



Cisco UCS PowerTool Suite

UCS DSC Resource

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Agenda

- UCS Programmability
- UCS PowerTool Suite Overview
- UCS DSC Resources
- Demo
- Additional Resources
- Q&A

UCS Available APIs – Types – Formats

UCS Manager API, C & E Series

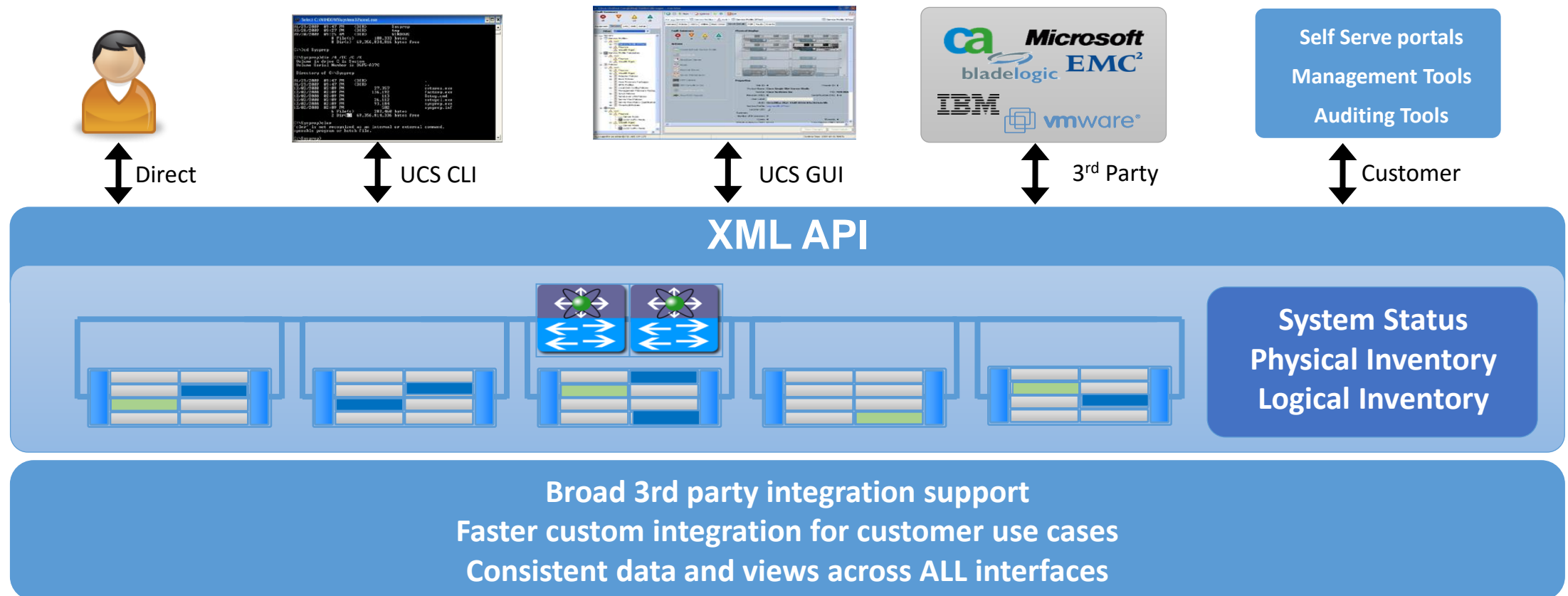
- API Type: XML & API Format: XML
- Object Oriented

UCS Central

- API Type : XML & API Format: XML
- Object Oriented – 1 level of abstraction – calls made to UCSM API

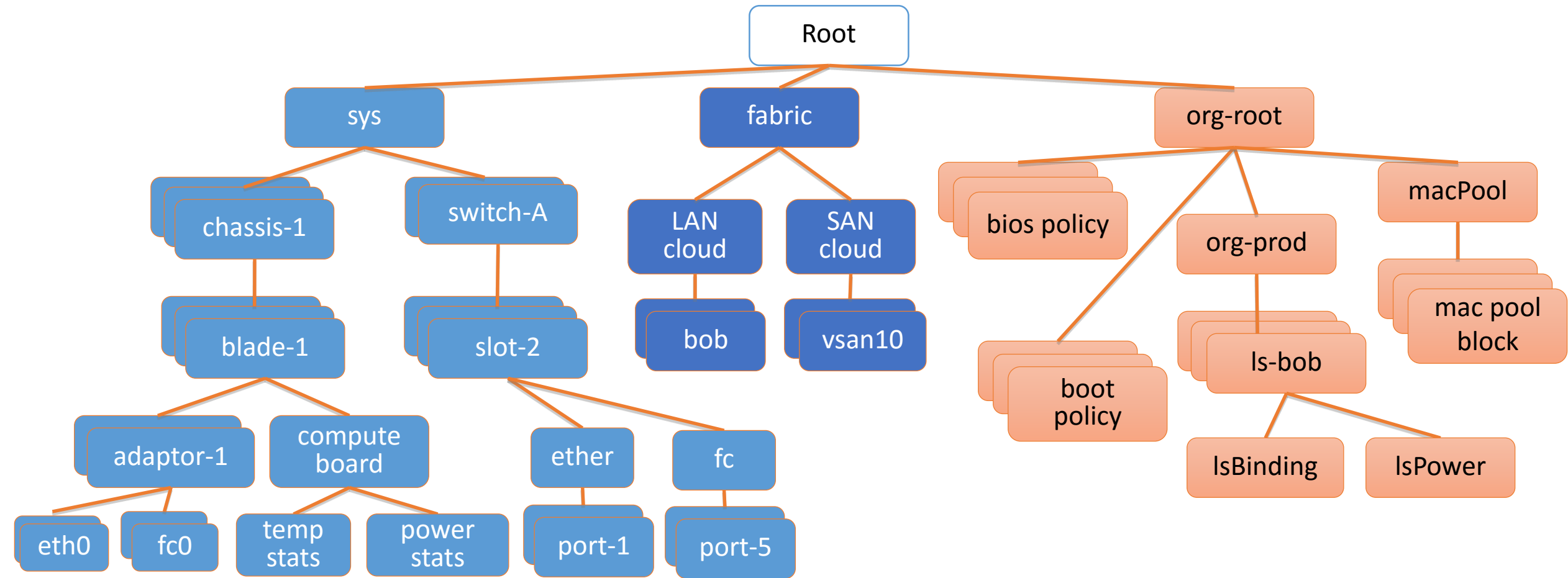
UCS Manager Programmatic Infrastructure

- Comprehensive XML API, standards-based interfaces
- Bi-Directional access to physical & logical internals



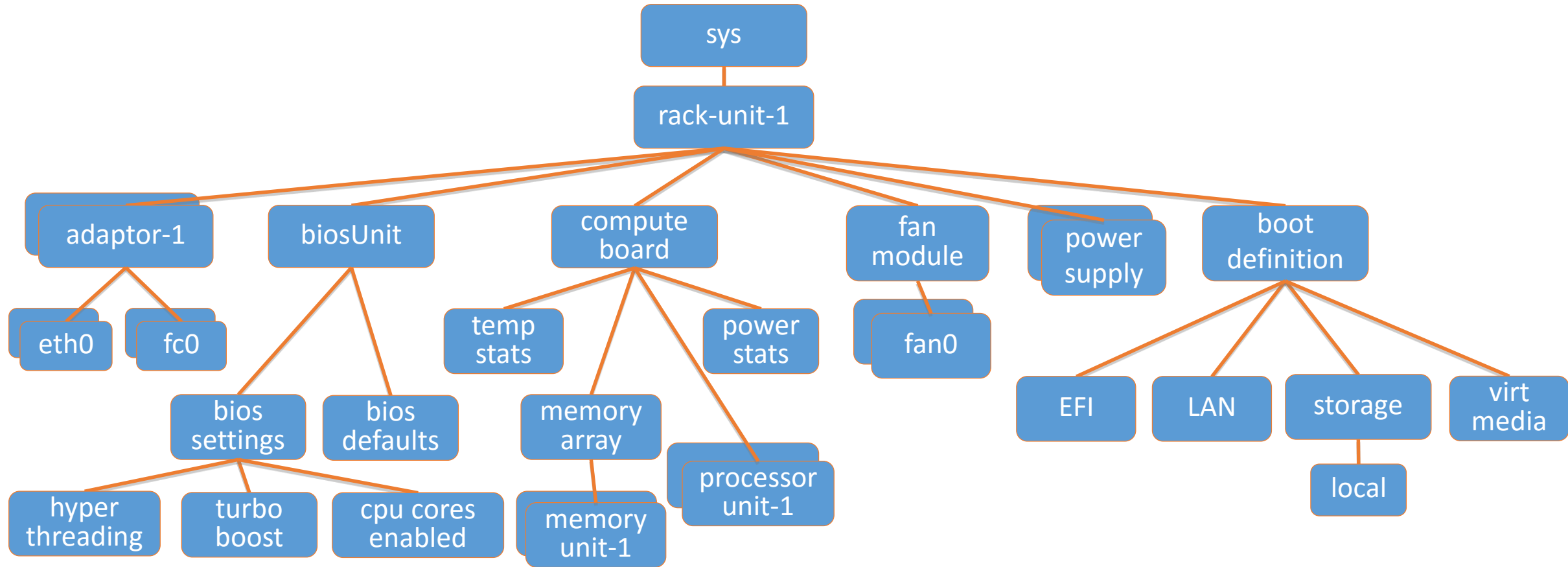
UCS Manager XML Hierarchy Overview

Managed Object Tree



Cisco IMC XML Hierarchy Overview

Managed Object Tree



Cisco UCS PowerTool Suite Overview

- Cisco UCS PowerTool Suite is a set of PowerShell modules for managing UCS products and solutions.
 - Cisco UCS Manager PowerTool- Thousands of cmdlets (2,156)
 - Cisco UCS Central PowerTool – Thousands of cmdlets (2,047)
 - Cisco IMC PowerTool – Hundreds of Cmdlets (502)
 - DSC resources for UCS Manager and IMC
- Cmdlets are Action-Object
 - **Add**-UcsServiceProfile / **Get**-UcsVlan / **Set**-UcsBootPolicy / **Remove**-UcsOrg
- Every User/Admin Manageable Object has cmdlet
- Generic Object cmdlets for future-proofing.
- Support for most of the Filters and Transactions

Cisco UCS PowerTool Suite Overview

System Requirements

- Before installing Cisco UCS PowerTool Suite, ensure that the system meets the following requirements:
 - Windows PowerShell 3.0 or above.
 - (Windows PowerShell 4.0 or above is required for using DSC resources)
 - .NET Framework Version 4.5 or above.
- Supported Versions
 - Cisco UCS Manager PowerTool - Releases 2.0 and above
 - Cisco IMC PowerTool - Releases 1.5 and above for Cisco C-series servers. Releases 2.2(1) and above for Cisco E-series servers.
 - Cisco UCS Central PowerTool – Releases 1.2 and above

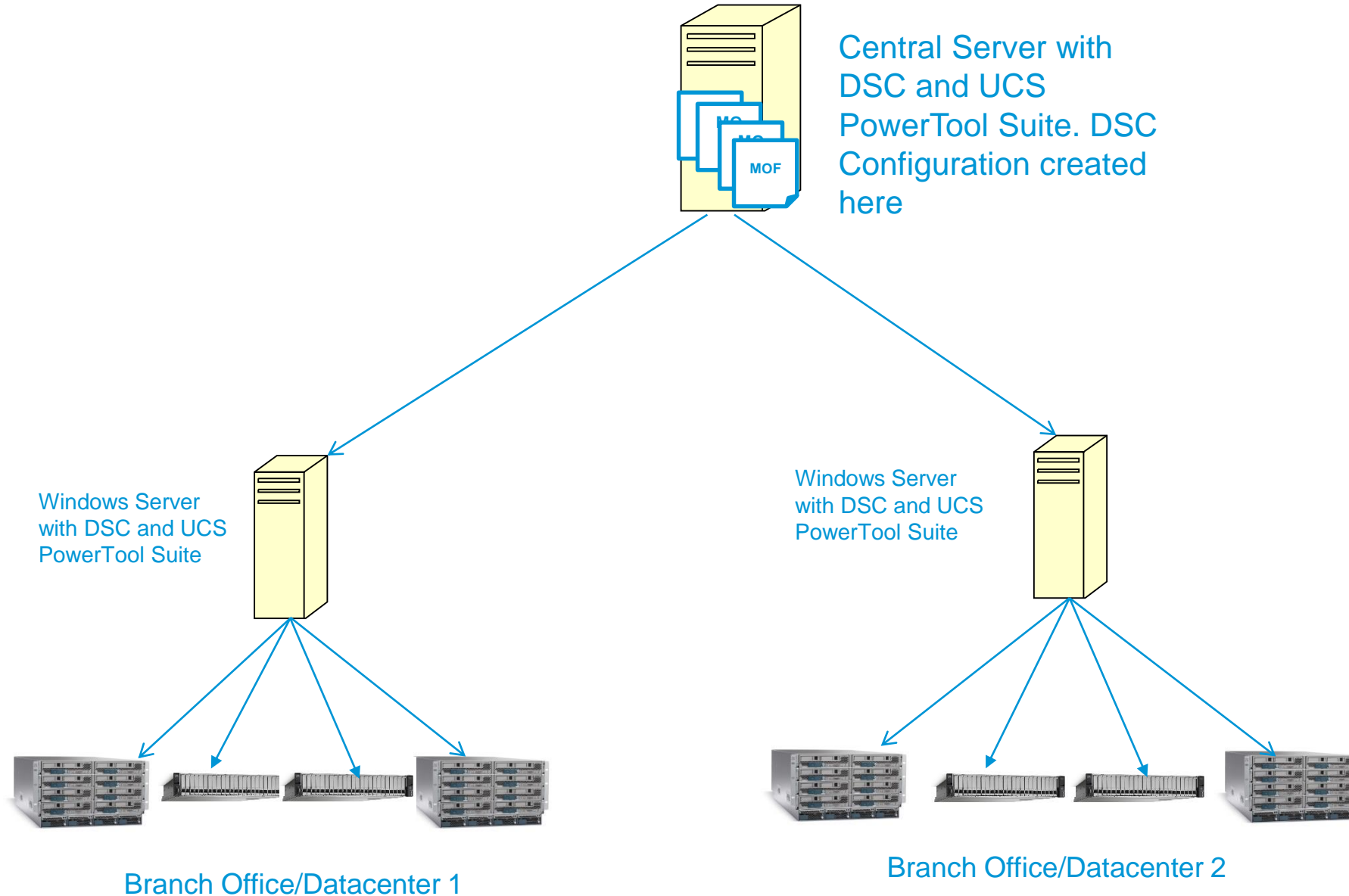
Cisco UCS DSC Resource

- Desired State Configuration (DSC) is a management platform in Windows PowerShell which enables you to configure, deploy, and manage systems.
- Cisco UCS DSC resource enables you to configure Cisco UCS Manager, and Cisco IMC using the Windows PowerShell DSC management platform.
- Running the Local Configuration Manager directly on UCS hardware will have limitations.

The Cisco UCS DSC architecture is comprised of the following:

- **Central Server**—This server is used to write the UCS DSC configuration scripts
- **Intermediate Server**— Central server deploys the configuration to this server. This server applies the configuration to the Cisco UCS Manager, or Cisco IMC

Cisco UCS DSC Resource High Level Architecture



DSC Resources for Cisco UCS

- **DSC Resources for Cisco UCS Manager**

- **UcsManagedObject resource:** To configure any UCS Manager MO by specifying the MO details.
- **UcsSyncFromBackup resource:** To apply the configuration from a backup file to multiple UCS Manager.
- **UcsSyncMoWithReference resource:** To sync configuration from a reference UCS Manager to any UCS Manager.
- **UcsScript resource:** Mechanism to execute UCS Manager Powertool cmdlets.

- **DSC Resources for Cisco IMC**

- **ImcManagedObject resource:** To configure any Cisco IMC MO by specifying the MO details.
- **ImcScript resource:** Mechanism to execute IMC Powertool cmdlets.

ConvertTo-Ucs cmdlets

- UCS Manager PowerTool has an ability to generate the PowerTool cmdlets for the operations performed on the UCS Manager GUI.
 - **ConvertTo-UcsCmdlet**- This cmdlet reads the UCS Manager GUI logs and generates the PowerTool cmdlets.
 - **ConvertTo-UcsDSCConfig**- This cmdlet reads the UCS Manager GUI logs and generates corresponding DSC configuration file.

Demo

Additional Resources

- [UCS PowerTool in Cisco Communities](#)
- [Download UCS PowerTool Suite](#)
- [UCS Programmability Blog, May 9th 2016](#)
- XML API Guides – [UCS Manager](#) / [UCS Central](#) / [UCS IMC](#)
- [UCS Python SDK](#)
- [UCS Platform Emulator](#)

Q&A



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TOMORROW starts here.