

Cisco Prime Home 6.3 Technical Data Sheet

The proliferation of Internet-connected devices and the explosion of video and data traffic are driving complexity in the home network. Increasing numbers of new devices need to be installed and provisioned, and multiple devices running multiple applications often create resource contention within the home. These factors trigger expensive support calls and truck rolls for the service provider, and automating and simplifying management of customer premises equipment (CPE) in home networks has become mission-critical.

Product Overview

Cisco Prime™ Home is a cloud-based network management platform based on the Broadband Forum's TR-069 protocol for provisioning and managing in-home devices. The solution discovers detailed information about all connected devices in the home and provides visibility for service providers through an easy-to-use web portal.

Features and Capabilities

Cisco Prime Home provides visibility into the home network, reduces operational costs, and improves the subscriber experience. A variety of powerful customer support tools combine to make the home network easier to set up and support.

- **Automated, remote multidevice management:** The TR-069-compliant autoconfiguration server provides deep operational visibility into a variety of devices in the home and the network behind them. This includes gateways, set-top boxes, and other CPE. Management capabilities are available on both a single- and multiple-device basis and include zero-touch provisioning, remote configuration and configuration updates, software (including firmware) upgrades, monitoring, real-time problem diagnosis, and troubleshooting of common home networking problems such as Wi-Fi, firewall, and basic broadband connectivity of devices in the home. Bulk operations allow providers to easily group subscribers and devices for bulk upgrades and service enablement. And by helping to automate the mass management of home devices, service providers can lower the cost of deploying and maintaining large numbers of subscriber devices.
- **Actionable information:** Cisco Prime Home discovers detailed information about the devices in the home such as online/offline status, wireless signal strength, and device manufacturer. The solution abstracts this information into the cloud and extracts the relevant parameters in real time. It then presents the information to the service provider through an easy-to-use web portal in such a way that the customer service representative (CSR) is able to effectively and rapidly resolve the problem. This, in turn, reduces support calls and truck rolls, lowering operating expenses.
- **Highly usable, modular, and customizable human interface:** The wide range of Cisco Prime Home management tools is provided in the form of portlets that are easily added to the web portal, creating a modular and customizable user interface. Cisco Prime Home also supports a structured problem-solving approach that guides the customer care representatives through predefined processes.

- **Configurable threshold-based alerts and workflows:** Cisco Prime Home supports creating and scheduling procedures (workflows) in real time as well as UI notifications based on device changes and activities.
- **Report builder:** Cisco Prime Home Reports supports better business decisions by providing greater visibility into home network usage and activity, home network characteristics, and service utilization. The solution allows creation of professional reports and charts for a wide array of subscriber and device information.

Table 1 lists additional detailed features and benefits of Cisco Prime Home.

Table 1. Features and Benefits

Feature	Description and Benefit						
Management Protocol and Device Support							
TR-069 device management	<p>Until recently, service providers have had limited visibility into the home network behind the typical gateway or modem. Cisco Prime Home provides deep operational visibility into a wide variety of devices in the home and the network behind them using TR-069.</p> <p>All devices managed with TR-069 have a well-defined data model associated with them. The data model is the set of common management objects for a given CPE device type that are remotely accessible by Cisco Prime Home for provisioning, device management, and service delivery. These include:</p> <table border="0"> <tr> <td>Residential gateways</td> <td>TR-098 and TR-181i2</td> </tr> <tr> <td>IP phones</td> <td>TR-104</td> </tr> <tr> <td>Set-top boxes</td> <td>TR-135</td> </tr> </table> <p>Cisco Prime Home also supports important management frameworks such as those defined in TR-111.</p>	Residential gateways	TR-098 and TR-181i2	IP phones	TR-104	Set-top boxes	TR-135
Residential gateways	TR-098 and TR-181i2						
IP phones	TR-104						
Set-top boxes	TR-135						
IPv6 support	The solution supports IPv6-compliant devices.						
Remote Management and Platform Tools							
Zero-touch provisioning	Cisco Prime Home provides remote automated provisioning of complex CPE, reducing the rate of costly truck rolls and support calls.						
Consumer device discovery	Cisco Prime Home discovers detailed information about the devices in the home such as online/offline status, wireless signal strength, and device manufacturer.						
Real-time problem diagnosis and troubleshooting of common home networking problems	Cisco Prime Home helps simplify diagnosis and resolution of common home networking problems such as Wi-Fi, firewall, and basic broadband connectivity of devices in the home.						
Restoration of device configuration Restore (Return materials authorization [RMA] support tools)	<p>CPE configuration is stored in the cloud, allowing for automatic restoration of home network settings if the device is factory defaulted or is replaced.</p> <p>The CSR can back up specific configuration settings of Cisco Prime Home and store them in the database. At any time, the CSR can choose to restore the configuration settings from any of the saved backups. This may be useful during customer calls reporting certain issues that can best be fixed by rolling back to a "safer" version. Cisco Prime Home itself also carries out routine backups after various trigger events.</p> <p>The CSR can also "clone" configuration settings from one device to another by taking a backup and putting it onto another device. This may be useful for new device configuration and assisting in device replacement processes (RMA).</p>						
CPE software upgrades	Cisco Prime Home allows easy updating of software, including firmware upgrades and downgrades.						
Bandwidth monitoring	<p>Cisco Prime Home measures bandwidth used for the whole home as well as for each individual device inside the home, which is useful to:</p> <ul style="list-style-type: none"> • Diagnose speed contention (for example, personal computer versus Xbox versus webcam) • Identify which applications account for the most bandwidth use, for example web browsing versus gaming 						
Captive portal	Automatic browser redirection for LAN devices is useful for troubleshooting, service alerts for late bill payers, marketing messaging, and more.						
Workflow engine	Cisco Prime Home allows the service provider to build event-driven management policies, resulting in customized device interactions for a variety of scenarios such as initial contact, reboot, or as a standard maintenance procedure.						
Multidevice management with bulk operations	Cisco Prime Home manages both at the individual device and multidevice level, greatly saving administrative overhead time and expense. For bulk operations, labeling provides easy grouping of devices and subscribers, a scheduling mechanism simplifies user activities, and status reports allow easy progress tracking.						

Feature	Description and Benefit
Auditing	Audit tools help enable the administrator or customer service representative to view a history of changes related to a device or subscriber, including who initiated the changes and specifically what was changed. This is useful for accountability tracking and for identification of problems caused by user error.
Speed test	The connection speed functionality enables testing of connectivity speed directly from the customer's gateway while optionally disabling all in-home broadband traffic. This may be achieved either by stopping all the LAN activity and performing a direct speed test from the gateway to the service provider's server, or by performing the test while LAN activity is still enabled.
Alerts tool	Cisco Prime Home proactively alerts the CSR to current or possible CPE malfunctions. For example, high noise level, frequent WAN disconnects, abnormal wireless access attempts, video on demand (VoD) malfunctions, and more, are picked up by Cisco Prime Home - which in turn displays alerts to the CSR, who can then take action to minimize potential impact to subscribers.
Cross device analysis tool	This tool constantly searches for common CPE and network faults. It periodically checks if a group of CPE meets predefined fault criteria, and if so, a cross-device alert is issued. Such common faults include CPE stability, low signal-to-noise ratio, network radio frequency (RF) quality, VoD service interruptions, and more. Using the Cisco Prime Home northbound interface (NBI), the service provider's customer relationship management (CRM) system can define CPE groups. CPE can be grouped by location, software or hardware version, network topology, and more. When a cross-device alert is issued, Cisco Prime Home is able to notify the service provider's BSS/OSS. Network and operation personnel can view the faults on their native systems. Cisco Prime Home also displays the cross-device alerts on the user interface, allowing the CSR to pinpoint the root cause of failures quickly, regardless of the symptoms reported by the customer.
Bulk operations application	Cisco Prime Home enables the service provider's operations team to: <ul style="list-style-type: none"> • Maintain CPE groups • Manage devices • Manage tags • Schedule batch operations
Managed Wi-Fi Features	
Activation	Cisco Prime Home can help enable Wi-Fi service globally and on an individual subscriber basis. Default security can be configured to match client setup instructions.
Configuration	Wi-Fi settings can be configured remotely in the CSR portal once enabled in Cisco Prime Home. Users can disable the wireless, customize the channel, service set identifier (SSID), and security type and can set up a multiple SSID or dual-band network. The CSR portal replaces the complex local user interface with simple configuration tools.
Wi-Fi signal monitoring	Wi-Fi signal monitoring shows signal strength for each Wi-Fi device in the home network (based on received signal strength from the access point), which is useful for diagnosing "slow connect" issues in the home. The Wireless Saturation portlet provides a wireless signal bar chart for supported devices only. This bar chart provides a visual display of the channels and their saturation level, thereby allowing the CSR to choose another more suitable channel if the threshold has been crossed.
Mobile offload and guest Wi-Fi support	Cisco Prime Home addresses the growing trend of mobile offload to Wi-Fi through improved Wi-Fi performance diagnostics and troubleshooting tools for tablets and smartphones. The solution can also help enable and manage multiple secure networks over a single Wi-Fi gateway, making it easier for service providers to offer "guest Wi-Fi" applications in a scalable, managed way.
Multiband Wi-Fi	Cisco Prime Home supports multiband Wi-Fi devices and allows configuration of multiple SSIDs across different radios.
Managed Firewall	
Port forwarding configuration	Cisco Prime Home helps enables popular multiplayer games, media devices, remote access, and messaging applications to work seamlessly through pull-down menus. Custom-defined port forwarding configurations for advanced users are also available.
Cisco Prime Home Reports	
Intuitive report generation tool	Cisco Prime Home Reports provides a way for service providers to aggregate, view, and export subscriber and device data. The application collects data from any TR-069 device and uses the Cisco Prime Home platform to add more visibility into the broadband subscriber base. Cisco Prime Home Reports includes built-in predefined reports and allows custom report creation. The application also includes drag-and-drop report fields and output columns for ease of use.
Customer Support Portal	
CSR portal	The CSR portal provides a complete diagnostic view of the devices inside the home, helping to enable CSRs to access device information in real time and to discover and diagnose major problems as soon as they occur. Dashboard data is available at all levels - for one specific device or a population of millions of units. User roles, permissions, and views are fully customizable by the administrator.

Feature	Description and Benefit
Portlet framework and user roles	<p>The portal is a dynamic framework of portlets, which are functional elements with a graphical representation. The Cisco Prime Home administrator can build a portal from different portlets, creating different user roles for different types of users. This way, an entire tier-based support system can be set up with different CSR levels, each having permissions according to its role.</p> <p>This role mechanism:</p> <ul style="list-style-type: none"> • Provides different user types with a set of portlets and associated capabilities; for example: read/write capabilities • Defines the layout and look and feel of the application • Defines the portal customization capabilities. For example: whether the user can move portlets from one location to another, open new pages in the portal, and so on • Modular GUI capabilities - according to the user role authorization definition
Integration with Service Provider Systems and Broad Technology Support	
Broad support across network technologies	Cisco Prime Home may be deployed in a variety of service provider networks, including DSL, cable, FTTH, Ethernet, WiMax, and satellite.
Flexible northbound interface for system integrations	Cisco Prime Home can be easily and securely integrated into a service provider's existing operations support systems and business support systems (OSSs/BSSs) through its NBI using flexible and lightweight web-based APIs (RESTful Services). This allows service providers to use existing investments and seamlessly connect Cisco Prime Home to the network infrastructure.
Deployment Options and Usage-Based Billing	
Onsite installation	Cisco Prime Home is installed in the service provider's network by Cisco® Services. The service provider provides hardware based on recommended sizing and anticipated deployment requirements.
Hosted solution	Cisco Prime Home service is hosted by Cisco whereby no server hardware is required from the service provider.
Usage-based billing model	For hosted deployments, Cisco Prime Home is priced per managed device under an annual contract. Invoicing is based upon actual usage, precluding true-ups, renewals, prorating and set-up fees.

System Requirements

Table 2 lists system requirements for the Cisco Prime Home management server. Table 3 lists system requirements for the Cisco Prime Home database server.

Table 2. System Requirements for Cisco Prime Home Management Server^{*}

Operating system	Red Hat Enterprise Linux 6.5 or later
Memory (RAM)	32 GB
CPU	6 or 8 core processor (RAM-dependent)
Storage	300 GB (fiber or fast disk), 10,000 RPM

Table 3. System Requirements for Cisco Prime Home Database Server^{*}

Operating system	Red Hat Enterprise Linux 6.5 or later
Memory (RAM)	48 GB (64 GB preferred)
CPU	6 or 8 core processor
Storage	140 GB (fiber or fast disk), 10,000 RPM
External storage	500+ GB

^{*} Applies to on-site deployments only, per 500,000 managed devices.

Ordering Information

To place an order, visit the [Cisco Ordering Homepage](#). To download software, visit the [Cisco Software Center](#).

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, Cisco Prime supports integrated lifecycle management through an intuitive workflow-oriented user experience, providing A-to-Z management for evolved programmable networks, mobility, video, cloud, and managed services.

Service and Support

Using the Cisco lifecycle services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

For More Information

For more information about Cisco Prime Home, visit <http://www.cisco.com/go/prime-home>, contact your local account representative, or send an email to ask-prime-home@cisco.com.



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