary
- GET VPN Network Status
- Identity Capability
- Interface Availability
- Interface Capacity
- Interface Utilization
- Inventory**
- Memo Inventory h
- Non-Primary Controller APs
- Top AP by Client Count
- Vlan
- Wired Detailed Device Inve...
- Wired Device Availability
- Wired Module Detail
- Wired Port Attribute
- Wireless Up Time
- Wireless Utilization

CleanAIR

- Air Quality vs Time [?](#) [New](#)
- Security Risk Interferers [?](#) [New](#)
- Worst Air Quality APs [?](#) [New](#)
- Worst Interferers [?](#) [New](#)

Client

- Busiest Clients [?](#) [New](#)
- CCX Client Statistics [?](#) [New](#)
- Client Count [?](#) [New](#)
- Client Sessions [?](#) [New](#)
- Client Summary [?](#) [New](#)
- Client Traffic [?](#) [New](#)
- Client Traffic Stream Metrics [?](#) [New](#)
- Dormant Clients [?](#) [New](#)
- Mobility Client Summary [?](#) [New](#)
- Posture Status Count [?](#) [New](#)
- Throughput [?](#) [New](#)
- Unique Client Summary [?](#) [New](#)
- Unique Clients [?](#) [New](#)

Compliance

- Change Audit [?](#) [New](#)
- Network Discrepancy [?](#) [New](#)
- PCI DSS Detailed [?](#) [New](#)
- PCI DSS Summary [?](#) [New](#)
- PSIRT Detailed [?](#) [New](#)
- PSIRT Summary [?](#) [New](#)
- Wireless Configuration Audit [?](#) [New](#)

Rogue AP Location Density [?](#) [New](#)

Rogue Client Location Density [?](#) [New](#)

Service URI Statistics [?](#) [New](#)

Tag Location [?](#) [New](#)

Tag Location Density [?](#) [New](#)

Mesh

- Alternate Parent [?](#) [New](#)
- Link Stats [?](#) [New](#)
- Nodes [?](#) [New](#)
- Packet Stats [?](#) [New](#)
- Stranded APs [?](#) [New](#)

Application Summary [?](#) [New](#)

Conversations [?](#) [New](#)

Coverage Hole [?](#) [New](#)

End User Summary [?](#) [New](#)

Environmental Temperature [?](#) [New](#)

Interface Errors and Discards [?](#) [New](#)

Workflow Status 0 0 0 | Support Cases | Alarm Browser | Alarm Summary 2 0 0

Besides the *Inventory* report itself, there are other valuable inventory-related reports such as Detailed Software, Detailed Hardware, EOX* and Wired Detailed Device Inventory.

Configuring The Inventory Report

Inventory : New
Report > Report Launch Pad > Device > Inventory > Inventory Report Details

Settings

Create reports in current and each sub Virtual Domains
[View sub Virtual Domains](#)

Report Title: Inventory Report

Report Type: **Combined Inventory**

Customize Report: Use the data for this report

Combined Inventory
APs
Autonomous APs
Controllers
MSEs
Switches
Routers

Enable

CSV

File: /localdisk/ftp/reports/Inventory/<ReportTitleName>_<yyyymmdd>_<HHMMSS>.csv

Email:

04/14/2014 10:45 (GMT-5:0) EST

Current Server Time: 2014-Apr-14, 10:42:13 EST

No Recurrence Hourly Daily Weekly Monthly

Run Save Run and Save Save and Export Save and Email Cancel

Choose the Report Type.
The *Combined Inventory* option
will cover all device types, both
wired and wireless

Customise The Report Parameters

Each report area can be customised to include the desired fields.

Create Custom Report

Custom Report Name: Do not include

Report View: Both

Available data fields

- Count of Controllers by Model
- Count of Controllers by Software Version
- Controller Inventory
- Count of APs by Model
- Count of APs by Software Version
- AP Inventory
- Disassociated AP(s)
- Autonomous AP Inventory
- Maintenance Mode AP(s)
- Count of MSEs by Version
- MSEs
- Count of Switches by Model
- Count of Switches by Version
- Switch Inventory**
- Count of Routers by Model
- Count of Routers by Version
- Router Inventory

Data fields to include

- Model Name
- Number of Co...

Data field sorting

Sort by: Ascending Descending

Then by: Ascending Descending

Then by: Ascending Descending

* Blue fields are highlighted in the original image.

Selected Fields List:

- Count of Controllers by Model
- Count of Controllers by Software Version
- Controller Inventory
- Count of APs by Model
- Count of APs by Software Version
- AP Inventory
- Disassociated AP(s)
- Autonomous AP Inventory
- Maintenance Mode AP(s)
- Count of MSEs by Version
- MSEs
- Count of Switches by Model
- Count of Switches by Version
- Switch Inventory**
- Count of Routers by Model
- Count of Routers by Version
- Router Inventory

Customise The Report Parameters (cont.)

In addition to the various report fields, the overall, multi-level sort criteria can also be configured.

Virtual Domain ROOT-DOMAIN | MajorKong | Search Menu/Prime Data

Report Administration Workflows

Inventory Report > Report

Settings

Report Title

Report Type

Customize Report

Create Custom Report

Custom Report Name: Router Inventory Do not include

Available data fields

- System Contact
- Last Boot Time
- Image Type
- Image Family
- Image Name

Data fields to include

- Device Name
- Description
- IP Address
- Location
- Reachability Status
- Software Version
- Product Type

* Blue fields are mandatory in this subreport.

Data field sorting

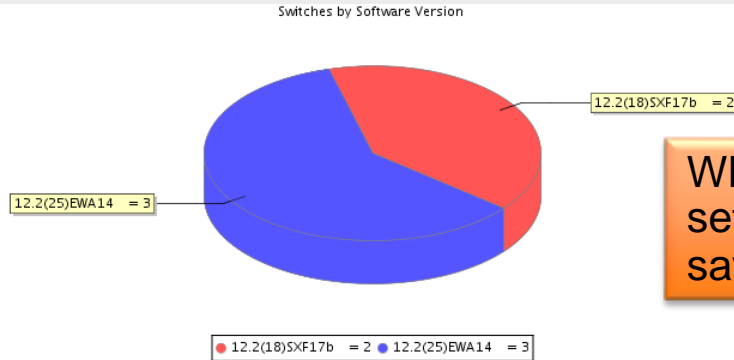
Sort by: None Ascending Descending

Then by: None Ascending Descending

Then by: None Ascending Descending

Then by: None Ascending Descending

Running The Inventory Report



When satisfied with the report settings, the report can be saved, saved and then run, or just run.

Switch Inventory

Device Name	Description	IP Address	Location	Reachability Status	Software Version	Product Type
col-guano.cisco.com	Cisco IOS Software, Catalyst 4000 L3 Switch Software (cat4000-ISK91S-M), Version 12.2(25)EWA14, RELEASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2008 by Cisco Systems, Inc. Compiled Tue 20-May-08 19:18 by ch	14.1.33.254		Reachable	12.2(25)EWA14	Cisco Catalyst 4503 Switch
	Cisco Internetwork Operating System Software					

But where is the serial number?

The Detailed Hardware Report

The serial number as well as other hardware attributes can be found in the Detailed Hardware Report

Detailed Inventory Report

Generated: 2014-Apr-14, 10:45:47 EST

Show: Up to 50 records

Category: [Cisco Interfaces and Modules](#)

No data found.

Cisco Prime
Infrastructure

Category: Routers

Product Series	Device Name	Updated At	System Description	Location	Contact	Serial Number	Chassis Vendor Type	Total Flash Device Size (MB)	Number of Int
Cisco 2800 Series Integrated Services Routers	B2-2800-1.cisco.com	2014-Apr-13, 22:00:11 EST	Cisco IOS Software, 2800 Software (C2800NM-ENTSERVICESK9-M), Version 15.1(2)T3, RELEASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2011 by Cisco Systems, Inc. Compiled Thu 10-Mar-11 14:50 by prod_rel_team	ITSM RTPNML rtpnml-Bld 10 Floor 3 Row O-00	admins@cisco.com	FTX1038A10J	cevChassis2821	122.24	4
Cisco 3800 Series Integrated Services Routers	DC2-3800-1.cisco.com	2014-Apr-13, 22:00:11 EST	Cisco IOS Software, 3800 Software (C3825-ADVENTERPRISEK9-M), Version 15.1(4)M7, RELEASE SOFTWARE (fc2) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2013 by Cisco Systems, Inc. Compiled Mon 16-Sep-13 02:06 by prod_rel_team	ITSM RTPNML rtpnml-Bld 10 Floor 3 Row O-00	admins@cisco.com	FTX1125A2WS	cevChassis3825	122.24	4



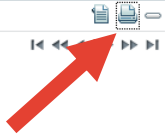
Exporting Reports

Report Run Result

Detailed Inventory Report
Generated: 2014-Apr-14, 10:45:47 EST
Show: Up to 50 records
Category: **Cisco Interfaces and Modules**
No data found.

Category: Routers

Cisco Prime
Infrastructure



Product Series	Device Name	Updated At	System Description	Location	Contact	Serial Number			
Cisco 2800 Series Integrated Services Routers	B2-2800-1.cisco.com	2014-Apr-13, 22:00:11 EST	Cisco IOS Software, 2800 Software (C2800NM-ENTSERVICESK9-M), Version 15.1(2)T3, RELEASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2011 by Cisco Systems, Inc. Compiled Thu 10-Mar-11 14:50 by prod_rel_team	ITSM RTPNML rtpnml-Bld 10 Floor 3 Row O-OO	admins@cisco.com	FTX1038A10J	cevChassis2821	122.24	4
Cisco 3800 Series Integrated Services Routers	DC2-3800-1.cisco.com	2014-Apr-13, 22:00:11 EST	Cisco IOS Software, 3800 Software (C3825-ADVENTERPRISEK9-M), Version 15.1(4)M7, RELEASE SOFTWARE (fc2) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2013 by Cisco Systems, Inc. Compiled Mon 16-Sep-13 02:06 by prod_rel_team	ITSM RTPNML rtpnml-Bld 10 Floor 3 Row O-OO	admins@cisco.com	FTX1125A2WS	cevChassis3825	122.24	4

Scheduled reports can be automatically exported to CSV or PDF, while reports viewed in the browser can be displayed in Printer Friendly mode and printed or saved.

Missing The Detailed Device Report?

TIP: The Wired Detailed Device Inventory report will feel very familiar.

»|<|>|< Detailed Device Report
 Generated on Apr 14 2014 13:37:56 Eastern Daylight Time(GMT -04:00:00)

Summary

Device Name : general-jack-ripper

Select the device :

System Information

Updated At	System Name	Domain Name	Description

Wired Detailed Device Inventory

Generated: 2014-Apr-14, 10:55:30 EST

Report By: Device IP

System Information

Name	Description	Device IP Address	Location	Contact

Chassis Information

Name	Description	Serial Number	Vendor Type	Physical Entity Name	Slot Configuration	Manufacturer	Slot Capacity	Free Slots	Chassis Version	UDI
CISCO3825	3825 chassis	FTX1125A2X1	cevChassis3825	3825 chassis					3825 chassis	ITEM RTP/NML Bld 10 Floor 3 Row 0-00 rtprml-admins@ci

Module Information

Name	Type	Description	Vendor Type	Manufacturer	Number of Ports	UDI

Container Information

Index	Description	Container Vendor Type	Manufacturer	Number of Ports	UDI

Module Port Interfaces

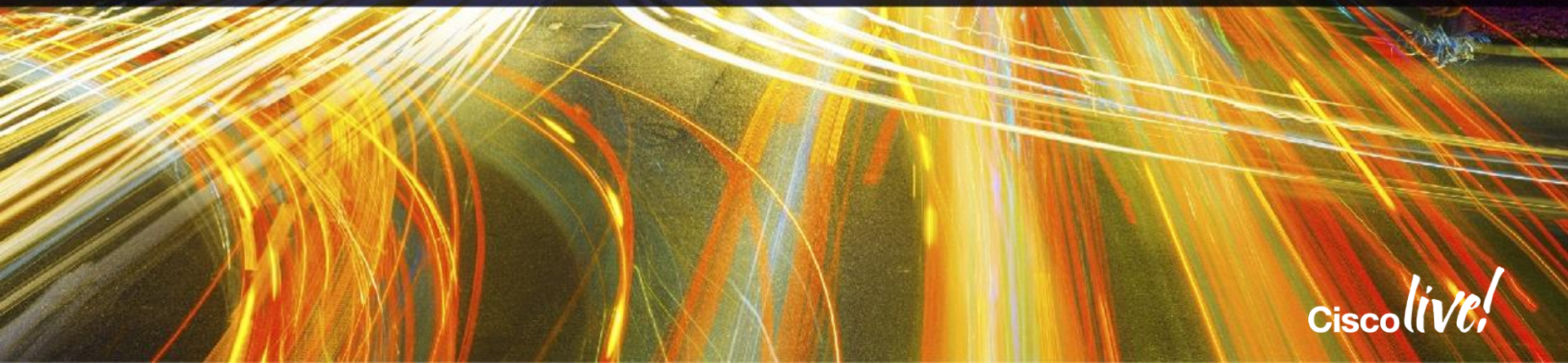
Name	Description	MAC Address	Admin Status	Operational Status	Type	MTU	Speed(Mbps)
EOBC0/0			Up	Up	PROPVIRTUAL	1500	12

Software Image Information

Name	Description	Image Version	Image Type	Image Family
s72033_rp-IPSERVICESK9-M		12.2(18)SX17b	RELEASE	s72033_rp

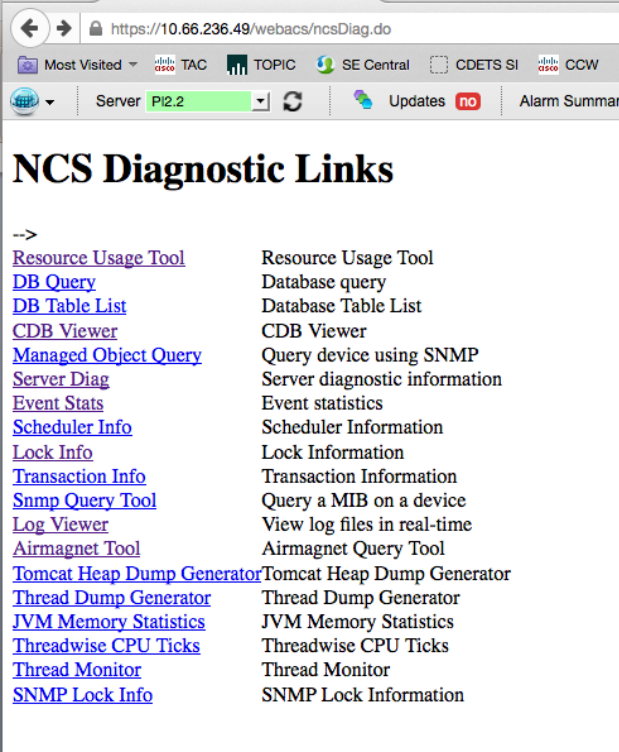


Bonus Tips



Server Diagnostics

- Useful set of Diagnostic Information for troubleshooting for issues after startup and normal running
- NCS Diagnostics Utilities:
 - <server-ip>/webacs/ncsDiag.do
- For Resource Usage Information
 - Check for Resource Usage in the diagnostics.



https://10.66.236.49/webacs/ncsDiag.do

Most Visited TAC TOPIC SE Central CDETS SI CCW

Server P12.2 Updates no Alarm Summary

NCS Diagnostic Links

-->

Resource Usage Tool	Resource Usage Tool
DB Query	Database query
DB Table List	Database Table List
CDB Viewer	CDB Viewer
Managed Object Query	Query device using SNMP
Server Diag	Server diagnostic information
Event Stats	Event statistics
Scheduler Info	Scheduler Information
Lock Info	Lock Information
Transaction Info	Transaction Information
Snmp Query Tool	Query a MIB on a device
Log Viewer	View log files in real-time
Airmagnet Tool	Airmagnet Query Tool
Tomcat Heap Dump Generator	Tomcat Heap Dump Generator
Thread Dump Generator	Thread Dump Generator
JVM Memory Statistics	JVM Memory Statistics
Threadwise CPU Ticks	Threadwise CPU Ticks
Thread Monitor	Thread Monitor
SNMP Lock Info	SNMP Lock Information

Useful Documentation

- Cisco Prime Infrastructure Site

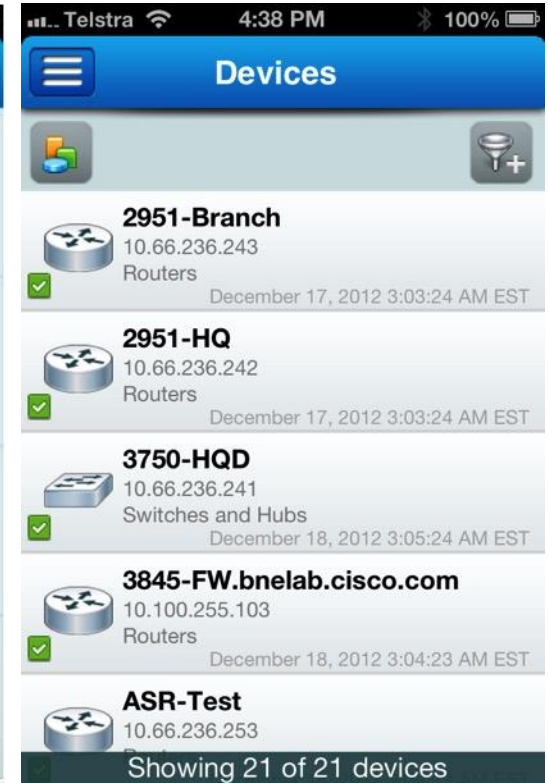
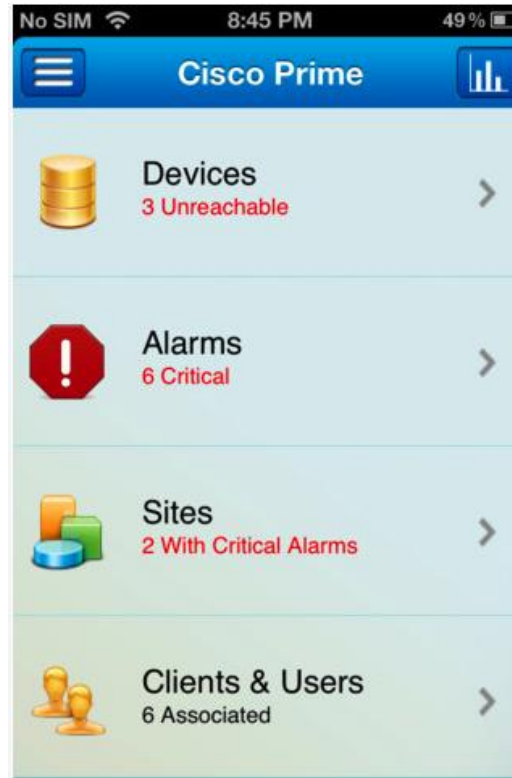
<http://www.cisco.com/go/primeinfrastructure>

- Support Forums

<https://supportforums.cisco.com/community/netpro/network-infrastructure/network-management>

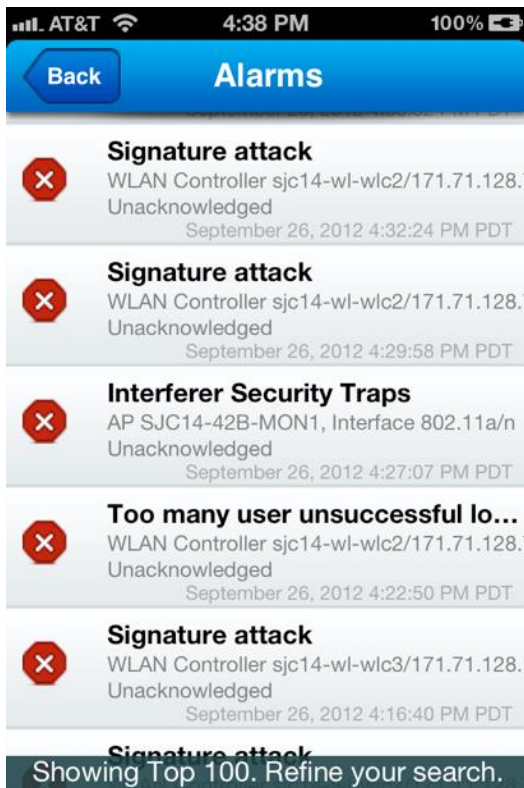
Prime Infrastructure iPhone App

- Free application on Apple iTunes
- Provides network management summary
- Home screen displays top-level view including alarms
- List view of device inventory
- Device list filtering capability



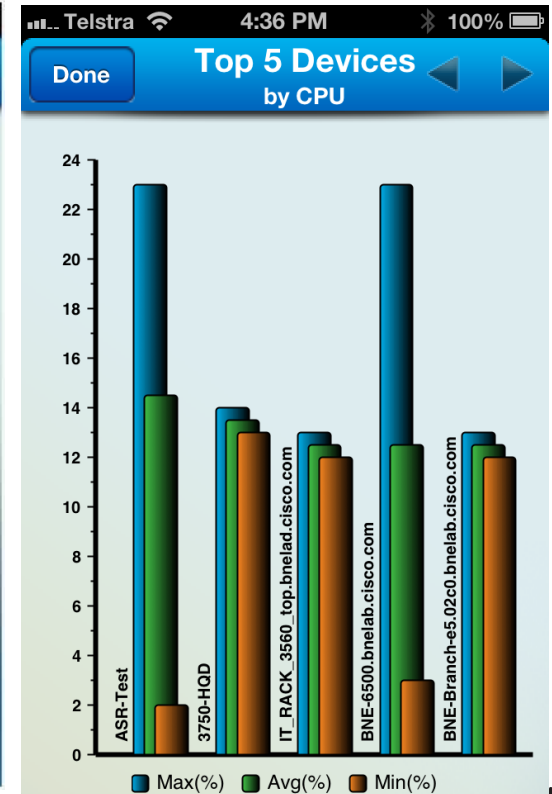
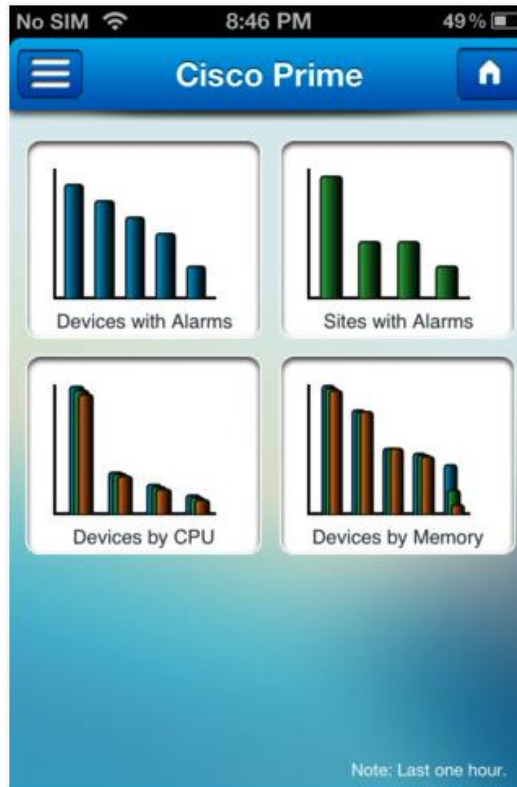
Prime Infrastructure iPhone App

- Alarm browser
- Annotate Alarms
- Acknowledge Alarms
- Assign Alarm Owner
- Notify others of Alarm



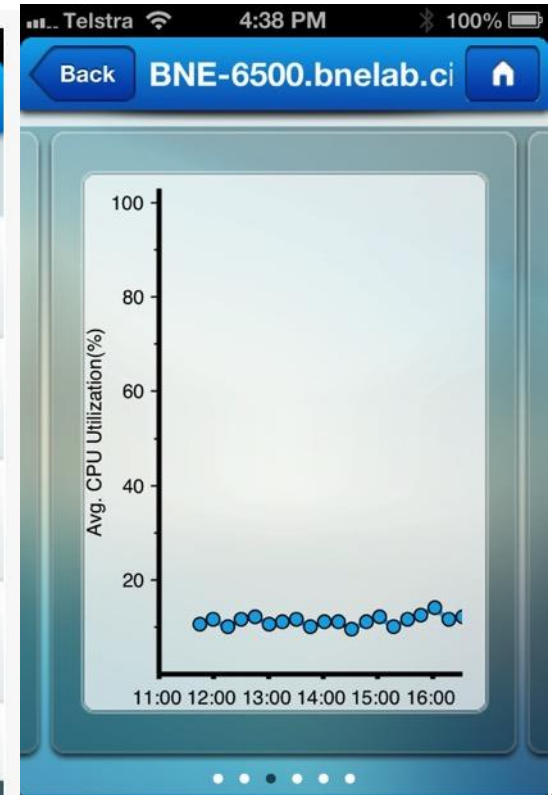
Prime Infrastructure iPhone App

- Limited Reporting
- Alarm Report
- Alarms by Site
- CPU Utilisation
- Memory Utilisation

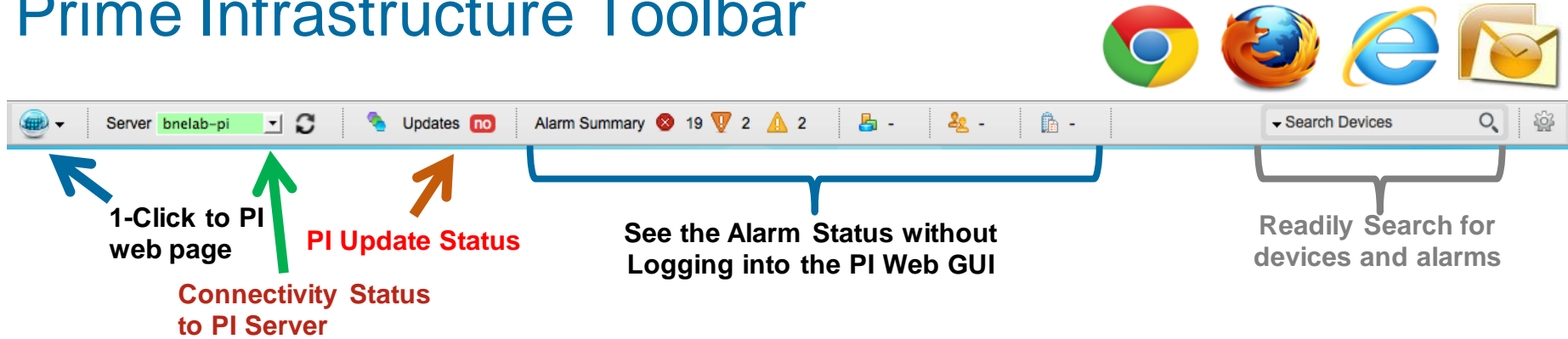


Prime Infrastructure iPhone App

- Can view list of clients on the network
- Client list filtering capability
- Filter based on user-defined criteria
- Device specific reports



Prime Infrastructure Toolbar



- At-a-glance, exception-based status – Devices unreachable, clients and sites with issues, active alarms
- Instant search for devices or alarms
- Contextual quick launch directly into Prime Infrastructure
- Live software update notifications – new device support, configuration templates, compliance rules, upgrades, etc.
- Hidden in PI 1.2 Software Downloads



Q & A



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