

PPL Corporation:

Empowering a flexible workforce to deliver optimal customer service across a converged IP network from Nortel Networks.

About PPL Corporation

PPL (formerly Pennsylvania Power & Light Co.) is a Fortune 500 company headquartered in Allentown, Pennsylvania. PPL delivers electricity in the United States, the United Kingdom and Latin America and controls more than 11,500 megawatts of electricity generation in the United States.

Central to PPL's philosophy for success is the belief that the future belongs to energy companies

that understand customer needs and are focused on delivering growth that maximizes share owner value. Putting that philosophy into action meant building a communications network that flexibly supports the requirements of its workforce to meet the varied needs of its customers – while delivering responsive, reliable, cutting-edge performance.

Challenge

There were two catalysts that caused PPL to assess its communications network strategy: 1) the pending expiration of its existing Centrex contract which serviced the company's five corporate headquarters buildings and 15 regional offices in the United States, and 2) the construction of a new corporate building in Pennsylvania that would require end-to-end voice and data provisioning. PPL's challenge was to leverage recent investments in upgrades to its data network infrastructure while adopting IP telephony solutions that would help reduce operational costs, and drive customer satisfaction by increasing the accessibility and productivity of its distributed workforce. At a strategic level, PPL also wanted to ensure that its network would provide ongoing flexibility for the future.

Solution

PPL teamed with Nortel Networks to develop an end-to-end strategy for migrating to IP telephony. Having recently upgraded to a Quality of Service (QoS) data network from Nortel Networks, PPL was now in a position to maximize this solid foundation by replacing its Centrex services with Nortel Networks Meridian I*, Business Communications Manager and Succession* 1000 communication systems.

Implementing solutions that span the Nortel Networks Enterprise IP Telephony portfolio allowed PPL to address current and future business objectives while providing a consistent user interface. A converged IP telephony network allows PPL to simplify network management, reduce operational costs and support productivity-enhancing flexible working solutions such as CallPilot* Unified Messaging, Integrated

Personal Call Director, i2000 series Internet Telephones and software telephones.

Requirements for Success

Weathering the turbulence of a deregulated market, PPL has a solid reputation for generating and providing customers with competitively priced energy, as well as developing and executing strategic business practices focused on operational excellence and delivering exceptional customer value. In fact, PPL has been ranked by customers as one of the best service providers in each of the three continents the company serves. PPL is committed to streamlining business operations for maximum efficiency and continually improving customer satisfaction with fully engaged employees.

For PPL to maintain its competitive market position and continue providing outstanding customer service, the company realized it would need to improve its communications infrastructure moving forward and equip its workforce with state-of-the-art communication resources to effectively serve customers at all times.

PPL's main strategy is to provide cost-effective, reliable communications across voice, data and other media and to be positioned to leverage emerging technology in the future. As the company's Centrex agreement approached expiration, PPL decided it was time to fully leverage prior investments in its QoS-enabled data network by evolving to a converged communications infrastructure using the latest IP telephony technology.

It was essential that the proposed solution meet the following key requirements:

- Enable ongoing infrastructure and management cost savings through a converged network.
- Deliver high value services to enhance employee productivity, increase customer satisfaction and provide substantial return on investment.
- Enable consistent, reliable, secure communication between geographically distributed employees regardless of access device or location.
- Provide flexible solutions to seamlessly support a mobile workforce.
- Ensure investment protection to meet future network requirements and enable business continuity planning.

Dave Stever, Manager of Technology Services at PPL, cites the expiration of its Centrex agreement as both an opportunity and driving force behind the company's transition to IP telephony: "With our Centrex contract ending at the close of 2003, we analyzed the business case and realized we could save substantially by in-sourcing and using an IP PBX solution as a replacement. With IP telephony, we foresee a significant savings in ongoing dollars."

Leveraging a Strategic Relationship

After evaluating the requirements for migrating the company's communications network to an IP telephony infrastructure, Stever recalls that "Nortel Networks offered us a complete vision, and, importantly, they provided us with seamless integration."

PPL was very familiar with Nortel Networks comprehensive voice and data experience. In fact, a strong relationship between the two companies dates back to the early 1990s, when PPL first began upgrading its data network.



Stever and his team were convinced working with Nortel Networks would be a natural fit. “Over the years we have transformed our relationship into a strategic one where we each have a vested interest in each other’s success,” says Stever.

The key to the benefits that both parties have gained from working together over the years is that, rather than having a traditional vendor/customer relationship, PPL and Nortel Networks have established a strategic business alliance. The essence of the alliance is twofold. PPL shares its enterprise information technology initiatives with Nortel Networks, and Nortel Networks advises PPL’s key business areas about new state-of-the-art technology, products and solutions that are available or are being developed to meet specific communication requirements that PPL has identified. As a result, if the Nortel Networks product portfolio has a solution that can cost effectively address a particular network requirement within PPL’s infrastructure, PPL often leverages that solution without going

through a formal, time-consuming, expensive RFP process.

“Our team never feels as if we have to go it alone when addressing our communication needs. We have the full resources of Nortel Networks available to us anytime we ask and we provide them with valuable feedback as well. Nortel Networks makes sure PPL succeeds in every communications project we undertake together.” – Dave Stever, Manager of Communication Technology Services

The Solution – A Phased Approach

PPL began its network transformation in a phased approach, starting with the upgrade of its data network to a QoS infrastructure capable of handling the requirements of IP telephony. Nortel Networks Passport* 8600 switches at the core were connected at gigabit Ethernet speeds to BayStack* BPS 2000 and BayStack 460 switches in the closets. Alteon* 184 switches were deployed for server and application load balancing,

while Contivity* was implemented for secure remote VPN access for PPL’s employees and partners. PPL also deployed Nortel Networks OPTera* Metro 5200 DWDM platforms to connect the main data center in Allentown to the backup data center several miles away. With the optical network, PPL is able to consolidate the number of leased fiber lines needed to support traffic between the two sites while supporting multiple protocols over the same fiber pair. The upgraded infrastructure provided the first step towards delivering efficiency gains and cost savings across a converged network.

A pilot project using Nortel Networks Business Communications Manager and IP-enabled Meridian 1 systems further laid the groundwork for PPL’s migration to a converged communications network. As a starting point for supporting IP telephony, the company decided to replace Centrex services at its Montana facilities with a Meridian 1 Option 61C, four Meridian 1 Option 11Cs, six Business Communications Managers and

a networked CallPilot Unified Messaging solution.

The success of this pilot project led to the decision to also replace Centrex services at the Pennsylvania locations with a Succession 1000 IP PBX system and an IP-enabled Meridian 1 Option 81C. Nortel Networks Succession 1000 is a robust fully distributed IP PBX that provides PPL with a scalable, highly reliable, feature-rich solution that will enable seamless network integration, simplified management and reduced costs for supporting an increasingly distributed global user community with a variety of communication requirements.

PPL has already completed the migration of approximately 4,000 users in its headquarters and regional offices in Pennsylvania from Centrex services to a combination of Nortel Networks Meridian 1 and Succession 1000 platforms. The implementation will allow users to access Nortel Networks comprehensive range of telephony features and Engaged Business applications with a range of digital and analog telephones, i2004 and i2002 Internet Telephones, and i2050 Software Phones using USB headsets. To date, Stever asserts, “the installations have been flawless, without even so much as a hiccup.”

In the coming year, PPL plans to install three additional Succession 1000 systems, including a network-wide rollout of CallPilot Unified Messaging. Advanced services – a key value from a converged network deployment – provided a contingent of PPL’s “power workers”: those who require constant access to clients, colleagues, business information and resources regardless of time or location. The company plans to incorporate services such as mobility solutions, multimedia applications and video-conferencing over IP where they

are most needed. Stever concedes that not every employee at PPL will require advanced communication solutions such as multimedia collaboration or IP-based software phones. Nevertheless, he notes, “what we’re doing today is laying the groundwork so that when those types of applications are needed and as new applications become available, we’ll be ready to jump in early on and support them when and where they make sense.”

The Results

PPL’s new IP communications infrastructure is helping to streamline network operations, reduce costs and provide employees a variety of flexible working solutions geared towards increasing productivity and optimizing performance. “It’s a real positive to have both the voice and data network supported by Nortel Networks equipment,” says Stever. With Nortel Networks IP Telephony solutions in place, PPL can cost-effectively provide its distributed organization secure, easy-to-manage, reliable, anytime, anywhere access to rich telephony features and advanced applications, whether employees are working from a main office, at home, in the field or are constantly on the move.



CallPilot Web Portal and Soft Client

Features and applications such as Nortel Networks CallPilot, Virtual Office and Integrated Personal Call Director, as part of a pilot program, are enhancing employee mobility and productivity by allowing users

to remain engaged at all times. A number of PPL’s telecommuters are now benefiting from CallPilot’s ability to combine voice, fax and email messages into a single mailbox that can be accessed and managed either locally or remotely from any medium they choose, including PDA, laptop, PC or phone.

In the field, PPL workers who typically spend two or three days a week in one office and the remaining days in another will benefit from Nortel Networks Virtual Office feature, which provides “virtual” access to their personal telephone resources (programmed features, speed dials, call logs, etc.), whether they are at their own desk or logged on to a phone connected to the network in another location.



Integrated Personal Call Director

Additionally, the Integrated Personal Call Director, a “one-number-find-me” application, will enhance accessibility by allowing users on the go to define when, where and by what communication device they can be contacted throughout the day. Stever asserts, “The flexibility Integrated Personal Call Director provides has been a real plus. A single phone number that follows you wherever you go means workers who need to maintain multiple offices can remain productive and stay in constant contact.”

Nortel Networks broad selection of digital phones, IP phones,

software phones and wireless devices has also contributed to meeting the diverse communication needs of PPL's workforce. The initial implementation of the i2050 Software Phones, for instance, has greatly improved the reach of technology and the ability to securely access information from any location. The i2050 provides pilot users with simultaneous access to voice and data communications within a single interface, from a laptop, PC or PDA. The response from employees using the new technology has been very positive across the board. "They love it," Stever states. "And they actually brag about having an IP phone at work."

After becoming stranded in a hotel during inclement weather, Stever himself experienced the benefits of IP-extended telephony services: "I was able to make and receive calls just as if I were working from the office; no one could tell that I was actually in a hotel. The audio quality was excellent and I had access to all of the same features and applications I have in the office."



i2050 Software Phone

Incorporating i2002 and i2004 IP telephones has simplified deployment and administration requirements. Having recently moved into its new facilities, PPL continues to plan for future growth. Bringing new users online and managing frequent telephone moves and changes has never been easier or more cost effective. The IP phones connect directly to the LAN, include an integrated Ethernet switch

for shared LAN access with a desktop PC and support Dynamic Host Configuration Protocol (DHCP) for automatic IP address assignment. Leveraging the converged infrastructure, the costs and requirements for telephone cabling and IT support of standard moves, adds and changes are greatly reduced, allowing PPL to efficiently provide users the resources they need when and where they need them.

"Overall, this project has been extremely successful. The solutions work, they save money, they have valuable functionality, they promise to be very effective in the future and they're compatible with our existing equipment," says Stever. With the new Nortel Networks solutions in place, and the plan to migrate to IP telephony in process, PPL will save significant dollars and, therefore, meet cost reduction goals once the transition is complete.

Moving forward, the enterprise plans to continue being a proactive pioneer in meeting the needs of its internal and external customers with emerging technologies that fully optimize its converged IP network, including expanding its number of IP telephone users, investing in wireless technology to increase user mobility and rolling out multimedia and video applications to more of its home office workers as needed. Stever concludes that "We've built a rock-solid foundation and have achieved some truly significant accomplishments. We plan to continue looking for new opportunities to build upon the strength of that foundation and our relationship with Nortel Networks in the future."

Flexible Working Solutions

from Nortel Networks offer all the values and benefits associated with the "One network. A world of choice." vision, increasing enterprise agility by providing employees with anywhere, anytime access to information and services. The result is a more competitive business and more productive employees, whether they are located at a corporate office, at home or in the field.

The following solutions were key enablers that allowed PPL to deliver a flexible work environment for its employees:

Integrated Personal Call Director

offers customized and flexible "one-number-find-me" intelligent call routing to direct callers to a user's choice of telephony devices.

Internet Telephones meet diverse user requirements for robust feature and applications access while streamlining network management and facilities costs.

Virtual Office maximizes employee productivity by allowing users to log in to any IP telephone network-wide for virtual access to the features and user profile of their own desktop telephone.

CallPilot Unified Messaging boosts productivity by allowing users to remain fully engaged with centralized voice, fax and email message access from virtually anywhere.

Contivity Secure Gateways deliver dynamic routing, stateful firewall, encryption, authentication, policy and bandwidth management services for secure communications.

For more information, please contact your local Nortel Networks account representative or call 1-800-4NORTEL (1-800-466-7835) or 1-506-674-5470.

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