

TOMORROW starts here.



Cisco *live!*

Multi-UCS Management with UCS Central

BRKCOM-2014

Brad TerEick

Technical Solutions Architect

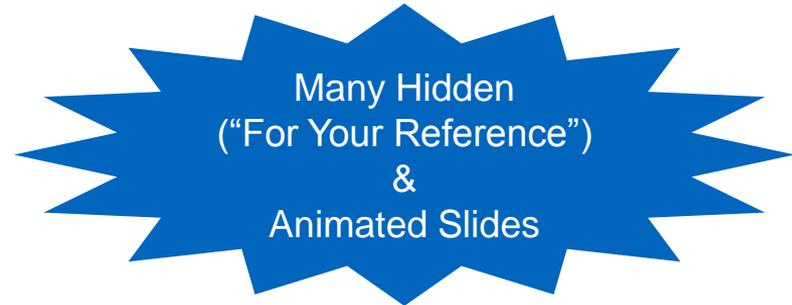
What to Expect

- This session will not cover general **UCS Manager**, but we will use UCS Manager to demonstrate the “impact” of UCS Central
 - Please check out BRKCOM-2001 UCS Management Deep Dive for that
 - On the other hand, this session **will cover UCS Central** in great detail
- Not all UCS Central features will be discussed, but some of the more “core” capabilities will be exposed and dissected

Agenda – Why / What / How ?



- Intro / Review
 - **Why** UCS Central?
 - **What** is UCS Central?
 - Feature Details
 - Enabling my UCS System
- How to Use UCS Central
 - Taking Advantage of Features
 - Best Practices
 - Demos
- Transitioning to UCS Central
 - **How** do I get there?
- What's Next for UCS Central
- Advanced Capabilities – “UCSQL”

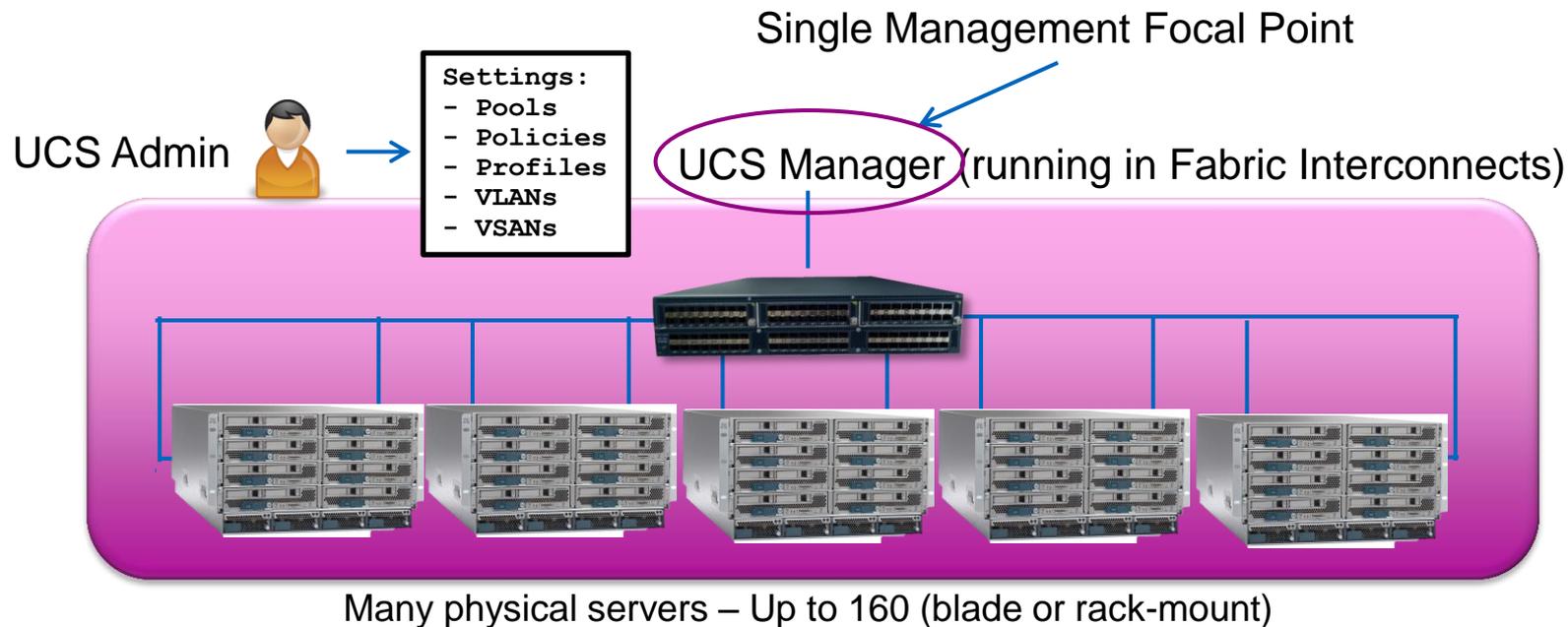




Intro: Why UCS Central?

Management of Multiple UCS Systems - Review

Management of One UCS “Domain”



1 “manager” for entire UCS “Domain” or “pod” or “system” or “instance”

Management of Multiple UCS Systems - Review

UCS Admin



Settings:

- Pools
- Policies
- Profiles
- VLANs
- VSANS



UCS Central will Simplify & Enhance
Your Multi-UCS Management

Chicago



New York



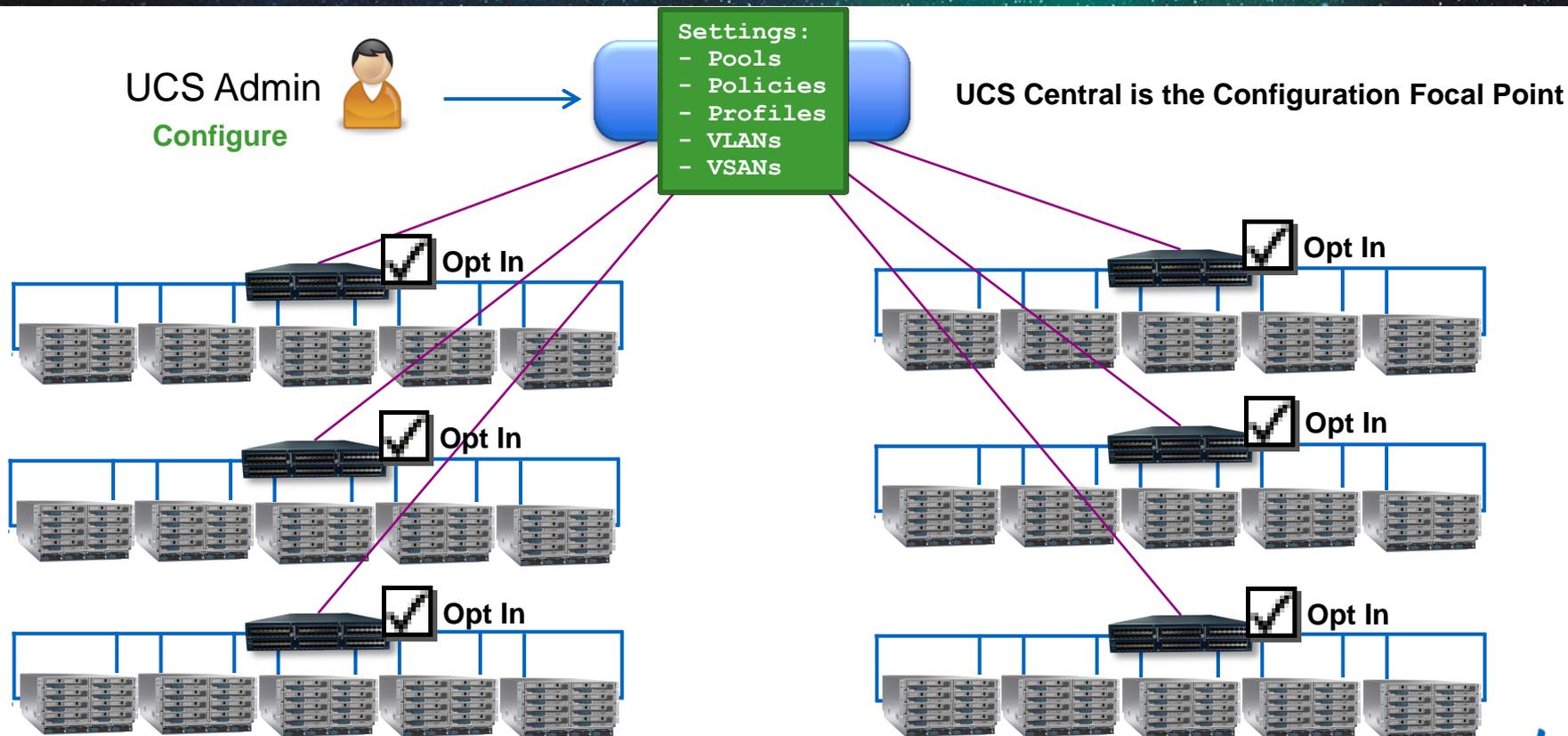
L.A.



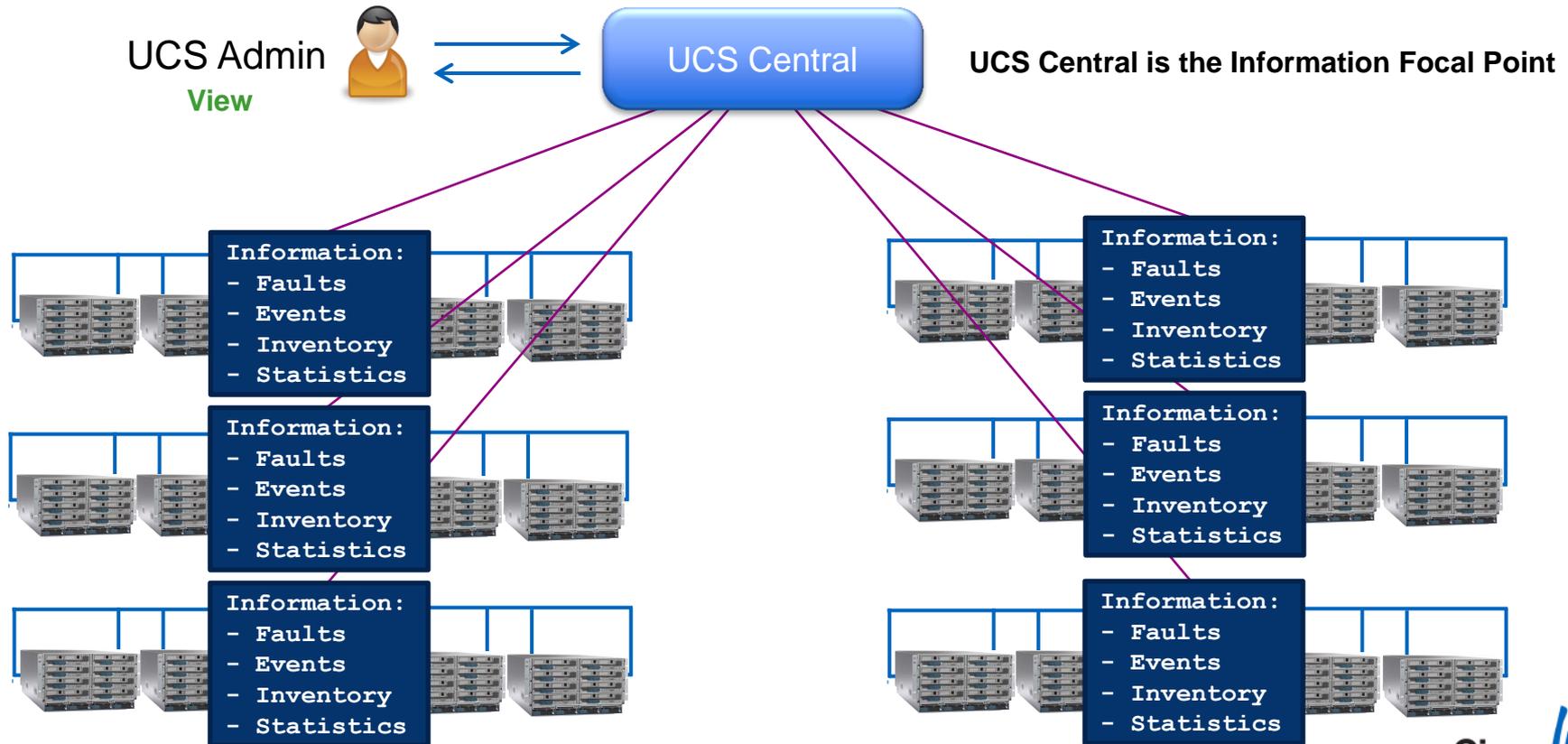


Intro: What is UCS Central?

UCS Central: High-level Logical View



UCS Central: High-level Logical View



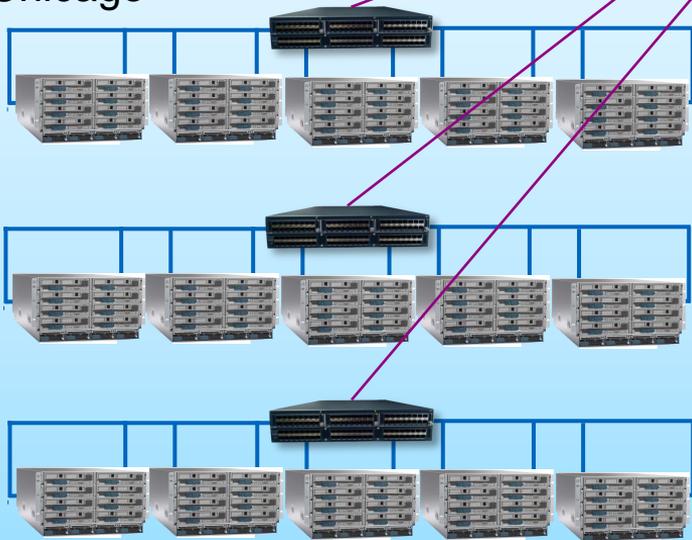
UCS Central: High-level Logical View

UCS Admin 
Configure / View

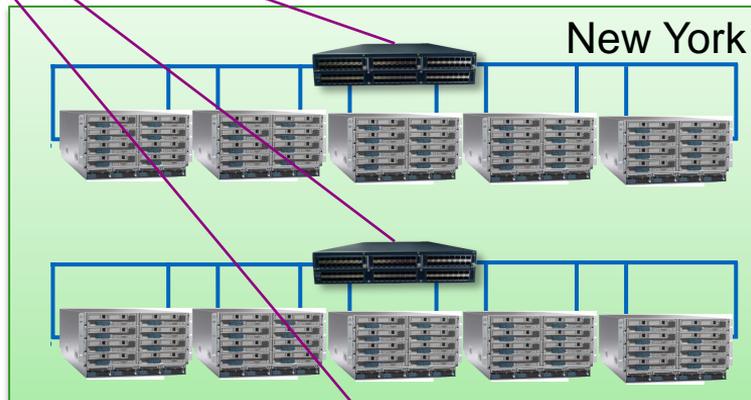


Management of Remote Domains

Chicago



New York



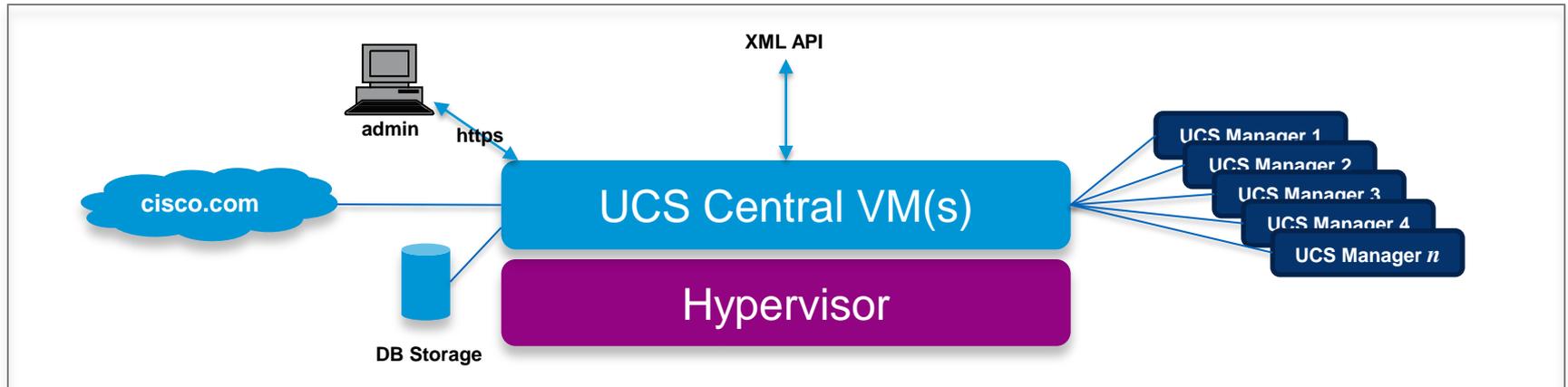
L.A.



UCS Central: What is it?

What Does it Look Like?

- External, VM-based management appliance
- Download as .OVA or .ISO from cisco.com
- Architecture:



Intro: UCS Central Feature Details

Provides 5 Key “Global” UCS Functions:

1. Information Dashboard

- Inventory
- Faults / Logs
- Statistics

2. Identifier / ID Pool Management

3. Domain-wide Infrastructure Policies

- Admin Settings & Enforcement

4. Server Policies

- Component Settings
- Policy Subscription

5. Workload Mobility

- Global Service Profiles
- Site Specific Settings



➔ What is it not?

Intro: Enabling My UCS System

UCS Manager Registration with UCS Central

The screenshot displays the Cisco Unified Computing System Manager (UCSPE-25) interface. On the left, the 'Fault Summary' panel shows 0 critical, 0 major, 8 minor, and 0 warning faults. Below it, the navigation pane includes 'Equipment', 'Servers', 'LAN', 'SAN', 'VM', and 'Admin'. The 'Filter' is set to 'All'. The main content area shows a tree view with 'UCS Central' selected. A dialog box titled 'Register With UCS Central' is open, featuring a 'New' button and an 'Options' menu. The dialog contains the following fields and options:

- Register With UCS Central**
- Hostname/IP Address: [Redacted]
- Shared Secret: [Redacted]
- Policy Resolution Control**
- All Global (button)
- Infrastructure & Catalog Firmware: Local Global
- Date & Time: Local Global

A purple oval highlights the 'Action:' section of the dialog, which includes 'Register' and 'Unregister' options.

Requires UCS Manager 2.1+

Intro: Enabling My UCS System

UCS Manager Registration with UCS Central



At Registration:

- Registration initiated by “admin” on UCS Manager
- Requires UCS Central IP or DNS name
- Secure process through the use of Shared Secret

After Registration:

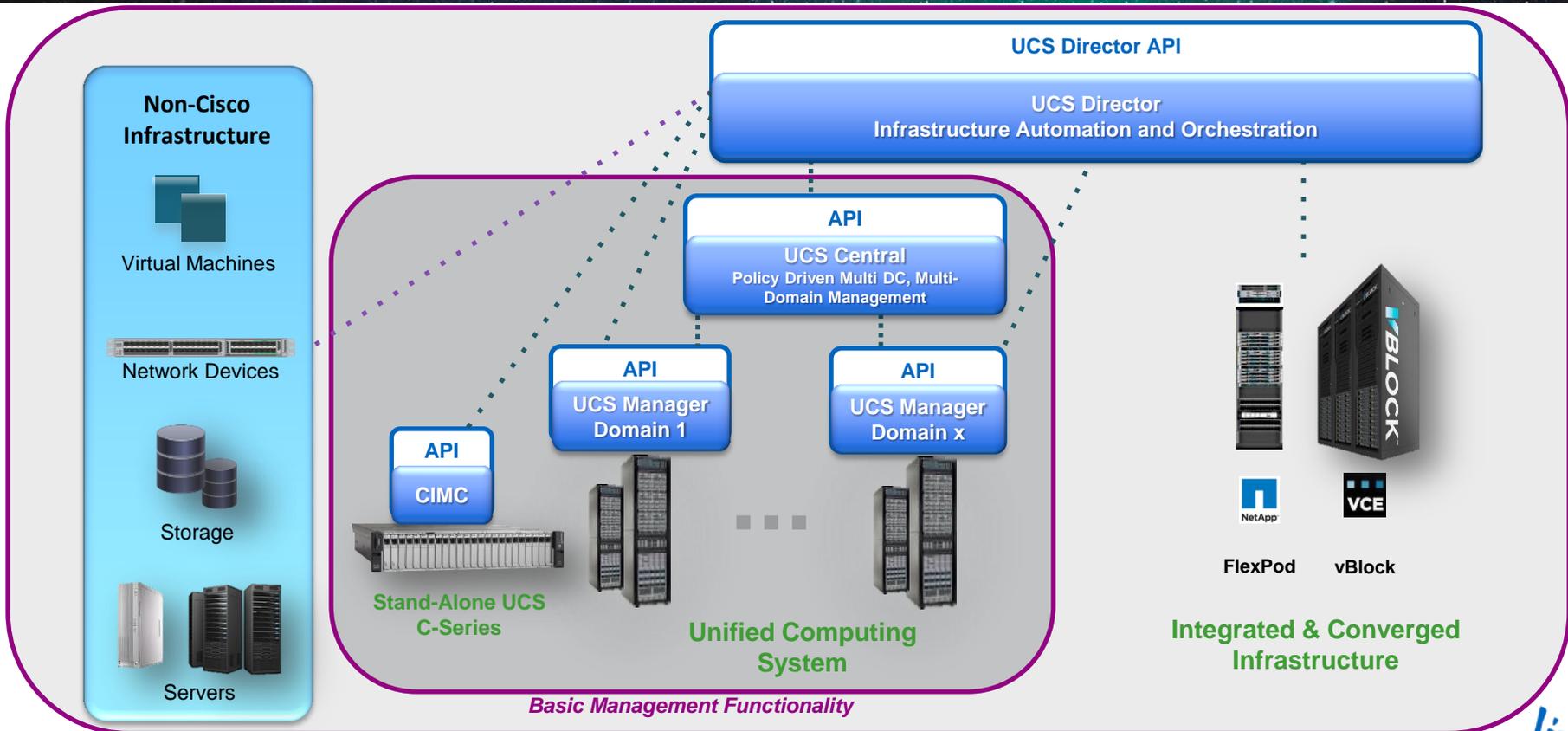
- All resources from local UCSM pools visible in UCS Central
- “Effective” policies¹ may take effect at registration

Bulk Registration:

- Registrations can be done through the XML API
- Scripts can be written with lists of UCS Domain IP addresses to bulk register

1 - For the domain group

UCS Management Portfolio



Basic Management Functionality

Advanced Infrastructure Abstraction & Automation



How to Use UCS Central?

UCS Central Features

Taking Advantage of Core Capabilities

Provides 5 Key “Global” UCS Functions:

1. Information Dashboard

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- Faults / Logs
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UCS Central Features

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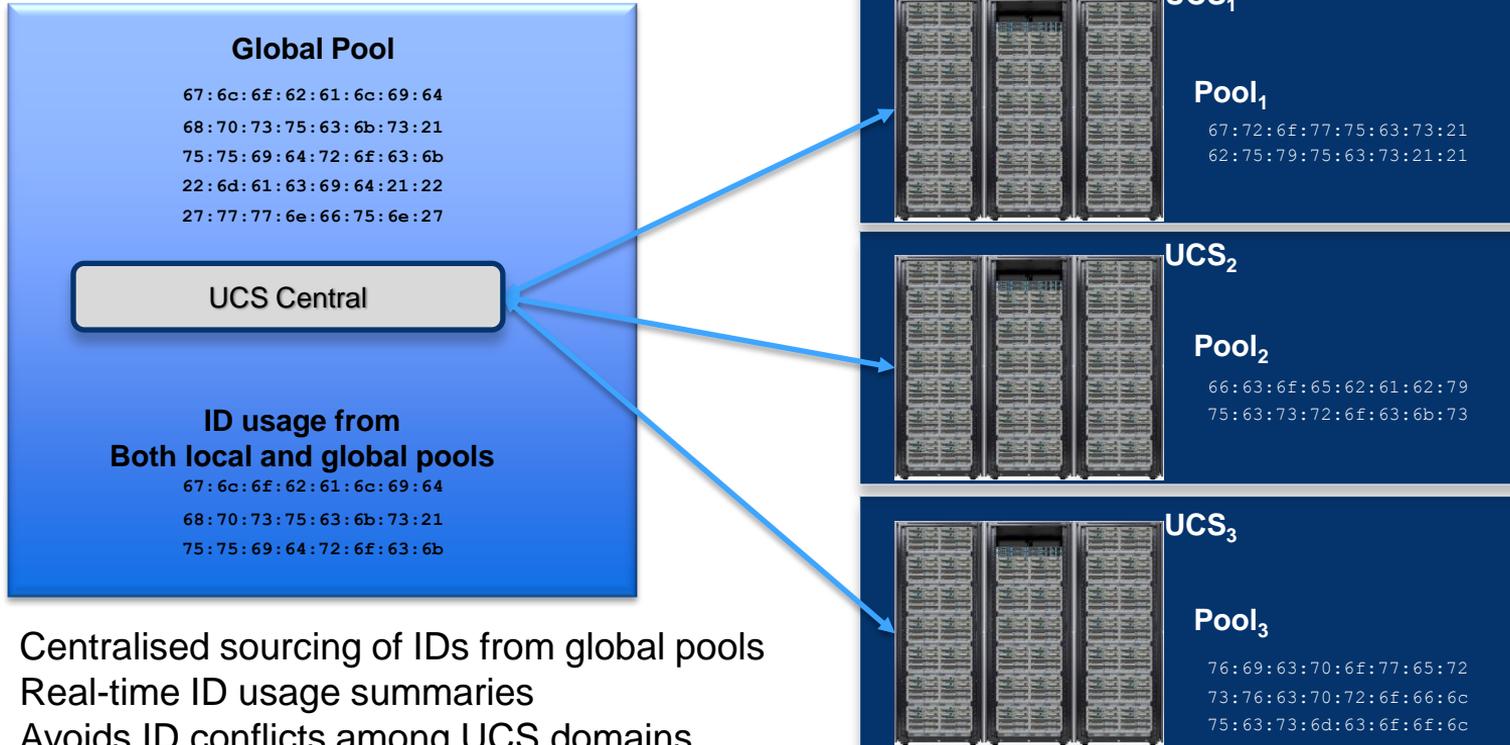
5. Workload Mobility

- Global Service Profiles
- Site Specific Settings



Global Resources - Pools

Global ID Pool Management



- Centralised sourcing of IDs from global pools
- Real-time ID usage summaries
- Avoids ID conflicts among UCS domains

UCS Central Features

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UCS Central Features

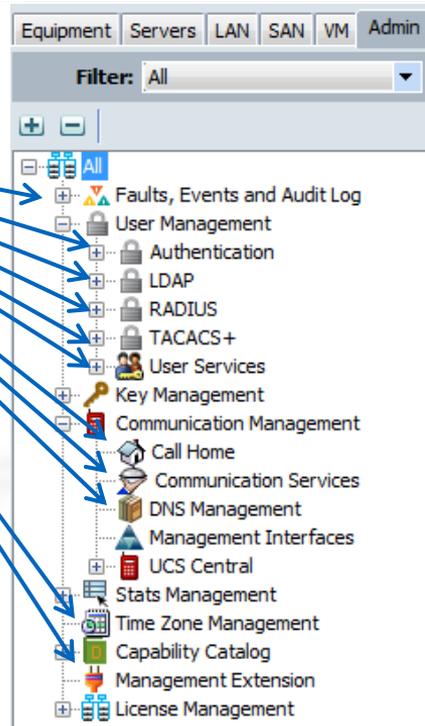
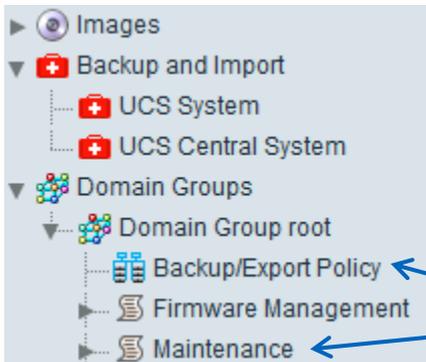
Globally Defined – Domain-wide Infrastructure Policies

Define UCS Administrative infrastructure Policies

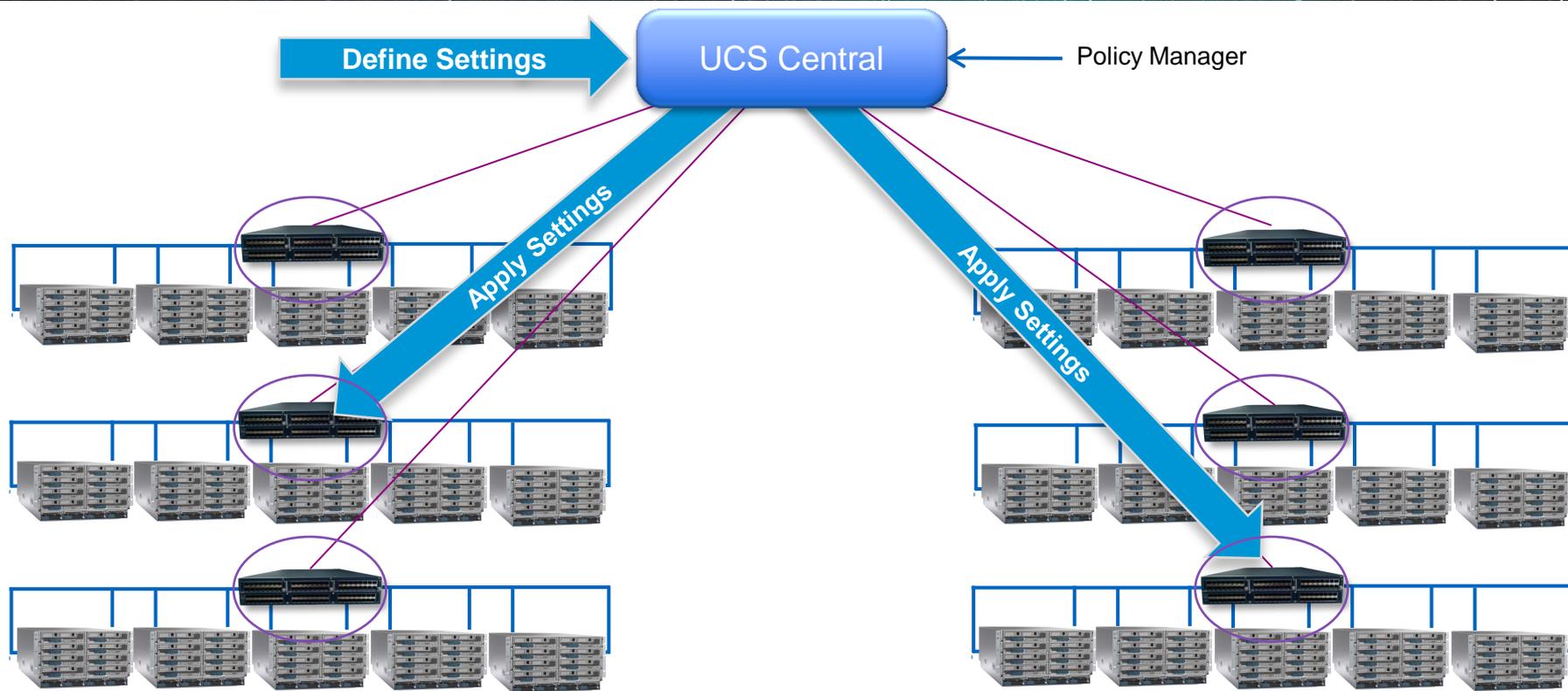
Settings can be controlled / enforced

Consistency

Define “Operational” Policies for UCS Infrastructure



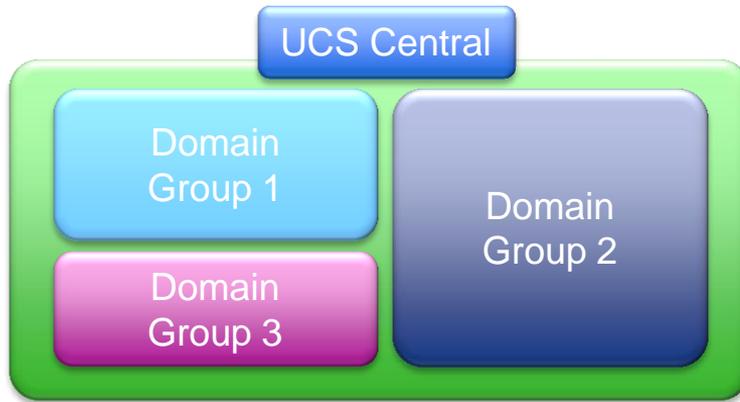
UCS Central – Global Configuration Policies



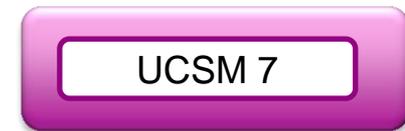
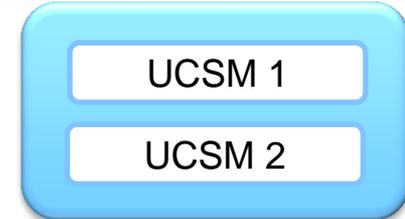
Each UCS Manager becomes the policy recipient and resolver

Controlling the Configuration

UCS Central Domain Groups



- **Domain Group (DG) is arbitrary grouping of UCS domains**
- Domains can be a part of only one DG at a time
- Policies defined in the DG are in effect for all domains in the DG
- Domains can move between DGs
- DG to DG move for domain can be disruptive depending on new policies
- Domain can auto-join DG based on qualification policies at registration



UCS Central Domain Groups – Opt In / Out

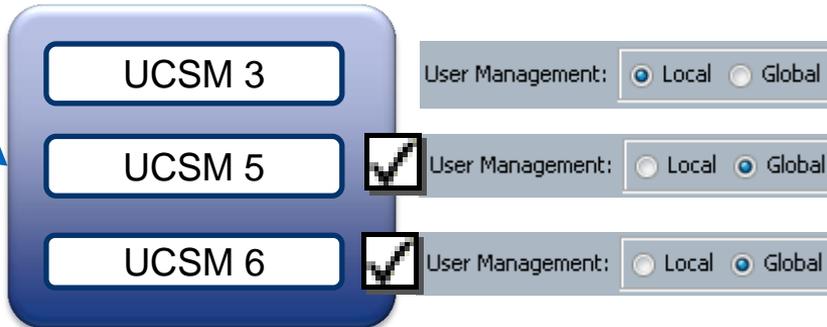
Example: User Management

UCS Manager → UCS Central Menu

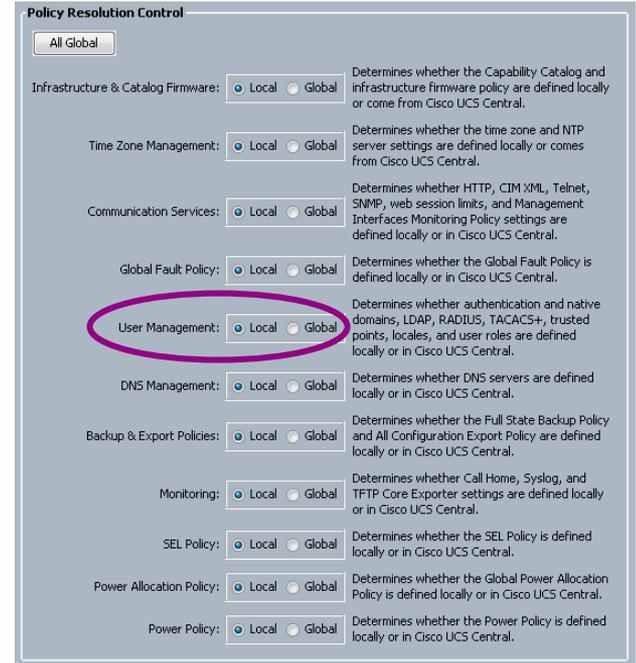
User Mgmt Policy A



User Mgmt Policy B



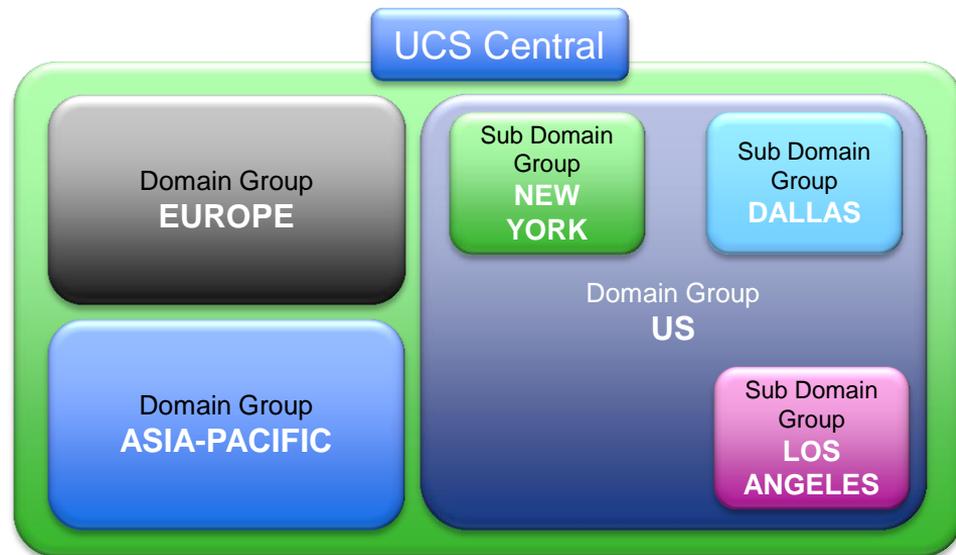
User Mgmt Policy C



UCS Central does not take control, control is given

UCS Central Domain & Sub Domain Groups

- Domain Groups can have up to 5 levels of sub domains
- Sub domains have hierarchical relationship with their parent
- Easy to manage policy exceptions while administering large number of UCS domains



Global Configuration Settings in Sub Domains

Domain Group: US

Date & Time: NTP
DNS
Remote Access
SNMP
Debug Settings
Call Home
Authentication (LDAP, Radius, TACACS)
Equipment Power and SEL policies
Firmware

Sub domain groups inherit properties from parent domain(s)
Easy way to manage exceptions to “master” policies
Exceptions get defined at the sub-domain level

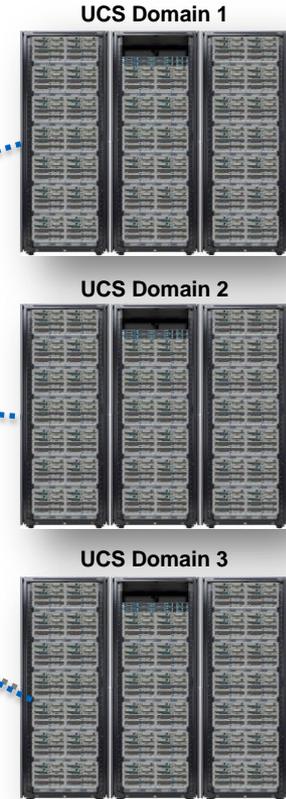
Any domain in the sub-domain has all parent properties
+
the local policies defined at the sub-domain level



Global Configuration Policies- Standardisation

Global Admin Policies in a Domain Group

Date & Time: NTP, Timezone
DNS
Remote Access
SNMP
Debug Settings
Call Home
Authentication (LDAP, Radius, TACACS)
Equipment Power and SEL policies
Firmware



- Admin Policies are defined at the domain group
- Any domain that is a member of the DG inherits policies
- **Question: Are policies always inherited?**

Demo #1

Administrative Configuration – Domain-wide Admin Policies

- Domain Groups
 - Explore / Create
 - Membership
- Admin Policies
 - Create
 - Use
- UCS Manager Policy Resolution Control
 - Opt In / Out
 - Observe UCS Manager “effective settings”

UCS Central Features

Taking Advantage of Core Capabilities

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- Global Service Profiles
- Site Specific Settings

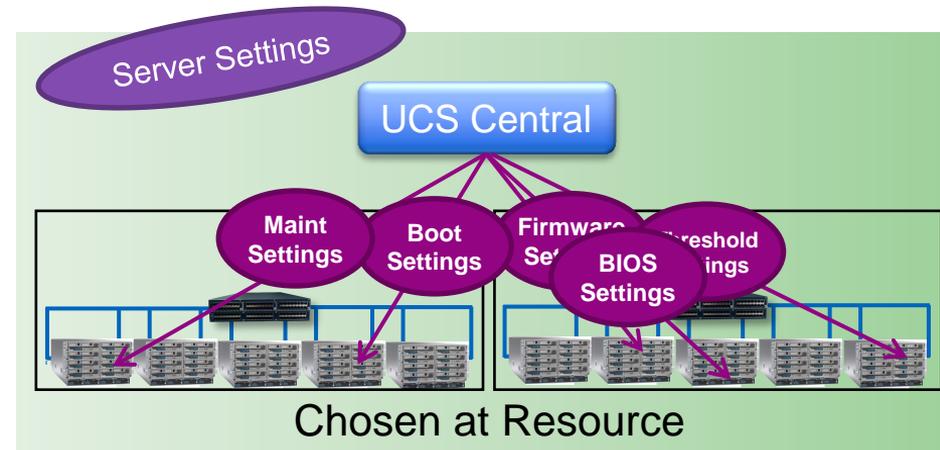
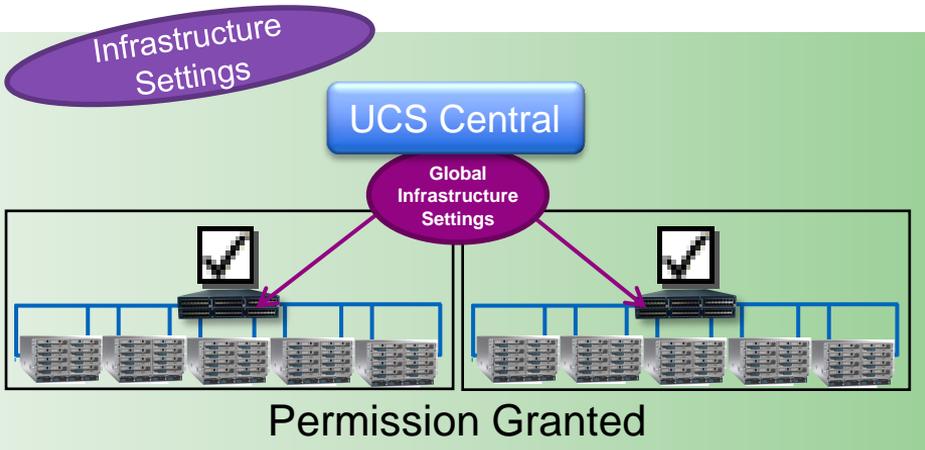


Global Resources - Policies

Global Policy Usage Scenarios

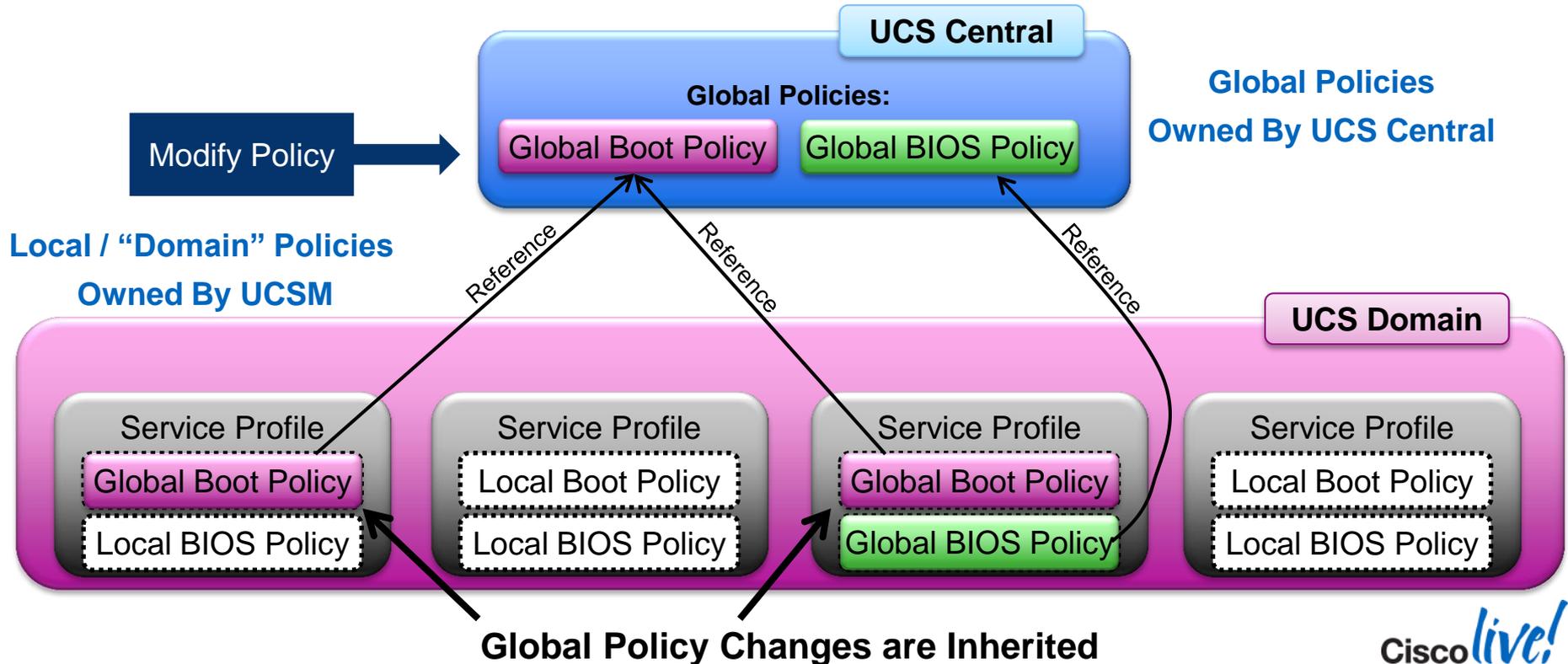
“Policies” used in two ways:

1. Domain Infrastructure Settings – Domain Admin “opts-in” to globally-defined Domain-wide Policy
2. Server Settings – Global Policy chosen from UCS Resource



Global Resources - Policies

Global Resource Policy Ownership – Example



Global Resources - Policies

Global Policy Usage Scenarios: Host Firmware

UCSM admin selects, either:

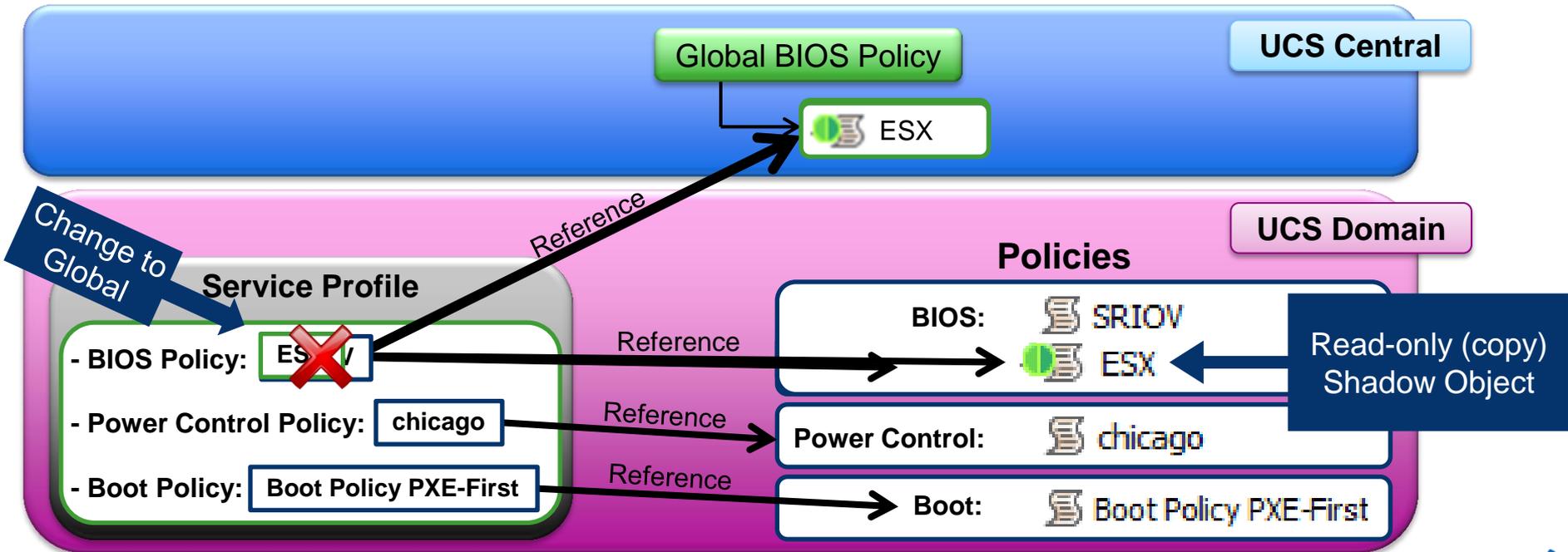
- Local (Domain) Policy
- Global Policy

The screenshot shows the UCS Manager interface with the 'Policies' tab selected. The 'Host Firmware' dropdown menu is open, showing 'Domain Policies' and 'Global Policies' as options. The 'Create Host Firmware Package' button is visible. The interface also shows other policy categories like BIOS Policy, IPMI Access Profile Policy, Power Control Policy, Scrub Policy, and Serial over LAN Policy.

UCS Manager

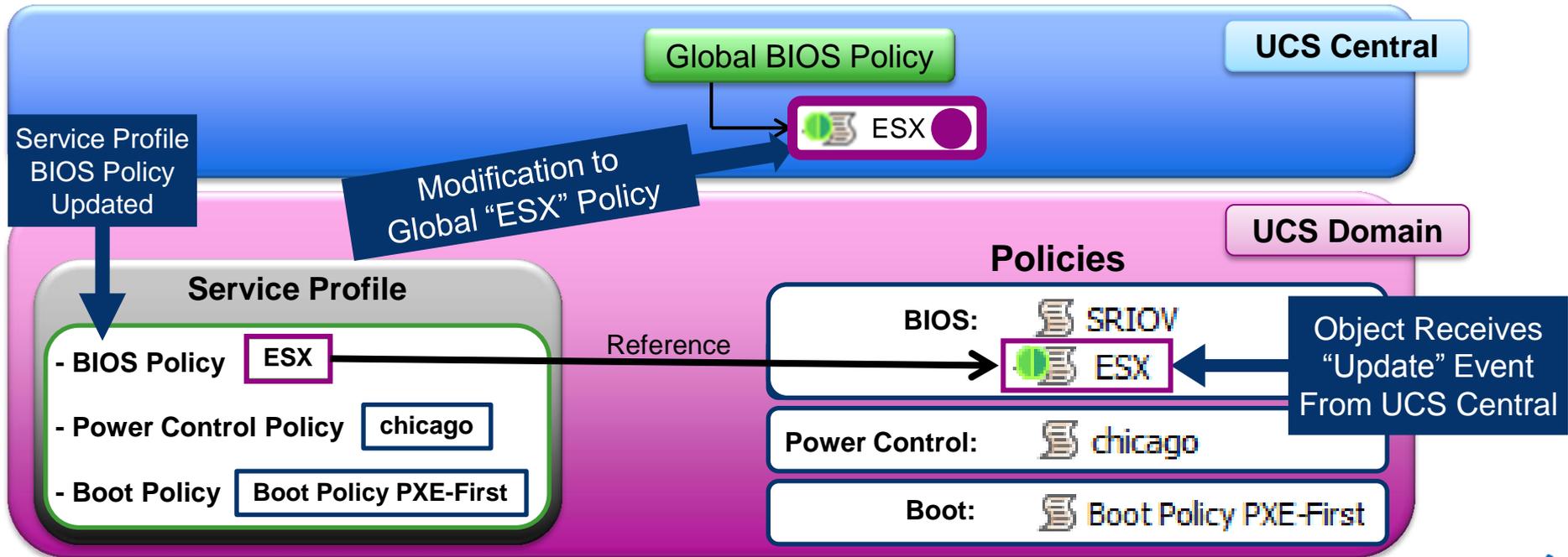
Where Does a Global Policy Live?

Shadow-Object Creation - Example



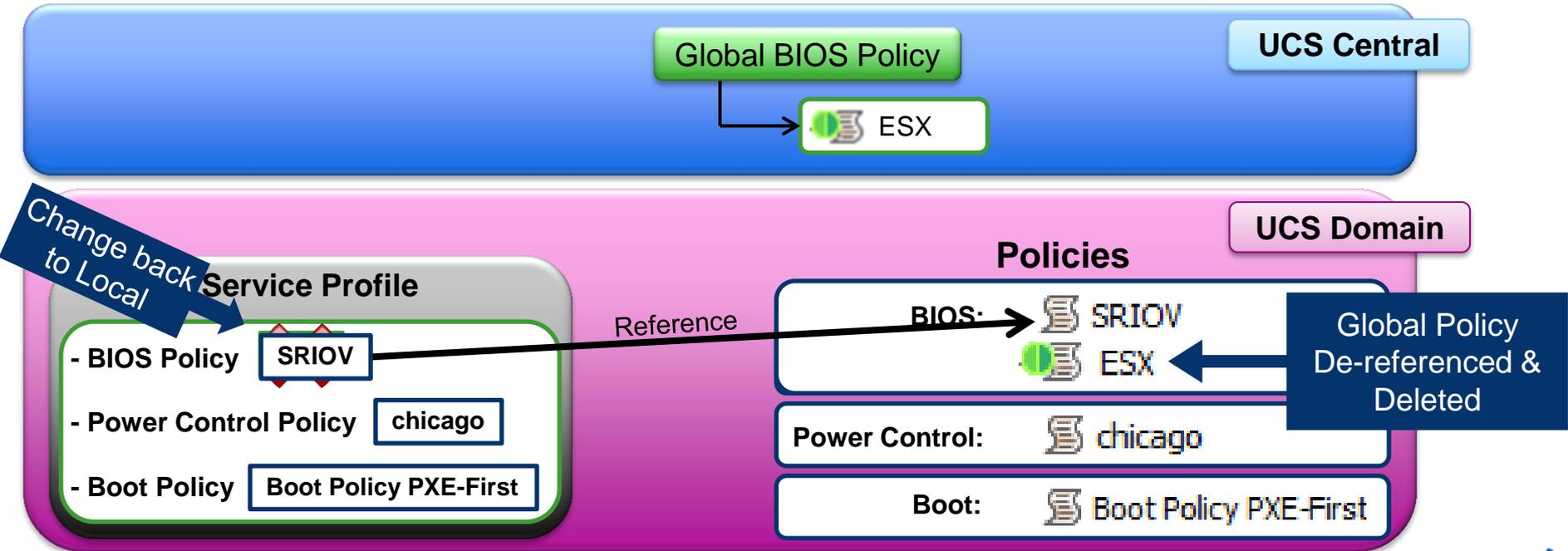
Where Does a Global Policy Live?

Shadow-Object Modification - Example



Where Does a Global Policy Live?

Shadow-Object De-reference - Example



Demo #2

Controlling Server Settings with Global Policies

- Create & Use Global Policies
 - Maintenance Policies
 - BIOS Policies
 - Others
- Change Global Policy
- Dereference Global Policy

UCS Central Features

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- Global Service Profiles
- Site Specific Settings



Workload Mobility

Requires: Common / Global Resources

Why – Common / Global Resources?

- ☑ Simplification → One “Source of Truth” vs. Many Disjoint Resources
- ☑ Enforceability → Admin Policies can be Prescribed for Standardisation
- ☑ Consistency → Same Experience in all UCS Domains

Portability → Requires all of the above....

Analogy: Local Traffic Rules = Local Traffic Policies

- Two specific regions
 - Mainland China – RH driving
 - Hong Kong – LH driving
- Independent ecosystems
 - No problem
- Vehicle moves from Mainland China to Hong Kong
 - Problem
- Need: Common “Driving” Policy
 - U.S. to/from Canada



Source: www.fastcompany.com/1660258/ingenious-flipper-bridge-melds-left-side-drivers-right-side-drivers and www.tourist-spots.lv2lvu.com

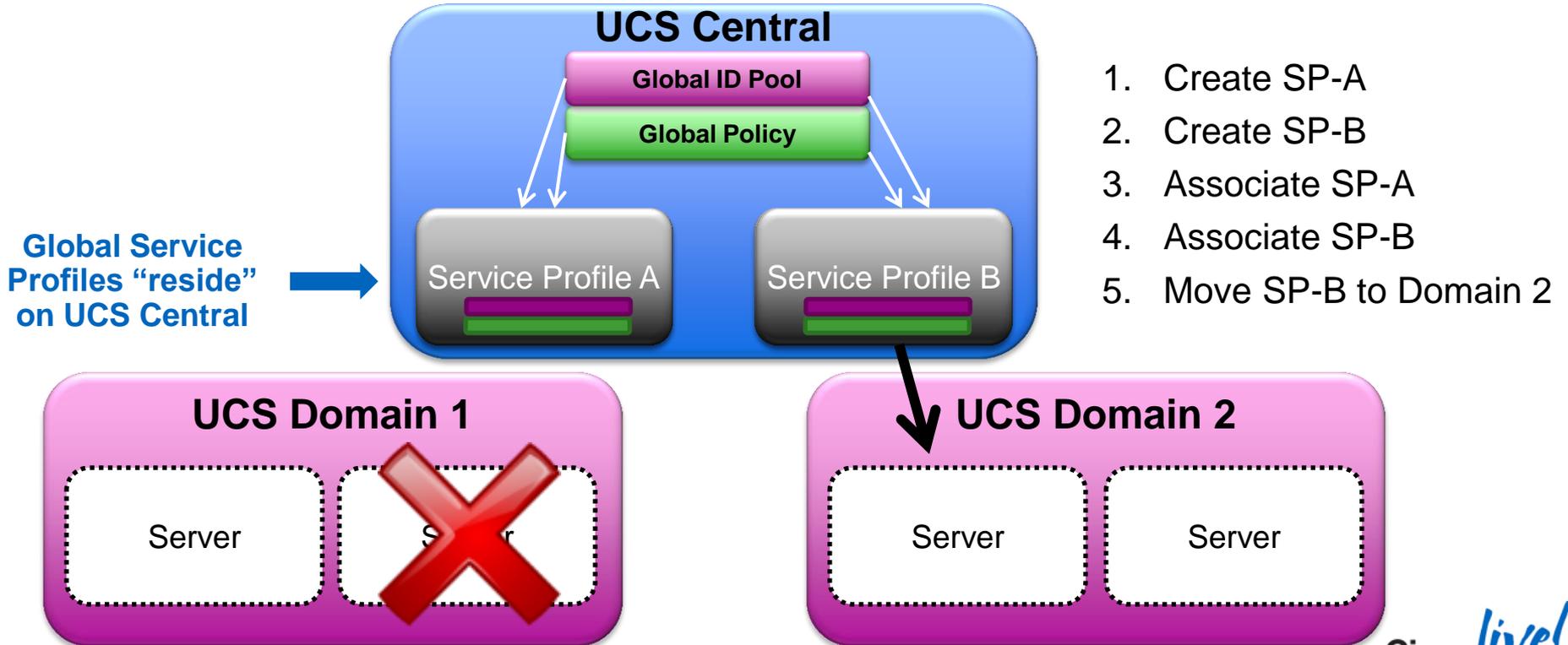
Workload Mobility

The “vehicle” for workload mobility is a Global Service Profile

The screenshot displays the Cisco UCS Central management console. At the top left, the Cisco logo and 'UCS Central' are visible. A navigation bar includes 'Equipment', 'Servers', 'Network', 'Storage', 'Operations Management', 'Statistics', and 'Administration'. The 'Servers' tab is active. In the top right corner, a 'UCS Faults' summary shows 1 error (red X), 0 warnings (red triangle), 7 warnings (yellow triangle), and 7 OK (green triangle) items.

The main interface is divided into a left-hand navigation tree and a right-hand main content area. The navigation tree shows a hierarchy: Servers > Global Service Profiles > root > acme_web_1. The main content area is titled 'acme_web_1' and features several tabs: 'General', 'Network', 'Storage', 'vNIC/HBA Placement', 'Boot Order', 'Server Details', 'Policies', 'Status', 'Faults', and 'Events'. The 'Status' tab is selected, showing a 'Status' section with buttons for 'Change Service Profile Association', 'Unassign SP', 'Set Desired Power State', and 'KVM Console'. Below this, the 'Overall Status' is indicated as 'config' with a red downward arrow. The 'Association' section shows the 'Associate State' as 'associating' with a refresh icon, the 'Associated Server' as 'compute/sys-1007/chassis-1/blade-2', and the 'UCS Domain' as 'ucsm1'.

Global Service Profiles



Global Server Pools

UCS Central

Static Pool

Custom

Server 1/1/1
Server 1/2/4
Server 3/4/6
Server 4/5/8

Dynamic Pool

Mem > 96000MB

Server 2/1/4
Server 3/2/4
Server 4/3/6
Server 4/5/8

Dynamic Pool

Chas/Slot = 2/8

Server 1/2/8
Server 2/2/8
Server 3/2/8
Server 4/2/8

Domain 1



Domain 2



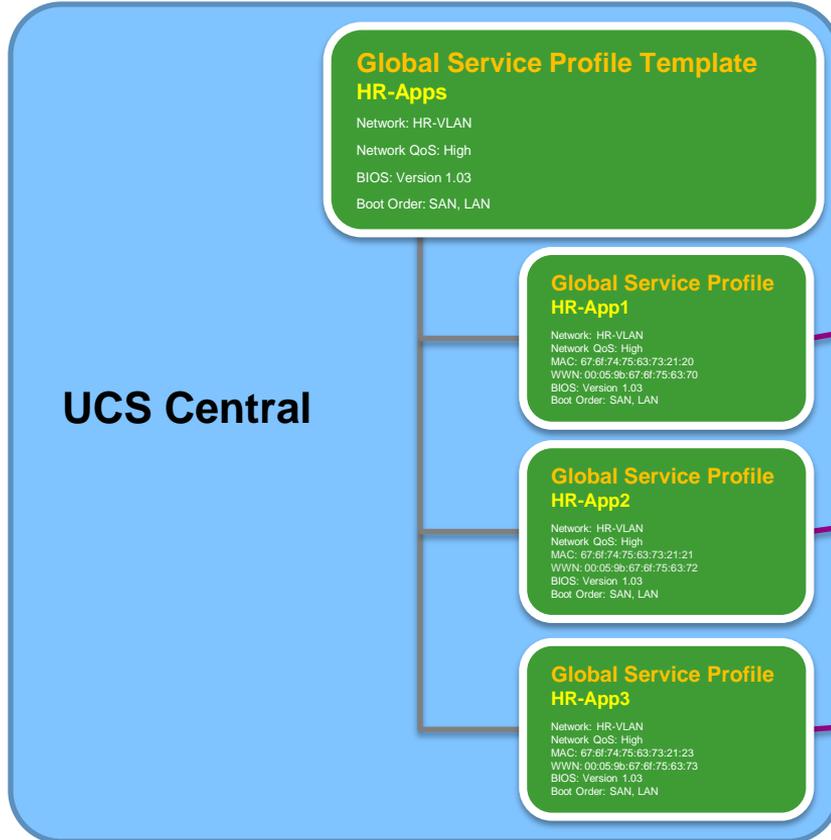
Domain 3



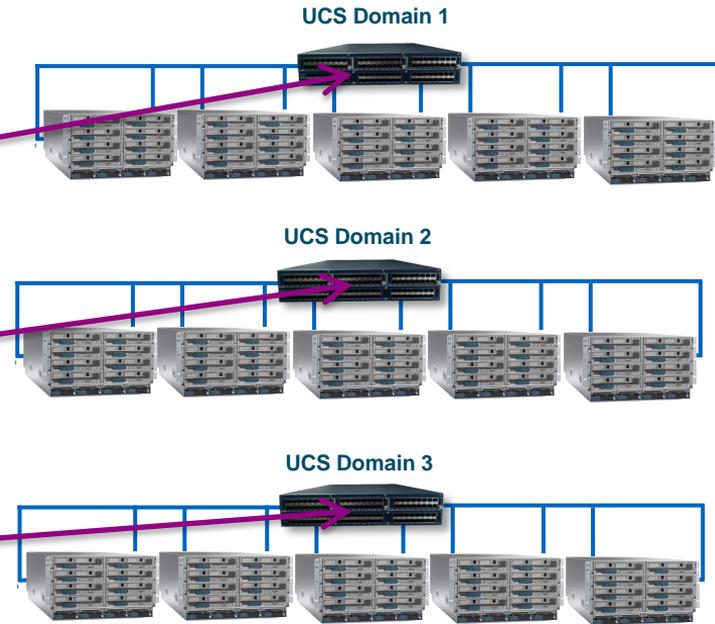
Domain 4



Global Service Profile Templates



May Leverage “Global Server Pools”



How Does This Look in UCSM?

Global Service Profile



Global Policy



Cisco Unified Computing System Manager - ucs5

Fault Summary

2 0 7 2

Equipment Servers LAN SAN VM Admin

Filter: All

Servers

- Service Profiles
 - root
 - CL1
 - Sub-Organizations
- Service Profile Templates
 - root
 - Sub-Organizations
- Policies
 - root
 - Adapter Policies
 - BIOS Defaults
 - BIOS Policies
 - SRIOV
 - global-hyperthr
 - Boot Policies
 - Host Firmware Packages
 - IPMI Access Profiles
 - Local Disk Config Policies
 - ...

Virtual Machines FC Zones Policies

General Storage

Fault Summary

0 0 0

Status

Overall Status: ↑ Ok

Status Details

Desired Power State: ↑ Up

Assoc State: ↑ Associated

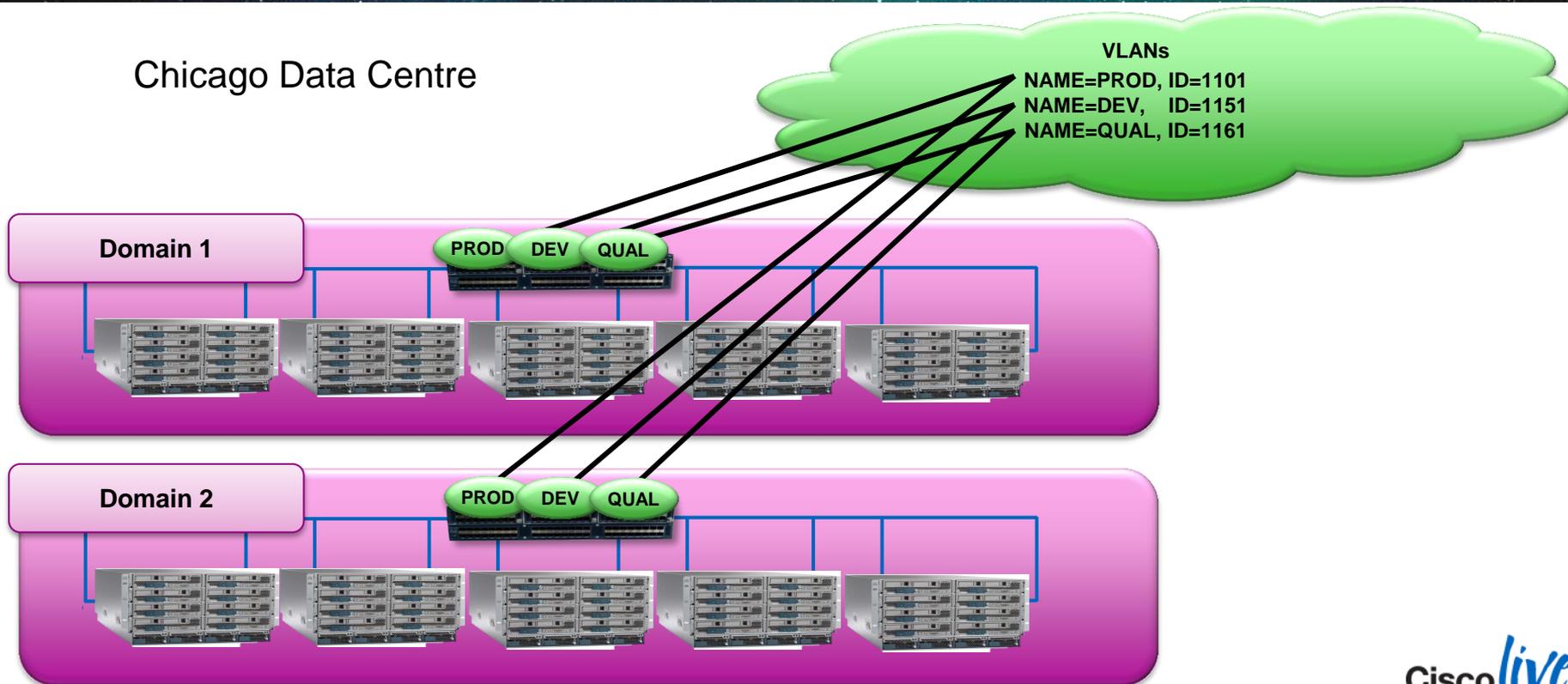
Assigned State: ↑ Assigned

Note: The "Desired Power State" is the Power State of the server set via UCSM. It may be therefore different from the actual value. For the actual server power state click the "Server Details" Tab

Can UCS Central Help Me Provision VLANs?

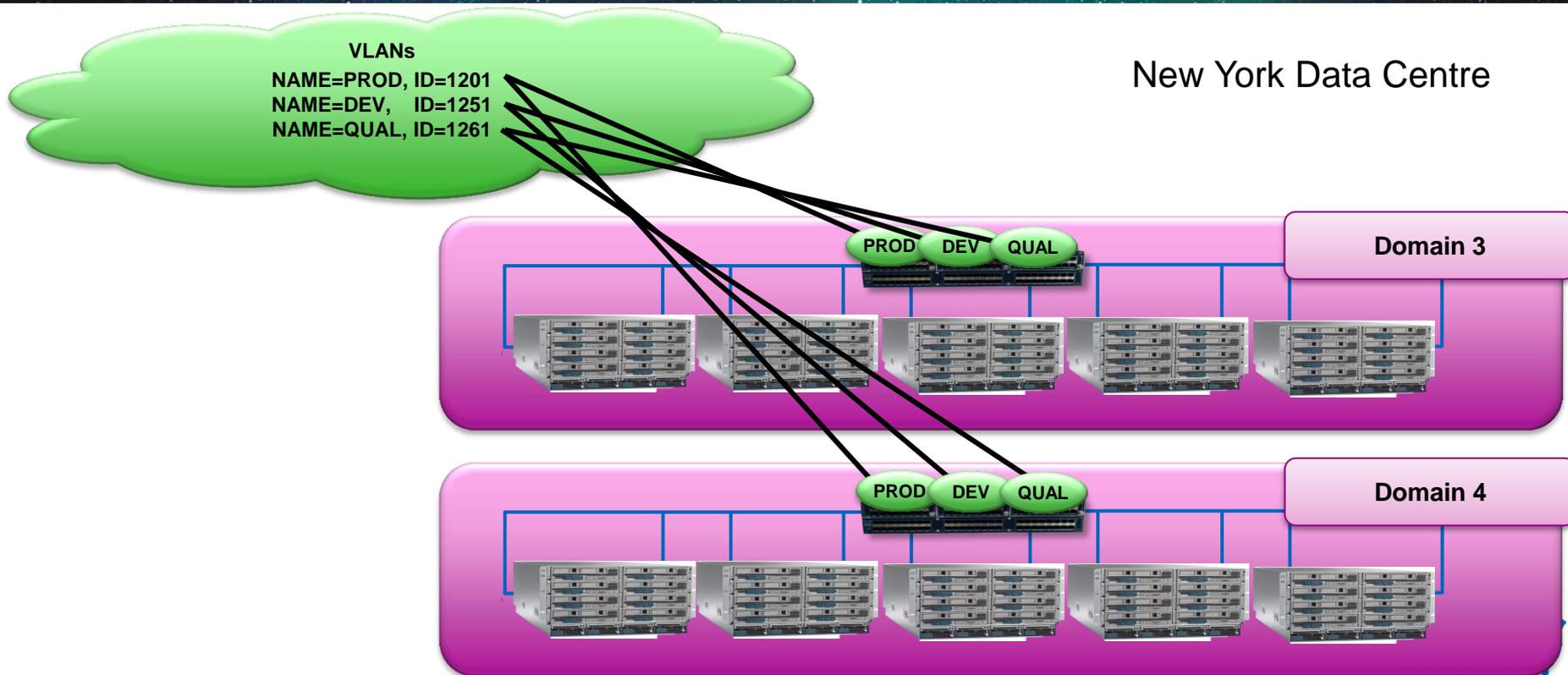
Review: Provisioning VLANs without UCS Central

Chicago Data Centre



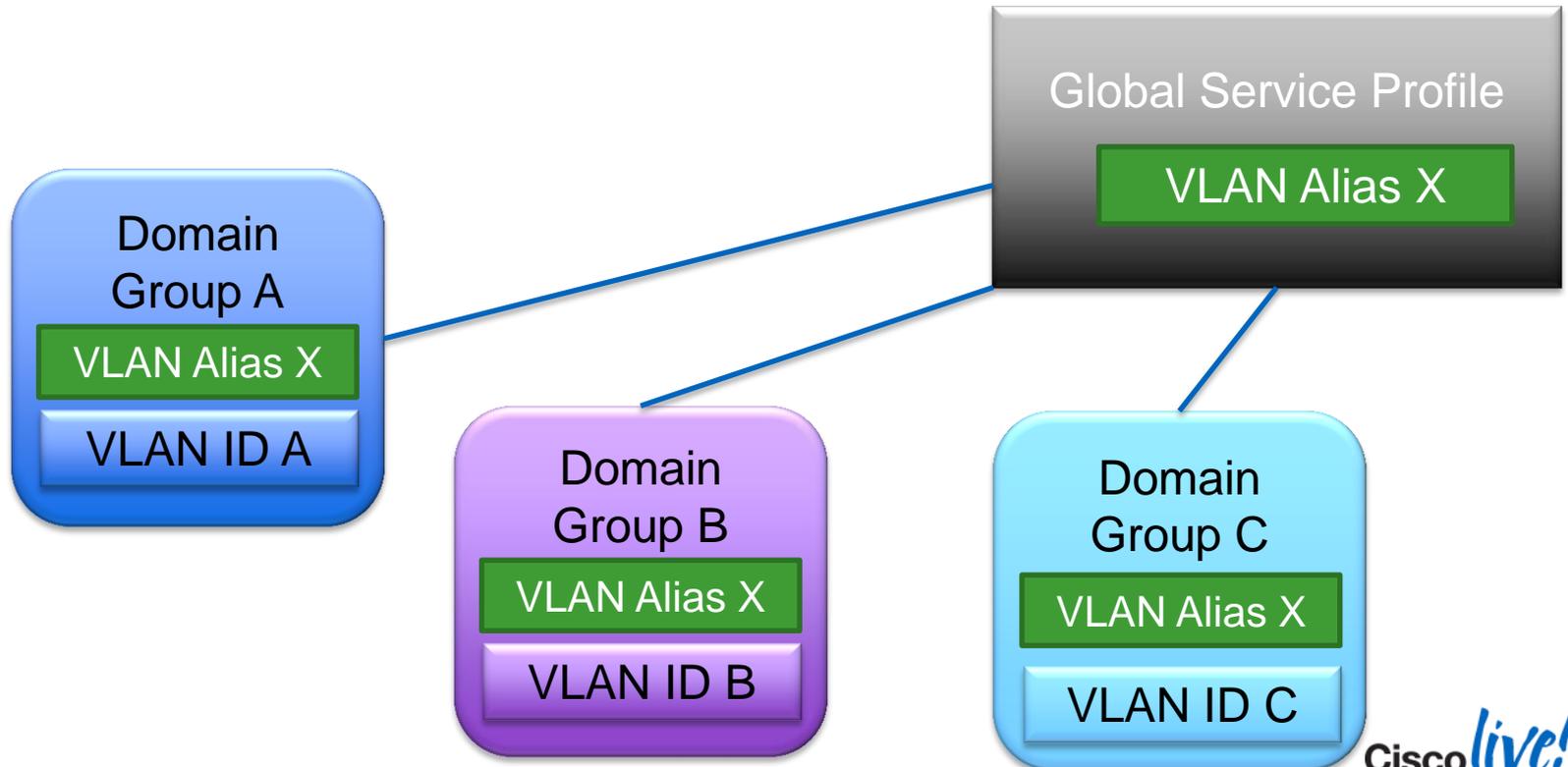
Can UCS Central Help Me Provision VLANs?

Review: Provisioning VLANs without UCS Central



Site Specific Settings

VLAN ID Aliasing



Provisioning VLANs with UCS Central

Using VLAN ID Aliasing Across Two Sites (Example)

Move GSP to Server in New York DG

Global Service Profile

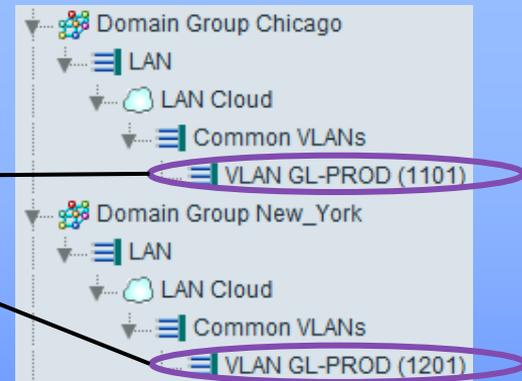
vNIC Settings



UCS Central

GL-PROD
1101

GL-PROD
1201



Chicago Data Centre Domain Group Chicago

Domain 1



Domain 2



VLANs
PROD, ID=1101
DEV, ID=1151
QUAL, ID=1161

New York Data Centre Domain Group New_York

Domain 3



Domain 4



VLANs
PROD, ID=1201
DEV, ID=1251
QUAL, ID=1261

Demo #3

Global Service Profile Mobility & Global Server Pools

- Create Global Server Pool (time permitting)
- Create Global Service Profile
 - Use Global Policies & Global Pools
 - Associate with any server
- Create Global Service Profile Template (time permitting)
 - Associate with Global Server Pool
 - Create Global Service Profiles from Global Service Profile Template
- Migrate Global Service Profile from one Domain to another Domain

UCS Central Features

Summary

Provides 5 Key “Global” UCS Functions:

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Transitioning to UCS Central

One Technique

UCS Central and My Existing Environment – How Do I Get There?

- There is no “Easy Button” !
- The benefits are worth the effort
- Practice with UCS Platform Emulator
- See:
<http://communities.cisco.com/ucs>



Unified Computing System (UCS)

 **UCS Central and My Existing Environment - How do I get there?**

Posted by btoreick in Unified Computing System (UCS) on Oct 2, 2013 9:16:30 PM

One of the UCS Central questions I frequently get asked is, “How can I take advantage of UCS Central if I am already running multiple UCS instances that use local policies, local ID pools, and local Service Profiles? I want to take advantage of UCS Central features, but I am just not ready to hand the keys over to a central manager requiring the use of Global policies, ID pools, and Service Profiles.”

This is a great question and a question worthy of some education around UCS Central capabilities. I like to call this type of environment a “brownfield” environment. In other words, this type of environment is already running multiple UCS instances; each environment is simply being managed one UCS Manager instance at a time.

Let's start with a high level description of the functional capabilities of UCS Central. UCS Central is a tool that delivers these Global UCS management capabilities:

1. Centralized information dashboard
2. Centralized configuration tool for Domain-wide settings
3. Centralized configuration tool for defining Global server settings
4. Centralized management tool for Service Profile administration & mobility

Like 0

+1 0

Share

Tweet 5

One Technique

UCS Central and My Existing Environment – How Do I Get There?

1. Start Simple – Register all Domains to UCS Central
2. Slowly and carefully opt-in to Domain-wide Admin Policies
3. Define Global Pools and Policies
4. Define Global Service Profile Templates → Change Philosophy!
5. Start the retrofit

Best
Practice

“Ease-in” to Global Policy Usage

Best Practice

- “Opt-In” to global policies over time (as comfort increases)
- Remember:
 - Global Policy resolution can revert back to local
 - Global Policy resolution promotes administrative scalability

Policy Resolution Control

All Global

| | | |
|------------------------------------|---|---|
| Infrastructure & Catalog Firmware: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the Capability Catalog and infrastructure firmware policy are defined locally or come from Cisco UCS Central. |
| Time Zone Management: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the time zone and NTP server settings are defined locally or comes from Cisco UCS Central. |
| Communication Services: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether HTTP, CIM XML, Telnet, SNMP, web session limits, and Management Interfaces Monitoring Policy settings are defined locally or in Cisco UCS Central. |
| Global Fault Policy: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the Global Fault Policy is defined locally or in Cisco UCS Central. |
| User Management: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether authentication and native domains, LDAP, RADIUS, TACACS+, trusted points, locales, and user roles are defined locally or in Cisco UCS Central. |
| DNS Management: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether DNS servers are defined locally or in Cisco UCS Central. |
| Backup & Export Policies: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the Full State Backup Policy and All Configuration Export Policy are defined locally or in Cisco UCS Central. |
| Monitoring: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether Call Home, Syslog, and TFTP Core Exporter settings are defined locally or in Cisco UCS Central. |
| SEL Policy: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the SEL Policy is defined locally or in Cisco UCS Central. |
| Power Allocation Policy: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the Global Power Allocation Policy is defined locally or in Cisco UCS Central. |
| Power Policy: | <input checked="" type="radio"/> Local <input type="radio"/> Global | Determines whether the Power Policy is defined locally or in Cisco UCS Central. |



What's Next for UCS Central?

UCS Central - Today

Provides 5 Key “Global” UCS Functions:

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- Statistics

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5. Workload Mobility

- Global Service Profiles
- Site Specific Settings

UCS Central 1.0 → 2.1(1+)

UCS Central 1.1 → 2.1(2+)

UCS Central 1.1 Patch

UCS Central 1.1(1b) patch

- Released October 31, 2013
- Addresses:
 - Cosmetic bugs
 - A couple of top customer implementation issues
- Adds - Nested LDAP group support with Active Directory

What's Next ? – “Pasadena 2+”

Version - UCS Central 1.2

FCS – Late CQ1 / 2014

What's Next ? – “Pasadena 2+”

Design Goal / Main Themes:

- Focuses on faster transition to UCS Central (for existing UCS customers)
- Additional Operational Features
 - Sequential IDs
 - Direct server control
- Additional reporting features (Power / Thermal)
- Support for Microsoft SQL Server (stats DB)
- Fully backwards compatible to UCSM 2.1.(2+)
- Other improvements based on customer feedback

UCS Central 1.2

“Policy Browser” Preview

The screenshot displays the Cisco UCS Central 1.2 interface. At the top left, the Cisco logo and 'UCS Central' are visible. A navigation bar contains several menu items: Domains, Servers, Network, Storage, Operations Management, Statistics, Logs and Faults, Administration, and Import. The 'Import' menu item is highlighted with a red arrow. Below the navigation bar, the 'Equipment' section is active, showing a 'UCS Fault Summary' card with four status indicators: 0 (red X), 12 (orange inverted triangle), 22 (yellow triangle), and 18 (green triangle). The main content area is titled 'UCS Domains' and includes a 'Summary' section with 'In Use' (2 (13%) of 16) and 'Available' (14 (88%) of 16) statistics. Below this, there are tabs for 'UCS Domains', 'Fabric Interconnects', 'Servers', 'Chassis', 'Fex', and 'Status'. Under the 'Systems' tab, there are sub-tabs for 'Firmware' and 'Usage'. A table is displayed with the following data:

| UCS Name | Owner | Site | Description | Total Serv... |
|----------|-------|------|-------------|---------------|
| ucsm4 | | | | 8 |
| ucsm5 | | | | 8 |

Import
UCSM-based
Policies

UCS Central 1.2 – “Policy Browser” Preview

UCS Central

UCS Faults

0 12 22 19

Preferences Log Out

Domains | Servers | Network | Storage | Operations Management | Statistics | Logs and Faults | Administration | Import

Import policies, pools, vLANs, vSANs from UCS domains registered with UCS Central.

LAN Connectivity Policy

Search policies, pools, vLANs, vSANs in UCS Domains by name

Search

Refresh Records: 0

| Type | Org | UCS Domain | Domain Group |
|------|-----|------------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Choose UCSM Policy type

UCS Central 1.2 – “Policy Browser” Preview

UCS Central

UCS Faults

0 12 22 20

Preferences Log Out About Help

Domains | Servers | Network | Storage | Operations Management | Statistics | Logs and Faults | Administration | **Import**

Import policies, pools, vLANs, vSANs from UCS domains registered with UCS Central.

LAN Connectivity Policy Test Search

+ Import Properties (UCS View) Records: 1 Showing: 1

| Name | Type | Org | UCS Domain | Domain Group | Ownership |
|------|-------------------------|----------|------------|--------------|-----------|
| Test | LAN Connectivity Policy | org-root | ucsm4 | WA | Local |

Enter Search terms and select “Search” button

UCS Central 1.2 – “Policy Browser” Preview

UCS Central

UCS Faults

0 12 22 20

Preferences Log Out About Help

Domains | Servers | Network | Storage | Operations Management | Statistics | Logs and Faults | Administration | **Import**

Import policies, pools, vLANs, vSANs from UCS domains registered with UCS Central.

LAN Connectivity Policy Test Search

+ Import Properties (UCS View) Refresh Records: 1 Showing: 1

| Name | Type | Org | UCS Domain | Domain Group | Ownership |
|------|-------------------------|----------|------------|--------------|-----------|
| Test | LAN Connectivity Policy | org-root | ucsm4 | N/A | Local |

Select Policy

Choose “Import”

UCS Central 1.2 – “Policy Browser” Preview

Import

Policy import may affect resolution path of the policies with same name within UCS Central. Run 'Estimate Impact' before importing.

Import As:

Destination:

Type: LAN Connectivity Policy

UCS Domains: ucsm4

Policy Dependencies

Destination: Same as parent policy destination

Import All Policies and Pools:

Referenced Policies: 2

Referenced Pools: 0

Resource Dependencies

Referenced vLANs: 0

Referenced vSANS: 0

Usage

Service Profile: 0

Service Profile Templates: 0

Name Policy Something meaningful

UCS Central 1.2 – “Policy Browser” Preview

Import

Policy import may affect resolution path of the policies with same name within UCS Central. Run 'Estimate Impact' before importing.

Import As: Test

Destination: root

Type: LAN Connectivity Policy

UCS Domains: ucsm4

Policy Dependencies

Destination: Same as parent policy destination

Import All Policies and Pools:

Referenced Policies: 2

Referenced Pools: 0

Resource Dependencies

Referenced vLANs: 0

Referenced vSANS: 0

Usage

Service Profile: 0

Service Profile Templates: 0

... Details

... Details

... Details

Estimate Impact Import Cancel

Choose org Destination for new Global Policy

UCS Central 1.2 – “Policy Browser” Preview

Import

Policy import may affect resolution path of the policies with same name within UCS Central. Run 'Estimate Impact' before importing.

Import As:

Destination:

Type: LAN Connectivity Policy

UCS Domains: ucsm4

Policy Dependencies

Destination: Same as parent policy destination

Import All Policies and Pools:

Referenced Policies: 2

Referenced Pools: 0

Resource Dependencies

Referenced vLANs: 0

Referenced vSANS: 0

Usage

Service Profile: 0

Service Profile Templates: 0

... Details

... Details

... Details

Estimate Impact

Import

Cancel

Review Policy Dependencies

UCS Central 1.2 – “Policy Browser” Preview

Import

Policy import may affect resolution path of the policies with same name within UCS Central. Run 'Estimate Impact' before importing.

Import As:

Destination:

Type: LAN Connectivity Policy

UCS Domains: ucsm4

Policy Dependencies

Destination: Same as parent policy destination

Import All Policies and Pools:

Referenced Policies: 2

Referenced Pools: 0

Resource Dependencies

Referenced vLANs: 0

Referenced vSANS: 0

Usage

Service Profile: 0

Service Profile Templates: 0

Policy Dependency Details

Dependencies are imported into the selected destination. Importing dependencies will reduce configuration issues.

Filter By: Policies Pools

| Import | Referenced Entities | Type |
|--------------------------|-----------------------------|------------------|
| <input type="checkbox"/> | org-root/ep-qos-SuperFast | QoS Policy |
| <input type="checkbox"/> | org-root/thr-policy-default | Threshold Policy |

UCS Central 1.2 – “Policy Browser” Preview

Import

Policy import may affect resolution path of the policies with same name within UCS Central. Run 'Estimate Impact' before importing.

Import As:
Destination:
Type: LAN Connectivity Policy
UCS Domains: ucsm4

Policy Dependencies
Destination: Same as parent policy destination
Import All Policies and Pools:
Referenced Policies: 2
Referenced Pools: 0

Resource Dependencies
Referenced vLANs: 0
Referenced vSANS: 0

Usage
Service Profile: 0
Service Profile Templates: 0

Policy Dependency Details
Dependencies are imported into the selected destination. Importing dependencies will reduce configuration issues.

Filter By: Policies Pools

| Import | Referenced Entities | Type |
|-------------------------------------|-----------------------------|------------------|
| <input checked="" type="checkbox"/> | org-root/ep-qos-SuperFast | QoS Policy |
| <input checked="" type="checkbox"/> | org-root/thr-policy-default | Threshold Policy |

Import other Dependent Policies

Estimate Impact Import Cancel

UCS Central 1.2 – “Policy Browser” Preview

UCS Central

UCS Faults

| | | | |
|---|----|----|----|
| 0 | 12 | 22 | 20 |
|---|----|----|----|

Domains | Servers | **Network** | Storage | Operations Management | Statistics | Logs and Faults | Administration | Import

Filter: All

- Network
 - Domain Groups
 - Policies
 - root
 - Default vNIC Behavior
 - QoS Policies
 - SuperFast
 - Network Control Policies
 - Dynamic vNIC Connection Policies
 - LAN Connectivity Policies
 - Test
 - Threshold Policies
 - Threshold Policy default
 - Threshold Policy global-default
 - vNIC Templates
 - Sub-Organizations
 - Pools
 - VLAN Org Permissions

Desired Policy - Import Complete

UCS Central 1.2 – “Policy Browser” Preview

UCS Central

UCS Faults

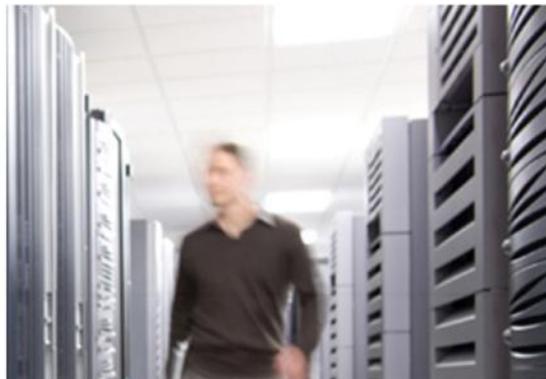
| | | | |
|---|----|----|----|
| 0 | 12 | 22 | 20 |
|---|----|----|----|

Domains | Servers | **Network** | Storage | Operations Management | Statistics | Logs and Faults | Administration | Import

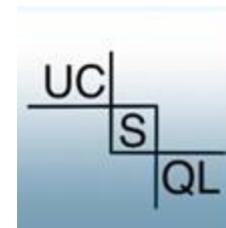
Filter: All

- Network
 - Domain Groups
 - Policies
 - root
 - Default vNIC Behavior
 - QoS Policies
 - SuperFast
 - Network Control Policies
 - Dynamic vNIC Connection Policies
 - LAN Connectivity Policies
 - Test
 - Threshold Policies
 - Threshold Policy default
 - Threshold Policy global-default
 - vNIC Templates
 - Sub-Organizations
 - Pools
 - VLAN Org Permissions

Dependencies



Advanced Capabilities – “UCSQL”



communities.cisco.com/ucs

 **Communities**

Welcome, Guest | [Help](#) | [Login](#)

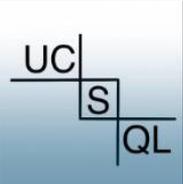
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Announcing "ucsq1" : A Community Source Project

Version 1

created by Jeffrey Silberman on Jan 23, 2014 2:13 PM, last modified by Jeffrey Silberman on Jan 23, 2014 2:53 PM



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'**ucsq1**' is a Python-based scripting tool that accesses the UCS Data Management Engine (DME) using SQL, translated over the XML/API.

Currently '**ucsq1**' is targeted for customers of UCS Central, who wish to have scriptable access for reporting purposes.

Among the features and benefits of '**ucsq1**':

- '**ucsq1**' has the ability to **show/describe** the UCS managed object schema, providing a list of all available classes, as well as the attributes for a given class, as in "**show table**".
- '**ucsq1**' provides "sessions", similar to 'goUCS', so that customers can run secure scripted commands, without interactive credential prompting.

Actions

- [Post and Share \(Login Required\)](#)

More Like This

- [UCS Central Best Practice Guide --- Updated for Release 1.1\(1a\)](#)
- [CUCM 9.0](#)
- [Communities_NEW_Updated_Platform_FAQ_1113_13.docx](#)
- [Cisco Channel Partner Guide](#)
- ["Rosetta Stone" for UCS Central Statistics](#)

Intro to UCSQL

- New Community Source project “UCSQL” - <https://github.com/ucsql>
- Goal – Add scripting / automation to UCS Central
 - Common object model → “UCSQL” works with UCSM and stand-alone C-Series
 - Same API
 - Same class names in use at DME
- What is it?
 - Python-based shell that maps SQL-like syntax to the XML API
 - Currently contains “show” and “select” commands
 - Could be extended to include “insert”, “update”, “delete”, “where”, etc. that leverage additional XML API calls (i.e., “configConfMos”, etc.)
 - Maintains session info (similar to goUCS)
- Use-case examples: <https://github.com/ucsql/ucsql/blob/master/EXAMPLES.txt>

UCSQL

Installation

- Download bits to any linux-based utility server from <http://github.com/ucsql>
- Run:
 unzip master.zip
 cd ucsql-master
 python setup.py install (all dependencies will be downloaded an installed) ← Be patient
- You're done!

UCSQL

Usage

- Syntax:
 - `ucsql -s session -u target -c command_string`
 - `command_string` syntax = `select (attribute) from (class)`
- Interactive ucsql shell-based examples:
 - `select * from lsServer`
 - `select dn, dnPN from lsServer`
 - `select ts, ftpURL from configBackup`
 - `select ts, dn from configBackup`
- Session-based examples (existing session):
 - `ucsql -s session -c command_string`

```
[root@util ~]# ucsql -s my_session -u ucscentral11
login: admin
Password:
ucsql>> █
```

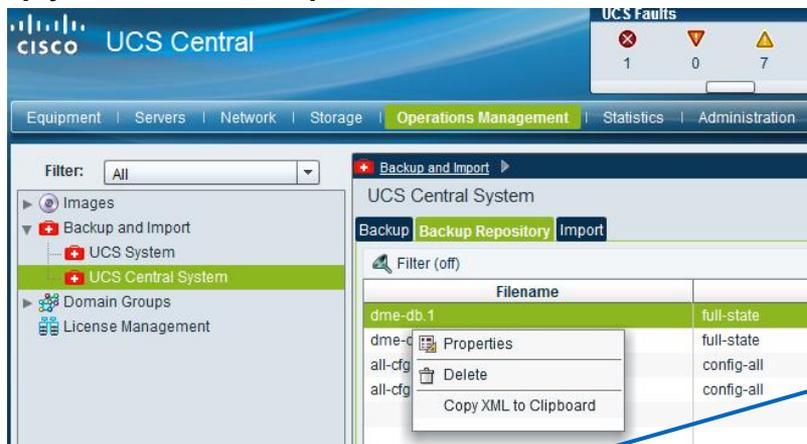
Example: Show Domain Groups

```
[root@lodeve ucsq]# ucsq -s ucsc -c "select * from orgDomainGroup"
system name or IP addr: 10.0.0.45
login: admin
Password:
  dn fltAggr name descr level
  -- -----
  domaingroup-root 0 root root
  domaingroup-root/domaingroup-EUROPE 0 EUROPE 1
  domaingroup-root/domaingroup-USA 0 USA 1
```

Establishes session "ucsc"

Where / How Do I Learn the Schema & Class Names?

- <http://communities.cisco.com/ucs>
- Copy XML to Clipboard



- Paste

```
<!-- operation-mgr -->
```

```
<configBackup  
adminState="active"  
backupType="full-state"
```

```
creationTS="1389745534000"  
dn="sys/config-catalogue/consumer-catalogue-ucs-central/type-full-state-ts-1389745534000"  
fileName="dme-db"  
filePath="/ucs-central/full-backups"  
fsmDescr=""  
fsmPrev="nop"  
fsmProgr="0"  
fsmRmtInvErrCode="none"  
fsmRmtInvErrDescr=""  
fsmRmtInvRslt=""  
fsmStageDescr=""  
fsmStamp="never"  
fsmStatus="nop"  
fsmTry="0"  
genNumber="1"  
name=""
```

```
server="172.16.212.101"
```

```
ftpURL="tftp://172.16.212.101/ucs-central/full-backups/dme-db"  
ts="2014-01-14T18:25:34"/>
```

Example: Show Path to UCS Central Backups

```
ucsql>> select ts, tftpURL from configBackup
```

```
ts      tftpURL
```

```
--
```

```
-----
```

```
2014-01-14T16:21:16.000
```

```
tftp://192.168.40.42/192.168.40.134/cfg-backups/all-cfg
```

```
2014-01-15T10:15:21.000
```

```
tftp://192.168.40.42/192.168.40.131/cfg-backups/all-cfg
```

```
2014-01-14T16:21:35.000
```

```
tftp://192.168.40.42/192.168.40.140/cfg-backups/all-cfg
```

```
2014-01-14T16:20:53.000
```

```
tftp://192.168.40.42/192.168.40.137/cfg-backups/all-cfg
```

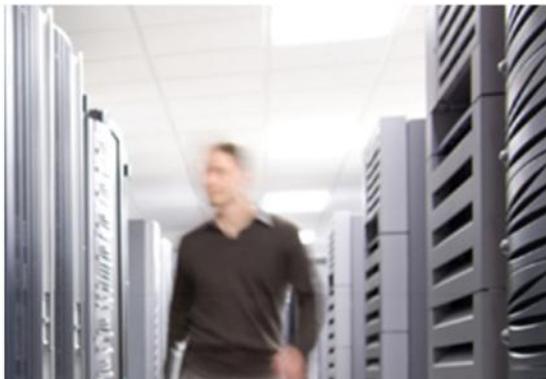
```
2014-01-29T09:06:18.000
```

```
tftp://192.168.40.42/ucs-central/full-backups/dme-db
```

```
2014-01-29T09:07:27.000
```

```
tftp://192.168.40.42/ucs-central/cfg-backups/all-cfg
```

```
ucsql>>
```



Wrap

Resources

- Cisco Communities for UCS Management
 - <https://communities.cisco.com/ucs>
- UCS Central Best Practices Guide (for version 1.1):
 - <https://communities.cisco.com/docs/DOC-35264>
- UCS Central Installation and Upgrade Guide (for release 1.1):
 - http://www.cisco.com/en/US/docs/unified_computing/ucs/ucs-central/install-upgrade/1.1/b_UCSC_Installation_and_Upgrade_Guide_11.pdf
- Registering Cisco UCS Domains with Cisco UCS Central (from UCSM GUI Configuration Guide)
 - http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.1/b_UCSM_GUI_Configuration_Guide_2_1_chapter_01111.pdf

Start Using UCS Central Today

Next Steps:

1. Download / Install UCS Central
2. Register all your UCS domains with UCS Central
3. Construct your Domain Groups
4. Construct your Global ID Pools, Policies, Global Service Profile Templates
5. If existing, migrate Service Profiles to use Global Service Profiles
6. Ease into Domain Group Admin Policies
7. Begin creating / using Global Service Profiles with UCS Central 1.1

“UCS Central will Simplify and Enhance Your Multi-UCS Management”

Wrap

“UCS Central will Simplify and Enhance Your Multi-UCS Management”

We've covered

- Why UCS Central?
- What is UCS Central?
- How to use UCS Central?
 - Core features
 - Migration techniques
 - Advanced capabilities

Questions??



Q & A

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CISCO™



Backup Slides



Installation / Configuration

UCS Central Installation Process

1. Download UCS Central from cisco.com



2. Deploy UCS Central *virtual appliance* (“Deploy OVF Template”)
3. Start UCS Central appliance
4. Configure UCS Central appliance via console



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