

A SMOOTHER ROAD TO COST SAVINGS AND USER PRODUCTIVITY

EXECUTIVE SUMMARY

Customer Name

- Ingersoll-Rand Company

Industry or Market

- A diversified industrial firm serving global markets in security and safety, climate control, industrial solutions, and infrastructure products and services

Business Challenges

- Replace aging, expensive telephony system and outdated voice-mail platform in its Corporate Technology Center (Huntersville, NC)
- Develop a strategy for cost control and new business-enhancing applications
- Deploy a new contact center technology for its employee benefits call center

Network Solution

- Upgrade Cisco data network using Cisco Catalyst 6513 switches
- Cisco IP Communications, including Cisco CallManager, Cisco 7960 and 7920 IP Phones, Cisco Unity Unified Messaging, Cisco Conference Connection, Cisco IP Contact Center Express Edition
- Integrate Cisco Unity system with IBM Lotus Domino collaboration server to deliver unified messaging services

Business Value

- Significantly reduced telephony infrastructure and conference call costs within first year of deployment
- Enabled new business processes and greater productivity through unified messaging
- Created an enterprise-wide business and technology case within Ingersoll-Rand for the adoption of Cisco IP Communications

ABSTRACT

Ingersoll-Rand's technology nerve center has embraced Cisco IP Communications—and applications such as Cisco Unity Unified Messaging and Cisco Conference Connection—to reduce costs and deliver capabilities “we can't live without.”

INGERSOLL-RAND'S CORPORATE TECHNOLOGY CENTER: THE IT PROVING GROUND FOR A DIVERSIFIED, GLOBAL ENTERPRISE

The name Ingersoll-Rand is very familiar to anyone who has ever waited in stopped traffic at a freeway construction site and taken the time to marvel at the heavy equipment that's grading and repaving the road just a few yards away.

But Ingersoll-Rand Company (<http://www.irco.com>; NYSE:IR) is much more than a maker of compactors, rollers, and paving equipment: it is a highly diversified global company that markets other industrial and construction products under its own brand, ranging from automotive tools to air motors. In addition, Ingersoll-Rand makes and markets products that carry other famous brands—including Bobcat compact equipment, Club Car golf and utility vehicles, Dresser-Rand turbomachinery, Kryptonite portable security products, and Schlage locks and security equipment. Ingersoll-Rand has more than 300 locations and 42,000 employees worldwide, with corporate headquarters located in Woodcliff Lake, NJ.

The company's technology “nerve center” is located 530 miles to the south, in the Charlotte suburb of Huntersville, NC. Ingersoll-Rand's Corporate Technology Center (CTC) houses the chief information and chief technology officers, the senior corporate IT staff, the headquarters for Ingersoll-Rand's shared Global Business Services (GBS) group, and its employee benefits contact center. The CTC also serves as the test bed for new technologies considered for procurement at Ingersoll-Rand.

During 2002, time was running out on the equipment lease for the Huntersville site's traditional voice communications system—composed of time division multiplexing (TDM) technology, an Avaya G3 private branch exchange (PBX) system, and Octel voice mail. Ingersoll-Rand's manager of infrastructure strategy, Damon Cahill, and its infrastructure architect, Michael Sabolcik, began to investigate IP Telephony as both the foundation of voice and data communications in Huntersville and the emerging corporate standard for the company at large.

“We define IT strategy for the company in our Huntersville facility, but also we tend to ‘drink our own champagne,” Cahill says. “We saw the need to develop a standard that would be adhered to throughout the enterprise. We did some research and saw the advantages to sharing a single network for voice and data, and all the additional capabilities we could achieve by having an IP environment and an IP voice system. We decided that we really needed a converged technology, and we knew right away that we wanted to deploy IP Telephony.”

BUSINESS FACTORS: COST REDUCTION AND MUCH MORE

“When we were trying to justify this solution, our largest goal was to reduce costs, as well as take full advantage of the investments we had already made in our data network infrastructure,” Cahill recalls.

Cahill and Sabolcik wanted to reduce both ongoing operating costs and maintenance costs, which were approaching US\$500,000 annually for the CTC alone. The Avaya G3 PBX system was both expensive to lease and difficult to maintain. Adds, moves, and changes for telephones required the intervention of third parties. Customizing the Avaya telephones was also a problem. “The Avaya phones probably had competitive functionality,” Cahill says, “but if users didn’t know how to go in and configure that phone—and most didn’t—they were never going to be able to take advantage of those features.”

In addition, the CTC’s constantly traveling IT executives had come to depend on telephone conference calls for both day-to-day and crisis management operations. Ingersoll-Rand has more than 300 sites worldwide, and the IT staff spends a great deal of time commuting between the CTC in North Carolina and a shared services center in Ireland. The CTC’s conference call costs accounted for more than \$200,000 annually. Ingersoll-Rand wanted to route those conference calls over the company’s IP data network to bypass toll charges.

“Our business goals were primarily to reduce costs, but our technology goals were to deliver solutions to our internal customers that would make them more productive,” Cahill says. That included simplifying conference call setup, and adopting unified messaging technology to enable users to more quickly and easily access voice-mail messages, he notes. “When you have a lot of voice mail with a TDM system, you have to listen to the messages in the order they’re received. It’s very time-consuming. Unified messaging lets you look at and retrieve voice mail through your e-mail inbox and selectively sort them by reading the sender’s name in the message header.”

Finally, the CTC wanted to drive costs out of the infrastructure of a major internal contact center. “As part of our shared services group, we have a call center in the Huntersville facility that handles benefits inquiries for both current employees and retirees of Ingersoll-Rand,” Sabolcik explains. “The call center was using a small Avaya Basic Call Management System (BCMS) implementation. They had only rudimentary administrative control over it: when they wanted to make any changes to the system—to add or change any queues or users—they had to bring in or involve a third party.”

“Bringing a third party in was a significant investment compared to the size of the change they needed to make,” Cahill adds. “They charge a minimum of two hours’ time and the cost is out of proportion if you have one call queue to change or a report you want to run. And much of the functionality that may have existed in the Avaya solution was never used because it was too difficult to use.”

LESS COST AND MORE PRODUCTIVITY WITH A ‘STATE-OF-THE-ART’ SOLUTION FROM CISCO

Cahill and Sabolcik invited Avaya and Cisco Systems® to propose replacements for their existing traditional environment. The CTC’s data network was based on Cisco® technology, and Cisco IP Telephony was being deployed at the Ingersoll-Rand campus in Augusta, GA. Cisco prevailed over Avaya after demonstrating significant advantages in two areas—providing a superior, end-to-end solution, and delivering it at a significantly lower cost.

“Avaya did offer an end-to-end solution, but their proposal involved ripping out our existing Cisco infrastructure, and putting in their own data switches,” Cahill says. “We had no internal expertise with these switches. In terms of both the loss of expertise and replacing the switches themselves, their proposal would have been very costly and added more complexity into the overall solution.

“Our core network infrastructure throughout Ingersoll-Rand is based on a Cisco Intelligent Information Network (IIN) solution—from the routers to the switches. We’ve already made a fairly large investment at the Layer 2 and Layer 3 level with our network infrastructure,” Cahill says. “The advantage to using Cisco throughout is you have an end-to-end solution from the jack on the switch to the CallManager. It’s a solution that’s 100 percent managed by one provider. To resolve any issues that arise, you always have one company that you can depend on to provide an end-to-end solution. They develop their products to work hand-in-hand, from the switch to the router to the phone to the CallManager.”

Moreover, Ingersoll-Rand selected Cisco because its browser-based administration enables both ease of use and ease of administration. Users can configure their Cisco IP Phones and set up conference calls quickly and intuitively, via their browsers.

“The ability to administer your telecommunications system from anywhere within your enterprise via a Web browser is a huge advantage,” Cahill says. “Remote users and entire sites can use the system no matter where they are, as long as they have an IP address on our network, whether it’s a cell phone or an actual small office environment. We can have a site-to-site VPN that’s able to use a centralized Cisco CallManager processing unit with all those remote sites.

“The other advantage that Cisco had was from a cost perspective: they blew Avaya out of the water,” Cahill says. “In our business case, we included a \$200,000 charge that represented the remaining lease we had with Avaya for our existing G3 PBX and our Octel voice-mail system. Even with adding that cost to the cost of the Cisco solution on a monthly basis, we found that we would save quite a bit of money with Cisco, based on what Avaya had proposed.”

Cahill and Sabolcik developed a business case that demonstrated that the Cisco solution would reduce equipment costs by 38 percent, maintenance costs by 18 percent, and conference call costs by 70 percent. Even factoring in the one-time installation cost, the CTC would realize savings of \$224,000—approximately 46 percent—in the IP system’s first year. They then brought their case to company management.

“The Cisco IP Communications solution is now the defined standard at Ingersoll-Rand. This is clearly state-of-the-art technology, and it is cost-effective as well.”

Barry Libenson
Executive Director of Information
Technology
Chief Information Officer
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“The numbers spoke for themselves,” Sabolcik says. “It was one of the easiest business cases I’ve ever seen. We presented to our corporate CIO, the president of our GBS technology shared services group, and other director-level resources within that group, and after 15 minutes we walked out with complete approval to go ahead. The numbers were so persuasive, they said, and I’ll paraphrase it, ‘Why are you telling us this? Why haven’t you done this already?’ To them it was the first ‘no-brainer’ they had seen in an awfully long time. When you can provide them with enhanced functionality with no drawbacks at a significantly decreased cost—if they could see business cases like that every day, they’d be very happy.”

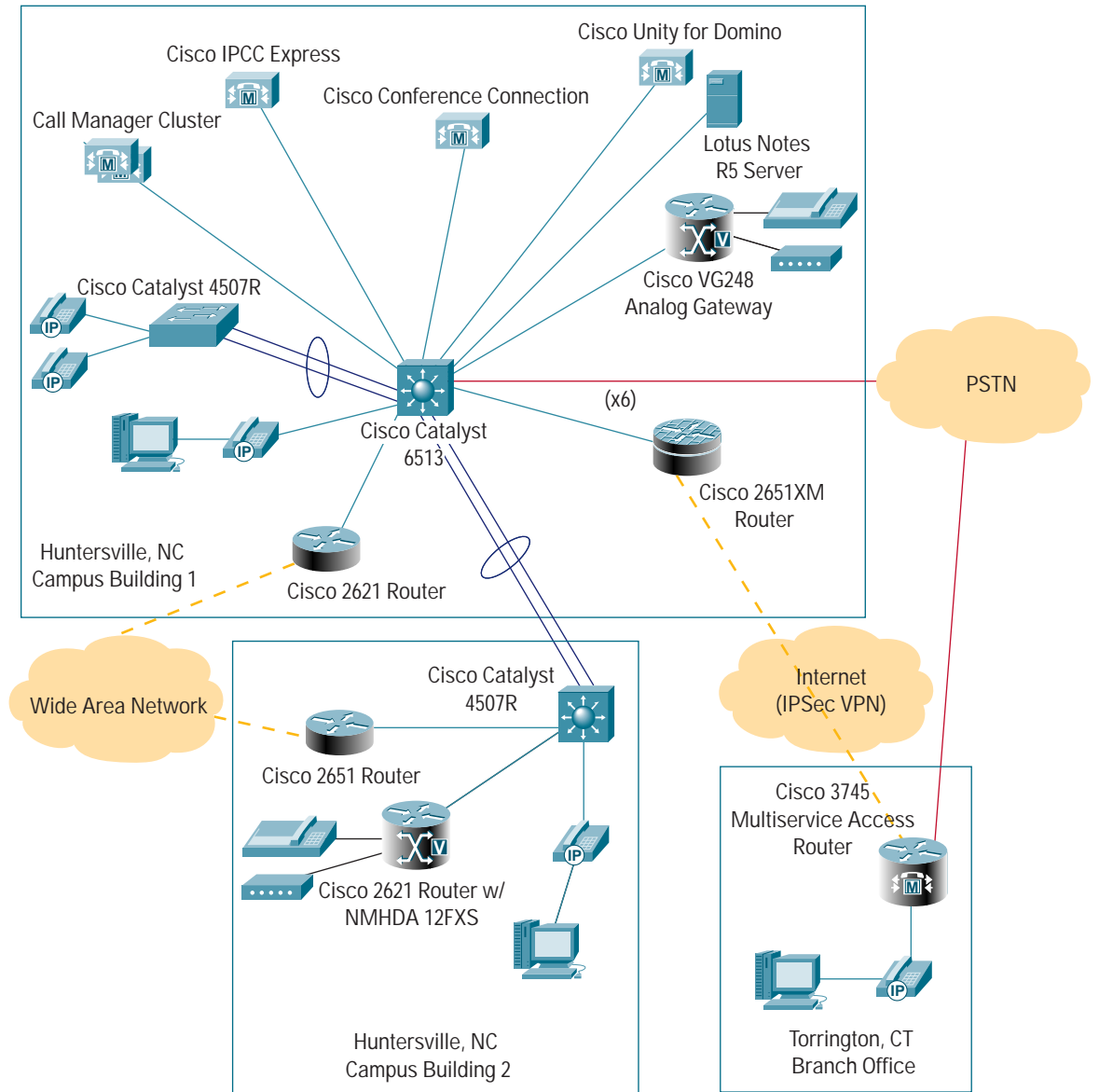
FIVE MILESTONES ON THE ROAD TO IP COMMUNICATIONS

“We have identified five factors encouraging the adoption of Cisco IP Communications,” says Barry Libenson, Ingersoll-Rand’s executive director of information technology and Chief Information Officer. “They are cost reduction; the improved capabilities that come from integrated unified messaging; ease of use from setting up our own conference calls, configuring our own telephones, and simplifying adds, moves and changes; the ability to integrate the Cisco IP Communications system with our contact center; and, in Cisco, we have a single partner that we can count on to support our needs in both data communications and telephony.”

The Cisco solution at the CTC includes dual Cisco CallManager call processing agents; 400 Cisco IP 7960 and 7920 IP Telephones; Cisco Unity™ Unified Messaging, integrated with the IBM Lotus Notes Domino messaging and collaboration platform, Cisco Conference Connection (69 ports), the Cisco IP Contact Center (IPCC) Express Edition advanced call distributor (ACD) solution; Cisco Catalyst 6513 switches; and 20 Cisco SoftPhones.

Cisco Unity Unified Messaging integrates natively with IBM’s Lotus Notes groupware, the standard e-mail system used at Ingersoll-Rand. IBM and Cisco have a global strategic alliance designed to offer customers industry-leading, integrated e-business solutions. The two companies draw on their strengths in Internet infrastructure, e-business systems, networks and services to deliver end-to-end Internet business solutions to enterprises and service providers.

Figure 1



The Cisco Unity deployment at Ingersoll-Rand represented the first large-scale integration of Cisco Unity with the Lotus Notes Domino messaging and collaboration platform, and its success was the result of a coordinated effort between Cisco and IBM. A pilot implementation with IBM was completed on schedule, within 90 days, and the full deployment began during the summer of 2003.

“We were running the Huntersville pilot in as close to a production environment as we possibly could,” Cahill says, “however, when we went to integrate it into our production environment, we had a multitude of issues that seemed to be related to the number of users that we had. There were challenges on both the Cisco and IBM sides.”

Ingersoll-Rand, Cisco, and IBM rose to the occasion, he notes. “There was a coordinated effort between the developers at Cisco, the developers at IBM, the product lead, and the technical marketers, all working with our teams in Huntersville to get these issues resolved. The way these issues were brought to resolution, and the way that the teams worked together, was unbelievable. I even had the home phone number of one of the Cisco developers in Seattle. They were proactive and highly committed to getting this issue resolved, even flying people in from Seattle and Cambridge (MA, Lotus’s home office).”

A NEW TELEPHONY INFRASTRUCTURE, AND A NEW CORPORATE STANDARD

By late 2003, the old Avaya and Octel technologies had been displaced at the Huntersville site, and the new Cisco IP Communications services were in production. “I wake up in the morning and I have no worries about it,” says Cahill. Savings in monthly telecom spending were averaging 43 percent, and the company expected to realize a return on its investment within ten months.

Ingersoll-Rand has been particularly successful in using Cisco Conference Connection to save time and money. “As a shared technology services center, we have a lot of interaction with business units and vendors, requiring a lot of conference calls,” Sabolcik says. “We’ve been able to show significant savings by reducing costs to our outsourced provider. Conference Connection was a big hit right off the bat just by people using the Web-based interface for the calls. And we’re looking forward to the new version of Conference Connection, which will have features like reservation list conferencing.”

The productivity gains and business process improvements made possible by unified messaging were the most dramatic benefits for the user base, however.

“I think that’s the biggest win that we’ve had in Huntersville,” Cahill says. “If you asked users now—a few weeks into production—if they could do their jobs if we took unified messaging away, a lot of them would say no.

“It’s similar to wireless,” he adds. “When we deployed wireless networks in Huntersville, there weren’t too many people asking for them, because people weren’t used to them. But once you give people the opportunity to see the productivity enhancements that wireless networks and unified messaging can make, they can’t live without it. As an example, users who travel quite a bit replicate their e-mail and, while they’re on a plane, they answer their e-mails. We’re now able to do that with voice mail.”

With diverse business units and a heterogeneous technology environment, the company does not dictate standards from on high. But the success of the Huntersville and Augusta deployments has made Cisco IP Communications a standard across Ingersoll-Rand. By late 2003, Cisco CallManager systems were deployed at campuses in Garland, TX, and Shippensburg, PA. “Shippensburg and Garland were driven by the Huntersville deployment,” Cahill says. “Everyone who has seen what we’ve been able to do in Huntersville has been excited about it.”

“The Cisco IP Communications solution is now the defined standard at Ingersoll-Rand,” says CIO Barry Libenson. “This is clearly state-of-the-art technology, and it is cost-effective as well.”

While IT decision-making within Ingersoll-Rand’s business units is flexible and somewhat decentralized, Libenson said, the units’ IT managers are dotted-line reports to him. He will mandate the deployment of Cisco IP Communications across Ingersoll-Rand based on the following criteria: “All the ‘low-hanging fruit’ will be Cisco IP Telephony—the ‘Greenfield’ deployments and all situations where existing equipment leases are expiring,” he says. “In organizations with existing leases for TDM equipment, we will replace it with IP Telephony if a case can be made that it would be cost-effective to change. In fact, the only places here where we will not change to Cisco IP Communications are those in which we own the technology and it is working well and has a long projected lifespan.”

“We’re not a mandate-driven organization,” Sabolcik says, “but the best way within Ingersoll-Rand to drive to a standardized infrastructure is to find a win that you can point to, especially with the compelling nature of the numbers. That makes it very easy to educate the business units about the benefits of IP Telephony.”

The ability of Cisco IP Communications technology to interoperate with existing equipment will enable Ingersoll-Rand’s campuses to migrate to a converged environment at their own pace. “During our pilot in Huntersville, were able to completely integrate the Cisco solution and the existing equipment—the PBX, the voice mail and the e-mail,” Cahill says. “Cisco provides the tools for us to migrate as quickly or as slowly as each site warrants.”

“We love the phone system,” Libenson says. “Now that it is in production and implementation issues are resolved, we are very pleased. And we are very pleased with our relationship with Cisco.”



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