Cisco Hosted Unified Communications Services

Cisco® Unified Communications is a comprehensive, converged IP communications system of data, voice, video, and mobility applications. It enables more effective and secure personal communications that directly affect both sales and profitability. Cisco Unified Communications is part of a broad 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 Hosted Unified Communications Services give businesses and government agencies the benefits of a converged IP communications network without them having to own, manage, or maintain a Cisco Unified Communications System.

Service providers can now take advantage of a Cisco validated design and Cisco Powered certification to host and deliver Cisco Unified Communications as a service to large and medium-sized businesses and government agencies. The Cisco Powered certification audit process and the associated validated designs help service providers differentiate their offering and add further credibility for the end-user organizations that buy from them. Cisco offers a comprehensive reference architecture to help service providers deliver Cisco Hosted Unified Communications Services within dedicated and multicustomer environments, including Cisco Unified Communications Manager (formerly known as Cisco Unified CallManager) capabilities, web-based provisioning from end to end, network management and quality-of-service (QoS) tools, billing, a multitude of cost-saving trunking options, and powerful interfaces to transition customers from older equipment to their new IP communications environments.

Besides offering the advantages of an outsourced IP communications environment, Cisco Hosted Unified Communications Services can help businesses and agencies enjoy a rich voice, video, and Web experience complete with business-ready features such as:

- Extensive IP telephony features of Cisco Unified Communications Manager
- Unified messaging
- Calendar integration
- Attendant console
- Web collaboration and conferencing
- Integration with the Cisco Unified Contact Center solution

Tried and Tested Features

Cisco Unified Communications Manager is the powerful feature server component of the Cisco Hosted Unified Communications Services architecture. It is a scalable, distributable, partitionable, and resilient IP private-branch-exchange (PBX) telephony solution. Customer needs are continually evolving, and Cisco Unified Communications Manager evolves to meet those needs with the same end-user features in a hosted environment as customers would receive with an on-premises deployment. Coupled with the Cisco Unified Communications Manager solution is the

widely deployed Cisco PGW 2200 Softswitch, which provides nimble routing capabilities between older systems, unified communications environments, and a multitude of interconnection trunking options, including Session Initiation Protocol (SIP), H.323, Media Gateway Control Protocol (MGCP), H.248, and Signaling System 7 (SS7) routing. The Cisco PGW 2200 also provides a SIP back-to-back user agent (B2BUA) for connecting revenue-generating applications, service provider-grade billing records, on-net lawful-intercept compliance, least-cost routing, and time-of-day routing to keep interconnect costs to a minimum.

Flexible Deployment Models

The Cisco Hosted Unified Communications Services architecture offers three deployment models for increased revenue generation (Figure 1).

Figure 1. Deployment Model Options
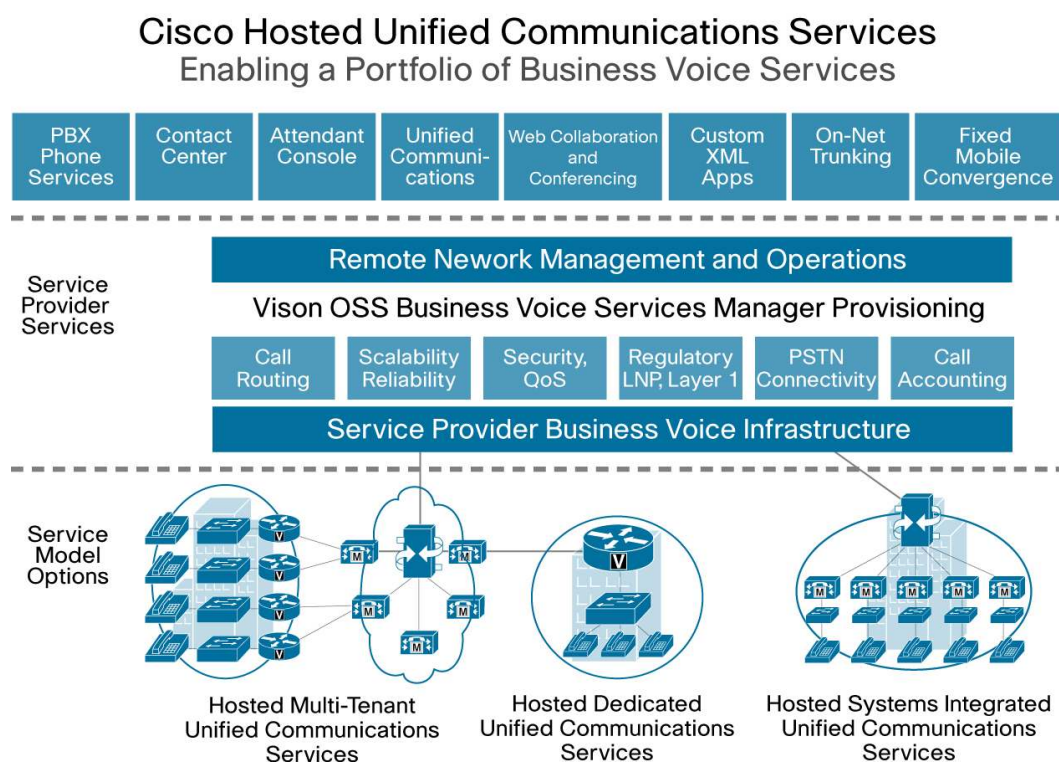
Hosted Multi-tenant Unified Communications Services

This model allows service providers to host all the equipment in their data center with virtual partitioning to support multiple tenants. Typically a router, switch, and phones are the only equipment located with the customer, with all calls traveling over a bundled broadband or WAN connection from the service provider.

Hosted Dedicated Unified Communications Service

In this model the Cisco Unified Communications Manager is dedicated to one customer only, while the rest of the call routing infrastructure is still shared with other customers. The service provider can choose to dedicate or share the other unified communications applications as the customers dictate. This model is used mainly for financial institutions or customers who have higher security requirements.

Hosted Systems Integrated Unified Communications Services

This model is for large customer businesses that prefer to own all the equipment in the solution but still wish to rely on their provider to install and manage the architecture. A systems integration team installs the Cisco Hosted Unified Communications Services architecture on site with the customer and provides the same provisioning and operations efficiency as with the other models but within a totally dedicated system.

Efficiency of Deployment and Management

The Cisco Hosted Unified Communications Services architecture addresses complex deployments by providing an end-to-end, robust, and intuitive Web-based provisioning tool. The tool comes loaded with pre-tested Cisco routing templates, dial-plan configurations, and bulk loading interfaces to facilitate faster implementation of Cisco Unified Communications and other Cisco Technology Development Program partner products. Additional value comes from a full suite of network and operations management tools to ensure delivery of the service at peak efficiency, with customer reports guaranteeing service-level agreement (SLA) adherence.

Provisioning

The Cisco Hosted Unified Communications Services architecture uses the VisionOSS® Business Voice Services Manager (BVSM) ® for systemwide provisioning. BVSM is a carrier-grade, business-layer focused, service provisioning and management (operations support system [OSS]) platform.

BVSM is specifically designed to provision the large-scale, high-availability Cisco Hosted Unified Communications Services architecture and perform the following functions:

- Automated network configuration: BVSM provides automated configuration of multiple network elements such as the Cisco PGW 2200 Softswitch, Cisco Unified Communications Manager, public-switched-telephone-network (PSTN) gateways, H.323 gatekeepers, routers, LAN switches, and application servers (for example, voicemail, attendant console, conferencing, video, collaboration, etc). BVSM also maps the overall network architecture, helping ensure that changes in configuration for one network element are automatically upgraded across all other linked elements. BVSM automates the integrated dial plans to achieve this upgrading. What would otherwise require an engineer to manually reprogram across multiple network elements BVSM updates in milliseconds.

- Automated dial-plan configuration: BVSM manages the dial-plan configuration for the entire Cisco Hosted Unified Communications Services architecture, including the ability to manage pre-tested Cisco dial-plan templates. Changes to dial plans can be added quickly and easily by simply uploading a new template, and BVSM manages the configuration of the dial plan within multiple network elements.

- Automated device provisioning: BVSM automates the critical business flow and device configuration processes required to successfully deploy and operate the Cisco Hosted Unified Communications Services architecture, including both IP and analog devices, such as IP and analog phones, softphones, video phones, analog telephone adaptors (ATAs), etc. BVSM provides a unique autodiscovery option for IP devices, such that phones can be instantly provisioned and registered with predetermined numbers and settings when they are connected to the network.

- Automated service activation: BVSM provides rapid service activation for service bundles on a customer-by-customer basis. All customers or departments want to customize their

service offering; they also typically want to distinguish service features and quality between employees and managers. BVSM provides advanced product and service customization and management tools.

- Secure, devolved administration: The BVSM provisioning system allows end users to participate in the administration of their own devices and services:
  - Web-browser GUI management interfaces, including support for end-user self-subscription to value-added products and services, help enable service providers to convert features into chargeable products.
  - The system offers secure, devolved administration of selected provisioning functions to enterprise customers and their end users, across single or multiple Cisco Unified Communications Manager clusters.
  - Customers can perform their own moves, adds, and changes through the BVSM GUI, giving them more control and immediacy of service.
- Resource inventory management: BVSM manages the resource inventory for the Cisco Unified Communications Services architecture across eight hierarchical levels. Administrators at the various levels can control their own telephony resources, such as E164 numbers, lines, phones, and features, enabling customers to manage their various sites centrally in terms of inventory. It also allows service providers to manage multiple customers on a managed platform.
- Network virtualization: BVSM facilitates virtualization of network elements, such as the Cisco Unified Communications Manager, allowing service providers to operate multiple tenants on a single distributed cluster, with each tenant operating independent of the others. Similarly, BVSM can virtualize service and application servers to allow, for example, multiple tenants to access a single voicemail server. Tenants can customize their platform and services independent of the other tenants using BVSM to control the underlying partition configuration.

Dial-Plan Testing and Validation

The Cisco Hosted Unified Communications Services architecture incorporates a series of dial-plan templates and models that are used to accelerate the deployment of customer environments. Each of these dial plans is extensively tested with various call-flow permutations to ensure they will hold up in the most demanding networks. By providing these dial-plan templates, service providers can simply plug in their customers' information into variables in the template and save months worth of custom configuration labor. Each template is customizable for the creation of package plans or formulaic deployments, further increasing the efficiency of deployment. When combined with the VisionOSS BVSM provisioning tool, these dial-plan templates are modified through simple Webpages to provide greater than a tenfold improvement in deployment times, equating to lower presales costs and higher postsales revenue.

Reliability and High Availability

Cisco is known in the industry to provide high-quality equipment for networking applications. The Cisco Hosted Unified Communications Services architecture combines more than 20 of these products to produce a solution that is greater than the sum of its parts. By applying proven redundant routing and call-flow techniques with carrier-class equipment, the Cisco Hosted Unified Communications Services architecture provides excellent reliability and availability at all levels, allowing service providers to offer guaranteed SLAs and know they can meet them.

Figure 2. Cisco Powered Network Program

Cisco Hosted Unified Communications Services and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners offer a broad portfolio of end-to-end services to support the Cisco Hosted Unified Communications Services architecture. These services are based on proven methodologies for deploying, operating, and optimizing IP communications solutions. Initial planning and design services, for example, can help you meet aggressive deployment schedules and minimize network disruption during implementation. Operate services reduce the risk of communications downtime with expert technical support, and optimize services enhance solution performance for operational excellence. Cisco and its partners offer a system-level service and support approach that can help you create and maintain a resilient, converged network that meets your business needs.

Cisco Powered Certification

The Cisco Powered program is Cisco's primary partnering program for important service provider accounts. The program provides many benefits for service providers to market their services more effectively using Cisco resources.

The story of a successful hosted service is told in three chapters. The first is Envision It. The second is Build It. And the third is Market It. Together they map a trajectory for success that is thoughtful and thorough, a true story of real competitive advantages gained by putting the right managed services in play at the right time for the right result.

Businesses today rightly look for effective and uncomplicated ways to make intelligent decisions about which service providers to retain. Over the years, a Cisco Powered service designation has been the "gold standard" for these companies. Now Cisco has taken it to a new level with the Cisco Hosted Unified Communications Services certification that provides objective, third-party validation for what customers care about most: architecture, SLAs, management systems, and sound policies and procedures based on research and customer feedback.

Figure 3. Cisco Powered Logo

Brand recognition boosts service acceptance, and the Cisco Powered brand is one that business customers know and trust. Added to your Website and marketing materials, the Cisco Powered logo reassures your business customers that your service is delivered over a network based on

Cisco technology - an attribute that business customers associate with compatibility, reliability, quality, and performance.

For more information about Cisco Hosted Unified Communications, visit http://www.cisco.com/go/hucs.

Printed in USA

C78-412767-00   06/07