



How Cisco IT Evolved Enterprise Social Software and Collaboration

Cisco gains more business value by migrating Web 2.0 tools to Cisco WebEx Social

Cisco IT Case Study/Collaboration/Enterprise Social Sharing: This case study describes how Cisco IT has evolved its internal collaboration and social sharing site, called the Integrated Workforce Experience (IWE). Originally created by Cisco IT on an open-source platform, IWE now runs on the Cisco® WebEx Social™ platform. By offering IWE access to employees, work groups, and departments across the company, Cisco is realizing the benefits of cost savings, improved productivity, and transformed business processes. Cisco customers can draw on Cisco IT's real-world experience in this area to help support similar enterprise needs.

BACKGROUND

Social information sharing once meant only two options: Create an email distribution list or post content on an internal webpage or file share. But these methods were limited because you had to know who should be included in the email list and their email addresses. They were also cumbersome, because any change in the information meant sending a new message to everyone, or trying to get an update coded into the webpage.

For documents with many reviewers or frequent updates, these methods led to message overload and confusion about which version was the most up-to-date. Email distribution also generated extra network traffic and storage needs because every attachment was duplicated for each recipient on the list.

"We estimate a gain of between US\$3 million and \$24 million in the value of increased employee productivity based on IWE usage today."

– Aarti Mittal, Cisco program manager

The arrival of Web 2.0 tools such as wikis and social bookmarks began to change this model for sharing content. Instead of emailing a file, perhaps multiple times and for multiple versions, a wiki provides a single place where the document can be posted for easy access and updates by multiple people. The content owner simply sends a link to that file or users can browse or search the wiki to find it on their own.

Web 2.0 tools were very appealing to Cisco employees, many of whom had used them and seen their value outside of work. These

employees wanted to use Web 2.0 tools on the job to share internally and to improve their work productivity. However, Cisco IT was reluctant to offer and support Web 2.0 tools internally because of their open-source nature, and in many tools, inadequate security features.

Even as Cisco IT began to explore social sharing options, some employees weren't willing to wait. They began to use certain tools on their own, such as external instant messaging (IM) services and video sharing. Some employees even set up a wiki server under their desks, using their Ethernet port to connect it to the Cisco network.

The independent and unauthorized use of external services presented an information security risk to Cisco. Additionally, isolated wikis made the communication problem worse by creating even more places where current content might be stored. The individual, informal wiki deployments meant there was no way to bring the tools and content together in a central place for true sharing of knowledge and resources among employees.

EXECUTIVE SUMMARY

BACKGROUND

Cisco IT support for social sharing and collaboration tools has evolved:

- Selected, individual Web 2.0 tools
- IWE on an open-source platform
- IWE on the Cisco WebEx Social platform

CHALLENGE

- Migrating IWE to the Cisco WebEx Social platform
- Encouraging greater employee adoption of IWE
- Increasing business value obtained from IWE

SOLUTION

IWE Powered by WebEx Social

- IWE: Enterprise social software environment and application portlets
- Cisco WebEx Social platform software
- Cisco UCS servers
- Cisco ACE modules
- Employee communications program
- Support for application portlet developers

RESULTS

- Implemented IWE for all business functions within one year
- Gain of up to \$24 million value from increased employee productivity
- More than 1000 IWE communities, with more than 900,000 visits per quarter
- Business process improvements including faster time-to-market for a new product
- High levels of interest and response for employee communications

LESSONS LEARNED

- Make collaboration and sharing easy
- Expect user behavior to change
- Archive inactive communities
- Use IWE communities and targeted e-mails to promote visits
- Avoid customizations whenever possible

NEXT STEPS

- Support continued growth in users, communities, content, and applications
- Develop templates for common application integrations
- Transition general corporate communications to IWE

Recognizing the user demand for social networking and collaboration tools, Cisco IT began to deploy and support selected Web 2.0 capabilities. However, this deployment was an informal collection of individual tools, which Cisco IT soon realized couldn't be adequately secured, integrated with other applications, or scaled to meet the needs of the company's 90,000 users. Also, having a collection of Web 2.0 tools meant there were different conversations taking place on these different systems, sometimes about the same topic. A wiki might have a solution that someone on a discussion forum was asking for, without knowing the wiki even existed.

Cisco IT initially developed IWE to address those challenges and in 2009 released the first version for general use. In 2010, Cisco IT moved IWE to the Cisco WebEx Social environment in order to gain the advantages of a commercial platform instead of the open-source software that previously served as the IWE foundation.

The IWE Model

With IWE and the Cisco WebEx Social platform, Cisco IT provides the types of social networking tools—blogs, microblog messages, and informal videos—that employees use outside of work. In IWE, those tools are optimized for internal use within Cisco and are implemented in a robust, scalable, and secure way. IWE allows Cisco employees to more easily find experts within the company, share frequently requested information, and get their work done faster—all integrated within one system rather than having multiple tools and knowledge repositories.

The IWE model encompasses four major elements:

People – The element for finding and connecting with employees who have specific skills or needed resources. Previously, this information was in the corporate directory, but it is now evolving into a rich employee profile with activities, interests, expertise, and links to the employee's blogs and other content.

Communities – Social networks where employees can organize into online groups around common work projects, job roles, technologies, or interests to interact, share, discuss, and learn with each other. Employees can find information and use IWE tools without joining a community, but community membership streamlines access for relevant content and people, which simplifies an employee's job. Communities can also replace email distribution lists, because IWE users will know where to look for the latest document version or other information.

Information – A single, current source of data or content that can be shared easily across people and communities. This element combines documents, forums, video, blogs, and other content posted by users.

My View – A user-defined, personalized home page for accessing relevant people, communities, news, applications, and events. An aggregation point of –activity feeds|| that covers all people the user follows, information marked by the user as an interest, and communities in which the user is a member. Users can also choose to add applications from the IWE application library such as –My Calendar,|| –My Paid Time

Off|| (vacation time tracking), "My Expenses," "My Approvals," etc. These applications connect with the relevant Cisco IT transaction systems. (Figure 1)



Figure 1. The User-Customizable My View Page in IWE

IWE offers Cisco employees a single place to access tools for asking questions; finding and sharing documents, videos, and other content; and exploring ideas with colleagues. These tools including the following:

- Cisco video communication and collaboration: Cisco Show and Share, Cisco Unified Communications, Cisco TelePresence, and Cisco WebEx.
- Enterprise Social Software: Content sharing as posts, which then become wikis, blogs, and discussion forums based on user settings.
- Personalization and Relevancy features including search, content tags, user identity management, and workforce data.
- Support for access from mobile devices such as smartphones and tablet computers.
- Applications and Services: Tools that can streamline work tasks, such as access to the employee directory, as well as portlets for interacting with business systems.

CHALLENGE

As IWE became a more fully developed solution for internal collaboration, Cisco faced two new challenges. First was the migration of IWE tools, applications, data, and users to the Cisco WebEx Social platform. The second challenge was increasing the business value gained from IWE and encouraging the shift by employees to a culture of greater collaboration and sharing.

Migrating to the Cisco WebEx Social Platform

IWE was developed before Cisco WebEx Social; in fact, Cisco IT's experience in deploying Web 2.0 tools guided the WebEx Social design. When Cisco released the WebEx Social platform as a commercial product, Cisco IT began planning an IWE migration for the original open-source platform. This planning needed to address several challenges.

Minimizing user disruption. Cisco IT needed to integrate Cisco WebEx Social with the IWE tools for online searches and

document management that were familiar to users. Cisco IT also needed to make sure that all IWE and WebEx Social technologies could work together smoothly after the migration.

Preserving user documents. Although all user content was preserved in the migration, a simultaneous change in IWE user functionality meant that documents might not appear in the same form on the Cisco WebEx Social platform. For example, instead of contributing a document to an IWE wiki, users now create a -post|| for the document. IWE then places that post into a blog or wiki depending on the commenting and editing parameters set by the user.

Migrating different types of user data appropriately. "Moving user data among collaboration platforms is a big challenge because the different types are stored differently and the content and data models are all different," says Clare Gregory, a Cisco IT program manager. "We had to identify ways to address issues such as transferring data with access permissions intact and integrating with a third-party document management system.||

Supporting application portals. Previously, multiple Cisco IT development teams supported distinct parts of IWE. After the migration, Cisco IT wanted to form a single team to support new releases of IWE and Cisco WebEx Social functionality. This team would also support developers of IWE applications and portlets.

Educating Employees. At the core of the business value challenge was educating and motivating employees to become active participants in IWE communities, then to share information and content appropriately. -Cisco has a company-wide goal for fostering more collaboration in order to increase productivity in all of our work," says Carlos Valdes, organizational communications manager for Cisco IT. "We needed to educate our employees about the bigger picture of why IWE is important to use and how it benefits themselves and our business.||

SOLUTION

The new implementation, called IWE Powered by Cisco WebEx Social (IWE PbQ), addressed the migration challenges while also providing a foundation for developing new applications that increase business value. Targeted employee communications—both during the migration and in ongoing campaigns—have played an important role for increasing user adoption of IWE. The Cisco IT team that is now responsible for IWE support also makes extensive use of IWE in its work.

PRODUCT LIST
<p>Collaboration</p> <ul style="list-style-type: none"> • Cisco WebEx Social platform • Cisco UCS servers • Cisco ACE modules • Cisco Show and Share

Deployment Architecture

From an IT architecture perspective, IWE is an enterprise social software environment and a set of applications (called portlets) that run on top of the Cisco WebEx Social platform.

Cisco IT deployed Cisco WebEx Social on a virtualized server infrastructure based on the Cisco Unified Computing System (UCS). The Cisco WebEx Social deployment uses a set of 34 virtual machines, which eliminates the need to qualify and procure additional hardware and significantly reduces the deployment time.

This architecture also

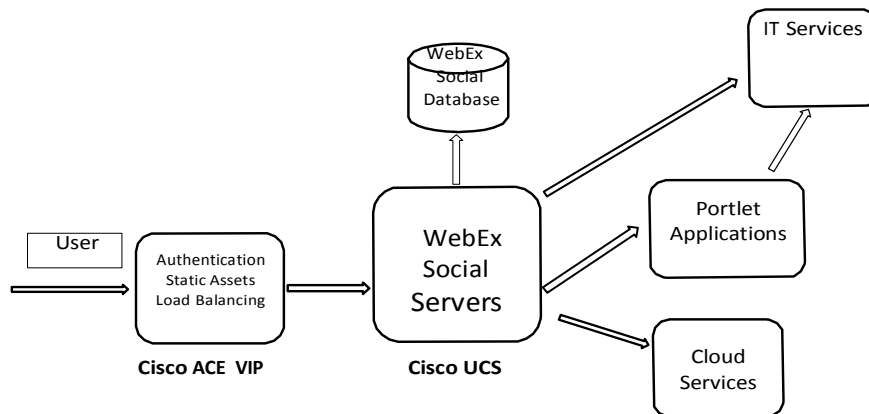
substantially reduces the operational cost for IWE, and allows scaling as required

to meet growing content and users for the platform.

Cisco WebEx Social is integrated with core IT services for authentication, databases, directories, click-to-connect features, content management, and search. It also integrates with and supports applications (called portlets) that execute on a virtualized server platform for scalability and reliability. (Figure 2)

Load balancing on the Cisco WebEx Social servers is performed by Cisco Application Control Engine (ACE) modules based on virtual IP addresses. Cisco IT monitors and manages all of these elements centrally in a single enterprise system, which makes it simpler to troubleshoot problems.

Figure 2. Cisco IWE Deployment Architecture on the Cisco WebEx Social Platform



Employee Communications

An internal communications team created messages and content to inform Cisco employees about the IWE migration to the WebEx Social platform. –The larger goal of our communications was to convey the message of IWE as the place to connect, communicate, collaborate, and learn,|| says Valdes.

The Cisco corporate communications team created several types of content in order to catch the attention of employees. Articles appeared on the homepage of Cisco's internal employee website, with links to videos where executives explained the value of IWE for the company's business strategy. Targeted e-mail campaigns were sent according to an employee's job role or department.

The messages about IWE that were presented in employee communications were determined centrally, but refined as needed to make them relevant to employees in different functional groups and geographic regions. The communications team also created editorial guidelines and best practices to help employees communicate on IWE.

Support for Application Portlet Development

A Cisco IT team manages the IWE environment, manages new releases of the Cisco WebEx Social platform and IWE application portlets, and provides support to portlet developers. A resource post on IWE, which is maintained by the IWE release team, offers templates and tools for common integrations and development tasks, as well as portlet best practices.

Portlet developers also collaborate in two IWE communities established for this purpose. "The IWE communities give us an easy and consistent way to share information about new IWE releases with the developers, which is especially valuable for maintaining the complex integrations of the various IWE elements," says Gregory.

RESULTS

Since the initial IWE deployment in 2009, the business value, user adoption rates, and transformation of business processes have shown continuous improvement.

Business Value to Cisco

Cisco has realized substantial business value from cost savings, improved employee productivity, and transformed business processes that are attributable to IWE.

Cost savings. Departments and work groups across the company have been able to reduce or avoid costs by working collaboratively within IWE. As an example, Cisco IT was able to implement IWE for all business functions within one year. This result compares to the estimated 9-12 months that would have been required to implement similar collaboration functionality for each business function within Cisco. Because IWE is a platform, Cisco IT was able to deploy just one collaboration system in one-third of the time at one-third of the cost, and it is a system that satisfies the whole company.

Improved employee productivity. "We have calculated a gain of between US\$3 million and \$24 million in the value of increased employee productivity based on IWE usage today. This is projected to increase to between \$9 million and \$68 million by mid-2012 based on increased adoption," says Aarti Mittal, a Cisco IT program manager. This calculation is based on the seven percent of users who are making five or more visits to IWE each week, for an average time savings of between 15 minutes and two hours per week. These time savings have come through faster and easier information sharing, less time spent searching for information sources, and fewer steps required for common application tasks.

Transformed business processes. Cisco is also identifying the business value gained from increased use of collaboration and social sharing across its business processes. Although metrics are not yet available, Cisco is evaluating factors such as faster time-to-market for a new product, improved time-to-effectiveness for new employees, and improved customer satisfaction.

Increasing User Adoption

As of mid-2011, key statistics show the high levels of IWE use among Cisco employees:

- Nearly 87,000 unique visitors to IWE, with software developers and salespeople comprising the largest portions of this total.
- More than 900,000 visits to the IWE site per quarter as of mid-2011. The overall average of 6.05 visits per week per user indicates that IWE has now become a regular part of employees' work activity.
- More than 1000 IWE communities created, of which slightly more than half are open to all IWE users. The number of communities has quadrupled in one year as employees see IWE's value for sharing information and resources with colleagues by project, location, interest, etc.
- Almost 14,000 IWE users "follow" other users in order to receive alerts when those employees posed new information or take other action within IWE. The follow capability is especially effective for technical experts and managers who post resources of interest to multiple colleagues within their department or across the company.

Statistics also show the popularity of IWE features:

- A 25 percent increase in the number of IWE discussion forum messages in one month.
- 1,400 videos created by Cisco employees and embedded in IWE for on-demand viewing via the Cisco Show and Share solution.

Employee Communications to Promote IWE Adoption

The Cisco employee communications team found that targeted e-mails were the most effective method for educating employees about IWE and driving new users to a particular community. Other communications methods also received high readership among employees:

- Featured articles about IWE Powered by WebEx Social appeared on the homepage of Cisco Employee Connection, the

internal employee news site. Cumulatively, these articles received more than 23,000 views by readers between the November 2010 launch of IWE Powered by WebEx Social and mid-2011.

- On-demand videos that explain the IWE business value for Cisco received more than 2500 views.
- A blog post within IWE about the migration to the Cisco WebEx Social platform received nearly 700 views.
- "The internal communications campaign took advantage of multiple methods to reach various audiences within the company," says Valdes. "A consistent set of messages conveyed the benefits of using IWE within the context of improved collaboration and productivity."

-Instead of thinking just about what they wanted from a tool or application, they began to think about what they needed to support business processes and so they began to create more portlets.||

– Sapna Garg, Cisco IT manager for IWE

IWE Portlets Simplify Business Processes

As of mid-2011, Cisco developers had created more than 100 distinct application portlets for company business groups and functions. "Once they started to really use IWE, our developers and users began to think more broadly about it," says Sapna Garg, Cisco IT Manager for IWE. "Instead of thinking just about what they wanted from a tool or application, they began to think about what they needed to support business processes and so they began to create more portlets that targeted action, such as the ability to approve expenses."

With a single team managing and supporting the deployment, new versions of IWE and Cisco WebEx Social software are released quickly. That speed creates business value by allowing users to quickly take advantage of new productivity features and portlet developers to access new capabilities for their applications.

LESSONS LEARNED

Throughout its history, the IWE deployment has produced several lessons about enterprise social software and collaboration.

Make collaboration and sharing easy. Employees won't use a social platform such as IWE if it becomes another burdensome task on their to-do list. Allowing users to configure their own My View home page with relevant tools and information is an important feature for encouraging user adoption. Active and well-managed IWE communities also encourage valuable knowledge sharing among employees.

Expect user behavior to change. -As our employees learn to work collaboratively, we are seeing changes in their behavior on IWE,|| says Gregory. -For example, people are using documents more than shorter form posts and users are communicating more with smaller groups of colleagues rather than the community as a whole.||

In another example, community managers more fully understand the value of open sharing. As a result, they are creating fewer restricted communities, where users may join only if invited. In an open community, the content is visible to all Cisco employees and any employee can opt to join as a community member.

Cisco continues to use -hidden|| IWE communities, where members must be approved and the content is not visible to non-members. Hidden IWE communities serve topics and members that require a very high level of confidentiality.

Archive inactive communities. Some IWE communities, such as those created for a work project, are needed only for a limited time. When there has been no recent activity in a community, Cisco IT sends an email to the community manager asking if the community can be terminated and archived. The community content is saved to meet legal requirements for information retention, but it no longer uses active IT storage and computer resources.

Use IWE communities and targeted e-mails for user communications. To encourage user adoption, the Cisco

corporate communications team sent announcements to IWE community managers for posting in the community's news feed. In addition, the team sent targeted IWE update emails to employees. By targeting, the communications can meet the interests and information needs of different employees, e.g., new or experienced users and employees in specific departments, countries, or functions.

Avoid customizations whenever possible. Although it can be easy to customize IWE applications, each customization adds complexity to the overall integration in the platform and to ongoing support. Creating development standards and tools for application portlets can help to reduce the need for customizations.

NEXT STEPS

Cisco IT expects continued growth in IWE Powered by WebEx Social in terms of registered users, communities, content, applications, and portlets. Supporting this growth will mean regularly assessing the capacity and performance of the underlying server and storage infrastructure.

The IWE release team will continue to develop templates for common integration types in order to reduce the need for developers to create customizations. Cisco is also exploring plans to make its implementation of the Cisco WebEx Social platform accessible to external developers to create portlets for the company's use.

For corporate communications, a long-term plan is to transition general corporate news announcements and information resources to IWE.

FOR MORE INFORMATION

For information on the Cisco WebEx Social platform, visit: www.cisco.com/go/webexsocial.

For a set of case studies describing how diverse departments and groups within Cisco use IWE, visit: http://www.cisco.com/web/about/ciscoit/work/collaboration/iwe_powered_by_cisco_webex_social.html

The Cisco on Cisco blog contains posts on collaboration topics: <http://blogs.cisco.com/category/ciscoit/>

To read 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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