Сетевой марафон: Catalyst 9800 – новая классика WLAN

Сессия 4 – Миграция на беспроводной контроллер Catalyst 9800 с использованием Prime Infrastructure и DNA Center

Алексей Белоусов, CCIE #59621, CWNE #229
Системный инженер Cisco

CISCO

Сетевой марафон:
Catalyst 9800 – новая классика WLAN

- 24 мая - Обзор процесса миграции и лучших практик при переходе с контроллеров AireOS на Catalyst 9800
- 25 мая - Миграция Flexconnect сети на беспроводной контроллер Catalyst 9800
- 26 мая - Разворачивание, настройка и использование виртуального беспроводного контроллера Catalyst 9800
- **27 мая - Миграция на беспроводной контроллер Catalyst 9800 с использованием Prime Infrastructure и DNA Center**
- 28 мая - Рекомендации по отладке и поиску неисправностей в сетях под управлением Catalyst 9800

Содержание

Варианты управления контроллером Catalyst 9800

- Prime Infrastructure
- Cisco DNA Center
- Prime and Cisco DNA Center вместе

Миграция системы управления с Catalyst 9800

Cisco DNA Center

Единое управление для AireOS & IOS XE

Cisco DNA Center

Policy   Automation   Analytics

Abstracting network OS and unifying workflows (UX/API) across AireOS / IOS-XE WLCs

Unified Experience for AireOS and Catalyst WLC
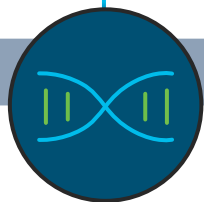
SDA-Wireless

Policy Segmentation and consistent wired-wireless management

Centralized

Ease of Deployment and management for large campuses

Flex Connect

Eliminate the need for a Controller at every Site for a distributed deployment

ME/EWC

Simplified Controller-less deployment for distributed deployments and small sites

Дифференциаторы DNA Center от Prime Infrastructure

Automation
SWIM
Plug and Play
RMA
Device Refresh
Rolling AP Upgrade (IOS-XE)

Integration Ecosystem
DNA Spaces Integration
ServiceNow Integration
IPAM Integration
Tableau Integration
CX-Cloud Integration
Ansible Module Integration

Disruptive Solutions
SD Access
Application Policies
Proactive Sensor Testing
User Defined Network
SD Bonjour

Assurance
Time Travel (Troubleshooting)
AI/ML based Analytics
Path Trace
Issues Suggestion/Remediation
Assurance
Wired/Wireless Sensors
Intelligent Packet Capture (iCap)

Административная консоль Client Intelligent Capture
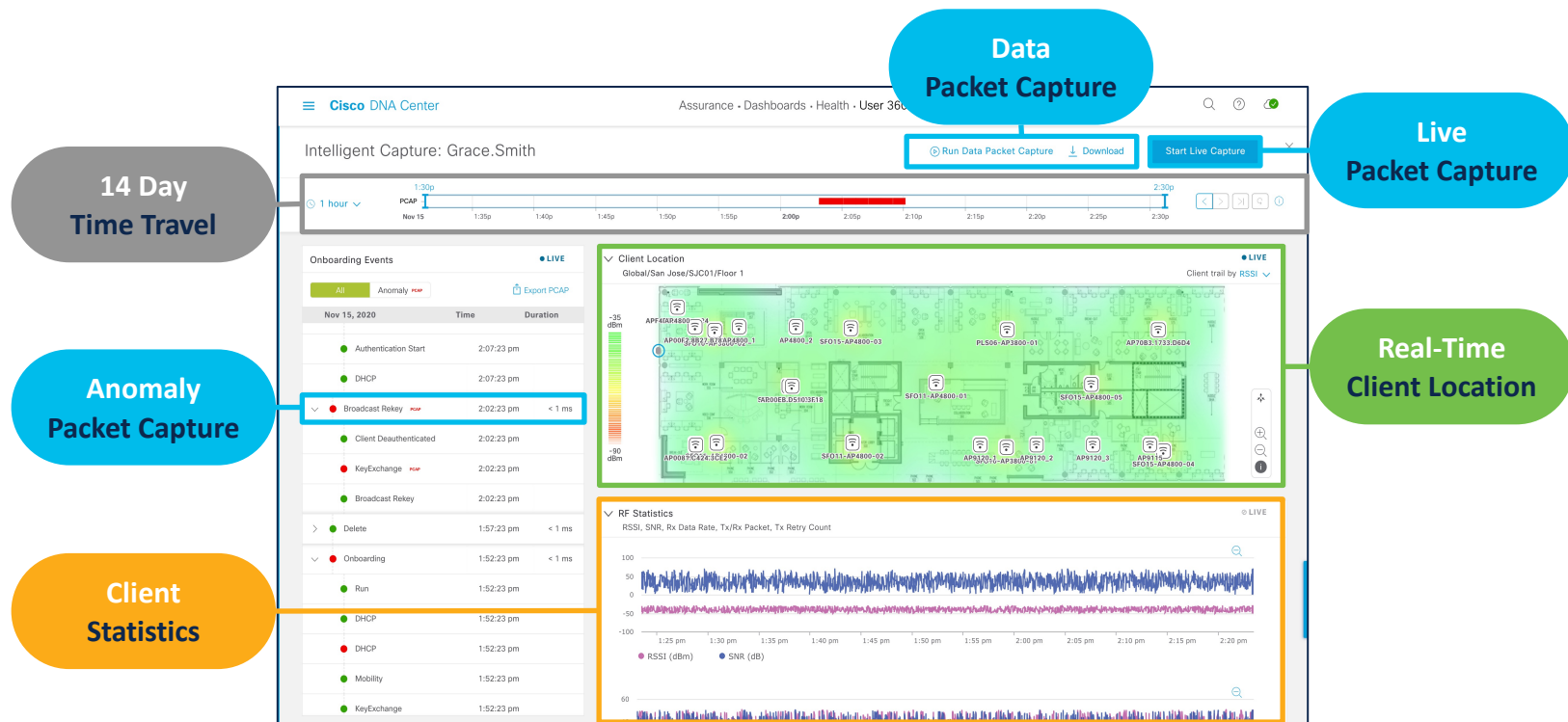
Navigation: [Open Menu] > Assurance > Health > Client > [Select Client] > Intelligent Capture

Cisco DNA Center / Prime для беспроводной сети

Customer Type	Greenfield Users New Cisco Customers	Network refresh Existing Cisco customers	Brownfield Users Existing Cisco customers
Management	Cisco DNA Center	Cisco DNA Center for new sites Cisco Prime for Config Cisco DNA Center for Assurance Co-Existence	Cisco Prime for Config Cisco DNA Center for Assurance Co-Existence
Recommendations	• Cisco DNA Center for Automation and Assurance • [PnP] Cisco DNA Center for simplified 802.11ax onboarding • Cisco DNA Center CLI templates for advanced configuration	• Cisco DNA Center for Automation/Assurance for newer sites • Prime-Cisco DNA Center Co-Existence for existing sites (Prime for Reporting, Compliance and Config, legacy devices / Cisco DNA Center for Assurance only) If Advanced Configuration: • Cisco Prime for advanced configuration • Cisco DNA Center for Assurance only	• Cisco DNA Center for Assurance • Prime and Cisco DNA Center co-existence for network management (Prime for Reporting, Compliance and Config/ Cisco DNA Center for Assurance only) • Prime for managing legacy devices

Факторы, ограничивающие переход с Prime на DNA Center

Cisco DNA Center feature parity with Prime

Deployment Variant

Network with legacy hardware

For example:
WLC: 5508, 8510, 2504
AP: 11xx, 12xx
WLC OS: <8.5

Migration from Prime to Cisco DNA Center will depend of one or more of the above criteria

Варианты управления Catalyst 9800

- Prime Infrastructure
- DNA Center
- Prime и DNA Center совместно

1. Discover/Add Catalyst 9800 на PI

- Необходимые условия
  - Wireless Management Interface (OOB not supported)
  - Priv 15 User / SNMP community
  - SSH
  - aaa authorization default local (for netconf user authorization)
  - Netconf-yang enabled
  - PI to WLC
    - SSH, SNMP, Netconf (Port 830)
  - WLC to PI
    - SNMP, Telemery (Port 20830)

Cisco Prime Infrastructure

Catalyst 9800 Wireless Controller
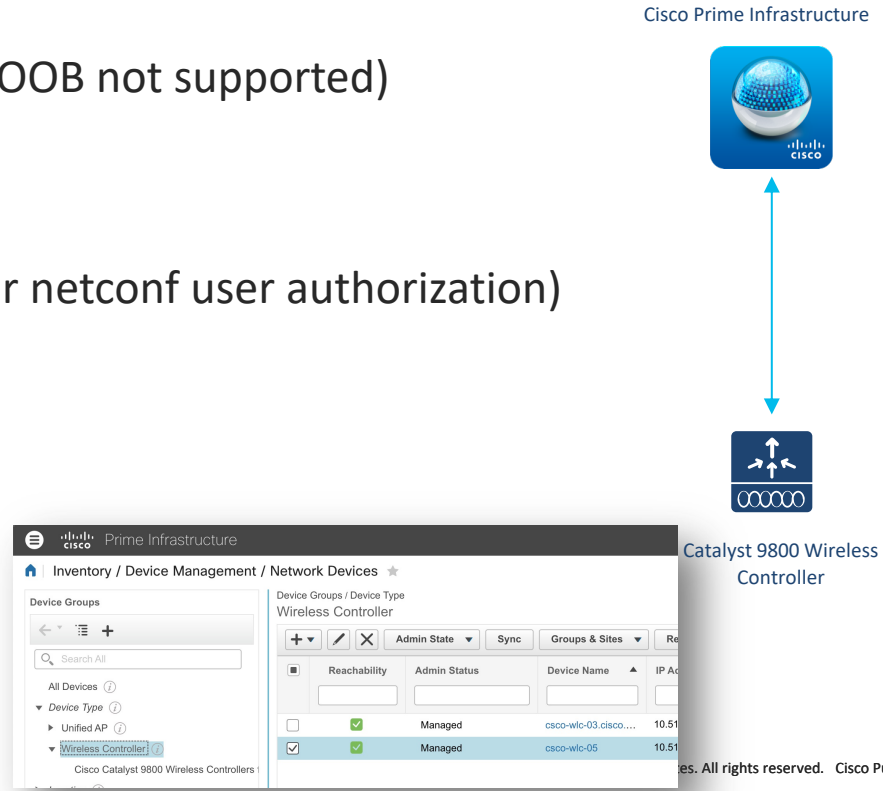
2. Настройка Catalyst 9800 на PI (1/2)

- Lightweight AP Templates can be mostly reused

2. Настройка Catalyst 9800 на PI (2/2)

Cisco IOS XE

Start

Tags & Profiles

- WLAN Profile
- Policy Profile
- Policy Tag
- AP Join Profile
- Flex Profile
- Site Tag
- RF Profile
- RF Tag

Apply

- Tag APs

Done

The concept of "tag" in IOS-XE is analogous to "group" in Prime Infrastructure

Prime Infrastructure

DESIGN
- WLAN Profile *
- Policy Profile
- WLAN Group *
- AP Join Profile
- Flex Sxp
- Flex Profile
- Flex/WLAN Group
- ATF Policy Profile
- RF Profile
- RF Group
- RLAN Profile
- RLAN Policy Profile
- Umbrella Policy
- Local Domain
- Mesh Profile

Show Basic

DEPLOY
- AP Deployment
- Rule Deployment

Важное примечание

- AP- and Client data is sent via Telemetry to Prime Infrastructure

```
csco-wlc-05#show telemetry internal connection
Telemetry connection

Peer Address      Port   VRF Source Address    Transport     State         Profile
---------------   -----  --- ---------------   ----------    ------------- -------------
10.51.75.134      20830    0 10.51.77.173      cntp-tcp      Active


telemetry ietf subscription 1587911427
 encoding encode-tdl
 filter tdl-transform LradIfChannelInterference
 stream native
 update-policy periodic 180000
 receiver ip address 10.51.75.134 20830 protocol cntp-tcp
```

- Requires compatibel ‚coral' service on PI

  - https://www.cisco.com/c/en/us/td/docs/wireless/compatibility/matrix/compatibility-matrix.html#94893
  - *either 16.12 or 17.3 not both

IOS-XE	PI3.7	PI3.8	PI3.9*
16.12.x			
17.3.x			

Как добавить C9800 на Prime - Руководство

Reference

- **<u>Managing Catalyst 9800 Wireless Controller Series with Prime Infrastructure using SNMP v2 and SNMP v3 and NetCONF</u>**

Варианты управления Catalyst 9800

- Prime Infrastructure
- DNA Center
- Prime и DNA Center совместно

1. Discover/Add Catalyst 9800 на DNA Center

- Prerequisites
  - Wireless Management Interface (OOB not supported)
  - Priv 15 User / SNMP community
  - SSH
  - aaa authorization default local (for netconf user authorization)
  - Netconf-yang enabled
  - Cisco DNAC to WLC
    - SSH, SNMP, Netconf (Port 830)
  - WLC to Cisco DNAC
    - SNMP, Telemery (Port 25103)
  - AP to Cisco DNAC
    - Intelligent Capture (Port 32626)

Catalyst 9800 Wireless Controller

New Discovery

Discovery Name*
C9800

CLI   SNMPv2c Read

dnacadmin | admin   public

SNMPv2c Write   SNMPv3
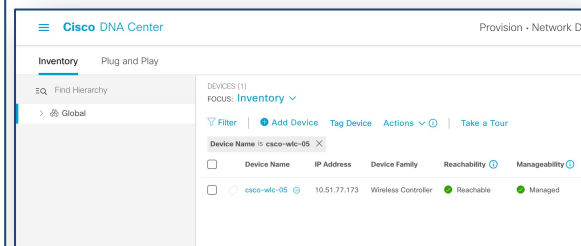
private   No credentials to display

HTTP(S) Read   HTTP(S) Write

No credentials to display   No credentials to display

NETCONF

830

Cisco DNA Center · Provision · Network De

Inventory   Plug and Play

Find Hierarchy   DEVICES (1)
                        FOCUS: Inventory ∨
Global
                        Filter ⊕ Add Device Tag Device Actions ∨ ⓘ │ Take a Tour
                        Device Name Is casco-wfc-05 ✕

                        □ Device Name   IP Address   Device Family   Reachability ⓘ   Manageability ⓘ

                        □ casco-wfc-05 ⓘ 10.51.77.173 Wireless Controller ● Reachable ● Managed
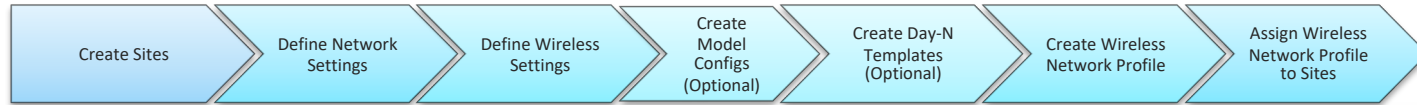
2. Настройка Catalyst 9800 на DNA Center (1/2)

- Assurance only
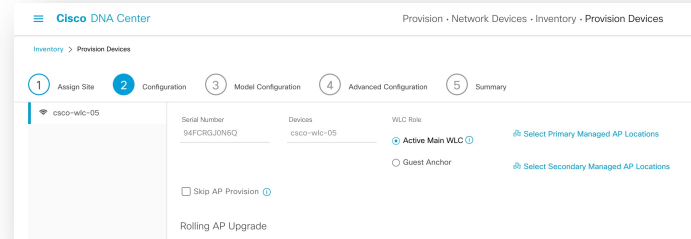 - Assign device to Site (no provisioning required)
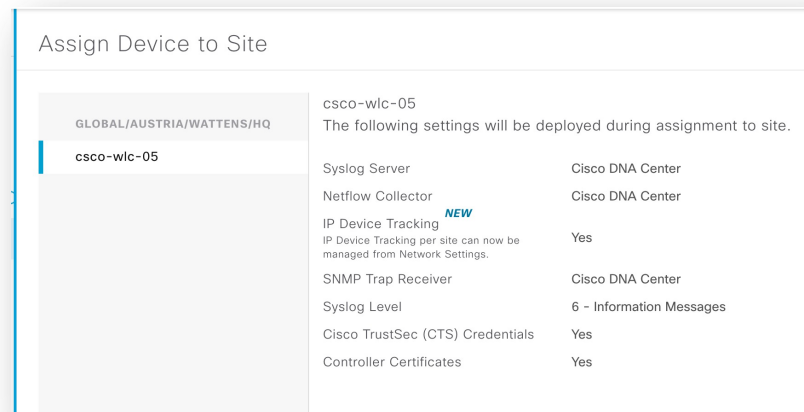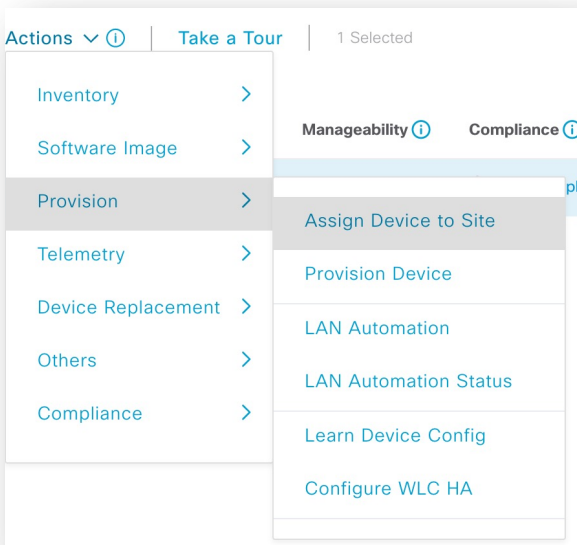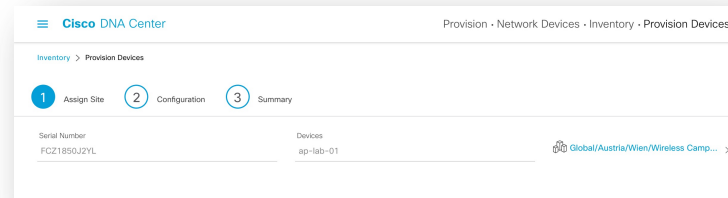
2. Настройка Catalyst 9800 на DNA Center (2/2)

- Configuration and Assurance
  - Design your Wireless

  - Provision WLC to Site

  - Provision APs to respective Sites

Настройка С9800 с DNA Center

- **Managing and Provisioning Non-Fabric Catalyst 9800 Wireless LAN Controllers from Cisco DNA Center**

Варианты управления Catalyst 9800

- Prime Infrastructure
- Cisco DNA Center
- Prime и Cisco DNA Center совместно

Cisco Prime/DNA Center совместно

Using Prime	Using DNAC
• Running network wide reports • Alarms and Notifications for the network • Maps and changes done via Prime	• Adv. troubleshooting • Packet Capture and Sensor enabled network • ML/AI integration • Cisco DNA Spaces integration

New Prime / Cisco DNA Center coexistence guide on CCO:
https://www.cisco.com/c/en/us/td/docs/net_mgmt/prime/infrastructure/3-9/migration/guide/bk_Cisco_Prime_Infrastructure_to_DNAC_Co-existence_guide.html

Вариант использования Prime and DNA Center вместе: Управление C9800 на Prime...

Cisco Prime

SNMP, Netconf
SSH/CLI

SNMP,
streaming
telemetry (*)

Catalyst 9800
Wireless Controller
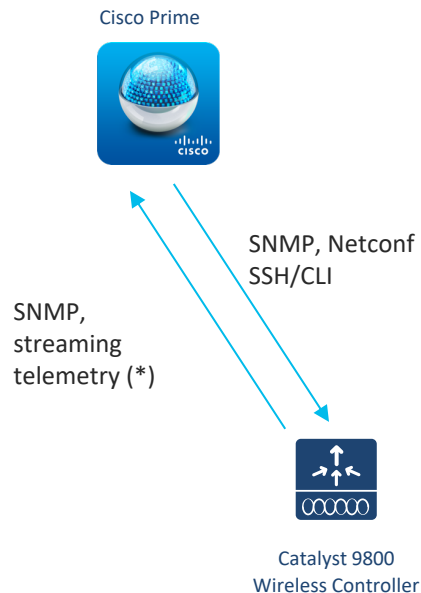
(*) TCP port **20830** (IOS-XE 16.12 and later)

- **Customer use case**: C9800 initially managed with Prime (Template, maps, reporting), Cisco DNA Center added for Assurance

- All config and templates available in Prime will be pushed via SNMP UDP port 161 and CLI. Netconf on TCP port 830 is used to push the telemetry configuration

- Operational data is obtained over SNMP. This uses UDP Port 162

- AP and client operational data are sent to Prime via streaming telemetry
  - TCP 20830 (for IOS-XE 16.12 and later) is used by C9800 to send data to Prime

Вариант использования Prime and DNA Center вместе: … и C9800 на DNA Center для телеметрии
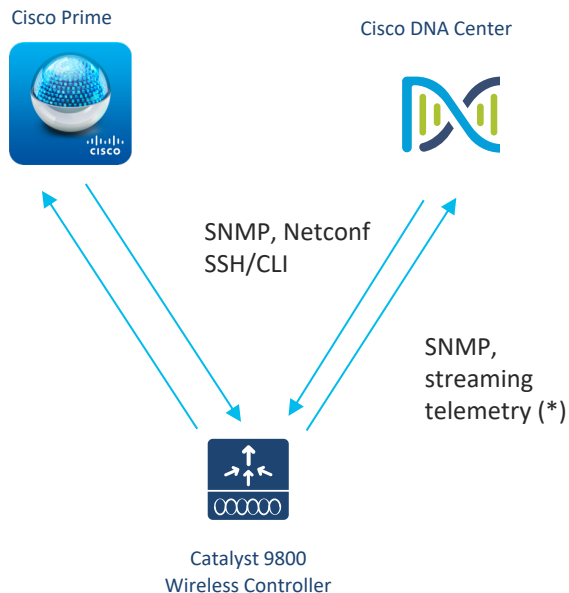
Cisco Prime

Cisco DNA Center

SNMP, Netconf
SSH/CLI

SNMP,
streaming
telemetry (*)

Catalyst 9800
Wireless Controller

- **Customer use case**: C9800 initially managed with Prime (Template, maps, reporting), Cisco DNA Center added for Assurance

- Add C9800 to **DNA Center 2.1.2.x** using Discovery

- Telemetry configuration and certificates are pushed during 'Assign to Site'

Диагностика неисправностей с телеметрией - шаги

- Check if Assurance version and device version are compatible. Use the tool (link)

- Check if time on the device is correct by running 'show clock'. Preferred to have DNA Center and device on UTC

- Check if the 9800 is in Managed state in inventory. Try to rediscover

- Run 'show network-assurance summary' on 9800 and make sure network-assurance shows as enabled and you see DNAC IP address correctly

- Run 'show run | inc trustpoint' command on 9800 and make sure 'DNAC-CA' and 'sdn-network-infra-iwan' trustpoints are listed

- Run 'show run | sec ietf' and make sure it lists down the subscriptions. Verify that the receiver ip address is matching with DNAC ip address

- 'show telemetry internal connection' command and make sure it shows DNAC ip address and State as 'Active'

- Make sure ports used are open in firewall

  ....still issue? TAC case!

Миграция с Prime на DNA Center

- Coexistence Tool
- Demo #1
- Maps Migration

Постепенный переход с PI на DNA Center

DNA Center

Assurance only

Prime for
Automation

Getting Started
with DNAC

DNA Center

Automation and Assurance
for compatible part of
network

Prime Co-existence

Older hardware/software and
DNAC compatible software and
hardware for missing
functionalities

Coexistence

DNA Center

Automation and
Assurance for full
network

No Prime

Prime/DNA Center сосществование - Сценарии

● Full Migration from Prime to Cisco DNAC

● Prime and Cisco DNAC together

1. Cisco DNAC in Assurance Mode

   PI = R/W,   DNAC = RO

2. Cisco DNAC in Automation + Assurance Mode

   PI = RO,   DNAC = R/W

3. Cisco DNAC in Automation Mode
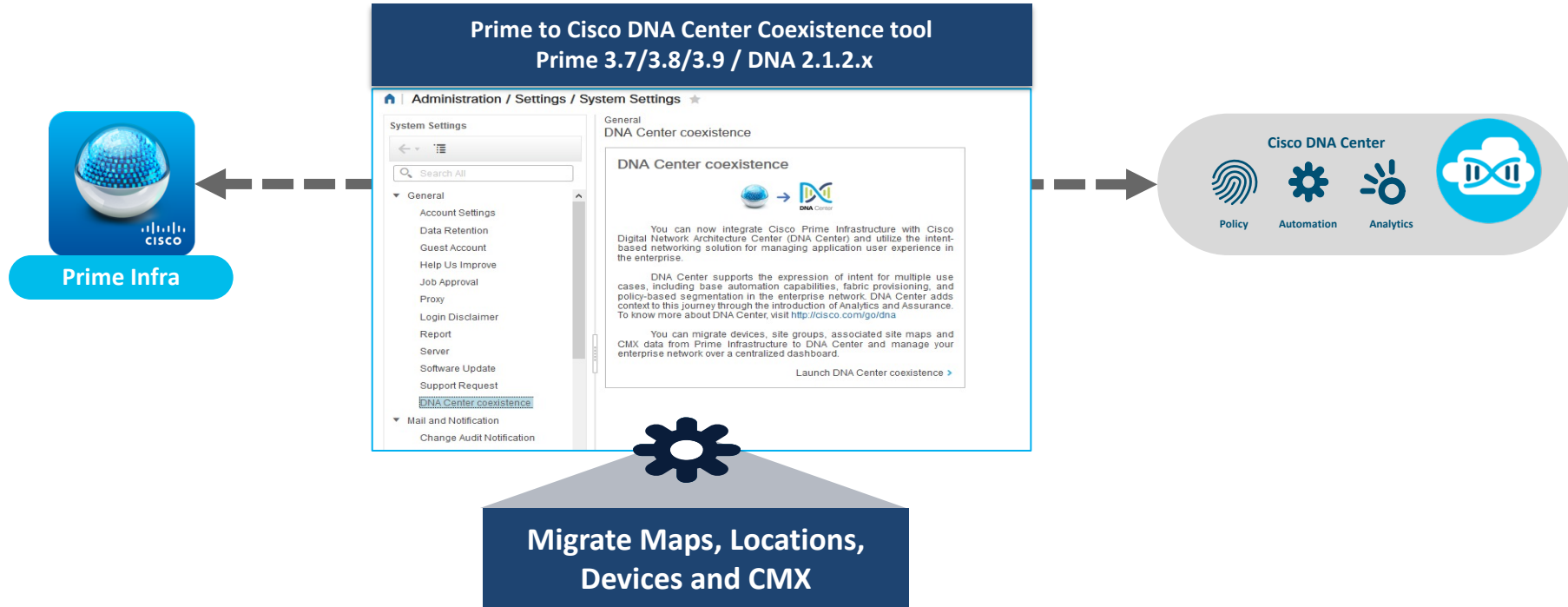
   PI = RO,   DNAC = R/W

There is only one system that will make changes to the network

Миграция с Prime на DNA Center

- Coexistence Tool
- Demo #1
- Maps Migration

Prime / Cisco DNA Center Coexistence Tool
Migrate Data, Site and Services from Prime to Cisco DNA Center

Prime to Cisco DNA Center Coexistence tool
Prime 3.7/3.8/3.9 / DNA 2.1.2.x

Prime Infra

Cisco DNA Center

Policy   Automation   Analytics
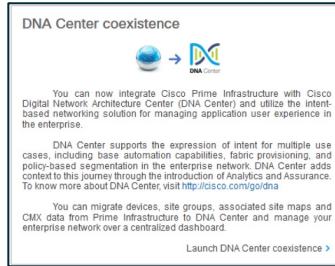
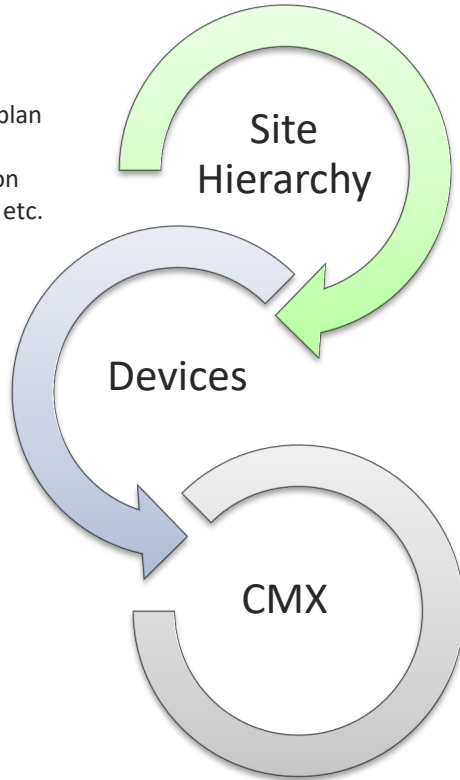**Migrate Maps, Locations, Devices and CMX**

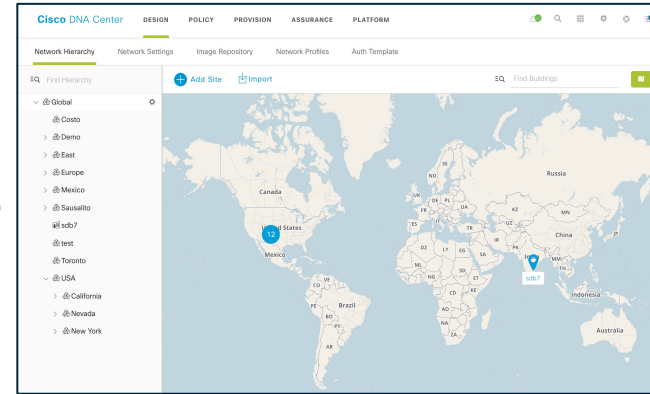# Cisco Prime/Cisoc DNA Center coexistence - Обзор

- Sites
- Buildings
- Floors with floor plan
- Floor elements – Inclusion/Exclusion Areas, Obstacles, etc.
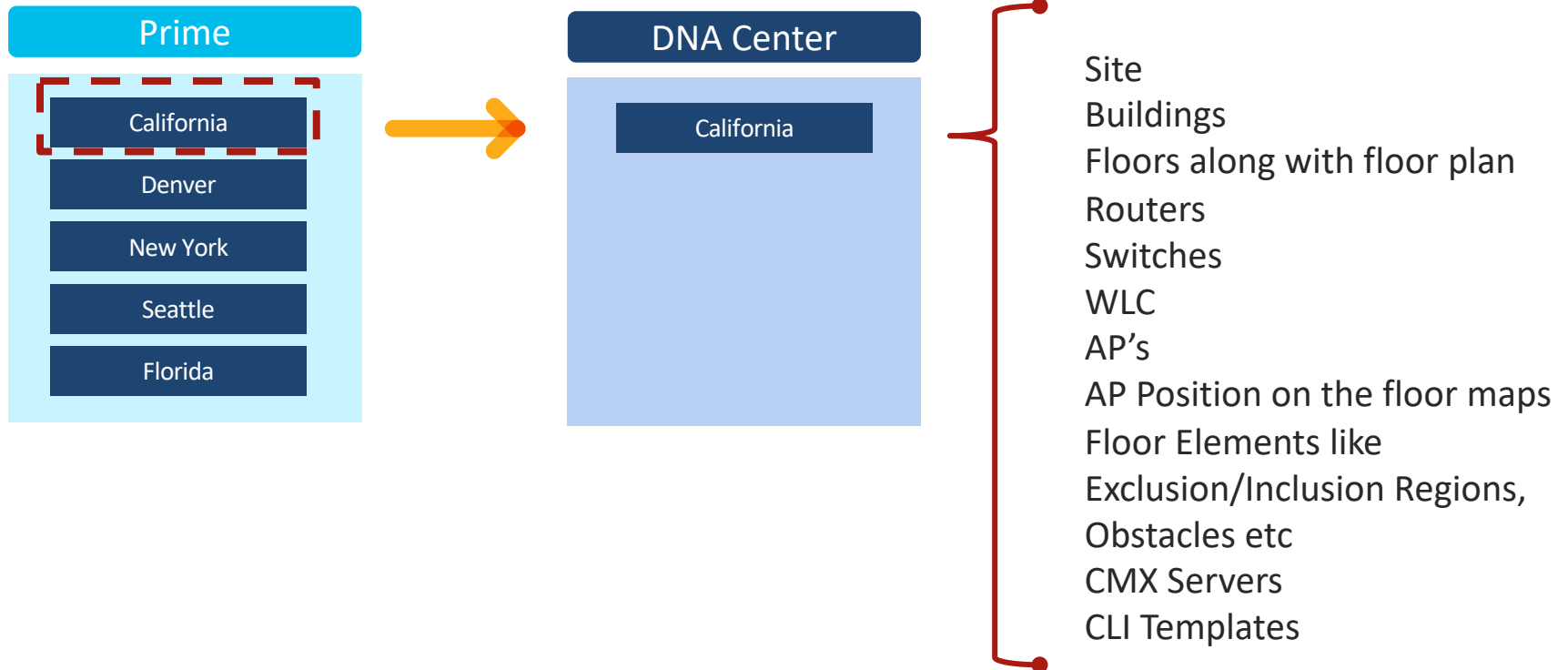
- WLCs
- APs
- Routers
- Switches

- CMX Servers

Site Hierarchy

Devices

CMX

Prime Infrastructure
3.8.1 Update 1

Cisco DNA Center –2.1.x

Cisco Prime/DNA Center coexistence - Сценарии

Prime	DNA Center	Site
California	California	Buildings
Denver		Floors along with floor plan
New York		Routers
Seattle		Switches
Florida		WLC

Site
Buildings
Floors along with floor plan
Routers
Switches
WLC
AP's
AP Position on the floor maps
Floor Elements like
Exclusion/Inclusion Regions,
Obstacles etc
CMX Servers
CLI Templates

Prime Coexistence Tool – Запуск

Prime Coexistence– Предоставление данных о DNA Center

Prime Infrastructure – Cisco DNA Center Coexistence   Logout

| 1 Add Cisco DNA Center Server | → | 2 Sync Settings | → | 3 Select Groups | → | 4 Enter CMX credentials | → |

Cisco DNA Center Server

Prime Infrastructure supports integration of Cisco DNA Center for the versions specified here. You can only integrate one Cisco DNA Center Server at a time.

* Server IP or Hostname   192.168.117.3 ✅

* Username   admin

* Password   ••••••••••••••••••••••••

* Confirm Password   ••••••••••••••••••••••••

Remove   Update

Next

Prime Coexistence Tool – Настройка синхронизации

Logout

| 1 Add Cisco DNA Center Server | → | 2 **Sync Settings** | → | 3 Select Groups | → | 4 Enter CMX credentials | → |

☑ **Enables automatic synchronization of data integrated with Cisco DNA Center** ❓

☑ **Include newly added data during dynamic synchronization** ❓

☑ **Enable CMX settings** ❓

☑ **Migrate User Defined CLI Templates** ❓

Select all the applicable settings and preferences

Supported / Available Limits

	Recommended Scale	Available
Site Groups / Site Maps	500	388
Devices	1000	984

Ensure that you don't exceed the recommended scale.

Previous   **Next**

Prime Coexistence Tool – Разработка иерархии сайтов

Prime Coexistence Tool – Выбор CMX Server

1 Add Cisco DNA Center Server	→	2 Sync Settings	→	3 Select Groups	→	4 **Enter CMX credentials**	→

ⓘ No CMX available in the selected location groups.

Previous   Next

Prime Coexistence Tool – Выбор CLI Templates

| 2 Sync Settings | → | 3 Select Groups | → | 4 Enter CMX credentials | → | 5 **Select CLI Templates** | → |

● ● ● ● ● ●
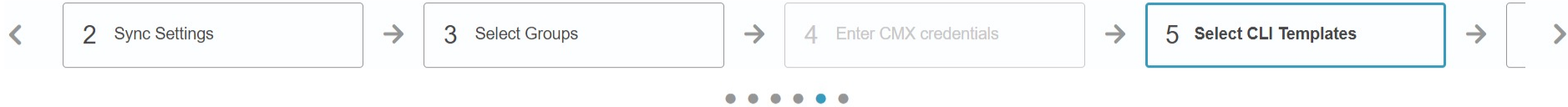
Non-Migrated Templates | Migrated Templates

Following are the templates available in Prime Infrastructure to be migrated to Cisco DNA Center.

Selected 0 / Total 0

Show [Quick Filter ▼] 🔽

☐	Name	Type	Description
	[ ]	[ ]	[ ]

No data is available

[Previous]   [**Next**]

Prime Coexistence Tool – Summary and Status

| ← | | → | 3 Select Groups | → | 4 Enter CMX credentials | → | 5 Select CLI Templates | → | 6 Summary | → |

● ● ● ● ● ●

| Groups | Devices | Maps | CMX | CLI Templates | **Sync Settings** |

Automatic synchronization of data integrated with Cisco DNA Center : Enabled ?

Include newly added data during dynamic synchronization : Enabled ?

CMX settings : Enabled ?

Migrate User Defined CLI Templates : Enabled ?

Status : Not Available

Previous   Submit

Prime coexistence tool – Журнал активности

Prime coexistence tool - Советы

- Migration workflow resides on Prime Infrastructure

- Cisco Prime and Cisco DNA Center require IP reachability from each other

- Recommended release: DNA Center 2.1.x and Prime 3.7/3.8/3.9 with latest Prime Data Migration Tool patch

- If Cisco DNAC certificate changed, use Prime CLI to reset

```
ncs certvalidation tofu-certs listcerts
ncs certvalidation tofu-certs deletecert host <host>
```


Cisco DNA Center Server

Prime Infrastructure supports integration of Cisco DNA Center for the versions specified here. You can only integrate one Cisco DNA Center Ser

*Server IP or Hostname   vielab-dnac1.cisco.com   ⊗   Cisco DNAC server certificate is invalid

*Username   admin

*Password   •••••••••••••••••••••••••

*Confirm Password   •••••••••••••••••••••••••

Remove   Update

Миграция с Prime на DNA Center

- Coexistence Tool
- Demo #1
- Maps Migration

Сценарии демонстраций

- **Демо #1:**

  - **Situation**: Prime Infrastructure and AireOS 3504 Controller
  - **Goal**: Keep Prime for configuration, use Cisco DNAC for monitoring and Assurance
  - **Demo**: Use Prime Coexistence Tool to migrate maps and 3504 to Cisco DNA Center.

- **Демо #2:**

  - **Situation**: 3504 is monitored by Cisco DNA Center
  - **Goal**: Complete Migration from 3504 Controller to 9800 Controller
  - **Demo**: Learn 3504 Controller config, provision 9800 and decommission 3504.

Демо #1

Cisco Prime Infrastructure

Overview | Incidents | Client Summary | Site Summary | +

⚙ Settings

▼ Metrics

ICMP Reachability Status

1	1	0
All	Reachable	Unreachable

SNMP Reachability Status

1	1	0
All	Reachable	Unreachable

Alarm Summary

0	0	1
Critical	Major	Minor

Unified AP Status

4	100.0%	0%
All	Associated	Dissociated

Last Updated: Monday, March 8, 2021 at 6:01:20 PM CST

• ● •

Filters | Time Frame | Past 1 Hour ▼ | **Apply**

Top N Interface Utilization

✎ ? ↻ ⬈ — ✕

Zoom: 1h | 6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | From: 3/8/2021, 5:01 PM 📅 To: 3/8/2021, 6:01 PM 📅

Transmitted(Tx) of port group - ALL | View Details

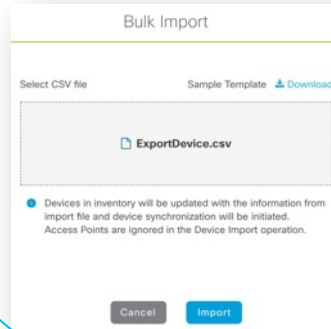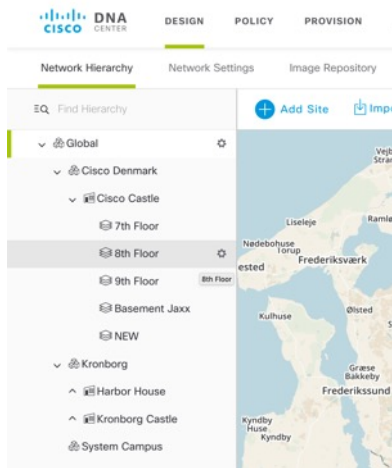| Device	Device IP	Maximum Tx ▼	Interface	Speed

No devices added in the system

Миграция с Prime на DNA Center
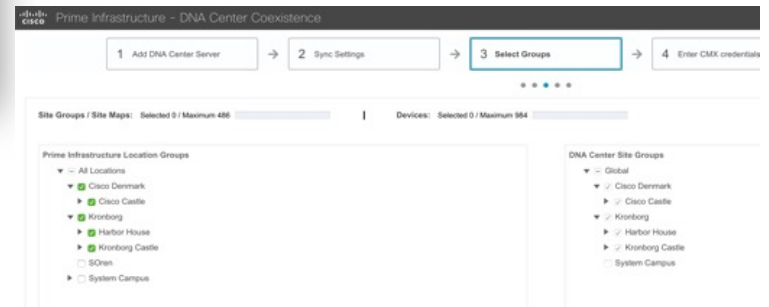
- Coexistence Tool
- Demo
- Maps Migration

Как создать Иерархию/Карты сайта в DNAC?

Что вам нужно знать о Картах в PI...

Maps and Prime

- Prime can sync maps / floorplans with MSE

- Prime requires a manual process of export/import maps with CMX/Cisco DNA Spaces

- Prime can consume location data from MSE and CMX

- PI supports 3 level hierarchies:
  - Campus → Building → Floor
  - There are also coverage zones but these are for CMX/Cisco DNA Spaces and don't represent a site hierarchy in Prime
  - Nested hierarchy can be achieved through Network Device Groups > Location, but are not visible within the Site Maps

# Что вам нужно знать о Картах в DNA Center...

Maps and DNA Center

- Cisco DNA Center supports multi-level hierarchy:
  Global > Area (one or more) > Building > Floor

- Cisco DNA Center does not allow the use of the character "/" in the name of the Area, Building or Floor.

- Cisco DNA Center has a limit of 200 APs per floor map, consider this when migrating from Prime

- Cisco DNA Center can sync maps with CMX or Cisco DNA Spaces*

- Map export can also be used for manual upload to Cisco DNA Spaces

- Cisco DNA Center can consume location data from CMX or Cisco DNA Spaces*

*Cisco DNAC 2.1.2.x or higher

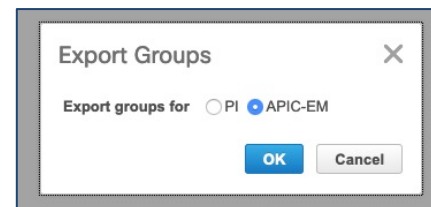# Миграция карт в DNA Center

Вариант 1 = manual

- User creates the needed hierarchy in DNA center and load maps there directly

- Recommended only if need to start from scratch

- No real migration, time consuming
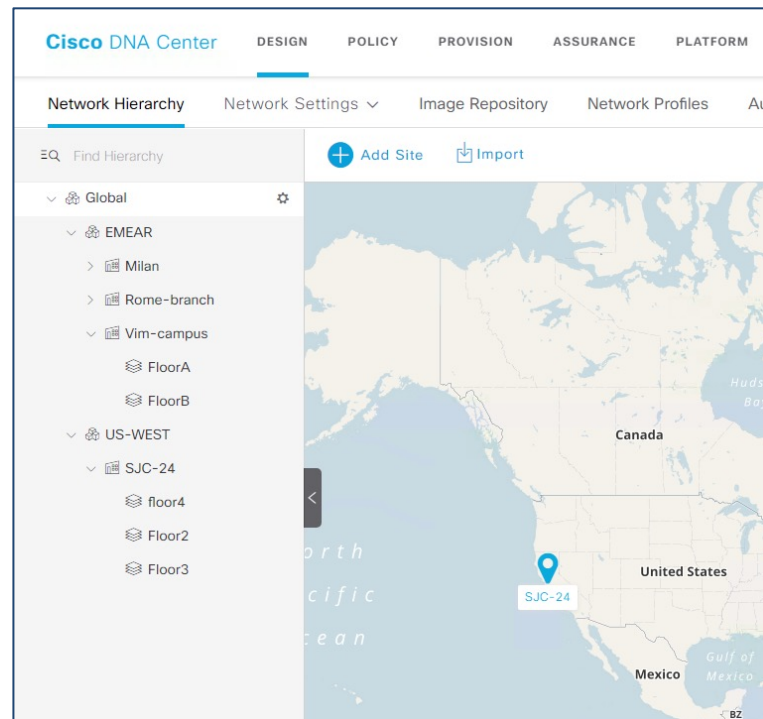
Миграция карт в DNA Center

Вариант 2 = Export/import from Prime (1/4)

- Export the site Hierarchy. Go to *Inventory / Group Management / Network Device Groups* and click on "Export Groups"

- Click on Export for APIC-EM and OK

- The generated CSV file needs to be edited to add the country info for each Building (info required by Cisco DNA Center)
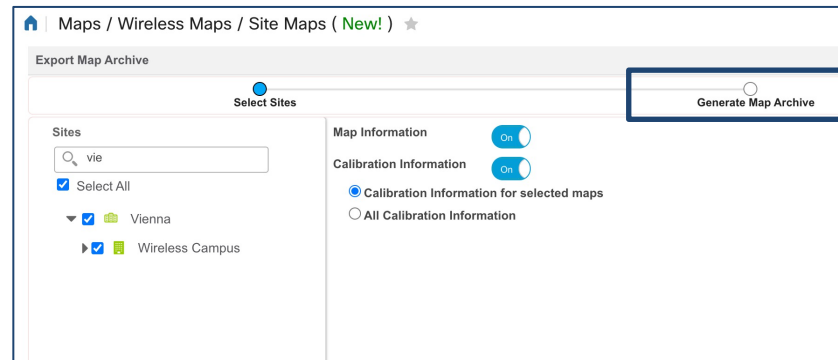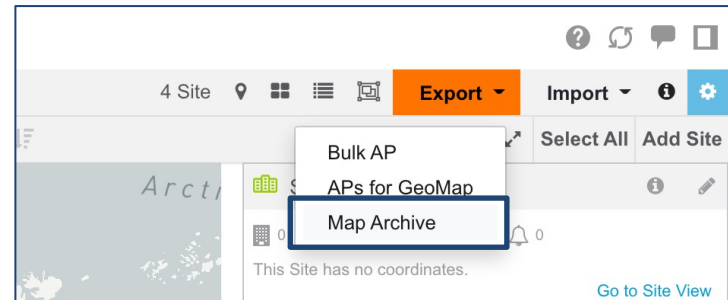
Миграция карт в DNA Center
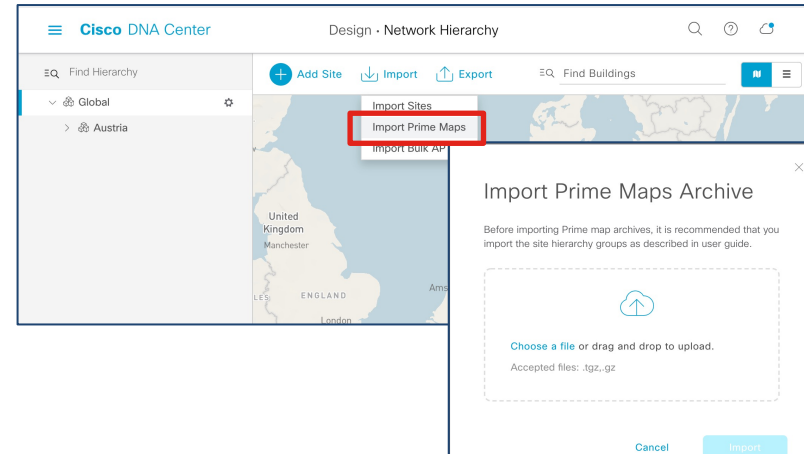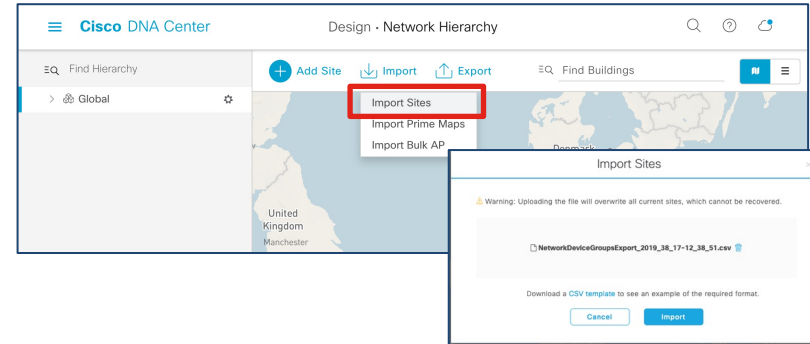
Option 2 = Export/import from Prime (2/4)

- Export the maps from Prime by clicking on Map Archive

- Select the sites you want to export and click on Generate Map Archive

- This will generate a tar.gz file

Миграция карт в DNA Center

Option 2 = Export/import from Prime (3/4)

- Prepare Cisco DNA Center: add the WLC to Cisco DNA Center Inventory (Access Points need to be in the database)

- Import the site hierarchy from Prime by going to Design / Network Hierarchy and import the CSV file generated earlier

- Now you can import the maps by clicking on Import Prime Maps and loading the tar.gz file

- **NOTE:** In Cisco DNA Center geo coordinates are mandatory, in Prime these are optional.

Миграция карт в Cisco DNA Center

Option 2 = Export/import from Prime (4/4)

- To add the geo coordinates in Prime before exporting, edit the map at Campus or Building level

Enter the civic address or coordinates

Миграция карт в DNA Center

Option 3 = Use the Prime DNA Center coexistence tool

- Same requirements as option 2

- Prime co-existence tool will prompt to push the CMX details to Cisco DNA Center; there is not a way to uncheck this during the migration flow.

- It is possible to remove the sync between CMX & Site Maps getting migrated for the brief period and enable the sync back once the building/floor maps are migrated
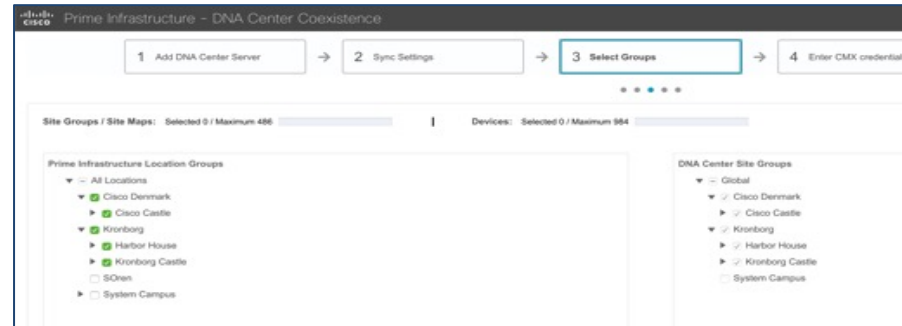
Миграция с AireOS на IOS XE при помощи DNA Center

- Config Translation/Learning
- Demo

Миграция конфигурации AireOS

- Prime Infrastructure: AireOS Config Translator

- C9800: AireOS Config Translator

- Cisco TAC Tool: WLC Config Converter

- Cisco DNA Center

  - Learn Device
    Config

  - Migration Tool
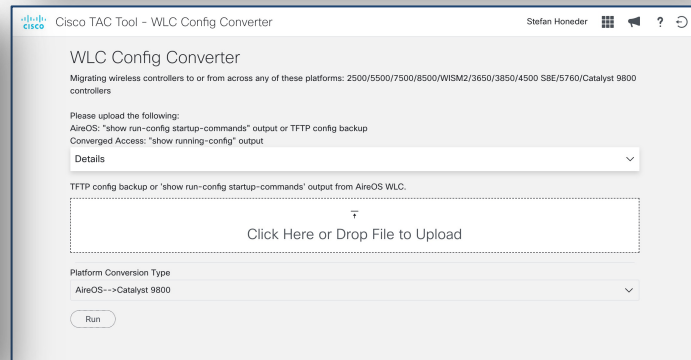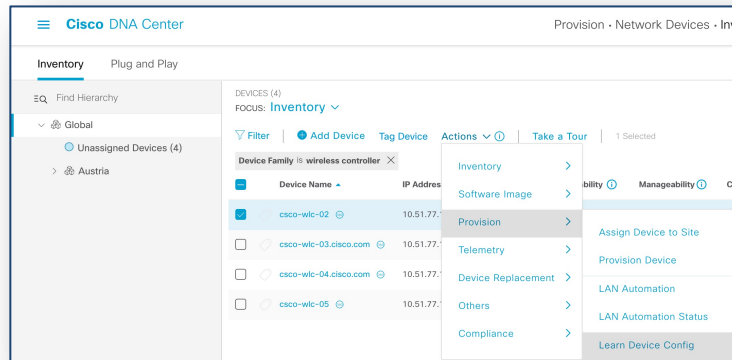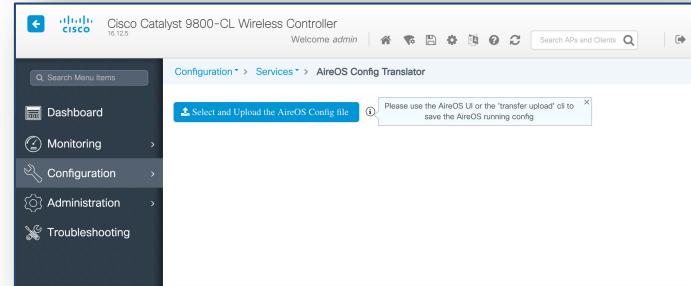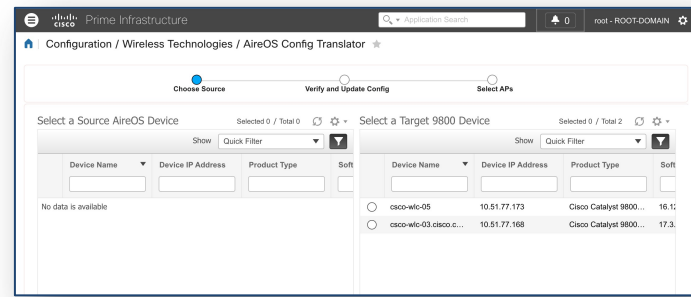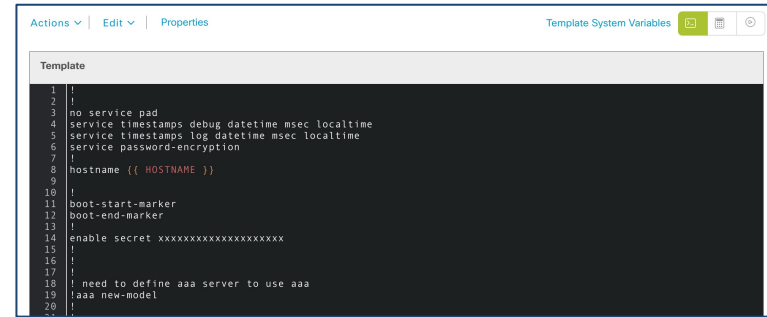
Существующая сеть - Learn Device Config

- Use a managed AireOS Controller to "Learn" Controller Configuration

- Assign Site

- Resolve Conflicts

- Design Object Details
  - Network
  - Wireless
  - Ignored Config*

- Network Profile

Inventory >		
Software Image >	Reachability ⓘ	Manageab
Provision >	Assign Device to Site	
Telemetry >	Provision Device	
Device Replacement >	LAN Automation	
Others >	LAN Automation Status	
Compliance >	Learn Device Config	
	Configure WLC HA	

Окончательные настройки

- Use the Migration Tools
  - On-line
    Cisco TAC Tool - WLC Config Converter

- Build & test to validate the Controller Config

- Template Editor

- Model Config Editor

- Apply Template & Model Config
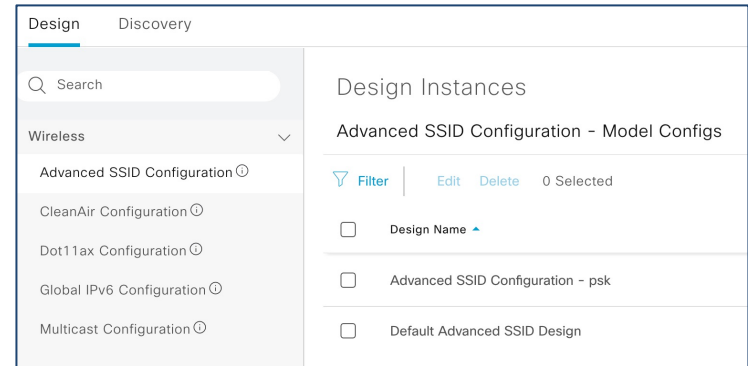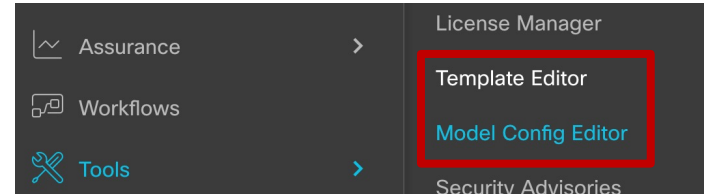
Миграция на 9800 при помощи DNA Center

- Config Translation/Learning
- Demo #2

Сценарии демонстраций

- **Демо #1:**
  - **Situation**: Prime Infrastructure and AireOS 3504 Controller
  - **Goal**: Keep Prime for configuration, use Cisco DNAC for monitoring and Assurance
  - **Demo**: Use Prime Coexistence Tool to migrate maps and 3504 to Cisco DNA Center.

PI = R/W,   DNAC = RO

- **Демо #2:**
  - **Situation**: 3504 is monitored by Cisco DNA Center
  - **Goal**: Complete Migration from 3504 Controller to 9800 Controller
  - **Demo**: Learn 3504 Controller config, provision 9800 and decommission 3504.

PI = N/A,   DNAC = R/W

Демо #2

☰ ‖‖‖‖ Prime Infrastructure   🔍 ▾ Application Search   🔔 0   root - ROOT-DOMAIN

🏠

Overview | Incidents | Client Summary | Site Summary | +

⚙ Settings

▾ Metrics

ICMP Reachability Status

1	1	0
All	Reachable	Unreachable

SNMP Reachability Status

1	1	0
All	Reachable	Unreachable

Alarm Summary

0	0	1
Critical	Major	Minor

Unified AP Status

4	100.0%	0%
All	Associated	Dissociated

Last Updated: Monday, March 8, 2021 at 6:01:20 PM CST

● ● ●

Filters   Time Frame   [Past 1 Hour ▾]   **Apply**

Top N Interface Utilization   ✏ ? ⟳ ↗ — ✕

Zoom: 1h | 6h | 1d | 1w | 2w | 4w | 3m | 6m | 1y | From: [3/8/2021, 5:01 PM 📅]   To: [3/8/2021, 6:01 PM 📅]

Transmitted(Tx) of port group - ALL | View Details

Device	Device IP	Maximum Tx ▾	Interface	Speed

No devices added in the system

Важное примечание

- Demo Used C9800 running IOS-XE 17.3.3
  - Prior versions will require manually writing Tags to AP after Migrating APs from 3504
    - Or other strategy
  - Refer to Cisco Catalyst 9800 Series Configuration Best Practices White Paper

Cisco Catalyst 9800 Series pro...	Currently, to push the tags to the AP so that the AP can save and remember this information, you need to use a CLI command in exec mode:
General controller settings	`c9800-1#ap name <APname> write tag-config`
General access point settings	Besides the write command, another way to preserve tags as you move APs from one controller to the other is to use an AP tag filter. Let's say you want to move APs that are on floor 1 from WLC1 to WLC2. Let's assume that you have named the AP accordingly as "APx_floor1," where "x" is the AP number. You need to configure the desired tags on both controllers and then, on WLC2, configure a filter rule to match any AP name that ends with "floor1" and assign it to the desired tags. Go to Configuration > Tags & Profiles > Tags, and click Filter:
Network controller settings	
Network access point settings	Configuration ˅ > Tags & Profiles ˅ > **Tags**

Полезности

Беспроводные промо

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Switching/Wireless Only. Excludes SD-WAN Cloud-based DNA Subscriptions

Learn More

Cisco PI to Cisco DNAC Co-existence Guide

DNA Center compatibility information

DNA Center release notes

DNA Center user guides

Cisco Wireless Solutions Software Compatibility Matrix

YouTube Brownfield learn device config example

Cisco DNAC YouTube Channel

C9800 Release Notes

C9800 Configuration Guides

C9800 Technical References

C9800 Configuration Examples and Tech Notes

C9800 Command References

C9800 Deployment Best Practices

C9800 WLC Configuration Model

WLC Configuration Converter

WLC Compatibility Matrix

AireOS to IOS-XE Command Mapping

AireOS to C9800 Wireless Controller Feature Comparison Matrix

Understand FlexConnect on a 9800 WLC

Cisco Learning Partners

Cisco WLAN YouTube Channel

Сетевой марафон:
Catalyst 9800 – новая классика WLAN

- 24 мая - Обзор процесса миграции и лучших практик при переходе с контроллеров AireOS на Catalyst 9800
- 25 мая - Миграция Flexconnect сети на беспроводной контроллер Catalyst 9800
- 26 мая - Разворачивание, настройка и использование виртуального беспроводного контроллера Catalyst 9800
- **27 мая - Миграция на беспроводной контроллер Catalyst 9800 с использованием Prime Infrastructure и DNA Center**
- 28 мая - Рекомендации по отладке и поиску неисправностей в сетях под управлением Catalyst 9800

Спасибо!