Data Sheet

Cisco Prime Infrastructure 1.4

Accelerate business and network transformation with unified lifecycle management and application visibility.

Overview

Business and network transformation brings new challenges to traditional IT network management. The proliferation of mobile devices and pervasive voice and video collaboration, along with cloud and data center virtualization, is driving the need for higher levels of service and improved quality of experience across the network infrastructure. These new services and applications require network managers to have improved visibility to quickly and proactively troubleshoot and resolve problems before they affect services and end-user experience.

About Cisco Prime

Cisco Prime for IT is an innovative strategy and portfolio of management products that empower IT departments to more effectively manage their network and the services they deliver.

The Cisco Prime for IT strategy is built on a network services management foundation and a set of common attributes. It delivers an intuitive workflow-oriented user experience across Cisco® architectures, technologies, and networks. The Cisco Prime for IT portfolio of products simplifies network management, improves operations efficiency, reduces errors, and makes the delivery of network services more predictable.

Cisco Prime™ Infrastructure addresses these challenges by providing a single integrated solution for comprehensive lifecycle management of the wired/wireless access, campus, and branch networks, and rich visibility into end-user connectivity and application performance assurance issues.

Cisco Prime Infrastructure accelerates the rollout of new services and provides secure access and management of mobile devices, making "Bring Your Own Device" (BYOD) a reality for corporate IT. Tightly coupling client awareness with application performance visibility and network control, Cisco Prime Infrastructure helps ensure uncompromised end-user quality of experience. Deep integration with the Cisco Identity Services Engine (ISE) further extends this visibility across security and policy-related problems, presenting a complete view of client access issues with a clear path to solving them.

Converged Simplified Lifecycle Management

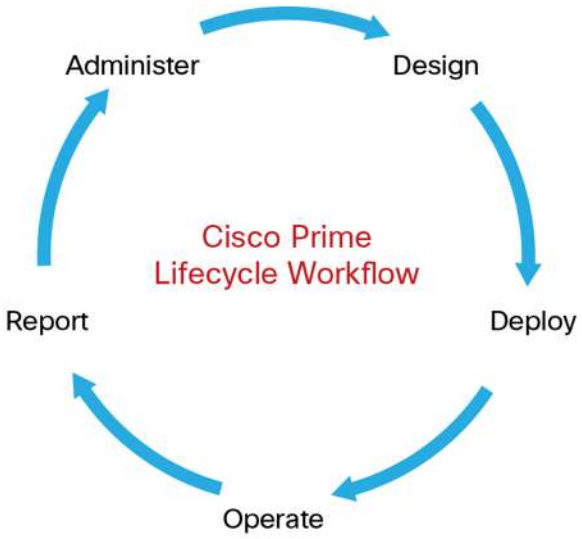
Combining the wireless functionality of Cisco Prime Network Control System (NCS) with the wired functionality of Cisco Prime LAN Management Solution (LMS),[*] Cisco Prime Infrastructure simplifies and automates many of the day-to-day tasks associated with maintaining and managing the end-to-end network infrastructure from a single pane of glass. The new converged solution delivers all of the existing wireless capabilities for RF management, user access visibility, reporting, and troubleshooting along with wired lifecycle functions such as discovery, inventory, configuration and image management, automated deployment, compliance reporting, integrated best practices, and reporting.

[*] A subset of LMS features is available in this release; for more information please refer to the LMS migration guide, Transitioning from Cisco Prime LMS to Cisco Prime Infrastructure.

A new operational model based on lifecycle processes (Figure 1) aligns the product functionality with the way network operators do their jobs:

- **Design:** Assess, plan, and create configurations required to roll out new network services and technologies. Create templates used for monitoring key network resources, devices, and attributes. Default templates and best practice designs are provided for quick out-of-the-box implementation automating the work required to use Cisco validated designs and best practices.
- **Deploy:** Schedule the rollout and implementation of network changes. Changes may include published templates created in the design phase, software image updates, and support for user-initiated ad hoc changes and compliance updates. This accelerates service rollout, minimizes chances for errors, and is highly scalable.
- **Operate:** Predefined dashboards provide up-to-date status monitoring on the overall health of the network. Simple one-click workflows and 360-degree device views enhance troubleshooting and reduce the time to resolve network issues. Unified alarm displays with detailed forensics provide actionable information and the ability to automatically open service requests with the Cisco Technical Assistance Center (TAC).
- **Report:** Provides a wide variety of predefined reports for up-to-date information on the network including detailed inventory, configuration, compliance, audit, capacity, end-of-sale, security vulnerabilities, and many more.
- **Administer:** Provides an easy-to-use set of workflows that help to maintain the health of the application and keep devices, users, and the software up to date, allowing the IT staff to focus on other important activities.

Figure 1. Operational Lifecycle Workflow



Improve Application Delivery and End-User Experience

By converging lifecycle management and assurance, Cisco Prime Infrastructure empowers network managers to more effectively manage their network as well as the services their network delivers. Bringing device management capabilities into operational monitoring workflows provides a holistic, multidimensional view of the user, application, and network. This powerful combination of application awareness and network savvy helps network

managers realize operational efficiencies that include improved responsiveness to business needs, faster problem identification and remediation, and lower incident and problem rates.

Cisco Prime Infrastructure enables embedded Cisco instrumentation and industry-standard technologies, such as NetFlow, Network Based Application Recognition (NBAR), Medianet, Performance Agent, and Simple Network Management Protocol (SNMP), to deliver networkwide application-aware visibility. It provides operations monitoring and quality of experience workflows that reduce instrumentation configuration and data collection complexity so network managers can quickly and easily gain insight into network and application performance. It also integrates with Cisco Prime Network Analysis Module (NAM) to permit the collection and correlation of granular flow- and packet-based data from one NAM or many, helping to enable deeper analysis and troubleshooting to rapidly solve challenging application and network problems.

Reduce Operational Expenses

Cisco Prime Infrastructure's scalable single-pane-of-glass solution significantly reduces operational costs by reducing the number of required management solutions. Cisco Prime Infrastructure scales to manage thousands of routers and switches and hundreds of Cisco wireless controllers, which in turn can manage up to 15,000 Cisco Aironet® access points (APs). Ongoing support of new Cisco devices and software releases helps ensure device support parity within each device family and is provided through the Incremental Device Updates (IDUs). This eliminates gaps in your management operations, especially when it comes to service availability and troubleshooting.

Cisco Prime Infrastructure offers both physical appliance and virtual appliance options for deployment flexibility without sacrificing scalability, ease of installation and setup, or serviceability and sustainability.

Features and Benefit Summary

Table 1 provides a summary of the features and benefits of Cisco Prime Infrastructure.

Table 1. Summary of Cisco Prime Infrastructure 1.4 Features and Benefits

Feature	Benefits
Global Platform	
Operational efficiency	• Streamlined workflows facilitate design, deployment, and operational lifecycle tasks that align with user roles. • Contextual dashboards and 360-degree views display only the most relevant information for fast and efficient troubleshooting. • Flexible user experience accommodates novice and experienced IT administrators, reducing the investment in multiple tools. • The Cisco Prime Infrastructure Toolbar client widget provides real-time at-a-glance updates of network status from your browser or Microsoft Outlook clients. • Cisco Prime Infrastructure Mobile application for Apple iOS devices helps enable fingertip access to view, troubleshoot, and resolve network issues anywhere and anytime.
Integrated Cisco best practices	• Integration with Cisco knowledge base helps to ensure optimal service and support, product updates, best practices, and reports to improve network availability. • Ongoing support of new Cisco devices and software releases to help ensure device support parity within each device family are provided through the IDUs. • Smart interactions streamline service request creation, reducing the time required to fix problems.
Improved operations	• Flexible virtual machine and physical appliance solutions provide cost-effective, easy-to-install options for small to global enterprise-class networks. • Built-in high availability (HA) maximizes uptime for services delivery and improves operational efficiency.
Administration	• Role-based access control provides flexibility to segment the network into one or more virtual domains controlled by a single Cisco Prime Infrastructure platform. Virtual domains help deploy both large, multisite networks and managed services. • Flexible authentication, authorization, and accounting (AAA) allow for local, RADIUS, TACACS+, or single sign-on options.

Feature	Benefits
Lifecycle	
Converged management	• Single-pane-of-glass solution for complete end-to-end infrastructure management, reducing the need for multiple tools and lowering operating expenses and training costs.
Complete lifecycle management	• Extensive discovery protocol support helps improve accuracy and completeness, including ping, Cisco Discovery Protocol, Link Layer Discovery Protocol (LLDP), Address Resolution Protocol (ARP), Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and route table lookups. • Flexible grouping and site profiles help to manage large networks by associating network elements to user definable groups or to a hierarchical campus, building, and floor model. • Device Work Center simplifies access to the tools and features necessary to easily manage the network inventory, including discovery, manual and bulk import, and software image management. • Customizable predefined Cisco best practices and validated design configuration templates help enable quick and easy device and service deployment. • Composite templates allow greater flexibility and packaging of individual templates into larger, reusable, purpose-built configurations for more consistent and quicker network designs. • Automated deployment workflows provide plug-and-play functionality to simplify the rollout of new devices and sites, accelerating service availability. • Centralized monitoring of branch, campus, and WLAN access networks helps maintain robust performance and an optimal access connectivity experience. • Integration with Cisco ISE and Cisco Secure Access Control Server (ACS) View provides a simple way to collect and analyze additional data relevant to endpoints. • Integrated workflows and tools help IT administrators quickly assess service disruptions, receive notices about performance degradation, research resolutions, and take action to remedy nonoptimal situations.
Assurance	
Network-based end-user experience monitoring	• Detailed analytics dashboards to monitor end-user experience of business-critical applications and their key performance indicators (KPIs). • Site-based tracking of user endpoints. • Time-based filtering of data lets users narrow the issue down to a particular timeframe or to look at related network/application events given a timeframe in which the problem was observed.
Flexible NetFlow Version 9 support and advanced troubleshooting	• Flexible NetFlow templates and raw records collection. • Standard NetFlow support with the ability to update/add new fields based on heuristics. • Trigger packet captures on multiple NAMs based on common software filters. • Access to packet, flow, and MIB data for detailed real-time and offline analysis.
Configuration/monitoring templates	• Predefined collection plans are provided to collect application response time, traffic analysis, and Real-time Transport Protocol (RTP) metrics, reducing the complexity in setting up data sources and KPI collection. • Threshold templates are provided to monitor key indicators and alert the operator/engineer of any anomalies.
Dedicated dashboard for voice, video monitoring, and analysis	• Analysis of voice, video, and RTP traffic in general is available at branch or individual user level. • Multiple data sources are provided for voice video analysis, including Network Analysis Module and Medianet. • Monitoring of RTP conversations is available at the branch and client levels.
Wireless	
Support for Wireless LAN Controller (WLC) Release 7.3	• Support for new hardware and software features introduced in WLC Release 7.3 is provided. This includes WLC 8500 controller, virtual WLC platforms, AP 2600, AP 1550 with EPON interface, HA with subsecond failover, Proxy Mobile IPv6, and other features.
Next-generation maps	• New maps engine supports high-resolution images with much improved pan and zoom controls. Search within maps is also supported. The new maps combined with search offer a faster and smoother navigation experience with quicker access to information.
Automatic hierarchy creation	• Automatically create maps and assign access points to maps using regular expressions. This feature automates the tedious work of creating campus, building, and floor hierarchies and assigning access points to the floor.
Automatic switch port tracing	• Ability to automatically identify the Cisco switch and port information for a rogue access point connected to the Cisco switch, which allows quickly identifying and mitigating the threat posed by a rogue access point.
Third-party support	• Ability to discover and monitor third-party (non-Cisco) switches that support RFC 1213 and wireless controllers/access points from Aruba Networks.
Branch and WAN	
Configuration management	• Feature configuration templates are provided for dynamic multipoint VPN (DMVPN), Group Encrypted Transport VPN (GETVPN), access control lists (ACLs), and ScanSafe. • Device-level support is provided for DMVPN, GETVPN, ACLs, Enhanced Interior Gateway Protocol (EIGRP), Routing Information Protocol (RIP), OSPF, static routes, Ethernet interfaces, Network Address Translation (NAT), and Zone-Based Firewall.

New Features and Enhancements

The following topics describe new features and enhancements in Cisco Prime Infrastructure 1.4.

Management Support for WLC Release 7.5

Cisco Prime Infrastructure 1.4 provides management support for WLC Release 7.5 and associated features. In addition, this release provides support for AP platforms such as the 3600P and the 802.11ac module.

Support for 802.11ac Module

This release provides management support for the 802.11ac module - a field-upgradable add-on module to the AP 3600. The 802.11ac module for the 3600e or 3600 AP allows customers to deploy the 802.11ac module in an enterprise using their existing AP 3600. AP 3600 maintains dual-band support at 2.4 and 5 GHz, supporting b/g/n modules on 2.4 GHz and a/ac/n modules on 5 GHz. Cisco Prime Infrastructure 1.4 provides support for configuration and monitoring of the main radio and the module radio, including support for additional configuration such as channel width, DCA, and MCS.

Support for Cisco AP 700

This release supports the Cisco Aironet 700 Series Access Point. This is an affordable compact dual-radio access point for value-minded customers looking to modernize their networks to handle today's increasingly complex wireless access demands.

Policy Classification Engine

The controller can do profiling of devices based on protocols such as HTTP, Dynamic Host Configuration Protocol (DHCP), and so on to identify the clients. You can configure device-based policies and enforce per user or per device policies on the network. The controller also displays statistics that are based on per user or per device endpoints and policies that are applicable to a device.

Detect Dead Radios

In this release, the report feature is enhanced in such a way that you can choose the Dead Radios option for inventory reports to show access points that are not operational, that is, access points whose Admin status is Up and operational status is Down.

FlexConnect Audit Support

In the FlexConnect deployment mode, APs can survive a controller outage by going into a standalone mode. This is different from the centralized mode in which many configuration items are stored at the AP. For example, if you are performing a routine configuration audit for all the stores that were recently upgraded to the FlexConnect architecture, you need to make sure that all of the APs at the store have received the correct FlexConnect group and that they are mapped to the correct VLAN. You should also ensure that all WLANs active in the store are using the correct security profile.

We recommend that you use WLAN in enabled state to avoid audit mismatches at WLAN-VLAN mappings at the FlexConnect AP.

Autonomous AP Support

Image upgrade is supported for Autonomous AP in Cisco Prime Infrastructure 1.4 and the following new Autonomous AP platforms are supported in Cisco Prime Infrastructure 1.4:

- AP 2600 - AP3G2 Image Family and Image Version 15.2.2-JA(ED)
- AP 3500 - AP3G1 Image Family and Image Version 12.4.25d-JA2(ED)
- AP 3600 - AP3G2 Image Family and Image Version 15.2.2-JA(ED)
- AP 1600 - AP1G2 Image Family and Image Version 15.2.2-JB(ED)

Client Stateful Switchover

In wireless client stateful switchover (SSO), the client state is also maintained on the active and standby WLCs, and the wireless clients are not deauthenticated after switchover.

Cable Modem Monitoring

The cable modem termination system (CMTS) is a Cisco Universal Broadband Router (uBR) that enables communication with a Hybrid Fiber Coaxial (HFC) Cable network through a Cisco MCxx cable modem card. Cisco MCxx cable modem cards allow you to connect cable modems on the HFC network to a Cisco uBR7200, uBR7100, or uBR10k in a Community Antenna Television (CATV) headend facility. The modem card provides the interface between the Cisco uBR protocol control information (PCI) bus and the RF signal on the DOCSIS® HFC network. While service providers continue to use CMTS to manage the cable modem, they can monitor key cable modem health parameters using Cisco Prime Infrastructure.

Support for Secure File Transfer Protocol

This release enables you to use the Cisco Prime Infrastructure server as a Secure File Transfer Protocol (SFTP) server for which you need to create an SFTP user. You can add an SFTP server as an external server in Cisco Prime Infrastructure. Also, you can use File Transfer Protocol (FTP), Trivial File Transfer Protocol (TFTP), and SFTP while uploading and downloading files to and from Cisco Prime Infrastructure.

Product Specifications

Server Requirements

The recommended deployments for a virtual appliance are VMware ESX and ESXi. Table 2 provides product specifications for different sizes of the virtual appliance.

Table 2. Product Specifications for Cisco Prime Infrastructure 1.4

Item	Specification					
Virtual Appliance Resource Requirements	**Virtual Appliance Size**	**VMware ESX/ESXi**	**Virtual CPU**	**Memory (DRAM)**	**Hard Disk Drive Size**	**Throughput (Disk I/O)**
	Small	Version 4.1 or 5.0	4	8 GB	200 GB	200 MBps
	Medium	Version 4.1 or 5.0	4	12 GB	300 GB	200 MBps
	Large	Version 5.0	16	16 GB	400 GB	200 MBps
	Extra Large	Version 5.0	16	24 GB	1200 GB	200 MBps
Physical Appliance	**Cisco Prime Appliance**	Not Applicable	16	16 GB	900 GB (After RAID5)	200 MBps

Item	Specification		
Minimum Client Requirements	**Client hardware:** A Mac or Windows laptop or desktop compatible with one of the supported browsers and a processor running at least 4 GB RAM or more **Browser:** Internet Explorer 8.0 or 9.0 or later with Google Chrome plug-in (plug-in not needed by Lobby Ambassador users), Mozilla Firefox 13 or later and Firefox ESR 10.x (ESR 17 is recommended), Mozilla Firefox 22 or later, Google Chrome 19.0 or later **Resolution:** Screen display resolution is recommended to be set to 1280 x 800 or higher		
Minimum Client Requirements	**Supported Browser**	**Browser Version**	**Additional Note**
	Internet Explorer	8.0 or 9.0	Chrome plug-in is strongly recommended.
	Firefox	13 or later	Latest Firefox version may be used, but it's not tested.
	Firefox ESR	ESR 10.x	ESR is the more stable version with less frequent updates.
	Google Chrome	19.0 or later	Latest Chrome may be used, but it's not tested.

TIP: It is strongly recommended to use a client with at least 4 GB or more. Adding more memory will definitely enhance the end-user experience.

Server Sizing Matrix

The information in Table 3 should help users to pick the correct Open Virtualization Archive (OVA) size image for the Cisco Prime Infrastructure Virtual Appliance.

Table 3. Supported Scale for Small, Medium, Large, and Extra-Large Configurations

Parameter		Small	Medium	Large	Extra Large
Devices	* Max Wired Devices	100	300	6,000	13,000
	* Max Controllers	2	5	500	1,000
	* Max Autonomous APs	100	300	3,000	3,000
	* Max Unified APs	100	300	5,000	15,000
	* Max NAMs	0	0	500	1,000
	Total Max Devices	250	500	10,000	18,000
Clients	Max Wired Clients	1000	6,000	50,000	50,000
	Max Wireless Clients	1000	4,000	75,000	200,000
	Max Roaming Clients	250	1,000	25,000	40,000
Monitoring	Max Events (events/sec)	100/sec	100/sec	300/sec	1000/sec
	Max NetFlow Rate (flows/sec)	0	0	16,000	80,000

Sizing Notes:

* NetFlow is supported only on the Large and Extra-Large OVAs in Cisco Prime Infrastructure 1.x; sizing numbers are based on internal testing.

An Integrated Solution

Cisco Prime Infrastructure is now a single installable software package[**] with tiered licensing options to expand and grow functionality and coverage as needed. Simply install the base software license and one or more of the following feature set options:

- Lifecycle management: Simplifies the day-to-day operational tasks associated with managing the network infrastructure for all Cisco devices, including routers, switches, access points, and more.
- Assurance management: Delivers application-level visibility through the normalization and correlation of rich performance instrumentation data to help ensure application delivery and an optimal end-user experience.
- Automated Deployment Gateway: This optional feature complements the built-in automated deployment functionality available through lifecycle management. It enables remote automated deployment for large-scale environments and DMZ implementations.

Ordering and Licensing Information

Cisco Prime Infrastructure 1.4 is available for new customers and upgrade options are available for existing Cisco Prime Infrastructure, Cisco Network Control System, Cisco Wireless Control System (WCS), and LMS customers. For details refer to the Cisco Prime Infrastructure 1.4 Ordering and Licensing Guide. Information is also provided in the guide regarding obtaining an evaluation copy of Cisco Prime Infrastructure 1.4.

Technical Service Options

Cisco Prime Infrastructure software products come with the Cisco 90-day software warranty. Purchasing a Cisco Software Application Support plus Upgrades (SASU) service provides benefits not available with the warranty, including access to maintenance releases, minor and major upgrades, online resources, and Technical Assistance Center support services.

The Cisco Prime Appliance option comes with a Cisco 90-day hardware warranty. Adding a contract for a technical service offering, such as Cisco SMARTnet® Service, to your device coverage provides access to the Cisco Technical Assistance Center and can provide a variety of hardware replacement options to meet critical business needs, updates for licensed operating system software, and registered access to the extensive Cisco.com knowledge base and support tools.

For more information about Cisco warranties, visit http://www.cisco.com/go/warranty.

For information about Cisco Technical Services, visit http://www.cisco.com/go/ts.

[**] For existing Cisco Prime LMS 4.x customers, an optional LMS 4.2 image will be available; see the Cisco Prime Migration table for details on function and device support considerations.

For More Information

For more information about Cisco Prime Infrastructure, visit http://www.cisco.com/go/primeinfrastructure or send an email to ask-prime-infrastructure@cisco.com.

For more information about Cisco Identity Services Engine (ISE), visit http://www.cisco.com/go/ise.

For more information about the Cisco Unified Wireless Network, visit http://www.cisco.com/go/wireless.

For more information about the Cisco Network Analysis Module (NAM), visit http://www.cisco.com/go/nam.

For more information about the Cisco NetFlow Generation Appliance (NGA), visit http://www.cisco.com/go/nga.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

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

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Printed in USA C78-729879-01 1/14