

How Cisco is Integrating Unified Communications with Applications

The Cisco Unified Application Environment and related products help Cisco IT developers bring collaboration services to more applications.

Cisco IT Case Study/Unified Communications/Unified Communications and Application

Development: This case study describes how "Click-to-Collaborate" tools are available as services, ready for the Cisco IT community to quickly and consistently add collaboration capabilities to internal- and external-facing applications. Application users also benefit from the easier communication and increased productivity enabled by these tools. Cisco customers can draw on Cisco IT's real-world experience in this area to help support similar enterprise needs.

BACKGROUND

The Cisco® Unified Application Environment (Cisco UAE) helps developers build applications that integrate unified communications and collaboration features with business functionality and data. Developer tools help reduce the time and cost of creating applications while improving their manageability.

Cisco UAE hides the complexity of very technical telephony protocols and configurations. The environment also takes advantage of application services and APIs provided in the Cisco Unified Communications solution that cover call

control, media processing, conferencing, presence information, instant messaging, and location data.

CHALLENGE

Cisco IT determined that even more value could be gained from its investment in unified communications by creating standard services to implement collaboration functionality that would be used by many applications. The challenge became how to best develop these services and promote their use by the Cisco IT community, who work in a large number of diverse teams and are located worldwide.

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– Phani Bhaskar, Cisco IT project manager

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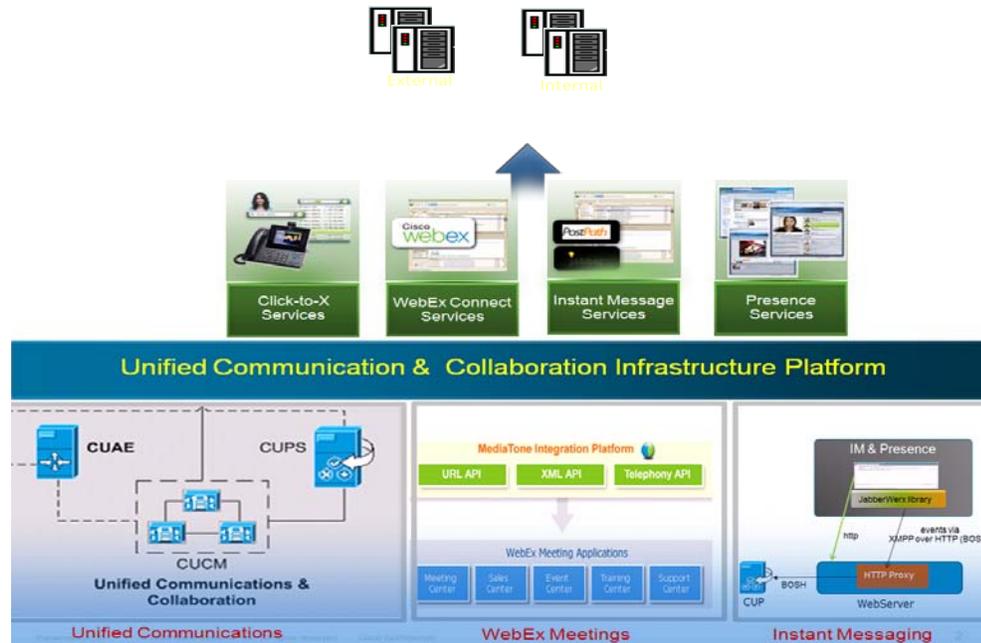
SOLUTION

Cisco IT has created the Development Frameworks and Tools (DFT) Center of Excellence (CoE) to create and promote these standardized communication and collaboration services for business teams to integrate into Cisco internal business applications. "We offer access to the Cisco Unified Application Environment and related services for our Cisco IT and business teams," says Bhaskar. "The DFT team drives awareness and adoption of the standardized services by helping the teams identify suitable applications and providing guidance and support for integrating these new collaboration services into their business."

The DFT team maintains an intranet portal that helps guide Cisco business teams in using the application services. The portal is a "one-stop shop" that provides discussion forums and content, such as a getting-started guide and an introductory video, best practices and reference architectures, and technical development information.

The Cisco UAE implementation supports these application services. The Cisco IT Unified Communications Program team has implemented Cisco UAE on 14 servers in three Cisco data centers, with connections to the Cisco Unified Communications Manager servers. (Figure 1)

Figure 1. Cisco IT Deployment of the Cisco Unified Application Environment and Related Resources



Sharing application services is not a one-way activity from the DFT team to Cisco business communities. Indeed, these business teams are encouraged to make their own application services and tools available for reuse by other Cisco business applications. All reusable services must conform to Cisco IT standards, which cover factors such as security, service interface, protocols and interoperability, service systems of record, service development and naming, service operations and monitoring, and change management.

Standard Communication and Collaboration Services

For the initial set of application services, the DFT team has focused on "Click-to-Collaborate" tools, which make it easy for users to initiate communication with others. Embedding these communication and collaboration functions directly into an application makes it very easy for application users to bring the right expert into a discussion at exactly the right time. In many instances, starting an instant messaging (IM) conversation, a phone call, or a Cisco WebEx® session with another person takes no more than a few mouse clicks, which enhances the user's productivity and creates a more consistent and collaborative user experience.

Each Click-to-Collaborate tool is based on one or more platforms, including the Cisco UAE, WebEx, and, in some cases, third-party platforms (e.g., for email). The platforms used for each tool are indicated in the descriptions that follow.

EXECUTIVE SUMMARY	
BACKGROUND	<ul style="list-style-type: none"> Cisco IT is using the Cisco Unified Application Environment to add collaboration features to business applications.
CHALLENGE	<ul style="list-style-type: none"> Create reusable application services and promote their use by the Cisco IT community worldwide.
SOLUTION	<ul style="list-style-type: none"> DFT CoE team creates and promotes developer services and application services built within Cisco UAE and other platforms.
RESULTS	<ul style="list-style-type: none"> Simple, fast, and consistent implementation of collaboration services in diverse applications. Set of Click-to-Collaborate features that simplify collaboration for users. Fewer manual steps and reduced potential for human error in business tasks. Reduced transaction time for resolving a support case, initiating an order, or closing a sales deal.
LESSONS LEARNED	<ul style="list-style-type: none"> Promotion and monitoring of the developer tools and application services encourage wider adoption. Design the Cisco UAE deployment to provide adequate server capacity and redundancy.
NEXT STEPS	<ul style="list-style-type: none"> Creating new application services for Cisco TelePresence® and desktop video, multiparty conferencing, and mobile phone services.

Click-to-Call (Cisco UAE).The Click-to-Call service allows a user to click on a link or icon displayed in an application and immediately place a call to the associated telephone number. The user does not have to look up a name and phone number, then manually dial the number. Instead, the user clicks on the phone number, then picks up the handset as the other phone is already ringing. This automation saves only a dozen or so seconds each time, but over several thousand (or million) phone calls, the time savings become significant. Click-to-Call is a fully scalable tool that can support hundreds of concurrent sessions.

Click-to-IM (Cisco WebEx Connect).The Click-to-IM tool starts an instant messaging session between a sender and a recipient using WebEx Connect and the users' default IM clients. It shows the presence status of the target user to help the sender determine whether an IM session is appropriate at that time. The service can also be customized to display predefined messages, for example, to automatically populate a case number and description for support engineers. Click-to-IM is implemented using the Cisco Jabberwerx API.

Click-to-Email (Multiple Platforms).The Click-to-Email tool uses the initiator's default email client, (e.g., Microsoft Outlook), and opens a "compose new mail" window with the target user's id filled-in. The window can also be customized to launch with a predefined subject and message text.

Click-to-Meet (WebEx XML API).Click-to-Meet gives a user the ability to create and initiate one-click WebEx meetings directly from a web-based application. The tool identifies parameters such as WebEx user name, password, attendees list, meeting name, meeting time, and agenda. It also sends an email notification to all attendees about the scheduled meeting. This tool is based in part on WebEx XML APIs.

Click-to-Schedule via Web Browser.Using the Click-to-Schedule via Web Browser service, a user can schedule a WebEx meeting with a single click. This service opens the WebEx scheduler session in another tab or browser and proceeds with WebEx authentication.

The DFT team also develops otherservices that are useful for adding unified communications and collaboration capabilities to business applications.

Presence Service (Cisco Unified Presence Server and Cisco WebEx Connect). The Presence Service accepts, stores, and distributes information that indicates the current communication status of the target user, indicating whether that person is online, in a meeting, on the phone, or working with "do not disturb" status. This presence information is especially helpful for users who need to find an available expert within a group, without knowing a specific name in advance. In this case, the presence information shows which group members are available right now to answer a question or join a meeting. Presence information is also often used by applications to determine whether the Click-to-Collaboratetools or other application features are available to users at a given time.

Hovercard Service (Multiple Platforms). For a given user ID, the Hovercard Service returns employee information for a pop-up window that appears when the mouse hovers over an employee's name or other application link. A hovercard can include name, job title, office address, telephone number, email address, and other data relevant to the application. Icons and links can be included in the hovercardto activate the Click-to-Collaborateservices available for connecting with that person. (Figure 2)

Figure 2. Example of Employee Profile Hovercard, with Icons and Links for Click-to-Collaborate Services



Example Business Applications

The DFT CoEtools integrate collaboration into a variety of business applications used within Cisco, serving functions such as:

- Instant messaging in contact centers
- Simultaneous ring of desktop and mobile phones for corporate security employees when critical alerts are received
- Click-to-Collaboratetools within internal and customer-facing collaboration portals

Several Cisco IT applications have made creative and highly effective use of the Click-to-Collaboratetools.

Partner Deal Registration (PDR). The Partner Deal Registration application is an online portal that allows Cisco partners to receive approval for sales deals, view pricing information, and access sales programs. Instead of sending an email to a Cisco employee and waiting for a response, today partners can get answers to questions immediately. With a mouse click, the partner can launch an IM session, voice call, or web conference with the appropriate Cisco employee for approving the deal or providing information. Benefits of this application include:

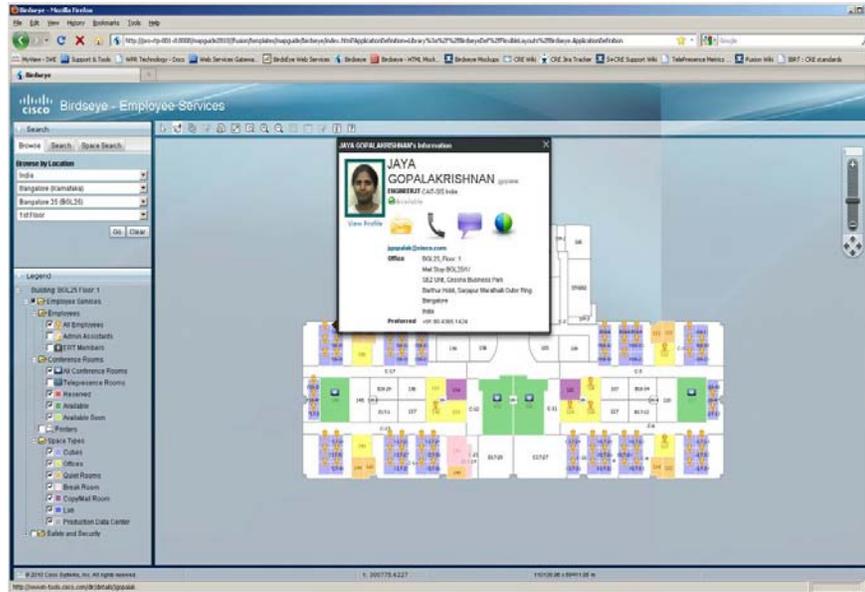
- Increased salesforce productivity from more efficient handling of proposed sales deals that require manual review and approval
- Reduced percentage of delayed order bookings
- Improved revenue and reduced invoice-to-cash cycle
- Increased customer satisfaction

Find an Expert. The Find an Expert tool helps support engineers in the Cisco Technical Assistance Center identify and collaborate with colleagues who have the skills required to solve tough customer problems. The tool displays useful information about the expert such as location, presence status, phone number, and email name as well as Click-to-Collaborate icons. This collaboration not only makes the engineer's job easier, but Cisco customers benefit from faster resolution of their service requests, which improves their satisfaction.

Cisco Maps Birds-Eye View. Developed for use by Cisco finance and facilities departments, this application provides a floor-plan view of space assignments in Cisco offices. When the user places the mouse cursor over a space, the

Hovercard Service displays information on the associated employee and includes relevant Click-to-Collaborate icons to allow immediate contact.(Figure 3)

Figure 3. Birds-Eye View Application Identifies Employees and Contact Information for Space Assignments in Cisco Offices



RESULTS

The services of the DFT CoE create benefits for Cisco application developers, the Cisco employees who use those applications, and Cisco customers and business partners:

- For developers, unified communications and collaboration capabilities can be easily integrated with business processes and applications.
- Users have a simple and familiar experience across applications, because the collaboration tools have a consistent appearance and operation.
- Standard services for communication and collaboration simplify common tasks by reducing manual steps and potential for human error.
- Click-to-Collaborate capabilities substantially reduce the transaction time for activities such as resolving a support case, initiating an order, or closing a sales deal.

PRODUCT LIST

Video and Collaboration

- Cisco Unified Application Environment
- Cisco WebEx Connect
- Cisco Unified Communications Manager
- Cisco WebEx Meeting Center
- Cisco Unified Presence Server

"Adding collaboration features to any application is fast with the tools built upon the Cisco Unified Application Environment, because the developer just adds the relevant code services," says Ramki Baratam, a Cisco IT program manager. "These code services are also standardized, which helps our IT community worldwide quickly produce consistent applications."

LESSONS LEARNED

By creating developer tools and resources, the DFT CoE team plays a unique role within Cisco IT. Carrying out this role has yielded several valuable lessons that can be applied by Cisco customers.

- Large IT organizations can benefit from creating a similar team to create and promote the use of developer tools for unified communications and collaboration. For small organizations, consider adopting these activities within the unified communications team.
- Drive the adoption of reusable applications services by developing a plan to promote them to the IT community. Also, look for IT teams that are working on business applications where collaboration services might be a beneficial addition. This proactive approach avoids the problem of creating application tools and services that are not used because IT developers simply do not know they exist.
- Create a dashboard to monitor actual utilization of the developer tools. This information helps to identify whether tools with low usage need additional promotion or improved functionality.
- When implementing the Cisco Unified Application Environment, consider deploying more servers than what might be needed to ensure adequate capacity. Also, deploy the servers in pairs for redundancy to allow continuous access to shared application services.

NEXT STEPS

The DFT CoE team is working with the Cisco IT community on new application services for groups inside Cisco such as human resources, engineering, finance, training, information security, and selected contact centers. These groups

are planning to include a variety of features in their applications, such as extending the Click-to-IM capability to external users, developing a Click-to-Conference capability that will connect multiple parties, incorporating Cisco TelePresence and desktop video calls into applications, and supporting mobile phone services.

“The Cisco Unified Application Environment...helps our IT community worldwide quickly produce consistent applications.”

– Ramki Baratam, Program Manager

FOR MORE INFORMATION

For information on the Cisco Unified Application Environment, visit: www.cisco.com/go/cuae

For additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT www.cisco.com/go/ciscoit

NOTE

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