Cisco Intercompany Media Engine

Product Overview

Cisco® Intercompany Media Engine (IME) is a breakthrough technology in business-to-business communications: a platform that enables on-demand, rich collaboration between businesses anywhere in the world that is policy enabled, more secure, and less complex, with much lower costs. A milestone for unified business-to-business communications, Cisco IME extends Cisco Unified Communications Services beyond the enterprise boundaries: to your customers, partners, supply chain, and everyone on the Cisco IME network.

With converged networks increasingly becoming the norm for business communications, the competitiveness of enterprises today depends on how quickly they can achieve the full benefits of their network of networks: the collection of their networks, their partners' networks, their customers' networks, and their suppliers' networks. This is what Cisco IME enables: it allows you to integrate your collaboration network with your value chain.

Cisco Unified Communications Solutions have delivered cost savings, features, and productivity enhancements to individual businesses. Today, businesses are connected to each other by the traditional public switched telephone network (PSTN), which is very reliable but does not deliver the promise of the additional features that should be available between businesses. Cisco IME allows companies to extend their unified communications collaboration features to their business partners. In this release of Cisco IME, features such as business-to-business video, high-fidelity voice codecs, and consistent names and numbers are included, and additional collaboration features are planned in subsequent releases.

The solution also allows businesses that have deployed unified communications to save costs by reducing the number of PSTN minutes used, the number of PSTN gateways used, and the monthly Primary Rate Interface (PRI) circuit charges. In addition, the solution allows customers with older time-division multiplexing (TDM) infrastructure or third-party communications infrastructure to achieve similar cost benefits, although the best user experience will be with Cisco Unified Communications Manager (Unified CM) Version 8.0.

Features and Benefits

Cisco IME moves your business-to-business calls from traditional PSTN to any IP network and delivers high-fidelity voice and high-definition desktop video. All the signaling and media (both voice and video) is encrypted as it traverses the IP network. Cisco IME combines the routing capabilities of the PSTN for route validation, the scale of distributed hash tables and secure peer-to-peer networking, and the flexibility of Session Initiation Protocol (SIP) to deliver rich media between businesses (Figure 1).

Figure 1. Cisco IME Enables Collaboration

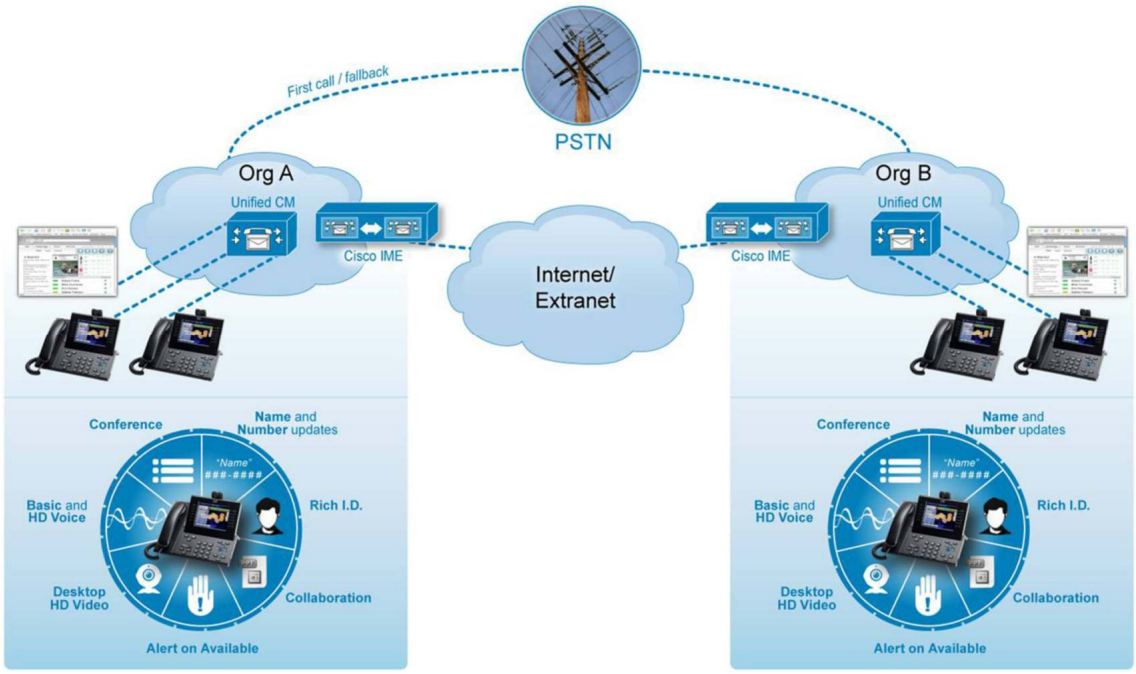


Table 1 Summarizes the Features and Benefits of Cisco IME.

Table 1. Features and Benefits

Feature	Benefits
Cisco IME is global	• Because it is built on secure peer-to-peer networking and secure distributed hash tables, Cisco IME has almost infinite scale, so there is essentially no limit to the number of enterprises that can join the Cisco IME network. • Any enterprise in the world with PSTN and IP (Internet) connectivity can join the network and communicate with the rest of the Cisco IME community, enabling your users to collaborate with any of their business partners, not just the ones that IT sets up.
Cisco IME is secure	• All the media and signaling over the Cisco IME network is secure. SIP is secured using Transport Layer Security (TLS). and media (voice and video) is encrypted using Secure Real-Time Transport Protocol (SRTP). • Cisco IME hashes all the phone numbers or direct inward dialing (DID) numbers before storing them, thus maintaining dial-plan anonymity as well as building the database so that no one can mine the network for phone numbers. • All the peer-to-peer traffic is secured using TLS, while the validation protocol uses SRP. • Cisco IME prevents false number advertisement by running a validation algorithm that validates the actual ownership of the phone number. • Cisco IME provides built-in protection against denial-of-service (DoS) attacks on the CPU, network, and memory.
Cisco IME helps eliminate spam	Cisco IME uses the flexibility of SIP to introduce headers that are used to protect Cisco IME from spam. These special headers are called tickets and are sent in every Cisco IME SIP invite message.
Cisco IME is incremental	• Cisco IME is an incremental deployment to your existing TDM infrastructure or your unified communications infrastructure. • Cisco IME allows you to use your existing phones, dial-plan, and dialing habits.
Cisco IME is interoperable	Cisco IME integrates with third-party private branch exchanges (PBXs) through the SIP interface.
Cisco IME is flexible and policy enabled	Cisco IME allows you to inject policies with granularity from a domain to an individual DID number. This feature allows you to form closed user groups or to bar certain domains or DID numbers from communicating with your network.
Cisco IME is standardized	All the components that make up Cisco IME have been submitted to IETF for standardization.
Cisco IME is a business enabler	Cisco IME allows businesses to securely traverse enterprise boundaries to collaborate with their partners or customers on the Cisco IME network, making the solution a tremendous business enabler.
Cisco IME enables easy access to video	Cisco IME enables high-definition desktop video between you and the Cisco IME community, simply by dialing the same phone numbers you always have.

Feature	Benefits
Cisco IME enables easy access to high-definition audio	Cisco IME enables high-definition audio between you and the Cisco IME community, simply by dialing the same phone numbers you always have.
Cisco IME enables consistent numbers and names	Cisco IME enables the use of consistent names and numbers between you and the Cisco IME community.
Cisco IME helps ensure call quality	Cisco IME monitors the quality of audio streams, and if the quality degrades below the pre-negotiated threshold, the call is transparently moved to a network with better quality.
Cisco IME is self-learning	Cisco IME is self-learning, which means that it discovers your customers and partners as they join the Cisco IME network. Thus, you do not have to explicitly add users or make administrative changes to communicate with them; users simply have to call each other.
Cisco IME saves money	Cisco IME not only delivers rich media collaboration between you and your value chain. It also saves you money as it moves your business-to-business calling to the Cisco IME network, by reducing the number of PSTN gateways as well as the number of PSTN calls with their costly PSTN per-minute charges.

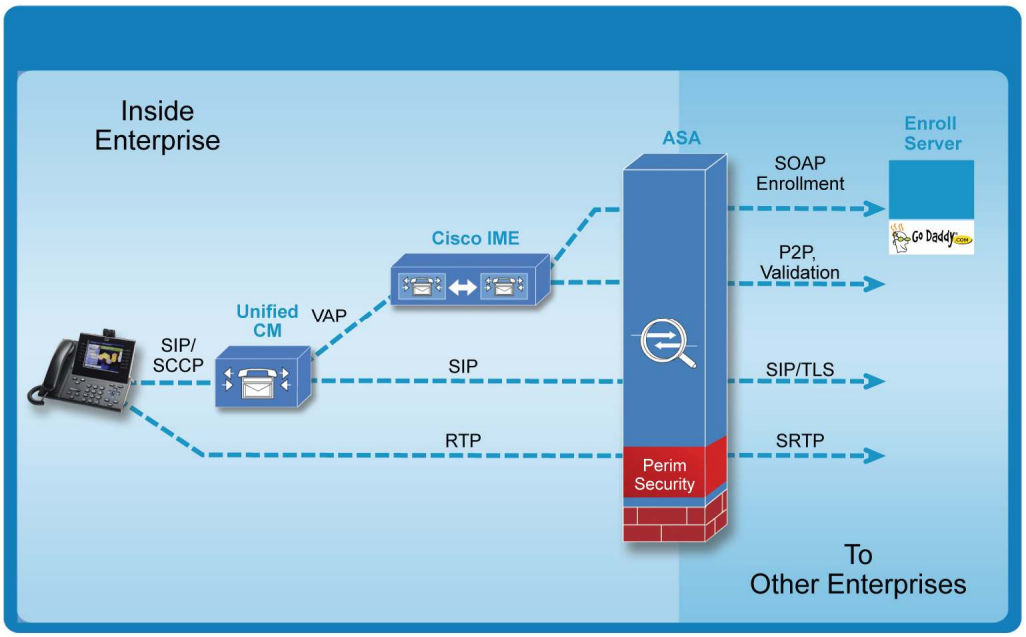
System Requirements and Architectural Components

Cisco IME systems require three main components: a Cisco IME server, Cisco ASA 5500 Series Adaptive Security Appliances, and Cisco Unified CM 8.0 or Cisco Unified CM Session Management Edition 8.0. Table 2 summarizes the required components, and Figure 2 shows the system architecture.

Table 2. System Requirements

Cisco IME Server Platform	Cisco Unified CM 8.0 or Session Management Edition 8.0	Cisco ASA 5500 Series Version 8.3 Platform
Cisco 7825 or 7845 Media Convergence Server (MCS) or IBM equivalent	Cisco 7825, 7828, 7835, or 7845 MCS or IBM equivalent (Cisco Unified CM Session Management Edition is supported only on Cisco 7845 MCS)	Cisco ASA 5510, 5520, 5540, 5550, or 5580 Adaptive Security Appliance
Cisco IME Server Functions	**Cisco Unified CM 8.0 Functions for Cisco IME**	**Cisco ASA 5500 Series Functions for Cisco IME**
• Forms secure peer-to-peer network with other partner servers • Provides automated learning of secure IP routes through network • Sends route updates to Cisco Unified CM • Cisco 7845 MCS hosts up to 40,000 users • Cisco 7825 MCS hosts up to 10,000 users	• Provides primary point of configuration and policy management • Integrates with Cisco Intercompany Media Engine to learn new secure IP routes • Uses learned routes to make feature-enabled secure SIP calls • Performs mid-call PSTN fallback	• Monitors Internet voice quality • Informs Cisco Unified CM of voice-quality problems • Encrypts and decrypts signaling and media at boundary • Blocks incoming voice-over-IP (VoIP) spam

Figure 2. Cisco IME Architecture

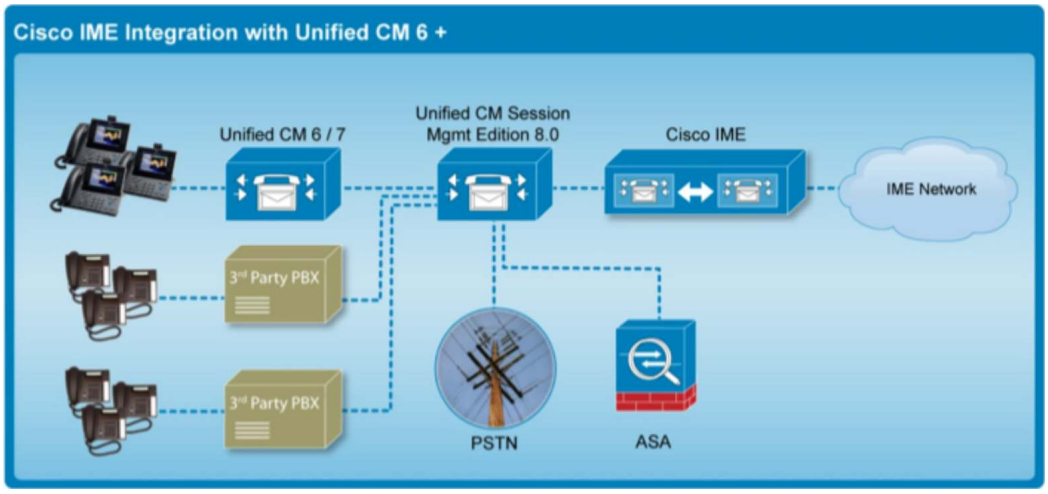


Integration Models

Cisco IME supports the following integration models (Figure 3):

- Native Cisco Unified CM 8.0 integration
- Cisco Unified CM 6.0 and 7.0 integration when Cisco Unified CM Session Management Edition 8.0 is used as the front end
- Integration with Older PBXs with Cisco Unified CM Session Management Edition 8.0 used as the front end

Figure 3. Cisco IME Integration with Third-Party Systems and with Systems Using Versions Earlier Than Cisco Unified CM 8.0



Ordering Information

Cisco IME 8.0 begins shipping on April 15, 2010, and can be ordered starting on April 10, 2010. Cisco IME is a feature of Cisco Unified Communications Manager 8.0 as well as Cisco Unified Communications Manager Session Management Edition 8.0. To place an order, visit the Cisco Ordering homepage. The Cisco IME ordering guide is a part of the Cisco Unified Communications Manager 8.0 ordering guide, which is available to Cisco sales staff and to partners and provides instructions about how to order Cisco IME.

For More Information

For more information about Cisco Intercompany Media Engine, please visit http://www.cisco.com/go/b2buc or contact your local Cisco account representative.

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