# Cisco UCS Central Software

## Product Overview

Cisco UCS® Manager provides a single point of management for an entire Cisco Unified Computing System™ (Cisco UCS) domain of up to 160 servers and associated infrastructure. Cisco UCS Manager uses a policy-based approach to provision servers by applying a desired configuration to physical infrastructure. Using Cisco UCS service profiles, administrators can reproduce existing physical environments, including the I/O configuration, firmware, and settings. The configuration is applied quickly, accurately, and automatically, improving business agility. A role-based access control (RBAC) model helps ensure security of the system configurations.

Cisco UCS Central Software extends the simplicity and agility of managing a single Cisco UCS domain across multiple Cisco UCS domains. Cisco UCS Central Software allows companies to easily work on a global scale, putting computing capacity close to users while managing infrastructure with centrally defined policies. Cisco UCS Central Software makes it easy to help ensure global policy compliance, with subject-matter experts choosing the resource pools and policies that need to be enforced globally or managed locally. With a simple drag-and-drop operation, Cisco UCS service profiles can be moved between geographies to enable fast deployment of infrastructure, when and where it is needed, to support business workloads. Cisco UCS Central Software does not replace Cisco UCS Manager, which is the basic engine for managing a Cisco UCS domain. It builds on the capabilities provided by Cisco UCS Manager and requires it to be in place to effect changes in individual domains.

## Features and Benefits

Cisco UCS Central Software enables global management of many Cisco UCS domains, making staff more efficient and effective. It gives Cisco UCS administrators a high-level view and management of all, or groups of, Cisco UCS domains with:

- Centralized Inventory of all Cisco UCS components for a definitive view of the entire infrastructure and simplified integration with current Information Technology Infrastructure Library (ITIL) processes
- Centralized, policy-based firmware upgrades that can be applied globally or selectively through automated schedules or as business workloads demand
- Global ID pooling to eliminate identifier conflicts
- Global administrative policies that enable both global and local management of the Cisco UCS domains
- An XML API, building on the Cisco UCS Manager XML API for easy integration into higher-level data center management frameworks
- Bandwidth, power, and thermal statistics collection and aggregation with two week or one year retention

These are just a few of the many features and benefits that Cisco UCS Central Software brings to data centers. Table 1 provides a complete list of the features and benefits.

**Table 1.**   Cisco UCS Central Software Features and Benefits

| Feature | Benefit |
|---------|---------|
| **Centralized inventory** | Manual inventory spreadsheets are no longer needed. Cisco UCS Central Software automatically aggregates a global inventory of all Cisco UCS components, organized by domain, with customizable refresh schedules. Cisco UCS Central Software provides even easier integration with ITIL processes, with direct access to the inventory through an XML interface. |
| **Centralized fault summary** | Quickly and easily view the status of all Cisco UCS infrastructure with a quick-look global fault summary panel, a fault summary organized by domain and fault type, with views into individual Cisco UCS Manager domains for greater fault detail and more rapid problem resolution. Drilling down on a fault will bring up UCS Manager in context for a seamlessly integrated experience. |
| **Centralized, policy-based firmware upgrades** | Take the guesswork and manual errors out of updating infrastructure firmware. You can download firmware updates automatically from the Cisco.com website to a firmware library within Cisco UCS Central Software. Then update firmware, globally or selectively, on an automated schedule or as your business workloads allow. Managing firmware centrally helps ensure compliance with IT standards and makes reprovisioning of resources a point-and-click operation. |
| **Global ID pooling** | Eliminate identifier conflicts and help ensure portability of software licenses with Cisco UCS Central Software. Centralize the sourcing of all IDs, such as universal user IDs (UUIDs), MAC addresses, IP addresses, and worldwide names (WWNs), from global pools and gain real-time ID use summaries. Centralizing server identifier information makes it simple to, for example, move a server identifier between Cisco UCS domains anywhere in the world and reboot an existing workload to run on the new server. |
| **Domain grouping and subgrouping** | Simplify policy management by creating domain groups and subgroups. A domain group is an arbitrary grouping of Cisco UCS domains that can be used to group systems into geographical or organizational groups. Each domain group can have up to five levels of subdomains, which makes it easy to manage policy exceptions when administering large numbers of Cisco UCS domains. Each subdomain has a hierarchical relationship with the parent domain. |
| **Global administrative policies** | Help ensure compliance and staff efficiency with global administrative policies. These policies are defined at the domain group level and can manage anything in the infrastructure, from date and time and user authentication to equipment power and system event log (SEL) policies. |
| **Global Cisco UCS service profiles and templates** | Just like the Cisco UCS service profiles and templates that have made IT departments so much more effective, global Cisco UCS service profiles and templates enable fast and simplified infrastructure deployment and help ensure consistency of configurations throughout the enterprise. This feature enables global bare-metal workload mobility in much the same way as a hypervisor enables virtualized workload mobility. |
| **Statistics aggregation** | Gain a better understanding of how Cisco UCS domains are functioning over time to improve operations to smoothly handle periodic peaks and shifts in workload. To accelerate the collection of statistics, the centralized database schema is open and data can be accessed directly or through the Cisco UCS Central Software GUI, command-line interface (CLI), or XML API. |
| **XML API** | Cisco UCS Central Software, just like Cisco UCS Manager, has a high-level industry-standard XML API for interfacing with existing management frameworks and orchestration tools. The XML API for Cisco UCS Central Software is similar to the XML API for Cisco UCS Manager, making integration with high-level managers very fast. |
| **Backup** | Cisco UCS Central Software has an automatic backup facility that enables quick and efficient backing up the configuration information of the registered Cisco UCS Managers and UCS Central. |
| **High availability** | As with all Cisco UCS solutions, Cisco UCS Central Software is designed for no single point of failure. High availability for Cisco UCS Central Software allows organizations to run Cisco UCS Central Software using an active-standby model with a heartbeat that automatically fails over if the active Cisco UCS Central Software does not respond. |

## Product Architecture and Operation

Cisco UCS Central Software is a virtual appliance that is prepackaged as a VMware .ova or an ISO image. VMware and Microsoft hypervisors are supported. Typically deployed in an active-standby configuration, the product is hosted outside the managed Cisco UCS domains. Cisco UCS Central Software securely communicates with Cisco UCS Manager instances to:

- Collect inventory and fault data from Cisco UCS Managers throughout the enterprise (Figure 1)
- Create resource pools of servers available to be deployed within minutes
- Enable role-based management of all resources
- Support the creation of global policies, Cisco UCS service profiles, and templates
- Enable the downloading of and selective or global application of firmware updates

- Invoke individual Cisco UCS Manager GUIs in context for more detailed management

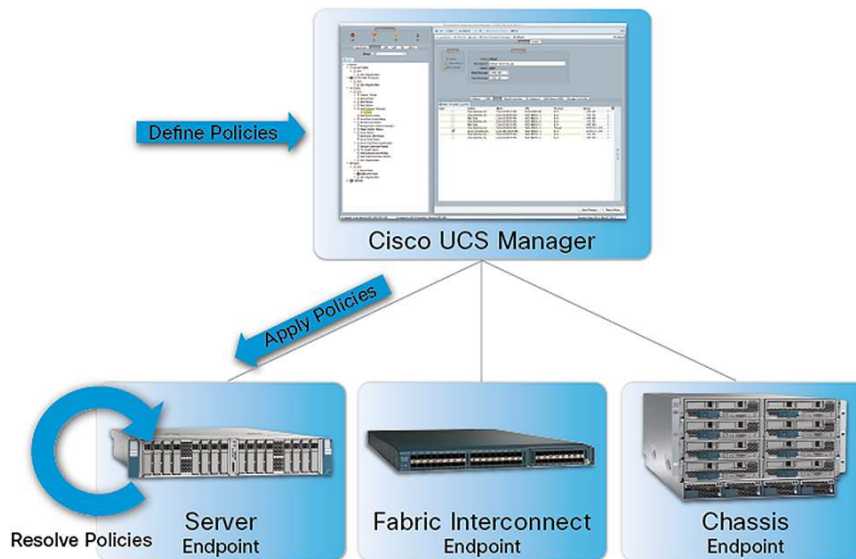**Figure 1.**    Cisco UCS Central Software GUI
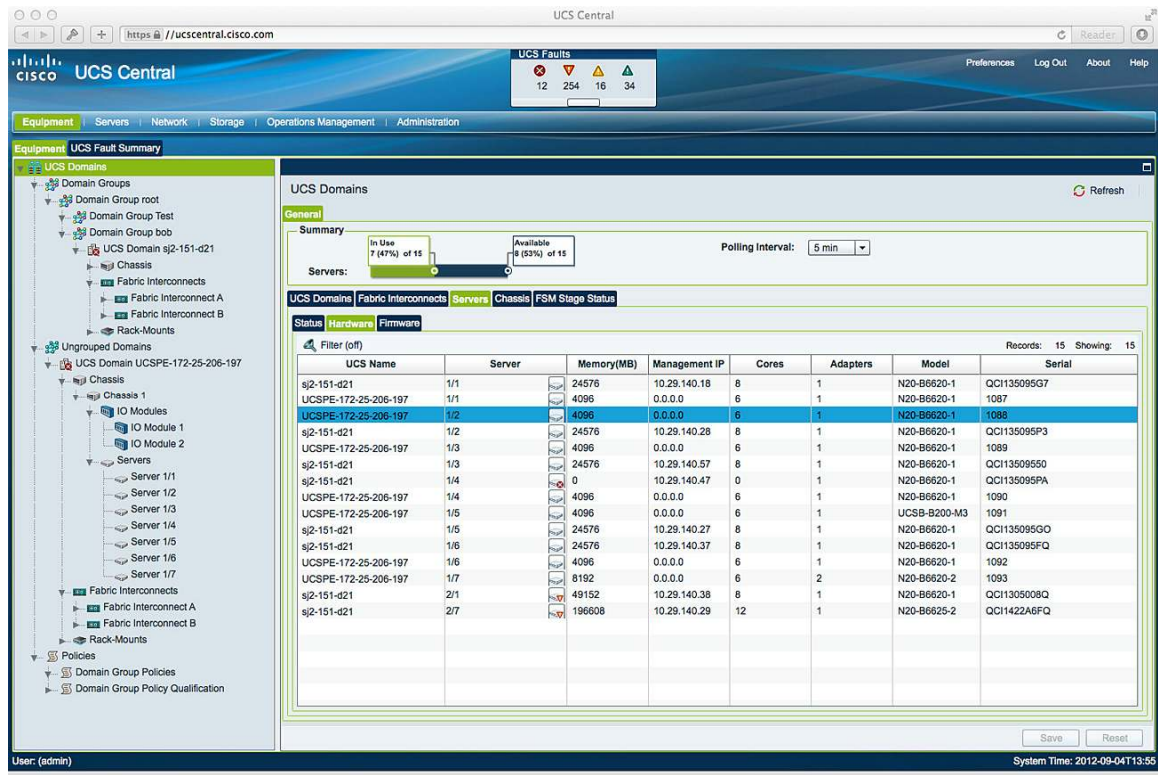


Cisco UCS Central Software stores global resource information and policies that are accessible through an XML API. In addition, operation statistics are stored in an Oracle or PostgreSQL database, which allows customers to create their own reports and charts by directly querying the data in the database (Figure 2). Like Cisco UCS Manager, Cisco UCS Central Software can be accessed through an intuitive GUI, CLI, or XML API for ease of integration with high-level management and orchestration tools. It also downloads firmware packages directly from Cisco.com to facilitate automated global infrastructure and server firmware management.

**Figure 2.** Cisco UCS Central Software Architecture
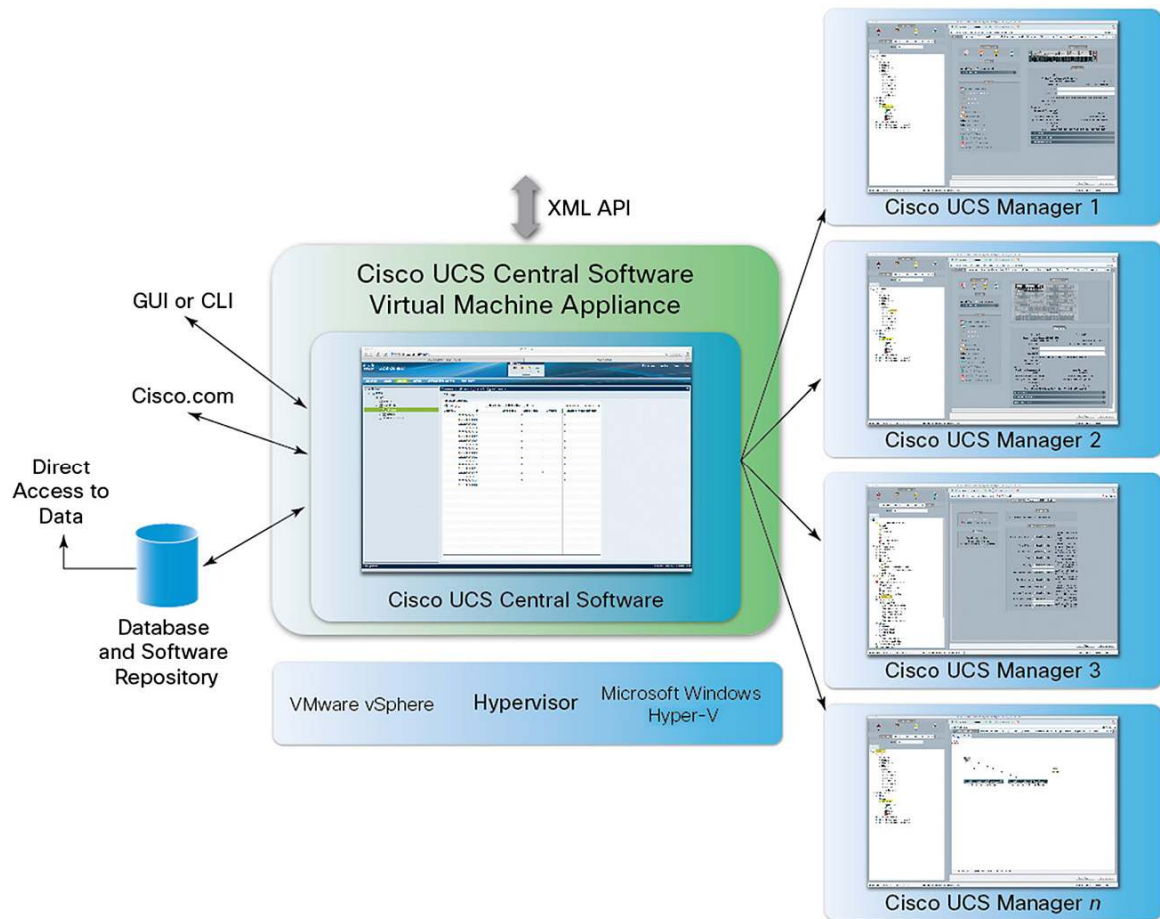


Cisco UCS Central Software is designed and operates similar to Cisco UCS Manager in that policies and configuration definitions, which make up a Cisco UCS service profile, can be created at a central location and then applied to the endpoint recipient, where they are resolved. With Cisco UCS Manager, the endpoint recipients are the Cisco UCS infrastructure (servers, network, etc.), as shown in Figure 3.

**Figure 3.**   Cisco UCS Manager Centralizes Policy and Configuration Definitions for an Entire Cisco UCS Platform



For Cisco UCS Central Software, the recipients are individual Cisco UCS Manager instances that have been registered with Cisco UCS Central Software. With Cisco UCS Central Software, global Cisco UCS service profiles are defined centrally and are passed to Cisco UCS Manager instances according to the way they are registered with Cisco UCS Central Software (Figure 4).

**Figure 4.** Cisco UCS Central Software Globally Centralizes Policy and Configuration Definitions for an Entire Infrastructure
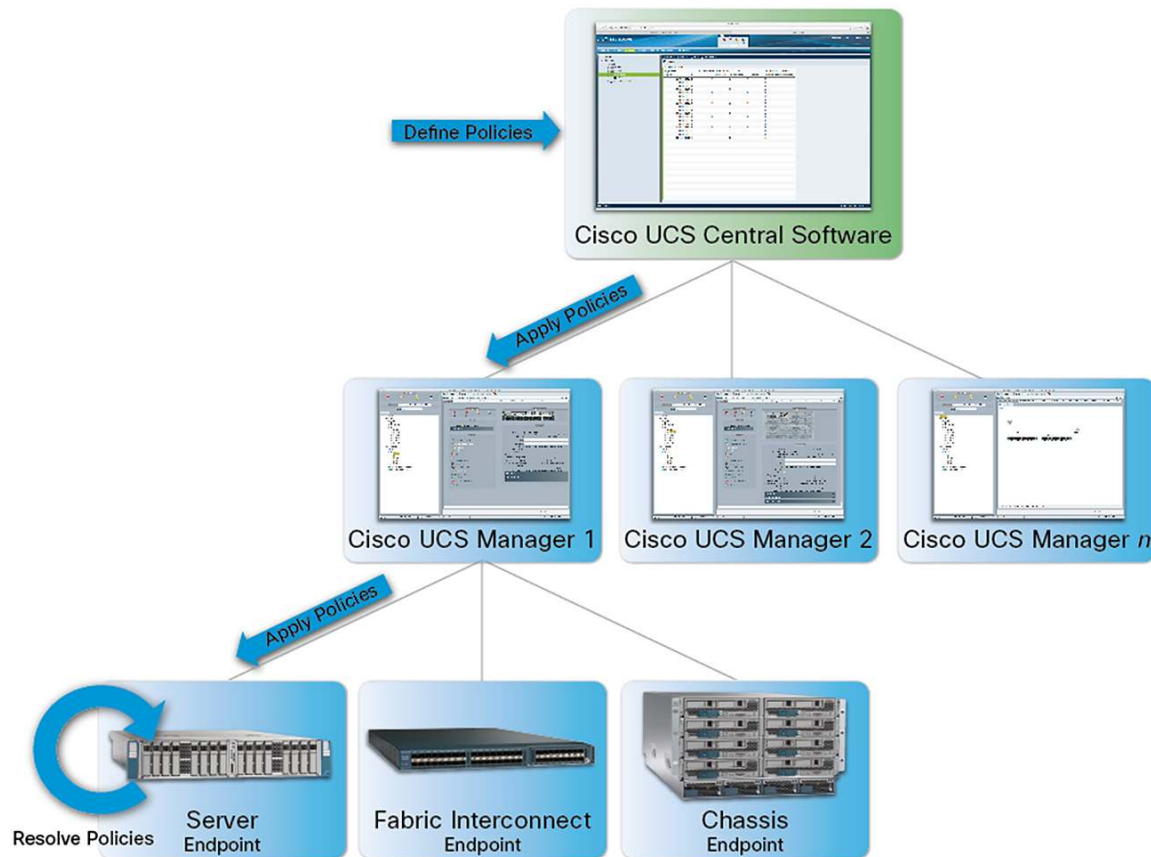


Through this inheritance capability, Cisco UCS Central Software provides centralized resource pools in which all or part of the configuration can be defined centrally and deployed quickly and efficiently. Inheritance is controlled by each Cisco UCS Manager instance, which can choose which resource classes to obtain locally and which to obtain from Cisco UCS Central Software (Figure 5).

Maintaining and applying resources and policies on a global scale helps data centers grow to up to 10,000 servers per Cisco UCS Central Software instance. Servers from multiple Cisco UCS systems are managed as a cohesive whole with automated, error-free deployment and redeployment, enforced policy compliance, greater workload flexibility and mobility, increased business agility, and reduced total cost of ownership (TCO).

**Figure 5.** Global and Local Resource Use Is Configured in Cisco UCS Manager



## Ordering and Licensing Information

- Cisco UCS Central Software can be purchased directly from Cisco or from any Cisco UCS partner.
- Cisco UCS Central is licensed per managed Cisco UCS domain. License for use with first five domains is available at no cost.

## Service and Support

- Support can be purchased per managed Cisco UCS domain, with a fixed price for the first five domains.
- For more information about Cisco® Software Application Support plus Upgrades (SASU), please visit http://www.cisco.com/en/US/services/ps2827/ps2993/services_data_sheet0900aecd803f3d93.pdf.

## For More Information

- Please contact your Cisco Sales representative or your Cisco Partner representative or visit the Cisco UCS website at http://www.cisco.com/go/ucs.

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