



Data Sheet

Cisco Call Session Control Platform

The Cisco® Call Session Control Platform (CSCP)—an integral part of the Cisco Service Exchange Solution for IMS—is a proven environment for service providers that helps enable delivery of new IP-based voice and multimedia services over any broadband network, to any access device, based on the user's preference and presence status. The Cisco CSCP supports the IP Multimedia Subsystem (IMS) reference architecture as a 3rd Generation Partnership Program (3GPP)-defined Call Session Control Function (CSCF).

PRODUCT OVERVIEW

To remain competitive in today's communications services market, service providers must offer differentiated new services to augment primary line voice—and a multimedia end-user experience that ties communications to video and data service offerings. Further, with the increasing focus on cost efficiency, the challenge for service providers is to consolidate their offerings over a common network infrastructure. In response to these industry needs, networking leader Cisco Systems® has introduced the Cisco Call Session Control Platform (CSCP) for broadband wireline and wireless operators interested in deploying a robust, carrier-grade, next-generation services environment for delivering multimedia applications and services over their IP-based networks. The platform consists of the Cisco CSCP-Service Engine, Cisco CSCP-Edge Proxy, and Cisco CSCP-Name Resolution Server, all based on the Session Initiation Protocol (SIP), which uses IP architecture in a more distributed, embedded approach.

With the Cisco CSCP, carriers can now harness the power of SIP—a standard created by the IETF to define peer-to-peer, multimedia signaling—to develop an infrastructure for delivery of converged multimedia communications applications. Based on this powerful foundation, and with other components of the Cisco Service Exchange Solution for IMS, operators can provide a differentiated multimedia communication experience to subscribers with services integrating voice, video, push-to-talk (PTT), presence, geographical location, buddy lists, and many others.

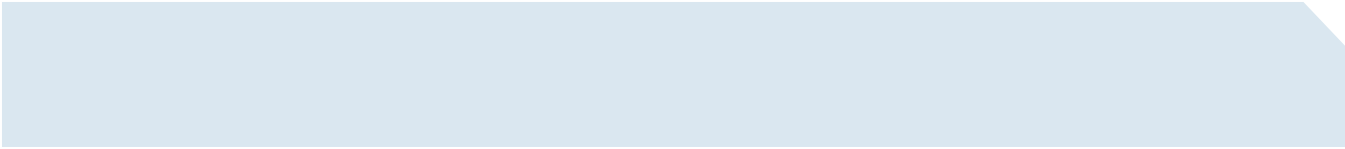
The Cisco CSCP supports the IMS reference architecture as a 3GPP-defined CSCF. IMS is an open, standardized next-generation networking (NGN) multimedia architecture for mobile and fixed IP services. Based on the SIP standards, IMS is becoming the convergence architecture of choice for cable, wireline, and wireless networks. The Cisco CSCP offers a cost-effective core set of capabilities that provide carriers with the IMS functions they need for quick deployment of revenue-generating voice and multimedia services across multiple IP-based networks and access devices.

APPLICATIONS

The Cisco CSCP helps enable a broad range of multimedia services, which are discussed in the following sections.

Cable Multimedia Communications Services

Many cable multiple system operators (MSOs) have already deployed CableLabs® PacketCable™ architectures to deliver primary line voice services over DOCSIS® networks. Cable operators are looking to go beyond “triple play” services (bundled video, high-speed data, and voice) to now offer additional services such as presence, instant messages, buddy lists, and caller ID displayed on the TV, geographical location data, support for SIP endpoints, and others. Cable operators will be able to offer subscribers a customized service experience, based on real-time state information and profiles. MSOs can most effectively deliver such advanced services by extending their architectures to also deploy a SIP service control element at the core, where it serves as the mechanism that ties disparate networks together. In fact, the forthcoming PacketCable 2.0 specification is expected to adopt major elements of the IMS control plane to allow a



variety of SIP-enabled devices to coexist on cable operators' PacketCable networks. Supporting multiple applications on a common SIP-based infrastructure with the Cisco CSCP eliminates dependence on a single application vendor, and allows cable operators to reuse solution components across multiple applications and access mechanisms.

Voice-over-Broadband Services

The Cisco CSCP provides the essential infrastructure to support the explosive growth in the Internet telephony market. By enabling cable, DSL, and other broadband providers to build IP telephony environments on secure, scalable, and transparent foundations, the platform provides broadband service providers a clear roadmap for deployment of real-time multimedia communications services for a growing plethora of SIP endpoints, including soft phones, Wi-Fi phones, dual-mode phones, IP phones, multimedia terminal adapters (MTAs), and more. In addition, Cisco voice-over-broadband solutions provide a robust set of telephony features, as well as address-specific technical challenges that affect the delivery of voice over a shared access medium, such as security, quality of service (QoS), billing, and lawful intercept.

Push-to-Talk Services

Push-to-talk (PTT) service combines aspects of wireless communications, subscriber presence detection, and walkie-talkie style instant communications to help end users quickly find one another and engage in brief, burst-oriented style communication. The Cisco CSCP helps enable PTT services in today's wireless networks by creating an infrastructure supporting voice-over-IP (VoIP) connections between two or more handsets in a session. Service providers deploying PTT benefit from the cost efficiencies of the underlying IP-based network and the PTT inherent bandwidth efficiency. This approach also presents the opportunity for PTT services to be integrated with other IP-based voice and data applications, including video, voicemail, multimedia messaging services, gaming, on-demand conferencing, and presence and availability.

Presence-Enabled Communications

The presence capability of the Cisco CSCP provides operators with centralized discovery, aggregation, and management of presence information. As a primary value-added feature of the Cisco carrier-class multimedia platform, presence allows end-user devices and application servers to discover and distribute real-time subscriber state and receive notifications of changes in presence information. Clients can update and receive information using SIP for Instant Messaging and Presence Leveraging Extensions (SIMPLE)—currently the most flexible and highly developed presence standards group in the presence space. Presence capability can be added to existing VoIP service offerings such as conferencing services, presence-enhanced contact lists, and voicemail, and it provides the foundation for many new presence-based applications, such as smart forwarding.

Fixed Mobile Convergence

Fixed mobile convergence (FMC) allows mobile network operators (MNOs) and broadband service providers to own, build, or partner to obtain last-mile access to both a cellular mobile and a Wi-Fi “fixed” network, in order to provide a seamless, uninterrupted user experience to their end customers. Applications include voice, Short Message Service (SMS), Multimedia Message Service (MMS), and data or video service execution between the two networks. The Cisco CSCP also provides the ability to support several deployment models, including MNOs and broadband service providers in a mobile-virtual-network-operator (MVNO) role. The “fixed” part of the FMC can be defined as a Wi-Fi access point in a variety of settings, including home IP networks, work (enterprise) IP networks, consumer hotspot IP access points (for example, in coffee shops or restaurants), commuter hotspot IP access points (for example, airport, metro, rail, or bus stations), and mass transit IP access points (for example, airplanes or trains). The FMC solution enabled by the Cisco CSCP provides feature consistency and transparency over the breadth of fixed and mobile networks traversed while roaming or handing over.

The FMC solution can be extended to cover interoperability between multiple wireless networks, such as second-generation (2G) voice networks, Code Division Multiple Access (CDMA), or Global System for Mobile Communications (GSM); second-generation voice and data (2.5G) networks or General Packet Radio Service/Enhanced Data for Global Evolution (GPRS/EDGE), third-generation (3G)

networks (that is, Wideband CDMA [W-CDMA]/Universal Mobile Telecommunications Service [UMTS] or Evolution Data Optimized [EV-DO]); 802.11b or 802.11g (Wi-Fi) networks; and 802.16 (WiMax) networks.

Video Communications

Video communications represents an application where video telephony clients can establish multimedia communication sessions that include voice, video, and messaging. This capability is extended to both video phones and to soft phones installed on computers and video-capable hand-held devices. In a cable access environment, QoS is ensured by the Cisco CSCP support of the PacketCable Multimedia specification. Video communications provides a service that is complementary to primary line, including E911 and Communications Assistance for Law Enforcement Act (CALEA) compliance. Some of the important capabilities of video communications enabled by the Cisco CSCP include audio and video calling using public-switched-telephone-network (PSTN) numbers, text chat, audio chat, video chat with presence and buddy lists, communications portal (“Web-based” features), e-mail, voicemail, video voicemail, and message waiting alerts.

KEY PRODUCT CAPABILITIES

The Cisco CSCP provides the following the capabilities:

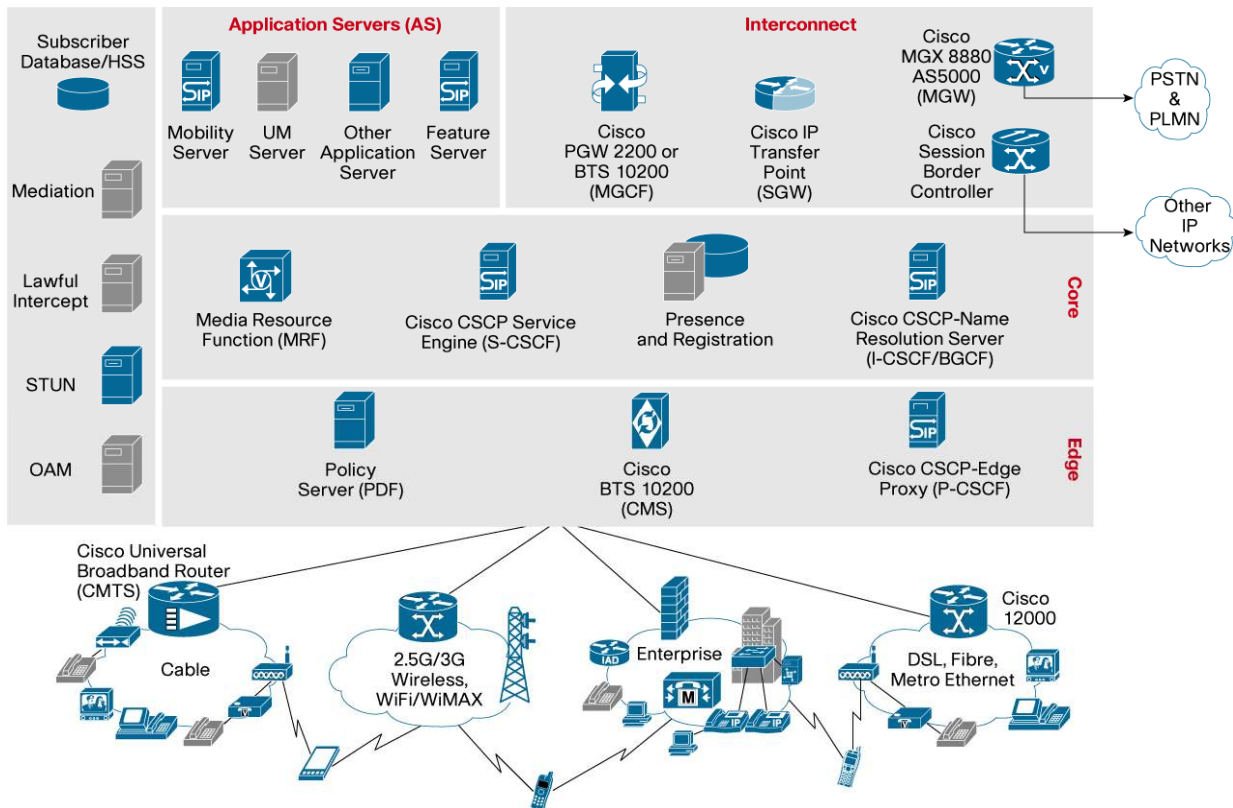
- **Subscriber identity**—The Cisco CSCP authenticates subscribers and determines their identity. This authenticated identity is provided to each application, so that the application “knows” who the subscriber is, alleviating each application from the need to manage subscriber credentials and determine who the subscriber is.
- **Subscriber profile**—The Cisco CSCP provides a centralized subscriber profile, which defines the set of applications available to the subscriber and their settings. Application servers access this profile to obtain information about the subscriber relevant for its operation. It allows for new applications and new application data to be added in real time, and provides a centralized provisioning interface for pushing that data into the CSCP. This alleviates the need for the application to have its own provisioning interfaces, data distribution systems, data auditing tools, or database components.
- **Presence**—Presence is information about a subscriber’s interest, willingness, and desire to communicate across a set of devices, services, and communication media. Cisco CSCP provides a centralized presence system that collects information about subscribers—whether they are logged in, on a call, using an application, listening to voicemail, and so on—and computes a consolidated presence status. This presence status is then made available to subscribers (for display on the cell phone, for example), or to application servers within the network. Providing presence centrally alleviates each application from collection, management, or distribution of presence information.
- **Feature interaction**—The Cisco CSCP provides the ability to combine multiple application servers, so that one or more application servers is invoked for the handling of each call, as needed. Each application can remain ignorant of the others, yet they work in conjunction in the handling of a call. The Cisco CSCP feature interaction management allows for new applications to be added, with new triggering conditions, without software development. This gives the operator the ability to add new applications rapidly. The Cisco CSCP also supports the IMS service control (ISC) interface, an open SIP interface toward application servers that allows a variety of revenue-generating third-party applications to be easily integrated into the CSCP architecture.

PRODUCT ARCHITECTURE

The Cisco Service Exchange Solution for IMS is an integrated portfolio that delivers the range of capabilities outlined in the IMS standards emerging from the wireless, wireline, and cable industries (refer to Figure 1). The Cisco solution helps service providers generate revenue by offering their subscribers ubiquitous access over any network to a complete array of real-time, multimedia business and consumer services, such as triple play, PTT, presence-based services, video telephony, and fixed or mobile convergence. Service providers can allow subscribers to easily personalize and select their own multimedia services, while retaining control of billing and usage options. At the heart of Cisco Service Exchange Solution for IMS are the call and session control solutions, which provide the services intelligence for establishing, maintaining, routing, integrating, and terminating voice and multimedia services. These platforms—the Cisco CSCP, the

Cisco BTS 10200 Softswitch, and the Cisco PGW 2200 Media Gateway Controller—also serve as the interface to enhanced, converged voice-and-data services and application platforms such as voicemail, unified messaging, mobility services, and other application servers. Furthermore, these platforms provide the primary interconnection for voice and multimedia services between the traditional time-division multiplexing (TDM) world and the IP packet domain.

Figure 1. Cisco Service Exchange Solution for IMS



The Cisco CSCP comprises three closely integrated components, discussed in the following sections.

Cisco CSCP-Service Engine

The Cisco CSCP-Service Engine (CSCP-SE) is a powerful services platform that represents the Serving CSCF (S-CSCF) within the 3GPP IMS specification. The CSCP-SE handles most of the SIP-related functions in a point of presence (POP). From an application perspective, the ISC interface enables applications to send and receive SIP messages to the CSCP. The Cisco CSCP-SE provides a suitable base for small to large deployments in cable, wireless and wireline carrier networks by offering the following important functions:

- Service integration, tying together multiple applications in a common infrastructure
- SIP message routing for applications, feature interaction, and inter-POP routing
- User registration and authorization of service requests
- Service selection, interaction, and invocation
- Routing in multisite deployments where user attachment may vary
- Access to and management of service and subscriber data
- Support of the IMS ISC interface for integrating third-party application servers

Cisco CSCP-Edge Proxy

The Cisco CSCP-Edge Proxy (CSCP-EP) provides the edge adaptation of SIP signaling for diverse access networks. It represents Proxy CSCF (P-CSCF) of the 3GPP-defined IMS architecture. The CSCP-EP supports compression, security, Network Address Translation (NAT) or firewall traversal for signaling, and other adaptation functions to allow transparent interoperability between multiple access locations and core network services and resources. It provides the following functions:

- Authentication and identity assertion
- QoS signaling for access networks
- Signaling compression
- Simple traversal of UDP through NAT (STUN) server
- Header stripping
- Protocol adaptation

The Cisco CSCP-EP supports User Datagram Protocol (UDP) and TCP protocols for message transport. The server also handles Internet Control Message Protocol (ICMP) errors when messages are sent with UDP. Secure Sockets Layer (SSL) v3.0 and Transport Layer Security (TLS) v1.0 are also supported. The server can be configured to establish TLS connections with any entity, or only with a trusted set of entities. The former allows for secure communication over the Internet; the latter enables the establishment of peer trust relationships (configurable using lookups). The CSCP-EP supports client privacy requests if enabled, and can send accounting information to a RADIUS server. The STUN server allows applications to discover the presence and types of NATs and firewalls between them and the public Internet and is used for VoIP clients traversing NAT or firewalls; it can also be co-located at the Cisco CSCP-EP.

Cisco CSCP-Name Resolution Server

The Cisco CSCP-Name Resolution Server (CSCP-NRS) is a high-performance SIP server for intercarrier and on-net or off-net routing. It is typically a centralized function in the communications network. It can be shared by multiple POPs and is usually deployed as a cluster of servers for high availability. Its primary role is to handle the routing of both intercarrier calls, and calls between on-net and off-net subscribers. Requests can be received from any server in the network that does not provide this resolution capability. The Cisco CSCP-NRS forwards SIP requests to other sites, whether they are other POPs, a PSTN gateway, or another SIP network, allowing the CSCP-NRS to route calls between sites within the provider network, to a Session Border Controller (SBC) that manages connectivity to a peer provider, or to a local Media Gateway Controller Function (MGCF), such as the Cisco PGW 2200. The Cisco CSCP-NRS supports IMS as the Cisco Implementation of the Interrogating CSCF (I-CSCF) and Breakout Gateway Control Function (BGCF). The Cisco CSCP-NRS provides the following functions:

- Routing of intercarrier calls or session SIP requests to gateways, POPs, or other SIP networks
- Number normalization
- E.164 Number Mapping (ENUM) lookups to third parties
- Policy decision logic

Cisco Feature Server

The Cisco Feature Server provides basic calling functions necessary for voice services in an all-IP environment. It supports an extension of capabilities using SIP servlets. A basic feature server offering from Cisco will give service providers a complete commercial offering at a reasonable price, without requiring a softswitch or IP-PBX in the network. The determination of which features will be deployed using the Cisco Feature Server versus which are fully enabled and realized at the client is largely dependent on the type of service offering, as well as the network architecture and operational environment. The Cisco Feature Server currently includes:

- Call forwarding features
- Selective calling (call screening) capabilities
- Click-to-dial

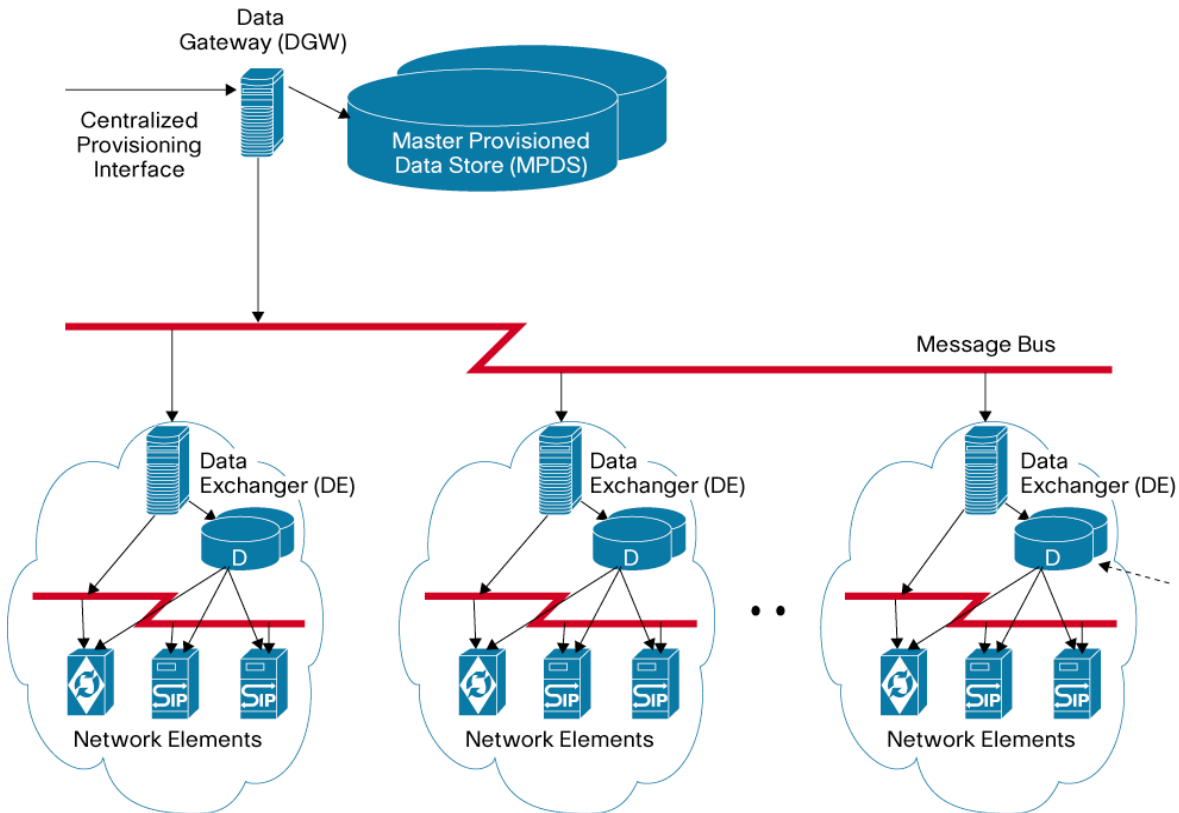
Cisco CSCP Subscriber Database

The current Cisco implementation of subscriber data management in the CSCP architecture uses a distributed data management model that accommodates many different types of data with respect to accessibility, ability to modify, location, method of use, and method of refreshment or invalidation. It has tremendous flexibility, proven performance and scalability, and low latency of access for network elements. The Cisco CSCP Subscriber Database is an alternative to an IMS Home Subscriber Server (HSS). IMS interfaces to the HSS (such as the Cx and Sh interfaces) are on the Cisco CSCP roadmap, enabling the Cisco Service Exchange Solution for IMS to support partners' HSS platforms. The CSCP Subscriber Database has the following components:

- **Data Authority Server (DAS)**—The DAS manages all profile and network data within an individual site or POP. For profile data, this includes reliable (redundant and replicated) storage of data, distribution of data to interested network elements, and query-based access to the data. For network-generated data, this includes caching (hard and soft state) and distribution of the data. The network elements (Cisco CSCP-SE, CSCP-EP, and CSCP-NRS) fetch their data from the DAS. This includes soft state data (determined through registration and call flows) and hard state data (provisioned by the service provider).
- **Data Exchanger (DE)**—The high-availability data exchanger accepts provisioned data updates from the DGW (discussed later in the document) and network data updates from the remote site, and stores them in the local DAS. It also takes care of synchronizing data to the various elements.
- **Data Gateway (DGW)**—The data gateway handles the interface to the service provider's provisioning systems. It stores provisioned data updates to the master provisioning database and distributes all changes to all the sites (POPS) that require the data. All provisioning of the Cisco CSCP network elements must be done through the DGW. The DGW has a robust set of business logic to determine where different data needs to be deployed and stored. An option of Common Object Request Broker Architecture (CORBA) or Simple Object Access Protocol (SOAP) interfaces is currently available for provisioning, with DIAMETER planned in a future release.
- **Master Provisioning Database (MPDS)**—The MPDS runs on an Oracle 9.2.0.8 server (fault-tolerant using Oracle replication) and is the database of record in the Cisco CSCP for the provisioned data.

Figure 2 illustrates the data architecture used in support of the Cisco CSCP elements.

Figure 2. Cisco CSCP Data Architecture



MULTIACCESS MULTIMEDIA CLIENT SUPPORT

A variety of SIP clients with different capabilities are supported by the same basic CSCP SIP infrastructure to obtain multimedia services. Examples of such SIP endpoints include soft-phone clients, IP phones, “dumb” analog phones connected to MTAs, smart “dual-mode” phones for FMC, wireless phones, soft-client videophones and IP video telephones, etc. Services will work consistently across the devices to the greatest extent possible given the diverse capabilities of these clients, because the services are not tied to clients making use of any particular access network. Although the Cisco CSCP can take advantage of access services—network QoS in particular—its operation does not depend on any particular access. SIP clients get access to the SIP infrastructure through the Cisco CSCP-Edge Proxy, which handles TCP and TLS connections and message scrubbing, and can interact with a policy server to obtain QoS.

IMS COMPONENT MAPPING

The Cisco Service Exchange Framework, part of the Cisco IP Next-Generation Network (NGN) architecture, supports the IMS architecture, and helps service providers offer new revenue-generating solutions today. Table 1 summarizes how the Cisco CSCP along with other Cisco and partner products map to the IMS specification.

Table 1. IMS and Cisco Function Mapping

| IMS Component | Cisco Product |
|---|--|
| Proxy CSCF (P-CSCF) | Cisco CSCP-Edge Proxy |
| Serving CSCF (S-CSCF) | Cisco CSCP-Service Engine |
| Interrogating CSCF (I-CSCF) | Cisco CSCP-Name Resolution Server |
| Breakout Gateway Control Function (BGCF) | Cisco CSCP-Name Resolution Server |
| SIP Application Server (AS) | Partner product; Cisco Feature Server |
| Media Gateway Control Function (MGCF) | Cisco PGW 2200; Cisco BTS 10200 |
| Media Gateway (MGW) | Cisco MGX [®] 8000 Series, with Cisco Voice Interworking Services Module (VISM-PR) and Cisco Voice Switch Services Module (VXSM); AS5000 Series |
| Home Subscriber Server (HSS) | Partner product |
| Home Location Registrar (HLR) | Partner product |
| Policy Decision Function (PDF) | Partner product |
| Media Resource Function Processor (MRFP) | Partner product |
| Media Resource Function Controller (MRFC) | Partner product |
| Signaling Gateway Function (SGF) | Cisco IP Transfer Point (ITP) |

CISCO CSCP FEATURES AND BENEFITS

Table 2 lists the features and benefits of the Cisco CSCP.

Table 2. Features and Benefits of Cisco CSCP

| Features | Benefits |
|---|--|
| ISC interface | The IMS-compliant ISC interface, including the 3GPP R5/R6-based application server interface, is supported by the Cisco CSCP, enabling third-party application developers to build standards-based applications that are portable across IMS-compliant service provider networks. |
| Privacy Support | This feature provides the capability of withholding the identity of a person (and related personal information) from one or more parties in a SIP dialog, at the person's request. These parties potentially include the intended destination(s) of messages and any intermediaries handling these messages. Privacy: id and diversion-privacy are supported. |
| Public and Private User Identity | This capability enables a user to have any number of public IDs that all point to and reach the same user with only one private ID. Public IDs for a given private ID share the subscriber profile, including the subscriber's service profile. |
| Client Connection Management | This feature provides the capability for clients communicating behind a firewall to be routed through the same edge proxy that served the client, and helps ensure the NAT traversal and binding information is maintained for continued communications with the client. |
| Basic and Digest Authentication | This feature supports the basic and digest authentication schemes defined in RFC 2617 for security of client transactions. |
| Emergency Call Support | This feature provides immediate access when the assistance of the police, the fire department, or an ambulance is required in an emergency situation. Emergency calls (911 calls in North America) are recognized by the Cisco CSCP and routed to the appropriate gateway. The CSCP obtains the emergency service routing number and routing information from appropriate sources. All emergency calls are routed in all cases, including authentication failure, no identity populated, non-active status, etc. |
| Intercarrier PTT Support | Intercarrier push-to-talk is the ability for end users to engage in PTT sessions between end users of different mobile network operators. For PTT subscribers who have subscribed to intercarrier, this capability extends the community of interest of PTT subscribers to include the carrier's partner PTT networks, both domestic and international. |
| Number Normalization | This feature offers the capability of normalization of dialed digits to a standard E.164 format, or the 10-digit North American plan. It also corrects for incompatibilities in number formats and structures between different networks. It modifies numbers to carrier dialing plans, and facilitates international transit and long-distance services. |
| Calling Features | Call forwarding features, including Call Forward Unconditional, Call Forward Busy, Call Forward Un-Registered, Call Forward Not Reachable, and Call Forward No-Answer. Call screening capabilities including Selective Call Acceptance, Selective Call Forwarding, and Selective Call Rejection. |

| | |
|----------------------------------|---|
| Click-to-Dial | This capability allows users to launch a telephone call by clicking a hyperlink on their browser. This feature takes advantage of the third-party call control flows defined in RFC 3725. |
| Third-Party Registrations | This feature allows users to register users other than themselves. It can be used to enable call forwarding to third-party destinations. The Cisco CSCP supports both registrations and de-registrations. |
| RADIUS Accounting Support | The Cisco CSCP servers can operate as RADIUS clients, sending accounting information to a RADIUS server for billing purposes. |

SCALABILITY AND AVAILABILITY OF CISCO CSCP COMPONENTS

The Cisco CSCP components (CSCP-SE, CSCP-EP, and CSCP-NRS) are deployed as separate network elements. In order to support a large population of users, the subscribers are “partitioned” among multiple regional or geographic POPs. Each partition supports a subset of the entire subscriber population. The systems deployed in each partition provide equivalent functions, each for a different set of subscribers. When different POPs service the originating and terminating subscribers, requests can be routed between POPs by the Cisco CSCP-Service Engine in the originating POP or the Cisco CSCP-NRS. The CSCP authenticates all requests and generates new challenges on all requests every 3600 seconds (default, but configurable). The CSCP architecture is highly scalable, and can support up to 2 million subscribers in a single POP, and up to 20 million subscribers in a network.

The concept of a geographic mirror or “buddy POP” is used for redundancy. The buddy POP can pick up service for a failed partner (or buddy) POP in the same partition. As such, each POP is configured with a backup POP and all subscribers are assigned both a primary POP and a backup POP. In order to handle the failure of a POP, all components of the Cisco CSCP network and solution can route requests around a failed POP. The availability of a solution is measured in terms of the successful handling of service requests. These network design options enable the Cisco CSCP to achieve 99.999-percent availability.

CISCO CSCP MANAGEMENT FEATURES

The Cisco CSCP environment includes standards-based instrumentation and interfaces to support management functions:

- **Software management**—Provides automated installation, upgrade, patch process, and new configuration generation.
- **Fault management**—Provides Simple Network Management Protocol Version 2 (SNMPv2) trap notification and throttling, automated debugging, and automated network element recovery if a failure occurs.
- **Configuration management**—Includes Telnet and Secure Shell (SSH) Protocol through the element management system (EMS) or directly to the host, versioned network behavior, and online and offline configuration.
- **Subscriber and feature provisioning**—Through the Cisco CSCP DGW using CORBA or SOAP interfaces or by using a partner-provided HSS product.
- **Accounting**—Transport to an external billing system, customized output with predefined fields, and RADIUS support.
- **User management**—Includes password management and deactivation of users and access control groups.
- **Performance monitoring**—Includes host metrics, primary performance indicators, and reporting.
- **Security management**—Administrator actions (access control groups), SSL between EMS and network element hosts, and password policy and rotation.

CISCO CSCP SYSTEM REQUIREMENTS

Table 3 lists the requirements of the Cisco CSCP solution.

Table 3. Recommended System Requirements for Production Environment

| Component | Vendor | Model | Software | CPU | Units Memory | Disk Drives |
|-----------------------------------|--------|-------|-----------|-------------|--------------|-------------|
| Cisco CSCP-Service Engine | Sun | V210 | Solaris 8 | 2 x 1.2 GHz | 4GB | 2 x 73GB |
| Cisco CSCP-Edge Proxy | Sun | V210 | Solaris 8 | 2 x 1.2 GHz | 4GB | 2 x 73GB |
| Cisco CSCP-Name Resolution Server | Sun | V210 | Solaris 8 | 2 x 1.2 GHz | 4GB | 2 x 73GB |
| Cisco Feature Server | Sun | V210 | Solaris 8 | 2 x 1.2 GHz | 4GB | 2 x 73GB |
| DAS+DE+SonicMQ Msg Broker | Sun | V440 | Solaris 8 | 4 x 1.2 GHz | 8GB | 2 x 73GB |
| DGW+Oracle+SonicMQ Msg Broker | Sun | V440 | Solaris 8 | 4 x 1.2 GHz | 8GB | 2 x 73GB |

Note: This is the minimum production configuration supported. Higher model numbers, faster processor speeds, additional processors, more RAM or increased disk space are supported as well. Netra platforms are supported if NEBS compliance is required.

ORDERING INFORMATION

To place an order, visit the [Cisco Ordering Home Page](#).

SERVICE AND SUPPORT

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For More Information

For more information about the Cisco Call Session Control Platform, visit <http://www.cisco.com/go/sp> or contact your local Cisco account representative.



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