Cisco Unified Provisioning Manager 1.2

Cisco® Unified Communications is a comprehensive IP communications system of voice, video, data, and mobility products and applications. It facilitates more effective, more secure, more personal communications that directly affect both sales and profitability. It brings people together by facilitating a new way of communicating, in which your business moves with you, security is everywhere, and information is available when and where it is needed. Cisco Unified Communications is part of an integrated solution that includes network infrastructure, security, mobility, network management products, lifecycle services, flexible deployment and outsourced management options, end-user and partner financing packages, and third-party communications applications.

Cisco Unified Provisioning Manager provides a reliable and scalable Web-based solution for managing a company's crucial next-generation communications services. Cisco Unified Provisioning Manager 1.2 manages unified communications services in an integrated IP telephony, voicemail, and messaging environment that includes:

- Cisco Unified Communications Manager
- Cisco Unified Communications Manager Express
- Cisco Unity®
- Cisco Unity Express
- Cisco Unity Connection systems
- Cisco Unified Mobility
- Cisco Unified Communications Manager side of Presence provisioning, including client provisioning for Cisco Unified Personal Communicator

Product Overview

Cisco Unified Provisioning Manager provides provisioning for Cisco Unified Communications initial deployments and implementations, and then provides ongoing operational provisioning and activation services for individual subscriber changes. Cisco Unified Provisioning Manager provides a single, consolidated view of subscribers across the organization. It provides a set of business-level management abstractions, which are policy-driven through the use of automation, for managing subscriber services across the Cisco Unified Communications infrastructure.

Through these features, Cisco Unified Provisioning Manager lowers the initial cost of deployments. A powerful template capability permits defining standard configurations that can be reused for new sites or location deployments. Batch provisioning permits the rollout of large numbers of subscribers at once.

Cisco Unified Provisioning Manager also significantly reduces the ongoing costs and expertise required to manage the changes that occur once the network is operational. A knowledgeable administrator is able to configure policy at various levels that will enforce who is able to do delegated management; for whom that delegation applies; how business-level services apply to Cisco Unified Communications voice and messaging applications; and which types of end users (subscribers) are permitted to order which standard services.

Through the use of this policy and standard configuration approach, provisioning and activating subscriber services are greatly simplified, while the overall ability to manage and provide services that make use of the underlying Cisco Unified Communications applications is retained. Costs are reduced, time to dial tone is reduced, and errors are practically eliminated. Subscribers are more satisfied, and your IP communications professionals have more time to focus on higher-value activities than repetitive operational issues.

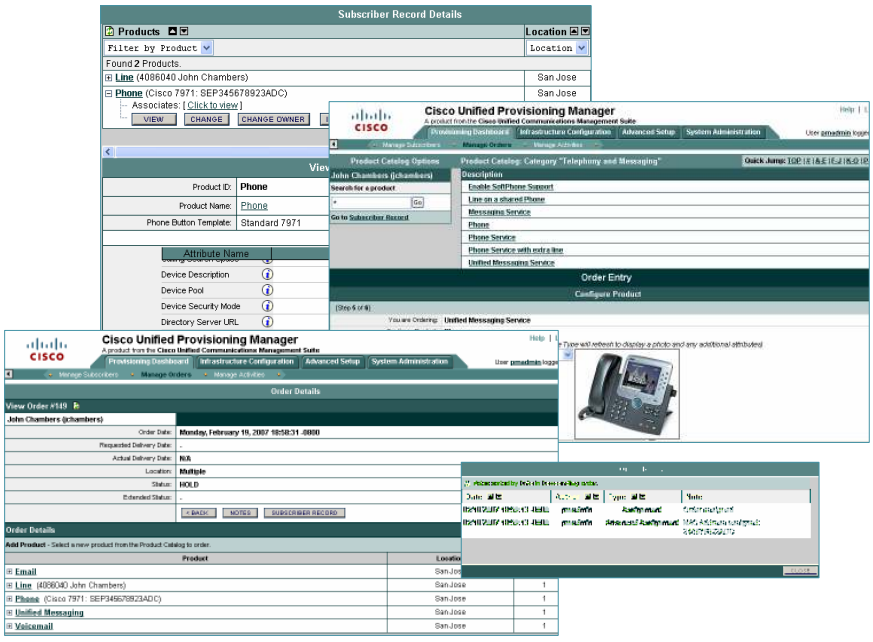
Features and Benefits

Cisco Unified Provisioning Manager features include a business-oriented approach to provisioning with workflow automation, domain-level delegation, a service area model, provisioning attributes, infrastructure templates, batch provisioning, role-bases access, and inventory tracking.

Business-Oriented Approach with Workflow Automation

Cisco Unified Provisioning Manager permits standard services (phone, line, and voicemail, for example) to be ordered for subscribers (the owner of the individual phone, voicemail, or other service). Cisco Unified Provisioning Manager processes all changes to the underlying Cisco Unified Communications applications as a service request or an order. An order may be created to make a subscriber-level change (to a phone or line, for example) or an IP communications-level infrastructure change (such as provisioning a new calling search space or route pattern). All orders in the system are tracked and viewable, both across orders and by subscriber name or ID. The order records show who initiated the order, the times of various process steps, and what the order contained (Figure 1).

Figure 1. Subscriber Screens

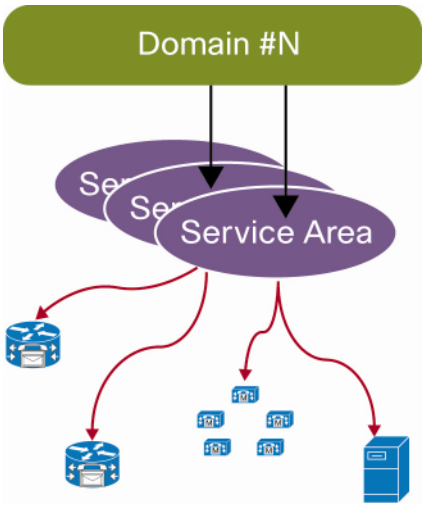


A simple wizard-driven approach is used for ordering services. Cisco Unified Provisioning Manager permits delegation of the order management capability so that requests for service additions, changes, or cancellations can be done without requiring an underlying knowledge of the voice applications that are delivering those services. Cisco Unified Provisioning Manager provides the same ordering experience regardless of the technology delivering the Cisco Unified Communications services.

Domain-Level Delegation

Cisco Unified Provisioning Manager introduces the concept of IP telephony domains and service areas (Figure 2). Domains are groupings of subscribers. For each grouping, one or more system users can be authorized to manage services for subscribers within that domain. In addition, rules or policies may be set on a domain; those rules and policies will apply to services for subscribers in that domain. Common policies can also be applied on operations within a domain.

Figure 2. Domains and Service Areas



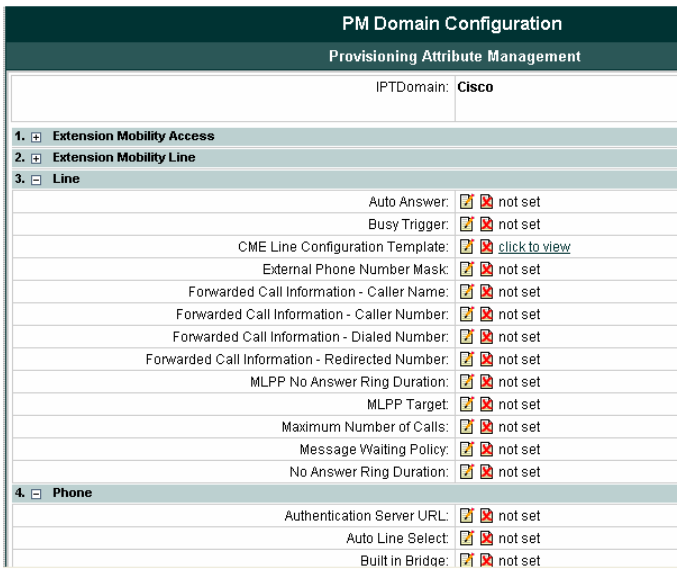
Service Area Model

Service areas are groupings within an IP telephony domain that are used to structure and manage IP telephony and messaging services. The service area typically acts as a service offering location and provides a template mechanism that determines provisioning attribute values used during order processing. Administrative users may configure service areas; this helps ensure that service orders follow company policies and best practices for configuring subscribers. A service area also handles Cisco Unified Communications Manager partitioning and class of service by directing which location, voice device group, calling search space, and route partition assignments to use for any user provisioned into that service area.

Provisioning Attributes

Provisioning attributes are configuration settings that will be applied to the services on an order during activation. The system administrator has the ability to assign and configure provisioning attributes throughout different levels within the system (at the domain, service area, or subscriber type levels, or on an individual order basis). Figure 3 shows how provisioning attributes are managed.

Figure 3. Provisioning Attribute Management



At order time the system will take into account the configured provisioning attribute assignments in addition to the service area settings to determine the final product configuration to be provisioned. The combination of service area settings and provisioning attributes gives administrators the flexibility to customize the provisioning policies for subscriber services.

Infrastructure Templates

Configuration templates provide the ability to autoconfigure the Cisco Unified Communications voice infrastructure in a consistent way. In Cisco Unified Provisioning Manager, templates can be created to initially configure or reconfigure Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, and Cisco Unity Express. Templates can contain an unlimited number of objects, subject only to the time required to execute (push to a device) the template. Templates are constructed and executed entirely through the Web browser interface.

Cisco Unified Communications Manager templates can contain up to 20 different types of objects, such as voice device groups, route partitions, calling search spaces, route lists, route groups, or route patterns. Objects placed in a template may have embedded keywords within their attributes. When pushing a template to a device, users may specify an optional keyword list, which defines the values of the keywords to be used (replaced) during the provisioning operation. Templates may contain subtemplates as well, permitting reuse of common types of configuration information across higher-level templates.

Cisco Unified Communications Manager Express and Cisco Unity Express templates may contain Cisco IOS® Software text or command-line interface (CLI) text with keywords as well. Keyword replacement and nesting of templates is also permitted.

The Cisco Unified Provisioning Manager template capability permits the definition of standard configurations that can be used in situations such as rolling out new offices, locations, remote sites, or organizational overlays.

Batch Provisioning

Subscriber services may be ordered using the Web interface on an individual basis for a single subscriber. However, when deploying a large number of services, it is often desirable to combine these together into a single batch, which can be scheduled to run at a later time.

Cisco Unified Provisioning Manager permits a single batch to contain multiple types of orders: add, change, or cancel. It also permits multiple types of services to be specified in a single batch operation; for example, a batch can contain a combination of phone and voicemail additions or changes.

Batches can be run immediately upon uploading to Cisco Unified Provisioning Manager or may be scheduled for execution at a later time.

Role-Based Access

Cisco Unified Provisioning Manager provides two dimensions to roles, depending upon whether the person is a user of the system or a subscriber of services. User roles define access to certain functions exposed through the Web interface to the user of the system. The subscriber role refers to the role that a subscriber will have within an organization; the role dictates the services for which subscribers are entitled. User roles are predefined in the system. Subscriber roles are configurable by the administrator.

Inventory Tracking

Cisco Unified Provisioning Manager tracks the information about all services and subscribers in an internal asset management or inventory system. This information can be viewed by an administrator (Figure 4), and advanced searches may be created and saved that permit producing report templates in HTML or Microsoft Excel format. Sample reports for configuration and phone information are provided with Cisco Unified Provisioning Manager (Figure 5).

Figure 4. Inventory Manager View

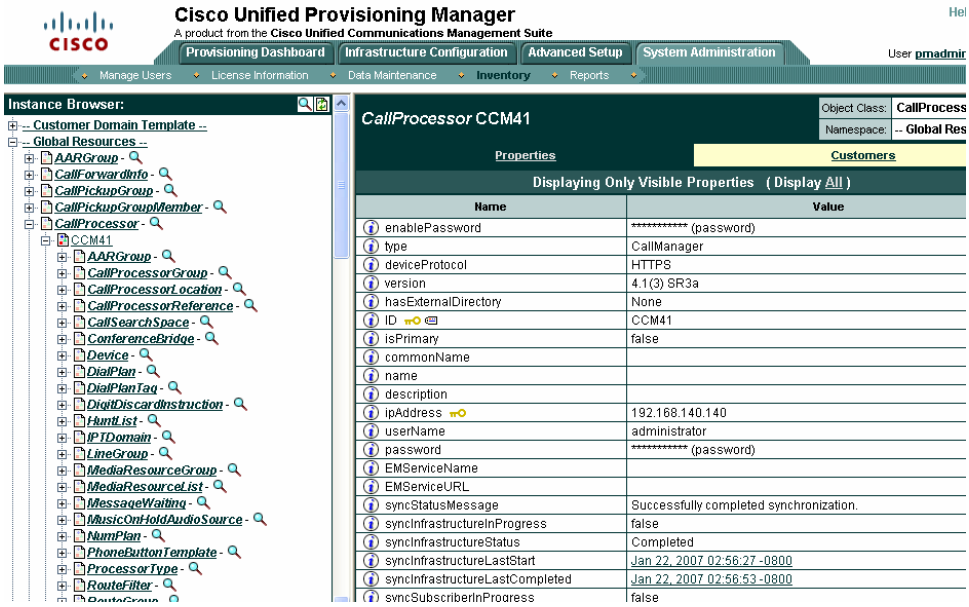


Figure 5. Sample Report

Phone Inventory Report

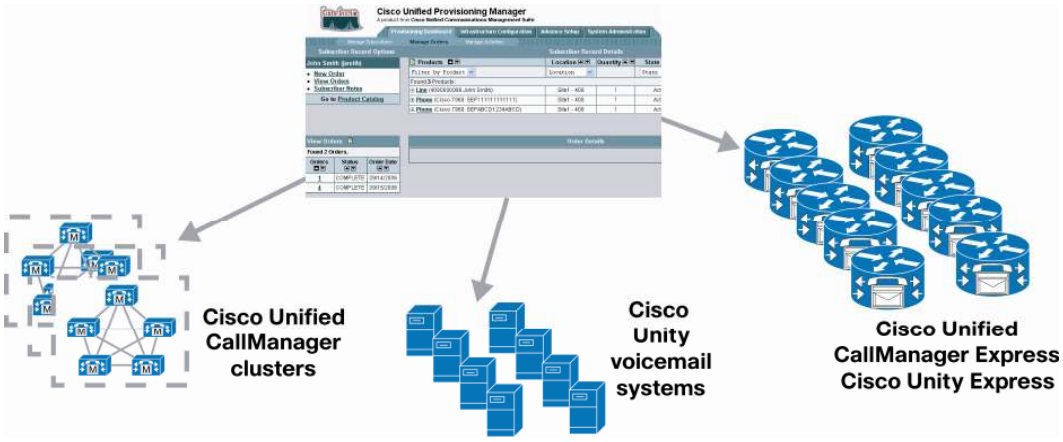
Produced by: Cisco Unified Provisioning Manager
Date: Tuesday, January 30, 2007 12:51:44 -0800

	Name	Type	MAC Address	Status	Reserved For	Reserve
Edit	SEP00059A3B88FF	Cisco 7960	00059A3B88FF	In-use		
Edit	SEP00068B4C97A4	Cisco 7936	00068B4C97A4	In-use		
Edit	SEP00069B4C778A	Cisco 7936	00069B4C778A	In-use		
Edit	SEP234AD3456FCD	Cisco 7971	234AD3456FCD	In-use		
Edit	SEP23AD34FDED45	Cisco 7941	23AD34FDED45	In-use		
Edit	SEP23DA4536DFCB	Cisco 7971	23DA4536DFCB	In-use		
Edit	SEP32DAFE45671D	Cisco 7971	32DAFE45671D	In-use		
Edit	SEP34563DF2345D	Cisco 7970	34563DF2345D	In-use		
Edit	SEP34DC234BF345	Cisco 7970	34DC234BF345	In-use		
Edit	SEP34DFCB34EFED	Cisco 7970	34DFCB34EFED	In-use		
Edit	SEP34DFCB452345	Cisco 7971	34DFCB452345	In-use		
Edit	SEP354FD3423DF1	Cisco 7971	354FD3423DF1	In-use		
Edit	SEP65FDCBCDA432	Cisco 7970	65FDCBCDA432	In-use		
Edit	SEPAB0157620008	Cisco 7960	AB0157620008	In-use		
Edit	SEPAB0157620009	Cisco 7960	AB0157620009	In-use		
Edit	SEPAB0157620010	Cisco 7960	AB0157620010	In-use		
Edit	SEPAB0157620011	Cisco 7960	AB0157620011	In-use		
Edit	SEPAB0157620012	Cisco 7960	AB0157620012	In-use		
Edit	SEPAB0157620013	Cisco 7960	AB0157620013	In-use		
Edit	SEPAB0157620014	Cisco 7960	AB0157620014	In-use		
Edit	SEPAB0157620015	Cisco 7960	AB0157620015	In-use		
Edit	SEPAB0157620016	Cisco 7960	AB0157620016	In-use		

Product Architecture

Cisco Unified Provisioning Manager is a Web-based application based on the Java2 Platform, Enterprise Edition (J2EE) architecture. It resides on a separate Windows-based computer and uses various interfaces to connect with the Cisco Unified Communications applications it manages (Figure 6). It does not need to deploy any agent software onto those applications platforms. Cisco Unified Provisioning Manager uses open interfaces such as HTTP, HTTPS, AVVID (Architecture for Voice, Video, and Integrated Data) XML Layer (AXL)–Simple Object Access Protocol (SOAP), Secure Shell (SSH) Protocol, and Telnet to remotely configure or query the applications being managed. Different levels of user access can be configured by the administrator.

Figure 6. Cisco Unified Provisioning Manager Interoperability



Product Specifications

Table 1 lists the specifications for Cisco Unified Provisioning Manager 1.2.

Table 1. Product Specifications

Product compatibility	Cisco Unified Communications deployments consisting of: • Cisco Unified CallManager 4.1(3), 4.2(1), 4.2(3), and Cisco Unified Communications Manager 5.0(4), 5.1(1), 5.1.2, 5.1.3, 6.0(1), 6.1.1 • Cisco Unified Communications Manager Express 4.0, 4.1, 4.2 • Cisco Unity 4.0, 4.1, 4.2, 5.0 • Cisco Unity Express 2.3.1, 3.0, 3.1 • Cisco Unity Connection 2.0.1, 2.1 • Cisco Unified IP Phones **Note:** See the Cisco Unified Provisioning Manager Supported Devices Table for specific versions that have been certified in testing at http://www.cisco.com/en/US/products/ps7125/products_device_support_tables_list.html.
Software compatibility	Windows 2003 Server with Service Pack 2. The user interface can be accessed by Microsoft Internet Explorer 6.0 and 7.0, Firefox 2.0 and Mozilla 1.7.x.
Protocols used to communicate with other Cisco Unified Communications applications	HTTP, HTTPS, SSH, Telnet, XML/SOAP, Java Database Connectivity (JDBC), CLI

System Capacity

Table 2 lists the system capacity for each instance of Cisco Unified Provisioning Manager 1.2.

Table 2. System Capacity per Cisco Unified Provisioning Manager Instance

Item	Maximum Supported Number
Users/subscribers	30,000
Phones	30,000
Lines	60,000
Directory numbers	60,000
Device profiles	60,000
Cisco Unified Communications Manager	No limit
Cisco Unified Communications Manager Express	No limit
Cisco Unity software family	No limit
Cisco Unity Connection	No limit
Cisco Unity Express	No limit

Features

Features of Cisco Unified Provisioning Manager 1.2 include:

- Single view of a subscriber and the subscriber's services
- Simplified management of subscribers, services, and Cisco Unified resources for day 1 and day 2 management tasks
- Single Web-based provisioning interface to Cisco Unified systems
- Domain-level delegation of day 2 subscriber changes
- Prebuilt configurations of subscriber products
- Tracking and reporting on subscriber assets
- Management of line numbers, phone sets (including Cisco IP Communicator), subscribers, and related unified messaging components

- Definition and enforcement of configurable business policies for processing of subscriber requests
- Helpdesk assistance or end-subscriber self-care
- Wizards that simplify the request interface
- Automated interaction with Cisco Unified Communications Manager, Cisco Unity, Cisco Unified Communications Manager Express, Cisco Unity Express, and Cisco Unity Connection for subscriber, phone, and line creations, modifications, or deletions
- Consolidated view and management of multiple Cisco Unified Communications Manager, Cisco Unity, Cisco Unified Communications Manager Express, Cisco Unity Express, and Cisco Unity Connection systems
- Autopopulation and ongoing synchronization of data from Cisco Unified Communications Manager, Cisco Unity, Cisco Unified Communications Manager Express, Cisco Unity Express, and Cisco Unity Connection for both system configuration and subscriber information
- Template-based provisioning of infrastructure configuration components within Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, and Cisco Unity Express
- Batch order processing for any add, change, or delete supported manually

Cisco Unified Provisioning Manager 1.2 includes an extensive inventory model that provides the capability to manage:

- Subscribers
- Call processors
- Voice features
- Messaging features
- Voice-specific hardware and software
- Messaging-specific hardware and software
- Phone number management policy
- Phone set management policy

System Requirements

Table 3 outlines the minimum server requirements recommended for different levels of performance and scale. In cases where more than five operators are expected to be placing orders concurrently, two dual core Xeon processors and SAS disk drives should be used on server platforms (consult the Cisco Unified Provisioning Manager Installation Guide for detailed recommendations).

Table 3. System Minimum Requirements

Server Requirements	Up to 1000 Phones	Up to 10,000 Phones	Up to 30,000 Phones
CPU	Single 3.0-GHz Intel P4 processor	Dual-core 3.0-GHz Intel P4 processor	2-machine deployment with both: • 2 x Intel Xeon 3.0 GHz processor for Web and application servers • 2 x Intel Xeon 3.0 GHz processor for database
Memory	2 GB RAM	4 GB RAM	4 GB RAM on each machine

Disk space	1 x 30-GB hard disk	1 x 60-GB hard disk	1 x 30-GB hard disk on machine for Web and application servers, and 1 x 80-GB hard disk with SCSI-RAID on machine for database
Network	100-Mbps network interface card (NIC)	100-Mbps NIC	100-Mbps NIC

Ordering Information

Table 4 lists ordering information for the Cisco Unified Provisioning Manager. To place an order, visit the Cisco Ordering Homepage.

Table 4. Ordering Information

Product Name	Part Number
Cisco Unified Provisioning Manager 1.2 (maximum of 500 phones)	CUPM-1.2-500-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 1000 phones)	CUPM-1.2-1K-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 2000 phones)	CUPM-1.2-2K-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 5000 phones)	CUPM-1.2-5K-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 10,000 phones)	CUPM-1.2-10K-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 20,000 phones)	CUPM-1.2-20K-K9
Cisco Unified Provisioning Manager 1.2 (maximum of 30,000 phones)	CUPM-1.2-30K-K9
Cisco Unified Provisioning Manager 1.2 500-phone license	CUPM-1.2-500LIC
Cisco Unified Provisioning Manager 1.2 1000-phone license	CUPM-1.2-1KLIC
Cisco Unified Provisioning Manager 1.2 2000-phone license	CUPM-1.2-2KLIC
Cisco Unified Provisioning Manager 1.2 5000-phone license	CUPM-1.2-5KLIC
Cisco Unified Provisioning Manager 1.2 10,000-phone license	CUPM-1.2-10KLIC

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, see Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about Cisco Unified Provisioning Manager, visit http://www.cisco.com/go/cupm, contact your local account representative, or send an e-mail to the product marketing group at ask-ipc-management@cisco.com.

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