

# Cisco Prime Provisioning

Cisco Prime™ Provisioning helps accelerate consistent and reliable service deployments by providing automated resource management and rapid profile-based provisioning spanning the entire network, from access all the way to the core.

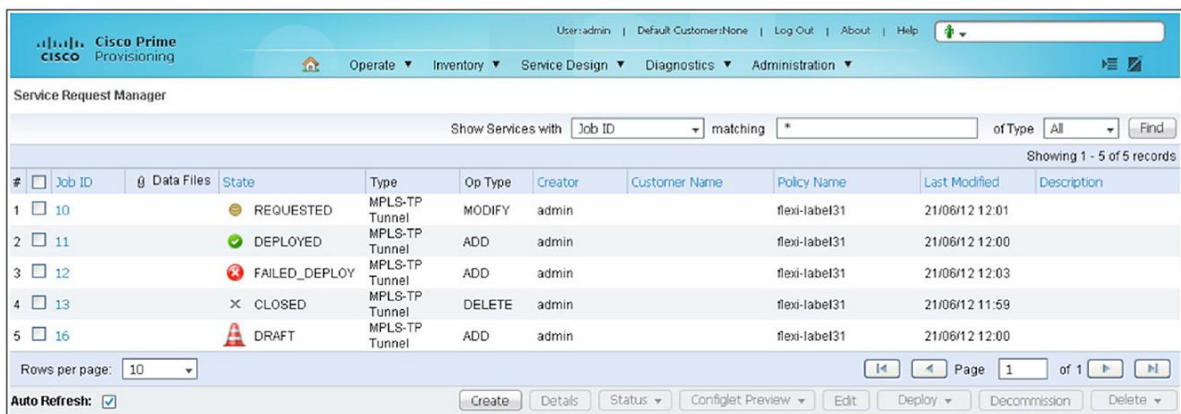
## Product Overview

The convergence of networks and services has created significant operational challenges for service providers and enterprises. Disjointed management tools that call for manually intensive configuration and provisioning tasks can no longer scale to cost-effectively support hundreds of thousands of service instances of varying requirements across the network. Furthermore, the lack of intelligent management can complicate and slow down the speed of service deployments.

Cisco Prime Provisioning addresses these challenges by utilizing extensive automation capabilities in design, provisioning, and diagnosis of network services - helping service providers accelerate reliable service deployments supporting Carrier Ethernet and Multiprotocol Label Switching (MPLS) networks. Operators can provision services more rapidly by automating core processes using predefined policies (Figures 1 and 2). In addition, Cisco Prime Provisioning provides innovative capabilities for planning and provisioning for Cisco® MPLS Traffic Engineering (MPLS-TE)-enabled routers.

Cisco Prime Provisioning is available as a standalone product or as a component of the [Cisco Prime Carrier Management](#) suite of applications that greatly simplifies the design, provisioning, and management of carrier-grade networks. It is also available as part of a service fulfillment offering together with [Cisco Prime Order Fulfillment](#). This offering provides fulfillment of multiservice, multidomain, and multivendor services as well as Agile Business Architectures (ABA).

**Figure 1.** Cisco Prime Provisioning Service Request Manager

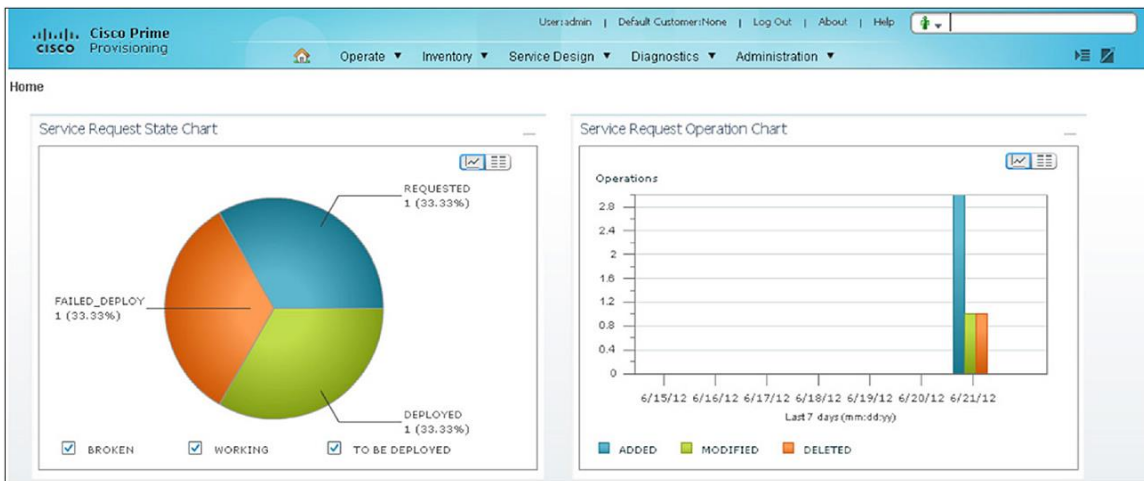


The screenshot shows the Cisco Prime Provisioning Service Request Manager interface. At the top, there is a navigation bar with the Cisco logo and the text 'Cisco Prime Provisioning'. Below the navigation bar, there are several tabs: Operate, Inventory, Service Design, Diagnostics, and Administration. The main content area is titled 'Service Request Manager' and contains a search bar with the text 'Show Services with Job ID matching \*' and a 'Find' button. Below the search bar, there is a table with 5 records. The table has columns for #, Job ID, Data Files, State, Type, Op Type, Creator, Customer Name, Policy Name, Last Modified, and Description. The records are as follows:

#	Job ID	Data Files	State	Type	Op Type	Creator	Customer Name	Policy Name	Last Modified	Description
1	10		REQUESTED	MPLS-TP Tunnel	MODIFY	admin		flexi-label31	21/06/12 12:01	
2	11		DEPLOYED	MPLS-TP Tunnel	ADD	admin		flexi-label31	21/06/12 12:00	
3	12		FAILED_DEPLOY	MPLS-TP Tunnel	ADD	admin		flexi-label31	21/06/12 12:03	
4	13		CLOSED	MPLS-TP Tunnel	DELETE	admin		flexi-label31	21/06/12 11:59	
5	16		DRAFT	MPLS-TP Tunnel	ADD	admin		flexi-label31	21/06/12 12:00	

Below the table, there is a 'Rows per page' dropdown set to 10, a 'Page 1 of 1' indicator, and an 'Auto Refresh' checkbox which is checked. At the bottom, there are several buttons: Create, Details, Status, Configlet Preview, Edit, Deploy, Decommission, and Delete.

**Figure 2.** Cisco Prime Provisioning Service Request State and Operation



## Features and Benefits

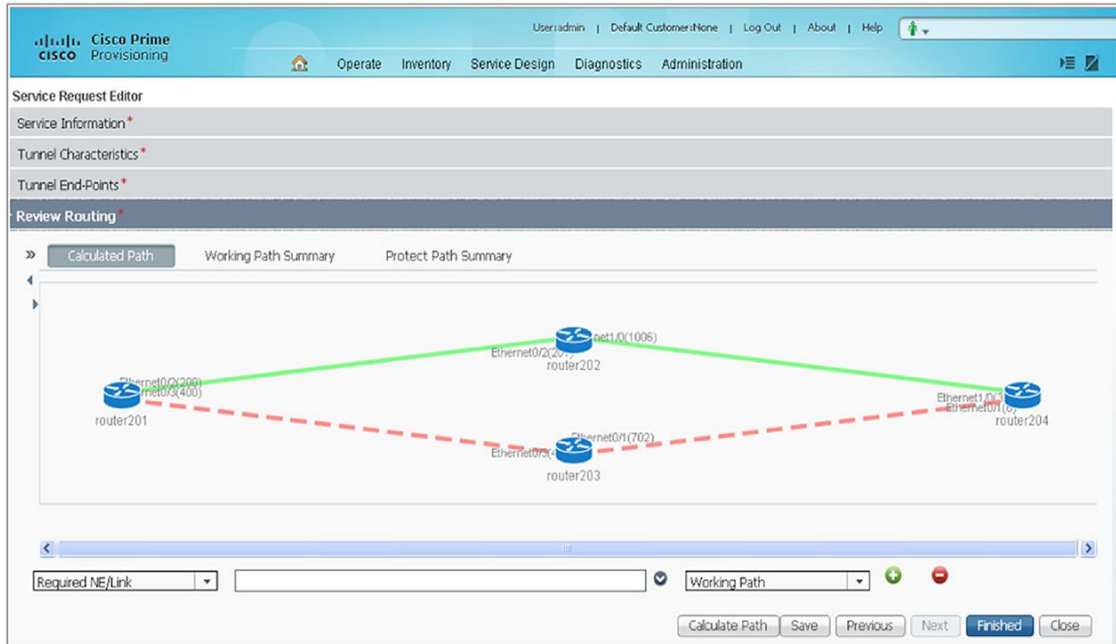
Cisco Prime Provisioning provides service providers and enterprises requiring carrier-grade networks with key capabilities for the activation and assurance of Layer 3 and Layer 2 VPNs, Any Transport over MPLS (AToM), and Carrier Ethernet services.

- Layer 2 VPN and Carrier Ethernet management:** Cisco Prime Provisioning accelerates the deployment of Layer 2 VPNs and Carrier Ethernet services through automated provisioning. Deployments are validated through automated service configuration and functional audits for Carrier Ethernet VPNs, AToM VPNs, Radio Access Network (RAN) Backhaul, and MPLS Transport Profile (MPLS-TP) networks.
- MPLS Layer 3 VPN management:** Cisco Prime Provisioning makes service activation quick and predictable by automating the provisioning, configuration, and functional audits of MPLS Layer 3 VPNs using predefined service profiles.
- MPLS Traffic Engineering management:** Cisco Prime Provisioning helps meet stringent service-level agreement (SLA) requirements for voice and video traffic by providing an optional solution for managing the configuration of Cisco MPLS Traffic Engineering tunnels including:
  - Autoroute Announce
  - Auto-Bandwidth
  - DiffServ-Aware Traffic Engineering
  - Fast Reroute (FRR)

Cisco Prime Provisioning Traffic Engineering management computes and configures primary tunnels to meet user-specified constraints and computes FRR bypass tunnels for network element protection (node, links, or shared-risk link groups [SRLGs]), helping to ensure connectivity and bandwidth.

- MPLS-TP management:** Cisco Prime Provisioning significantly reduces the complexity and time to provision MPLS-TP-based services by discovering MPLS-TP-enabled devices as well as calculating and visually displaying the working and protected paths in the network. The design, path calculation, and the provisioning and audit of MPLS-TP tunnels are provided through a single automated process (Figure 3).

**Figure 3.** Cisco Prime Provisioning MPLS-TP Path Calculation and Provisioning



- **Asynchronous device updates:** Cisco Prime Provisioning accelerates the time to market of new services through asynchronous device updates, providing day-1 support of new or enhanced devices. The new extensible Cisco Prime Provisioning provisioning engine helps enable the rapid development and distribution of device support without the need for software upgrades.
- **Integration to operations support systems:** Cisco Prime Provisioning APIs facilitate the integration with service provider operation support systems (OSSs) such as Cisco Info Center and IBM Tivoli Netcool. These APIs, using an HTTP/HTTPS/Simple Object Access Protocol (SOAP) request/response system interface, provide a mechanism for inserting, retrieving, updating, and removing data from Cisco Prime Provisioning.
- **Multivendor provisioning:** Cisco Prime Provisioning is extensible and customizable, and can be extended for provisioning of third-party devices for the services described in this document. Cisco Advanced Services can assist in creating the required extensions and customizations.

Table 1 provides details on features and benefits in Cisco Prime Provisioning.

**Table 1.** Cisco Prime Provisioning Features and Benefits

Feature	Description	Benefit
<b>Tracking of Layer 3 and Layer 2 resources</b>	Manages resources such as Border Gateway Protocol (BGP) autonomous system, regions, customers, customer sites, access domains, service provider administrative domains, Virtual Rout Forwarding (VRF) names, IP addresses, inner and outer VLAN IDs, pseudowire virtual circuit IDs, route distinguishers, and route targets.	Automation of resource management reduces cost of manual and time-consuming tasks and helps ensure accuracy.

Feature	Description	Benefit
<b>Rapid profile-based provisioning</b>	Allows service operators to define Layer 3 and Layer 2 VPN provisioning parameters in a service policy; uploads the network-element configuration to calculate the change in configuration needed for successful service activation.	Helps control operational costs by accelerating service deployments. The use of service policies for service activation greatly reduces the service operator's tasks and required skill level. Uploading the configuration prior to applying it helps ensure that the service activation configuration will be successfully and rapidly applied and will avoid colliding with the existing configurations.
<b>Asynchronous device updates</b>	The introduction of an extensible provisioning engine for MPLS VPN management and Layer 2 VPN and Carrier Ethernet management helps enable the development and asynchronous distribution of new device support without having to upgrade the software.	Increases time to market and platform support velocity by being able to rapidly develop and distribute new device support. The Cisco Prime Provisioning engine is flexible, easier to maintain, and easier to extend.
<b>Linux and Cisco Unified Computing System™ (Cisco UCS®)/VMware support</b>	Cisco Prime Provisioning provides deployment support on Linux, VMware, and Cisco UCS.	Lowers total cost of ownership by increasing the deployment options and supporting virtualized environments.
<b>Consistent and streamlined user experience</b>	New usability improvements, including grouping of functional components, sort/filter mechanisms, and megamenus, and the adoption of the new UI standard used by all Cisco Prime service provider applications.	Improves organizational efficiencies and reduces training time by providing a consistent user experience.
<b>Deployment configuration preview</b>	Preview feature for MPLS VPN, Layer 2 VPN, Carrier Ethernet, and MPLS-TP configurations provides the ability to validate the configlets before deployment.	Increases operational visibility and decreases end-user anxiety by providing configuration preview functions.
<b>Recognition of incorrect service configuration</b>	Provides postprovisioning validation of the service design in order to determine whether the Layer 3 and Layer 2 VPNs are active and functional.	Reduces the time it takes to troubleshoot network outages due to incorrect service configuration by verifying that the commands for a service are present on the network elements and the links involved or VPN is working correctly.
<b>Non-service-affecting modification</b>	Cisco Prime Provisioning creates the minimal configuration required, accounting for the current service configuration on the device. Hence instead of delete followed by add, a modification changes the configuration only minimally, in most cases without disrupting service.	Increased customer satisfaction through zero service downtime.
<b>Investment protection for Cisco IOS® Software and line cards</b>	Cisco Prime Provisioning supports provisioning and diagnostics across a comprehensive list of platforms and Cisco IOS Software.	Reduces time to market of new services and lowers the cost of upgrading customer OSSs due to upgrades in platforms, software versions, and line cards by providing extensive support of the latest Cisco hardware and Cisco IOS Software versions.
<b>Bandwidth protection planning and activation</b>	Identifies placement of FRR backup tunnels to protect critical network elements. Installs backup tunnels to protect against link, node, or SRLG failures.	Supports strict SLAs and high availability of voice and video traffic. Provides a cost-effective alternative to lower-layer protection. Highly efficient use of bandwidth allows more traffic to be supported on the network without redundant network investment.
<b>Time-division multiplexing (TDM) and ATM services over Pseudowire Emulation Edge to Edge (PWE3)</b>	Provisions TDM services (SAtOP and CESoSPN) and ATM IMA VCC and PVP over PWE3.	Facilitates the migration from TDM/ATM services to an all IP network for mobile service providers. E1/T1 TDM and/or ATM circuits are aggregated in cell-site routers. Traffic is encapsulated into Pseudowires for passing the mobile traffic to the hub site.
<b>MPLS Traffic Engineering tunnel placement, repair, and network grooming</b>	Generates MPLS Traffic Engineering tunnel paths that meet user-specified constraints, including bandwidth, affinity, and delay, and proposes fixes to meet user-specified constraints for new tunnel demands. Global reoptimization of primary tunnel placements improves network utilization.	Facilitates efficient core network planning and cost savings. Bandwidth upgrade costs can be delayed or reduced by identifying bottleneck links and routing traffic away from them. Flow-through provisioning provides major time and cost savings and dramatically simplifies planning and managing a traffic-engineered network.
<b>Multivendor Capable</b>	Cisco Prime Provisioning is extensible and customizable, and can be used for provisioning of third-party devices for the services described in this document. Cisco Advanced Services can assist in creating the required extensions.	Reduces cost of ownership of multivendor networks. Provides end-to-end provisioning of services across mixed-vendor devices through a single GUI and NBI.
<b>Carrier-grade infrastructure for large deployments</b>	Provides the following system features: Thin web-based GUI client Role-based access control (RBAC) API: Extensible Markup Language (XML) over HTTP northbound interface Data backup and restore	RBAC provides access control to service providers that want to implement strict operational processes. Backup and restore capabilities protect data against OS crashes, file corruption, disk failures, and total machine failure.

## Product Specifications

Product specifications for Cisco Prime Provisioning can be found in the [Installation Guide](#). Details about supported device types and Cisco IOS Software versions are available in the [Compatibility Information](#).

## System Requirements

The server, client, and web browser system requirements for Cisco Prime Provisioning can be found in the [Installation Guide](#).

## About Cisco Prime

The Cisco Prime portfolio of IT and service provider management offerings empowers organizations to more effectively manage their networks and the services they deliver. Built on a service-centered foundation, the Cisco Prime portfolio of products supports integrated lifecycle management through an intuitive workflow-oriented user experience - providing A-to-Z management for evolved programmable networks (EPNs), mobility, video, and managed services.

## Services and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services 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 the network for new applications to extend network intelligence and the power of your business. For more information please visit the [Cisco Services](#) page on Cisco.com.

## Ordering Information

Cisco Prime Provisioning is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the [Cisco Ordering Homepage](#). Cisco Prime Provisioning supports a right-to-manage (RTM) license model per device. For a complete list of devices available, please contact the sales representative.

Table 2 provides ordering information on the latest release of Cisco Prime Provisioning.

**Table 2.** Ordering Information

Product Name	Part Number
Cisco Prime Provisioning 6.x(DCT Top Level Order Use - eDelivery)	R-PRIME6PROVISN-K9
Cisco Prime Provisioning 6.x(DCT Top Level Ordering Use Only)	PRIME6PROVISN-K9
Cisco Prime Provisioning 6.7 - Base Application	PROVISN-6.7-K9
Cisco Prime Provisioning 6.7 - Lab. Applicatio (No Production)	PROVISN-6.7-LAB-K9
Cisco Prime Provisioning 6.x- Traffic Engineering Manager	PROVISN-6-TEM
Cisco Prime Provisioning 6.x - <Device> Right To Manage	<DEVICE>-PROV6RTM
Cisco Prime Provisioning 6.x - Major Upg. for ISC 5.x up to 2K AL	PROVISN6UP2K-K9
Cisco Prime Provisioning 6.x - Major Upg. for ISC 5.x up to 6K AL	PROVISN6UP6K-K9
Cisco Prime Provisioning 6.x - Major Upg. for ISC 5.x up to 30K AL	PROVISN6UP30K-K9
Cisco Prime Provisioning 6.x - Major Upg. for ISC 5.x up to 50K AL	PROVISN6UP50K-K9

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## For More Information

For more information about Cisco Prime Provisioning, contact your local account representative or visit Cisco Prime Provisioning Overview at <http://www.cisco.com/go/primeprovisioning>.




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Americas Headquarters  
Cisco Systems, Inc.  
San Jose, CA

Asia Pacific Headquarters  
Cisco Systems (USA) Pte. Ltd.  
Singapore

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Cisco Systems International BV Amsterdam,  
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