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Cisco Collaboration Endpoints

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Introduction

Video conferencing has been around for a long time. Until recently, however, it was often limited to executive conference rooms for high-level meetings, special promotions, or corporate presentations.

With the advent of lower-cost high-quality technology, using collaboration to communicate is becoming more the norm than the exception. Much of the communication process is achieved using non-verbal cues. With a traditional telephone, you miss out on these important aspects of the conversation. Using collaboration endpoints, call participants can now communicate as if they were in the same room as the call recipient. Face-to-face communication makes it easier to understand what is being said and to read a situation more accurately, thus eliminating potential mistakes and miscommunication. More often than not, you establish a better rapport with that person than if just speaking over a phone. These capabilities are what collaboration brings to the table.

There are many different situations where communication may be initiated. Perhaps a person is traveling and connects by using a mobile device. Another person might be sitting at her desk in the office while in another location, a group of people are attending the same meeting in the same room. The number of cameras, screens, and microphones may change depending on the situation. The acquisition of Tandberg, with its broad range of video conferencing products, has given Cisco the opportunity to expand their collaboration product line to include endpoints for any given situation.

It used to be that a phone was a phone and a PC was a PC and these were totally separate and distinct tools. Now many IP phones and collaboration endpoints provide high-resolution screens, touchscreen capabilities, voice and video calling, XML/Java application support, and even Android OS for a fuller endpoint experience. Essentially phones have become PCs! Conversely, PCs can run a softphone or Jabber application to become phones. Companies now have a wide choice of products to consider when deploying collaboration to their workers.

This white paper will provide an overview of the different groupings of Cisco collaboration endpoints, their capabilities, and where each might be most effectively used.

What you will typically see is that the endpoints in each group differ based on the following criteria:

- Portability
- Number and size of screens
- Number of microphone inputs
- Number of camera inputs
- Video resolution support

Collaboration endpoints can be grouped as follows:

- Immersive TelePresence
- TelePresence integration solutions
- Collaboration room endpoints
- Collaboration desk endpoints
- IP phones
- Software clients

The following sections will provide an overview of the products in each group.

Immersive TelePresence

Immersive TelePresence gives you the feeling of being there in person. High-quality video, size, and placement of screens makes you feel like all participants are sitting around the same table. Some products require custom-built conference rooms while other products can be placed into any meeting room where conferencing is required.

IX5000 Series



- Three 70-inch 1080p, 60fps LCD screens
- Triple 4K UHD camera cluster
- Three 1080p60 video streams and two 1080p30 content-sharing streams
- H.264, H.265, TIP, Binary Floor Control Protocol (BFCP)

TX 1300 Series



- Single 65-inch screen
- 1080p60 video stream
- 1080p30 content sharing
- Triple HD camera cluster
- Voice activated switching
- H.264, TIP

TX9000 Series TX9000 Single Row System



- Three 65-inch HD screens
- One 42-inch screen for content sharing
- Three 1080p60 video streams and one 1080p30 content sharing stream
- Integrated lighting
- Triple HD camera cluster
- H.264, TIP, BFCP

TX9200 Two-Row System



TelePresence Integration Solutions

Integration Solutions give you the power and flexibility to design your own video rooms of all sizes using either Cisco or third-party peripherals.

Integration Solutions are comprised of the Cisco TelePresence SX Series and the Cisco TelePresence Integrator C Series.

SX Series – SX10 Quick Set



- Built-in wide-angle camera and microphone
- monitor not included
- H.263, H.263+, H.264
- Wall mount or screen mount available
- For small areas with one to four people

SX Series – SX20 Quick Set



- Three camera options
- Table microphone
- Monitor not included
- H.263, H.263+, H.264
- For small- to-medium rooms with up to 12 people

SX Series – SX80 Codec



- Purchased as codec only or as part of a package that includes cameras and microphones
- Five video inputs
- Three video outputs
- H.261, H.263, H.263+, H.264, H.265

Collaboration Room Endpoints

These endpoints enable you to turn any meeting room into a collaboration hub. This group includes Cisco TelePresence MX Series, as well as the Profile Series and the TelePresence System 1100.

MX Series

MX200 and MX300



- MX200 G2: 42-inch screen; MX300 G2: 55-inch screen
- Fully integrated codec, display, camera, and microphone
- H.263, H.263+, H.264
- 10-minute setup

MX700 and MX800

Figure 1. Cisco TelePresence MX700 Features Dual 55-inch Screens
(Dual Camera Shown is Available as an Option for Both the MX700 and MX800)



Figure 2. Cisco TelePresence MX800 Single and Dual Options Feature One or Two 70-inch Screens



- Built-in amplifier and speaker system
- Four simultaneous video inputs
- All-in-one system
- H.261, H.263, H.263+, H.264, H.265

Cisco TelePresence Profile Series



42-inch single screen system



55-inch single or dual screen system



65-inch single or dual system

- H.261, H.263, H.263+, H.264
- Multiple video inputs and outputs
- Base options:
 - 65-inch stand-alone option with a foot attachment or a wall-mount kit
 - 55-inch stand-alone option with a foot attachment, a wheel base for mobility (only on single), or a wall-mount kit for a smaller footprint
 - 42-inch stand-alone option with foot attachment, wheel base for mobility, or a wall-mount kit

Cisco TelePresence System 1100



- Supports one or two people sitting around the conference table
- 65-inch Plasma screen
- H.264
- HD integrated camera
- Integrated speaker, microphone, and lighting

Collaboration Desk Endpoints

As the name suggests, these endpoints are designed to sit on the desktop. The Desktop Series is comprised of the Cisco DX Series, Cisco EX Series, and Cisco TelePresence System 500.

DX Series



Cisco DX650

Compact 7-in. LCD (1024 x 600)



Cisco DX70

Midsized 14-in. LCD (1920 x 1080)



Cisco DX80

Large 23-in. LCD (1920 x 1080)

- Android OS
- Wi-Fi connectivity (802.11a/b/g/n)
- Bluetooth
- Bundled Apps and Wizards
- H.264 and AVC
- Up to 1080p

EX Series



- EX60: 21.5-inch screen; EX90: 25-inch screen
- PrecisionHD camera
- Integrated microphone and speakers
- H.261, H.263, H.263+, H.264
- Bluetooth

TelePresence System 500



- 32-inch screen
- H.264, TIP
- Freestanding swivel pedestal or tabletop stand
- HD camera
- Microphone

IP Phones

In addition to these TelePresence endpoints, Cisco also has an extensive line of IP phones for those instances where the mode of communication may be primarily audio only. Some models have cameras attached, while other models can be integrated with external cameras for video conferencing, if required.

There are almost a dozen IP phone model series that Cisco sells. For information on the complete list of IP phone products, visit <http://www.cisco.com/c/en/us/products/collaboration-endpoints/ip-phones/index.html#~Products>. In this section we will highlight several of the IP phone model series.

The key differences between IP phone models are:

- Screen capabilities: resolution, size, color, and touchscreen capability
- List of supported codecs
- LAN port speed, PC port
- Available buttons
- Speakerphone and headset support
- Number of supported lines
- Special services support; video, conference station, Wi-Fi
- Supported protocols; SIP vs. SCCP

At the low end of the spectrum, you have this single-line 3905 model.



This model can be used as an entry-level phone for lobbies, hallways, or cubicles. It supports two calls on the single line, has fixed key features such as hold or transfer, and supports SIP signaling.

In the mid- to upper-range, you have the 79XX and 89XX Series phones that have larger screens, some of which are color and touchscreen. These phones have multiple-line buttons and can support multiple calls per line.



- 7975 with color touchscreen
- Supports SIP/SCCP
- 8961 is orderable in white or grey
- Supports SIP

The 99XX Series of phones is video enabled using a Cisco UBS video camera plugged directly into the phone. The 9971 model has a color touchscreen, Wi-Fi or wired connectivity, and Bluetooth support.



For a great summary matrix of Cisco endpoints, visit <http://www.cisco.com/c/dam/en/us/solutions/collateral/business-video/business-video/endpoint-product-matrix.pdf>.

Software Clients

There are two main categories of software clients: IP Communicator and Cisco Jabber.

The IP Communicator is a Microsoft Windows-based phone application. It provides eight line keys and five soft keys and access to services and applications equal to that of a desk phone. It can be used in one of three modes pictured below. The IP Communicator supports both SIP and SCCP signaling protocols.

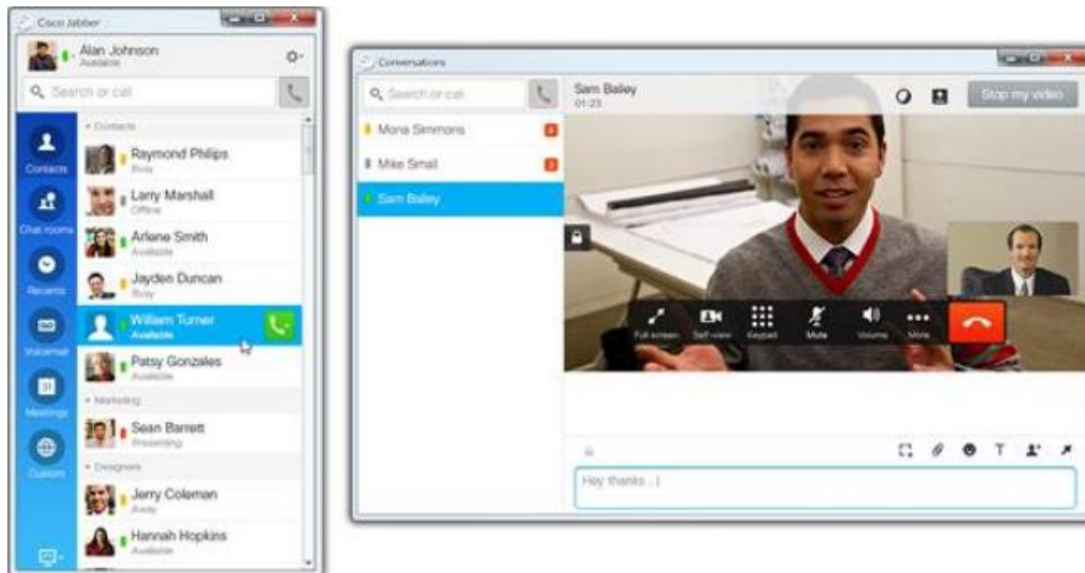


Cisco Jabber comes in several forms:

- Cisco Jabber for Windows
- Cisco Jabber for MAC
- Cisco Jabber for Android
- Cisco Jabber Guest

Cisco Jabber for Windows combines contact management, presence status, instant messaging, voice, video, voice messaging, screen sharing, and conference capabilities, all in one interface on your desktop. Cisco Jabber is built on open standards. It integrates to existing applications to enhance user productivity.

Cisco Jabber integrates with the Cisco Instant Messaging and Presence (IM&P) server to provide contact status. Integration with Microsoft Outlook allows you to click-to-call from within the Microsoft contact card. Single sign-on (SSO) allows a user to log into Jabber and be able to access all Jabber services without having to log in to each one separately. Users have access to chat and group chat, can escalate a chat to a call and a call to a conference, and can share their desktop to make it easier to collaborate for explaining concepts.



Cisco Jabber for Mac and Android extend these same functions to devices using these operating systems.

Cisco Jabber Guest extends the Jabber functionality for use in outside applications. An example would be to provide a link on a customer service web page to allow a Jabber communication from an outside entity, such as a customer, to communicate with your inside resources. The guest does not need an account; they simply click on a web link you provide. Infrastructure components need to be put in place to support this feature. To find out more information on Cisco Jabber Guest, visit <http://www.cisco.com/c/en/us/products/unified-communications/jabber-guest/index.html>.

As you can see from the sections of this paper, there is a collaboration product for every scenario. With a wealth of Cisco collaboration products to choose from, it is easier than ever to take the conversation to the next level and truly make it a collaborative communication. The challenge is to evaluate the existing products and determine the best fit for the individual user and what works best in a conference room. For the most up-to-date product information, be sure to visit the Cisco website or use the links provided throughout this document.

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About the Author

Berni has worked in the IT industry for over 35 years, starting her career with software development and moved into networking in 1990. Berni is an independent consultant and has been a contract instructor with Global Knowledge since 1998. She has focused much of that time on the Cisco voice and video product lines. Other areas of expertise focus on Quality of Service implementations for converged networks.