

Collaboration: Improve End User Quality of Experience with Simplified, Unified Collaboration Management

What You Will Learn

In an increasingly fast-moving business environment, organizations face more pressure than ever to keep costs in line, boost their agility, and enable employees to be more productive and efficient. This paper discusses how companies can meet these goals, as they seek better ways to help employees work together more effectively, at anytime, anywhere.

Extending real-time collaboration across an entire organization is challenging. Enterprises of all sizes are becoming more dispersed, often with multiple offices in different cities, states, and countries. New technologies are producing changes for employees as well, freeing staff from traditional offices to regularly work from home, on the road, and at customer locations. Employees are working away from the office, using a variety of communication devices, from desktop or laptop PCs to tablets and smartphones. In this mobile, changing environment, organizations are turning to the network to keep a dynamic workforce connected to customers, partners, and one another.

Unleashing the Benefits of Collaboration

Network-based employee collaboration can transform business processes by enabling immediate, face-to-face communication from anywhere. A robust collaboration environment can enable organizations of all sizes to exchange information, speed decision-making, and enhance training. At the same time, it helps employees save time, enabling them to increase their personal productivity.

A wide range of collaboration solutions are available, and enterprises are deploying them individually and in every possible combination to power their most critical operations.

- Conferencing solutions, such as Cisco WebEx[®] meeting applications, let organizations take advantage of voice, video, and web offerings, providing an experience that is compelling, productive, and cost-effective.
- Cisco TelePresence[®] for live, face-to-face experiences lets users collaborate in dedicated conference rooms or using mobile or desktop video endpoints. Participants can meet, share content, create high-quality video recordings and events, and deliver personalized services.
- Unified communications and advanced media and collaborative meeting endpoints help extend IP telephony, video, and other communications services to employees regardless of location.
- Messaging, including the Cisco Jabber[®] messaging integration platform, allows people communicate within and between companies using enterprise instant messaging (IM) from the cloud or on-premises, robust email, and unified messaging.
- Customer care including IP contact center solutions proactively connects customers with the information, expertise, and support they need, at the times and places they need it.
- Enterprise collaboration such as the Cisco Quad[™] platform helps employees, customers, and partners quickly find, access, and share relevant business information.

Voice and video collaboration lets companies tap the full potential and deep experience of their workforce and quickly deliver knowledge anywhere around the world - without the cost and logistics involved in arranging travel. With a few clicks of a mouse, a team at a company's main office can set up and join a voice or videoconference with customers or colleagues to plan, share information, and address new challenges.

Web sharing capabilities can augment voice and video collaboration solutions, enabling enterprises to collaborate on documents or work closely together to solve problems with fewer misunderstandings, better clarity, and a more productive workforce. With new mobile devices and services, companies can extend collaboration beyond traditional settings to desktops and mobile devices, training rooms, kiosks in public areas, or other sites.

Managing a Complex Environment

However, to make the potential of collaboration a reality, organizations require more than network devices, applications, and endpoints. They need a powerful management solution to help them control costs, simplify operations, deliver a superior user experience, and extract the full value from their unified communications and collaboration technology investment.

Cost control is always top-of-mind in a tough economic climate, so organizations are seeking better ways to reduce operating expenses (OpEx) associated with collaboration solutions, and lower their total cost of ownership (TCO). To achieve these cost reductions, their IT groups need to minimize the complexity of running a network infrastructure that is hampered by siloed, disparate, complex management products. Traditionally, these scattered, nonintegrated tools make it difficult to troubleshoot problems; provision new users; or perform moves, adds, changes, and deletions (MACDs).

At the same time, budget-conscious organizations have limited resources, and they need to make the most of an expensive, highly skilled IT staff. That means freeing them from manual, administrative functions to concentrate on strategic tasks such as developing infrastructure upgrade strategies and creating and deploying new services.

IT organizations also focus on providing the best possible quality of experience (QoE) to end users. Although rich collaboration can transform business processes, it will not be successful unless an organization can encourage its adoption and consistent use. The best way to promote adoption is to deliver a highly available, trouble-free solution that can complement and work smoothly with existing network services. Minimizing service degradation and quality-of-service (QoS) concerns dramatically enhances the end-user QoE, and lets operators avoid expensive and time-consuming system and service outages.

Advantages of an Integrated Management Solution

Collaboration networks are highly complex, with multiple applications, services, and network devices that must work together with clockwork precision. In many cases, organizations are integrating their existing voice and video environments, thereby introducing additional layers of complexity, and possibly pushing network bandwidth and performance to their limits.

As the complexity of collaboration infrastructures grows, visibility is essential for supporting these challenging environments. IT organizations need the ability to inventory all network assets and connectivity, as well as monitor and test the entire voice and video network. Their management solution must not only deliver this insight in real time, but also use historical data to help network administrators accurately visualize network trends.

With a centralized collaboration management solution, organizations can avoid the disconnected, siloed approach to management that has burdened traditional management tools. A comprehensive management solution for collaboration will enable enterprises to handle provisioning, assurance, and reporting - all from a single, integrated product. This centralized approach can help organizations simplify and automate management tasks, and enable them to take advantage of a common set of best practices. It also provides a consistent design for collaboration application management tools to help reduce complexity, ease administrative tasks, facilitate training, and minimize TCO.

Simplifying Management of Collaboration Services

Troubleshooting and maximizing network availability are always the immediate priorities for IT organizations. For IT engineers and help desk staff, keeping users satisfied and help desk calls to a minimum is essential for smooth day-to-day operations. But as collaboration networks become increasingly pervasive, management is taking on a more strategic role, enabling strategic planning. A truly effective management solution automates and augments the lifecycle process required to manage an end-to-end network - through an integrated solution that provides a centralized point of view.

Simplified, Intelligent Provisioning

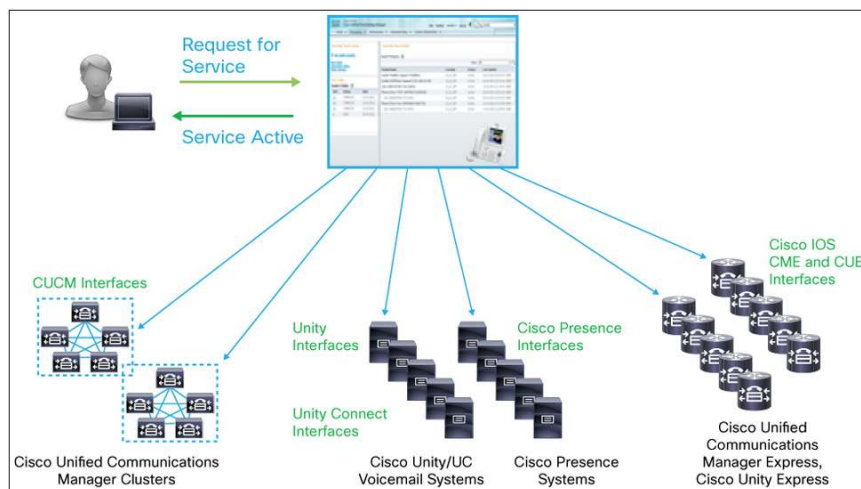
By streamlining the provisioning process for unified communications voice services, organizations can start saving money immediately, dramatically reducing their deployment and operating costs. Simplification can be achieved through convergence onto a single user interface for call control, messaging and presence, automation of processes, and an intuitive GUI.

Efficient provisioning of new users and services can help accelerate site rollouts. Furthermore, any time saved provisioning an individual user will quickly add up if an organization is adding several users at once, as part of a merger, acquisition, or reorganization. This multiplier effect for group provisioning can significantly improve productivity and cost savings.

Simplifying the provisioning process is essential to cost control. Using an intelligent, centralized management tool, MACDs that once were time-consuming and required a highly skilled IT engineer can now be delegated to help desk personnel who can perform them quickly and easily. Training requirements are reduced, further lowering OpEx.

An effective voice provisioning system that encompasses all network devices will also provide improved operational consistency and control. For example, with role-based access, organizations have an effective, policy-based method to help ensure that each user can reach the content, applications, and services most appropriate to their needs. Because network management spans all network devices and services regardless of location, IT managers can take advantage of complete tracking and auditing of all activity, for improved accountability and troubleshooting (Figure 1).

Figure 1. Simplified Provisioning: Substantially Reduce Time Required to Add Users and Their Services



Use Case: Mergers and Acquisitions

Consider how centralized, intelligent provisioning could be applied to facilitate a merger or acquisition. Suppose a finance company purchases a small competitor and brings 30 new employees on board. The newly acquired company specializes in fraud prevention, and the employees all work in a single branch office.

By employing a comprehensive unified communications management solution, the parent company's IT group can rapidly provision these new users and their voice services, enabling employees to be productive without delay. Using a set of scheduled scripts with templates for bulk provisioning, IT can give the employees access to all the tools and services they need, including email access, human resources and company resources, and voice mailboxes. Policy-based automation helps ensure that the new department has access to data and services that best align with enterprise rules, workflow, delegation, and regulatory compliance needs.

Not every process can be fully automated and centralized. Individual users will require some control over their personal information, so the deployment provides self-service to set preferences such as speed dials, password settings, call forwarding, and outgoing message recordings. A flexible combination of automation and personalized provisioning processes enables the finance company to quickly assimilate the new department and avoid the service disruptions associated with acquisitions.

Robust Assurance for Smooth, Efficient Operation

After users and services have been provisioned, much of IT's attention turns to assurance to support day-to-day network operations. Making sure that users have nonstop access to the services, tools, and applications they need is critical to maximizing end-user satisfaction - and minimizing calls to the help desk. A successful management solution enables IT to discover and isolate service-quality problems proactively - before users even notice a problem, and before business processes are affected. It also helps minimize system and service outages, keeping the network available and avoiding interruption and loss of productivity.

Proactive assurance can substantially increase the productivity of IT staff. By collecting and applying the intelligence embedded in the network, the system automatically notifies operators of problems, and helps facilitate rapid resolution of any network problem. A well-designed solution usually also features an intuitive GUI with a single view of the entire collaboration infrastructure. It also includes tools to enable streamlined operator task flows for additional ease of use and time savings (Figure 2).

With robust assurance, organizations can quickly realize reduced OpEx. Rapid isolation of performance problems and accelerated troubleshooting reduce mean time to repair (MTTR) - and help minimize loss of productivity for employees. At the same time, organizations can unlock the full potential of their technology investment by optimizing the use of their collaboration infrastructure and resources. The result? Better performance of mission-critical business operations, and a faster return on investment (ROI).

Figure 2. Dashboard Summary for Administrators to View Entire Collaboration Network at a Glance



Use Case: Branch-Office Voice Connectivity

Live, real-time collaboration requires especially robust assurance, and voice applications are especially unforgiving. Even a brief lapse in connectivity or quality can cause disruption or loss of communications.

For example, consider a small retail software company that relies on branch-office phones to support its customer-relationship-management (CRM) operations. The company has just released a new product, and customers are calling to get more information about its availability and specifications. However, unexpected dropped calls and sound-quality problems have emerged, and the company needs to resolve the problem before it affects the business. The IT organization is sifting through a blizzard of network data and needs to determine the source of the problem - fast.

To discover the source of the problem rapidly, engineers need a complete view of the entire voice network, including phones, servers, and other parts of the infrastructure. They also need cluster-level groupings for an at-a-glance understanding of how network components relate to one another and work together (Figure 3).

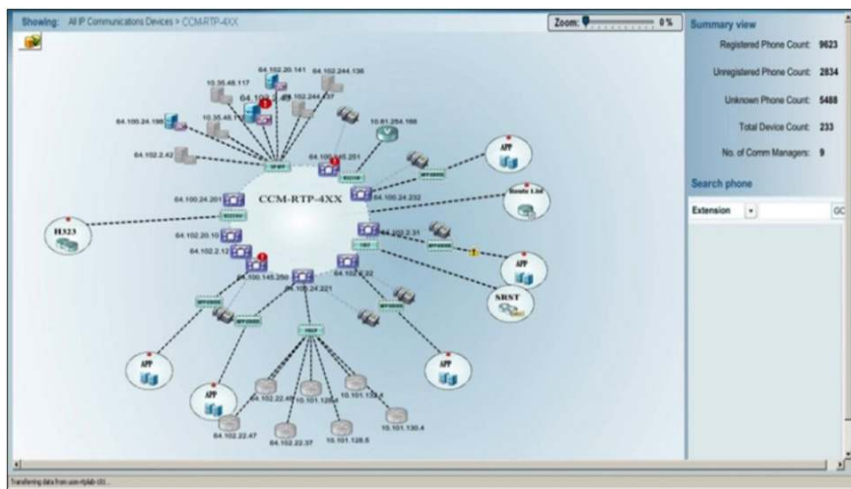
The logical network view must be complemented by rich performance data, including multiple statistic overlay graphs, as well as key performance indicators (KPIs), grouped by device type. An IT engineer can manipulate these graphs to better visualize the information, identify recent KPI changes, and help trace their origin and timing.

In-depth call details and quality metrics are also critical to assurance in a voice environment. By employing a management platform that provides detailed mean-opinion-score (MOS) data, the software organization can measure the quality of voice-over-IP (VoIP) calls to learn more about any problems.

Diagnostic testing can augment this in-depth visibility. The IT organization can run real-time and scheduled tests, and check specific users or devices for dial tone, registration, E-911 functions, and end-to-end communication. If packet loss or jitter is becoming problematic, the organization could use the Cisco IOS® IP Service-Level Agreement (IPSLA) to test links. Cisco® IPSLA measures network activity end-to-end and at the IP layer, with active monitoring to generate traffic in a continuous, reliable, predictable manner.

By combining its detailed network monitoring with KPI data, the software company is quickly able to isolate its problems to a misconfigured router in its CRM organization. With a few clicks of the mouse, the company can restore call quality and keep support for its new product launch on track.

Figure 3. Full Voice Network View Provides Cluster-Level Groupings of Devices in Collaboration Infrastructure



Use Case: Optimizing Video and Voice for a Critical Webcast

If voice assurance is a major management challenge, the stakes are even higher for video, where sound and bandwidth-intensive images must synchronize and perform flawlessly. For example, consider a large corporation that is preparing to unveil a major new product for a global audience. A highly anticipated webcast will include presentations from speakers in London, San Francisco, and Mexico City, and voice conference participants from additional company sites. How can the company ensure that this complex event using voice and video applications together will be a success?

For both the voice and video environments, end-to-end monitoring is essential for managing the online event in real time. With integrated voice and video management, network administrators can view the entire collaboration network from a single pane of glass (Figure 4).

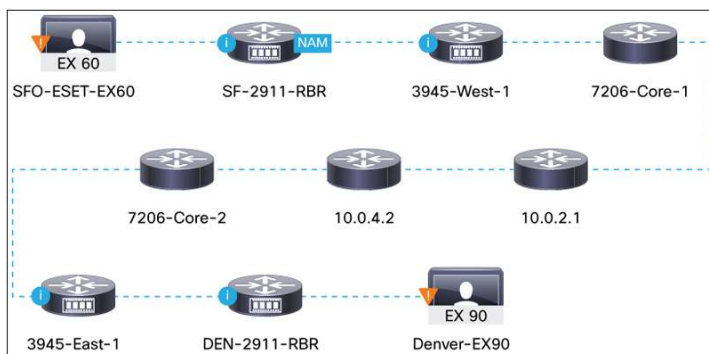
As the CEO and her marketing staff prepare their presentations, the IT organization examines a dashboard-based view of test video sessions, identifying any instances of latency, jitter, and packet loss. With in-depth, real-time monitoring, the company can rapidly isolate problems to the network or endpoint. For the voice environment, administrators check links with IPSLA to be sure every participant will be heard clearly.

Figure 4. End-to-End Monitoring Enables Rapid Isolation of Problems to Network or Endpoint



After exhaustive testing, the webcast gets underway, and the IT team continues to provide support. With real-time diagnostics, they can get an end-to-end view of video session paths down to the network level. On Cisco devices, IT engineers can view CPU, memory, and interface statistics. For Cisco devices with medianet, jitter, packet-loss, and differentiated-services-code-point (DSCP) information is displayed to locate bottlenecks and impairments in the network - and mitigate them before they cause technical problems. The voice and video webcast proceeds without a hitch, thanks to careful testing; integrated, granular visibility; and proactive monitoring (Figure 5).

Figure 5. Real-Time Diagnostics Allows Administrators to View End-to-End Video Session Paths Down to Network Level



Advanced Reporting for Stability and Growth

Effective management is about much more than immediate, tactical network support. To help keep the collaboration networks functioning at their best and enable future growth and new applications, a management solution should deliver deep visibility into the entire infrastructure through advanced reporting capabilities.

End users remain the top concern of IT during all phases of the network lifecycle, and the ability to provide fast, actionable information to operators can enable them to better track intermittent and recurring problems, as well as provide visualization of network trends. By addressing and preventing service degradation before it affects users, organizations can deliver a superior QoE.

A management platform with sophisticated reporting capabilities delivers rich, up-to-date information collected from the intelligent network, formatted in a way that is easiest for chief information officers (CIOs) and IT planners to use. The way that data is gathered and presented is in many ways as important as the data itself. So organizations should be able to fully automate and schedule their reports, and customize and control report parameters and output formats to meet specific requirements.

With a management solution featuring robust reporting, organizations can move beyond near-term problem solving and performance improvement. They can extend their focus to strategic planning and optimized network design. For example, they can track and identify overused resources that may cause future problems, or call attention to underused resources that could be better employed elsewhere. By providing high-level insight, backed by the intelligence deep in the network, reporting can enable administrators to plan for growth and be better informed to make future investment decisions.

Use Case: Maximizing Return on Investment

Although enterprise organizations are rushing to embrace collaboration, they may not be aware of the benefits or shortcomings of the solution. For example, consider a healthcare firm that has deployed video collaboration to 6 of its 20 offices, and needs to determine if this investment is paying off before expanding the solution.

By applying in-depth reporting, the company's IT organization can fully analyze historical performance and usage trends for the past year. The firm could examine important operational data such as KPI, traffic, and QoS, gaining a clear picture of how well the solution has performed, as well as its ROI (Figure 6).

The firm can also apply advanced reporting to analyze how well its solution has been adopted, tracking asset usage patterns and costs. For instance, an expensive, dedicated videoconference center that is rarely used would be a warning signal. Advanced reporting lets IT organizations move beyond anecdotal usage reporting, providing a historical perspective that can help network planners inform their future investment decisions. The result is better strategic planning and more sustainable cost savings and business success.

Figure 6. Advanced Reporting Capabilities Enable Organizations to Measure Technology Adoption and Track asset Usage Patterns and Costs



Conclusion: An Integrated Solution for Collaboration Management

It is clear that an integrated solution that spans voice and video collaboration and unified communications infrastructure across all phases of the network lifecycle is essential to addressing the challenges of managing enterprise collaboration. Cisco Prime Collaboration delivers unified management across collaboration technologies using a single interface.

Designed specifically for Cisco Collaboration environments that include Cisco Unified Communications and Cisco TelePresence and desktop video systems, Cisco Prime Collaboration delivers a rich set of capabilities to enable enterprise organizations to realize the best return on their technology investment. It enables IT organizations to:

- Monitor and test the entire voice and video network from a single product, reducing cost and complexity
- Provision new phone users and apply changes efficiently, to accelerate site rollouts and maintenance
- Proactively identify and resolve problems, to maintain the highest quality of service while minimizing the effect of problems on services and users
- Inventory all collaboration network assets, including real-time records of location, licensing, and version information

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- Visualize network trends with advanced reporting (available in March 2013), a set of features that will enable organizations to track network trends and resource and application usage over time, audit deployments, and plan for change

With Cisco Prime Collaboration, organizations can take advantage of Cisco best practices to not only enhance provisioning and assurance processes, but also build strategic insight into the network.

The future reporting capabilities will provide out-of-the-box statistics summary views, displaying customizable top measurements to prioritize areas for attention. Device-specific diagnostic portals enable organizations to automatically group the KPIs needed for in-depth analysis, and customizable summary view dashboards can be stored for specific individuals to use.

Support for IPSLA and medianet embedded in Cisco devices provides the instrumentation and detailed visibility needed to isolate network problems quickly. If a network problem arises, troubleshooting workflows based on Cisco best practices can help organizations significantly reduce problem isolation times.

Designed to smoothly interoperate with any Cisco Collaboration environment, Cisco Prime Collaboration includes advanced application programming interfaces (APIs) to facilitate easy integration with existing operations-support-systems (OSS) environments. To help keep organizations up-to-date in managing the latest features, Cisco Prime Collaboration is regularly updated to align with each new Cisco Collaboration system release.

As organizations rapidly migrate to voice and video collaboration, the challenges of managing, optimizing, and scaling these complex new environments seem daunting. By taking advantage of a centralized, comprehensive approach to network management, businesses of all sizes can tap the full benefits of Cisco Collaboration Solutions, and position themselves with a strong foundation for continued success for years to come.



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