

# Managing the Next-Generation Packet and Transport Network

## Introducing Cisco Prime

Service providers face many challenges introducing new services and evolving existing ones. The volume of services and the pace of innovation are accelerating, and next-generation network (NGN) service architectures are increasingly complex to operate. Today, service providers require a network management solution that provides a comprehensive approach to managing transport, packet, and legacy technologies throughout the service lifecycle. This lifecycle management approach is becoming increasingly critical for a number of reasons:

- Growing and even maintaining average revenue per user (ARPU) is becoming increasingly challenging. Competition is intense and high expectations are placed on quality of service (QoS).
- Customer churn is a major challenge, and service providers need to find new ways to grow customer loyalty and attract new customers.
- The complexity and cost of network services continue to climb with the adoption of new technologies requiring reliance on highly skilled resources for fulfillment, maintenance, and QoS. This manual approach does not scale as bandwidth requirements expand to the zettabyte era, creating challenges to deliver services on time with the expected cost and quality.
- Many service providers are burdened by siloed support organizations where functional areas do not work efficiently together to deliver network services. This results in higher operating expenses (OpEx) and lower service levels.

**“80% of our revenue comes from services that did not exist ten years ago”**

— CTO, Worldwide Service Provider, October 2010

Competition is fierce in the service provider market. For example, “over-the-top” providers, such as Hulu, Netflix, Google, and Pinger, are providing services based on new economic models that drive massive end-user adoption and brand loyalty. Not only are these services taking wallet share by providing alternates to fee-based services, they are delivered on top of the infrastructure service providers have invested in over time. These players are able to use the capital expenditures (CapEx) and OpEx of the service providers to fund their businesses without the related network costs.

## Introducing the Cisco Prime Portfolio

The Cisco Prime™ portfolio of enterprise and service provider management offerings supports integrated lifecycle management of Cisco® architectures and technologies based on a business-centered framework. Built on an intuitive workflow-oriented user experience, Cisco Prime products dramatically increase IT productivity, network scalability, and control of the network services, infrastructure, and endpoints.

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The Cisco Prime portfolio helps to automate the management of network services, decreasing costs and increasing efficiencies. With Cisco Prime products, service providers gain the following benefits:

- **Accelerate service deployment:** Significantly reduce the time required to get new equipment and services into operation through automated fulfillment.
- **Lower CapEx:** Maximize the value of the existing investment in network infrastructure through intelligent management.
- **Reduce OpEx:** Lessen the reliance on expensive network management resources through automation for fulfillment, inventory, and assurance.
- **Deliver improved QoS:** Eliminate outages and service degradation caused by operational errors and massively reduce the impact of system failures through rapid fault isolation and repair.
- **Improve operational efficiencies:** A consistent definition of network services helps enable cross-function collaboration.

### Cisco Prime for Next Generation Packet and Transport Networks

Cisco Prime for IP NGN is the first suite in the Cisco Prime family. Cisco Prime for IP NGN provides an end-to-end solution for managing next-generation packet and transport networks with capabilities that include:

- **Automatic discovery:** Easily find and map IP network devices from Cisco and other infrastructure providers. This includes infrastructure from the access layer through aggregation to the core. Additionally, Cisco Prime for IP NGN includes support for advanced Cisco technology including the CRS-3 Carrier Routing System, next-generation cell-site Mobile Wireless Router (MWR), next-generation Crossponder, Aggregation Services Routers, ASR9K and ASR5K, and more.
- **Intelligent fulfillment:** A-Z provisioning of services including Layer 2 and Layer 3 VPNs and Multiprotocol Label Switching Transport Profile (MPLS-TP) tunnels is completely automated through a point-and-click interface that allows operators to utilize valid paths through the integration of real-time inventory and resource management.
- **Automated diagnostic workflows:** Analyze and validate router configuration and service provisioning.
- **Comprehensive configuration management:** Automate the validation of changes to network elements and restore configurations to the desired state.
- **Automated service assurance:** Detection and isolation of network faults powered by diagnostic workflows run against routers and services to isolate the specific point of failure.
- **Network visibility:** Easily view Layer 1 optical networks including detailed device-specific attributes and alarms, to time-division multiplexing (TDM)/dense wavelength division multiplexing (DWDM) circuit information.

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## What Cisco Prime for IP NGN Includes

- Cisco Prime Fulfillment (formerly Cisco IP Solution Center [ISC]): Providing automated resource management and rapid, profile-based provisioning capabilities for MPLS and Carrier Ethernet technologies. Includes a powerful diagnostic engine for service validation and troubleshooting.
- Cisco Prime Network (formerly Cisco Active Network Abstraction [ANA]): Packet/IP domain manager with class-leading device and virtual connectivity discovery and assurance for access, aggregation, edge and core networks.
- Cisco Prime Optical (formerly Cisco Transport Manager): Delivering best in class assurance and fulfillment for the optical network domain.

## Why Cisco?

Cisco offers industry-leading solutions for packet and transport network design, fulfillment, assurance, and analysis. The Cisco Prime suite will extend the capabilities of these existing offerings, helping customers drive down costs and drive up efficiencies. Existing customers with current maintenance will be able to upgrade to the Cisco Prime applications as they become available. This means that customers can be confident that their investment is protected.

## More Information

For more information on Cisco Prime products for next-generation packet and transport networks, email [ask-prime-sp@cisco.com](mailto:ask-prime-sp@cisco.com).



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