Cisco Unified Communications and the Smart Business Communications Architecture

Challenge
In today's complex and highly competitive business environment, communications and IT decision makers in small to midsized businesses (SMBs) face a number of unique challenges. How do they weave network technologies and business applications into comprehensive, integrated solutions that address key business challenges such as operational efficiency and customer responsiveness? How can IT decision makers architect systems that drive competitive advantage and provide maximum extensibility, while minimizing management and deployment costs? And in doing so, can they improve the overall customer experience? How do they ensure that solutions deployed today will also be the foundation of new services that meet future business needs? In short, how do small and midsized businesses intelligently align their business strategies and IT architectures to maximize sales and profitability while increasing customer satisfaction?

Solution
Over the past decade, the IT industry has responded to the demand for increasingly efficient applications and infrastructure with service virtualization. Instead of dedicating services to a single application or device in a closed system, advanced network architectures now enable multiple applications to intelligently share common services in an open standards environment across many types of devices. This services-oriented networking approach dramatically improves throughput, reliability, and security while simplifying deployment, integration, and ongoing maintenance.

Cisco® has played a leading role in this innovation, redefining the network and its capabilities through its Smart Business Communications architecture. In the Cisco Smart Business Communications model, the network becomes a platform for unified business communications and enhanced business’ processes, helping companies across multiple industries align IT and business objectives, using simple, “off-the-shelf” solutions. By building smart networks that increase operational efficiency, customer intimacy, and profitability, organizations also build smart business – for today, and tomorrow.

The Cisco Unified Communications system is the first unified communications system takes full advantage of converged networks and service-oriented architectures (SOA). Based on Cisco integrated technology, it uses shared services and open standards such as Extensible Markup Language (XML), Voice XML (VXML), Session Initiation Protocol (SIP), SIP for Instant Messaging and Presence Leveraging Extensions (SIMPLE), HTTP, and Simple Object Access Protocol (SOAP) to virtualize voice, video, presence, and mobility services within the Smart Business Communications framework. These services can be delivered securely to any device, anywhere, anytime, across multiple applications – in a plug-and-play format that dramatically improves efficiency and collaboration, and transforms the user experience.

The Cisco Unified Communication system is based on Cisco’s integrated technology, with all components designed to perform better together. This integration means that quality of service
(QoS), security, and much more, are built in and not added on. Having components working together in concert can also dramatically improve business and IT effectiveness.

Architecture for Growth

Cisco Smart Business Communications provides a holistic, network-based approach to business and technology integration for SMBs. Cisco developed this framework to create an enhanced business process and communications experience that is based on the network as a platform.

The Cisco Smart Business Communications architecture includes reference architectures, production grade designs, and verified best practices. Each component within the architecture corresponds to a place in the business network – main office, data center, branch office, home office, and mobile worker – and contains its own designs that can be combined for a customized, proven, solution. Each design includes Cisco’s products and technology solutions that have been developed with integration in mind. This offers many practical benefits, such as lowering operational expenses by enabling employees to communicate using a single, secure architecture for voice, data, mobility and video. The Cisco Unified Communications system is a prime example of this “ground-up” approach to solution development.

Figure 1. Smart Business Communication’s Two-Layer Architecture

The Two-Layer Architecture

The foundational layer of the Cisco Smart Business Communications architecture is the integrated secure network layer, which is made up of Cisco products that are designed to integrate networking technologies such as security, routing, switching and mobility directly into the Cisco Unified Communications system. Cisco has verified designs for these integrated products and all the places in the business they service. The designs include best practices that describe how to optimize routing, switching, mobility or security to produce a secure, reliable, and scalable business communications environment.

Embedded in the integrated secure network are Cisco Smart Communications Services that embody the intelligence in the network and enable smart business applications. All the parts of a Cisco network – the routers, switches, security, and call control software – work together to deliver voice and data in the right place, at the right time and in the right form. These Smart Communication Services allow important capabilities such as firewalls, Survivable Remote Site Telephony (SRST), QoS, and load balancing to be easily and transparently integrated throughout the network and applications for maximum resiliency and operational efficiency. Certified Cisco
channel partners can then optimize these services for each customer environment according to specific business and technical needs. This flexibility enables customers to establish a smart, resilient foundation for network, applications and services that can grow and evolve along with their business. As new business models are developed, application connectors already resident in the network architecture efficiently link security, data and mobility services to end-users applications.

Above the integrated secure network layer is the applications layer, which is divided into three categories of applications: productivity, business, and industry applications.

- Productivity applications include rich media collaboration and messaging applications running on an integrated secure network. These solutions have been verified to ensure that, for example, Cisco Unity® Connection’s integrated messaging, speech recognition and automated attendant applications can service users in multiple locations from a single centralized server, and provide enhanced capabilities such as secure private messaging across many different devices.

- Business applications include standard horizontal applications, such as customer relationship management (CRM), enterprise resource planning (ERP), and sales force automation tools, from industry leaders such as Microsoft and Salesforce.com.

- An example of an application specific to vertical markets is NurseCall in the healthcare sector. These types of applications address and support industry-specific standards. Cisco will continue to demonstrate how these applications can run more effectively on a Cisco integrated secure network – and how vertical application performance and utilization can be improved.

**Cisco Business Application Connectors**

When two or more business applications can communicate and share information at the same time, they provide a company with advanced business processing capabilities. Such is the purpose of Cisco Business Application Connectors which integrate the rich information available in the network with desktop and user applications. Cisco is building a portal to support the ability to integrate multiple business applications with the Cisco Unified Communications platform.

When customers can begin to integrate their silos of information and applications – for example, front office, CRM, and back office – they can start to enhance their business processes. Information becomes transparent and is delivered instantaneously throughout the organization in the preferred format for each user. The improved customer experience resulting from this ability becomes a competitive advantage for the business.

Consider the following scenario as an example of what business application connectors can offer an SMB customer. A call comes into any employee – not just the customer service department. When the employee answers the IP phone, he or she will see a screen pop on the desktop with detailed customer records based on caller ID. That information resides in a CRM database that’s virtualized through the network using Cisco’s suite of business application connectors. These connectors link more than one application – in fact they have the potential to integrate all of a company’s databases – such as shipping, receiving, billing, and accounts payable – allowing the same employee to access four or five applications during a single phone call. And because the applications are integrated via the network and IP with open standards, this information is also available from Cisco Unified IP Phone displays when an employee’s PC is off. Desktop applications and Cisco Unified IP Phones also display other helpful information, such as the network presence of other employees who may be needed for a status update, a conference, or a future call transfer.
Each screen (PC and IP phone) is populated with detailed information from several back-end systems that give the employee comprehensive details about the caller and co-workers. This information empowers the employee to give callers the best possible service and the highest level of responsiveness – all contributing to a rewarding customer experience.

Cisco has developed several business application connectors for the SMB environment that helps applications perform at their best. Some of the connectors currently available for use today:

- The Cisco Unified CRM Connector is a client/server-based application that supports key features in Cisco IP telephony environments using Microsoft CRM. It integrates the Cisco Unified Communications system with the Microsoft Dynamics CRM application quickly and easily, without the need for additional hardware. Moreover, the Microsoft CRM client uses Microsoft Outlook or Internet Explorer as the primary client for managing tasks and contacts. Features include: immediate information about inbound and outbound calls; fast and easy “click to dial” capability from CRM database records; and call duration tracking, information capture, and record creation.

- The Cisco Unified CallConnector for Salesforce.com integrates the Cisco Unified Communications system with Salesforce.com's on-demand CRM services. The result is an easy-to-use, more complete on-demand (or hosted) CRM solution that helps increase productivity and improve customer satisfaction. Among the features and benefits provided by this integrated solution are immediate screen pops of the customer's recent activity history, follow-up tasks, sales opportunities, or service level agreements, and the same integrated data solutions for home-based or remote sales teams as for employees at your home office.

**The Cisco Unified Communications System**

![Cisco Unified Communications System](image)
The Cisco Unified Communications system integrates industry-leading communications products into a virtualized, full-featured business system that is people-centric and that ties next-generation services directly to business processes. Because employees work from multiple locations, multitask using a variety of media and devices, collaborate interactively, and communicate via e-mail, instant messaging, and video conferencing, the Cisco Unified Communications system delivers a device and media-rich communications environment that seamlessly integrates voice, video, and data across desktops, mobile devices, and common business applications.

**Figure 3.** Cisco Unified Communications and Smart Business Communications

Unlike other communications systems that treat applications, business processes, and the network as disparate components, Cisco Unified Communications takes advantage of the Smart Business Communications framework to provide unprecedented levels of business productivity and operational efficiencies.

Within the Smart Communications Services component of the architecture, the Cisco Unified Communications system uses many of the currently defined infrastructure services to enable critical network-wide capabilities. These include application, mobility, security, and voice services that are embedded within the network and the application connectors.

Cisco’s innovation and commitment to open standards is a core element in its Unified Communications, Smart Business Communications, and shared-services vision. Virtually all applications within the Cisco Unified Communications system – including Cisco Unified CallManager, Cisco Unified Presence Server, Cisco Unified IP Phones, Cisco Unity®, Cisco Unified Contact Center, and Cisco Unified MeetingPlace® – use Session Initiation Protocol (SIP) as a primary communications protocol.

This openness allows Cisco applications to interoperate with the IBM Sametime and Microsoft Live Communications Server (LCS) presence applications. For example, as part of the Cisco Unified Communications environment, these applications allow workers to see one another’s status so that employees using Cisco Unified IP Phones can know at a glance if another employee using Microsoft LCS or Office Communicator is available.
With fully federated bidirectional presence, Cisco Unified Personal Communicator users can set their status to “in a meeting” or “do not disturb,” and this information will be displayed to users of IBM Sametime or other SIP/SIMPLE-compliant presence applications. Cisco Unified Personal Communicator and IBM Sametime even support text strings, so that users can customize their greetings (“at lunch – back at 1PM” or “traveling – call my mobile”) for advanced presence capabilities. IBM Sametime instant messages are also displayed on Cisco Unified IP Phones when a user's PC is off, so that he or she can respond instantly in situations when only an IP phone is available.

**Customers Solve Real-World Problems with Cisco Smart Business Communications and Unified Communications**

By exploiting the power of Cisco Smart Business Communications integrated and shared services, companies of all sizes are finding that they can use their IT resources and more fully align their business processes and technology. Following are some examples of customers that are using Cisco Unified Communications and Smart Business Communications to increase the efficiency and quality of their core business applications and communications systems and creatively connected these solutions to forge powerful new capabilities.

**TVCom.** A consulting group with 20 employees located in Belgrade, Serbia, TVCom uses Cisco Unified CRM Connector in its inbound and outbound call centers to deliver personalized customer care (customer support, telemarketing, and telesales services) to Fortune 100 companies. TVCom uses Cisco Unified Communications and Smart Business Communications to provide reliable, efficient, and personalized support to tens of thousands of callers. “Skills-based routing was a key requirement,” explains IT Manager Marija Savic. “We can route each call to the agent most qualified to answer a question. This feature was critical because we have a limited number of agents, all of whom are doing several jobs at once.” TVCom deployed its Cisco solution with future growth in mind, and the company is already making plans to adapt its scalable network to support new applications and clients.

**Rosen Hotels.** Competing for business travelers is a priority for hotels in Orlando, Florida. In the Rosen Hotels and Resorts’ new 1500-room Rosen Shingle Creek Resort, standard IP services were installed, such as high-speed Internet access and pay-per-view television in guest rooms, and wireless access in public spaces. To provide increased value to their guests, Rosen Hotels connected their Percipia hospitality software to their Cisco Unified Communications system. This business application connection allows guests to order room service, access room voice mail, and find guests who are co-workers through a directory on the television set, all without picking up a phone. Internal efficiencies were also gained using Cisco Unified Communications to support in-house phone conferencing, instead of working with expensive outside vendors.

**Kaweah Delta Health Care District.** This rural, not-for-profit community hospital system in the central California town of Visalia realized that the ability to provide timely access to information in a hospital could truly mean the difference between life and death. The Cisco solution “enhances our operational efficiency and our effectiveness in delivering high-quality healthcare,” says Lindsay Mann, CEO of Kaweah Delta Health Care District. Anytime, anywhere access to patient information is enabled using electronic recordkeeping, and a converged Cisco Unified Communications network is built on a Smart Business Communications platform. Business applications such as patient records are connected to the network to allow doctor access from a computer on wheels, from a personal digital assistant, or from a mobile voice-over-IP (VoIP) phone to provide information at the point of care.
Beasley Group plc. This London, U.K. based insurance company used a Smart Business Communications platform to support its rapid growth including moving into a new headquarters and expanding its operation to the United States and other markets. Their Cisco Unified Communications solution provides them “perfect, simple, and in a way, free” communications according to Dave Boswell, head of IT operations. The solution has saved Beasley money as they continue to offices in the US and add employees and made it easier for employees in the United States to consult with headquarters based employees. Video conferencing between continents is helping the company build stronger business relationships with clients.

Cisco Smart Business Communications and Unified Communications – A Unique Solution

With the integration of the Cisco Smart Business Communication architecture and portfolio of Cisco Unified Communications products and applications that are designed to work better together, companies of all sizes can realize possibilities that simply did not exist before. They can create new and compelling applications to fit their business needs and elevate business communications tools and processes to a new level of quality, productivity, and performance. When the network is the platform for communications, employees benefit from a uniquely agile, responsive working environment in which they can collaborate and be more productive than ever.

The Cisco Smart Business Communications architecture virtualizes unified communications applications, making innovative voice, video, and data services such as video and presence rapidly and readily available across the entire organization. Unlike the offerings of other providers, Cisco Unified Communications, when run on this architecture, allows companies to easily integrate communications services with existing business applications such as Microsoft CRM and Salesforce.com to gain a distinct competitive advantage.

Cisco Unified Communications and Smart Business Communications take advantage of open standards such as XML, SOAP, SIP/SIMPLE, and other services-oriented protocols. This allows customers to easily add and generate new features and functions through software upgrades and incremental hardware additions that build upon existing investments in Cisco Unified Communications and the network infrastructure.

Ultimately, Cisco’s many years of experience with unified communications and IP networks means that customers have the strongest ally in their efforts to implement a successful, secure, and powerful unified communications solution. Cisco will continue to enable its customers to deliver improved employee productivity, increased customer satisfaction, and improved financial results as they evolve their business over time.

Benefits at a Glance

The powerful combination of Cisco Unified Communications and a Smart Business Communications architecture – where the network is the platform for communications – presents a wealth of benefits to customers. Most of these benefits fall into two categories: increased operational efficiency and competitive differentiation.

- **Increased operational efficiency** results from the collaboration and presence services enabled by this combination. These services enable a company's workforce to be fully engaged at all times, with "anytime, anywhere” access to tools and resources...

  Furthermore, by providing employees with an enabling environment that is highly conducive to helping them achieve their work goals, companies can be more successful in recruiting and retaining top employees. And happy employees lead to happy customers.
Competitive differentiation that results from improved customer support and responsiveness is made possible through the alignment of business applications, such as CRM or ERP, with Cisco Unified Communications running over Smart Business Communications architecture. When a company can integrate these business applications over the network so that an employee has instantaneous access to several databases of information they answer customer calls, that company has the power to offer top-quality service and an excellent overall experience to that customer.

Summary

With its industry-leading breadth of integrated solutions, world-class partnerships, and in-depth understanding of today's technical and business challenges, Cisco is uniquely able to help its customers take advantage of the best network architecture and communication system in the industry. The Cisco Smart Business Communications architecture and the Cisco Unified Communications system represent the perfect pairing of smart network architecture and empowered communications applications. Together they open up new possibilities for innovation and productivity breakthroughs. This helps businesses align applications with technology, increase the efficiency of employees and IT staff, improve customer satisfaction and loyalty, and gain a competitive advantage to increase profitability.

Additional Resources

For more information on Cisco Unified Communications Solutions for SMBs, please visit: http://www.cisco.com/go/cuc.