

Leveraging Unified Communications

Contributed by John Nikolatos
Saturday, 06 January 2007

Optimizing Customer Support: Increasing productivity and remote access to critical information

John Nikolatos

John Nikolatos is the CEO and a chief technical engineer at NIKTEK LLC. His research has focused on computers, computer system design, security and network optimization. Mr. Nikolatos has been providing advanced IT solution for corporations over the past 15 years. He has appeared on television, hosted seminars, and his designs and solutions have been published in trade articles. He has a Bachelors of Science in Management Information Systems from Clarkson University, and various industry certifications. The certifications include Microsoft Systems Engineer, HP Accredited Systems Engineer, Citrix Certified Enterprise Engineer, Cisco CCNA, Cisco Wireless LAN Systems Engineer, and Neverfail Certified Implementation Engineer.

INTRODUCTION

A Connecticut service company, offering service and support for their IT products, had reached a growing point. Their accelerated success directly related to decreasing response times to their current clients and a loss of productivity from their transient employees. In order to compete with larger company's, serve their current customer base and allow themselves to grow, this customer needed to design and develop a system that would solve this problem. They consulted with NIKTEK LLC for a solution. Using Cisco telephony, Unified Messaging, Microsoft Exchange and Windows 5.0 Mobile, NIKTEK developed a solution that effectively solved the issue at hand, increased productivity and allowed the client to be more competitive in the industry.

NIKTEK's customer offers first class technical support for their products and services. Being responsive to clients support issues and their needs is their number one priority. The nature of business at this customer site requires that their engineers are offsite honoring contractual agreements, attending consultative meetings and configuring offsite based installations. They wanted to address the issue of being available to all clients within those situations. The company's clients have come to rely on the fact that they been providing excellent response to their support needs. The customer wanted to expand their current client base and still provide the service and support that their clients have come to expect.

The current solution to messages left for engineers, was an emergency paging service from their in-house telephone KEY system for critical issues. If the customer was to increase their client base, they needed to design a solution to provide the same if not better, response time to a critical situation than they currently could provide. They needed a solution that they were familiar with, could support in-house, and that would enhance their Return on Investment “ROI” on existing in-house infrastructure. Furthermore, they recognize that there are a multitude of products and technologies they could have chosen. Each solution claims vastly different ways to solve many of the issues at hand. All of which made assumptions on current infrastructure, budget and technical knowledge of the products.

This whitepaper was developed to help show NIKTEK clients, vendors and business partners how NIKTEK can obtain a thorough understanding of a business need, display their level of technical knowledge and design a solution ensuring ROI on existing systems. This will also demonstrate how these solutions will ensure business goals are being achieved.

The following list represents what was important to have on hand and to have the ability to access from anywhere.

- Email

- Internet

- Contacts

- Client Servers

- Voice Mail

· Calendars

· Telephone Extensions

· Data

Current Infrastructure

The customer already had an investment in Microsoft and Cisco products. After a review of the systems in place we found expandability in current infrastructure. Systems such as Microsoft Active Directory Controller, Exchange server 2003, Microsoft SQL Server, IIS, Red Hat Linux, VMWARE and Microsoft Virtual Server were in place. The decision was obvious to seek a solution that would leverage current investments. A Cisco PIX 515 firewall and a Cisco 2900XL series layer 2 switch was being used for their LAN communications. The workstations included an array of desktops and laptops running Microsoft 2000 and Microsoft XP operating systems. Using NIKTEK's expertise in Cisco and Microsoft products and the ability of the products feature sets, the decision was made to use a Microsoft and a Cisco solution to solve the situation at hand.

Problem Statement

The customer's engineers, whom are often off-site, did not want to miss important phone calls and emails. Engineers and sales personnel wanted access to information about current clients and potential new customers from abroad. Engineers needed contacts and phone lists of vendors, access to technical information and a place to archive important documentation gathered at client sites. Engineers also wanted a more secure alternative to Outlook Web Access "OWA" and more direct access to their email than POP services. The bottom line was the engineers had the need for direct and immediate access to data, at all times, to better support their clients. From off-site locations this was difficult and while on the road their productivity decreased.

Proposed Solution

Microsoft Exchange Server 2003 with the addition of SP2 has incorporated Microsoft "Direct Push" technology. It is the ability to synchronize your Microsoft Exchange email with a Windows 5.0 Mobile device. The synchronization takes place over a cellular data network via a secure SSL link. With the addition of the Messaging and Security Feature Pack for Windows 5.0 mobile, Microsoft adds a variety of security enhancements that make this form of email access a very secure solution. With "direct push" the NITKEK's client gets near real-time synchronization of their emails, contacts, calendars and tasks.

Windows Mobile 5.0 is an operating system on new PDA type smartphones offered by cell phone providers. Cingular, Sprint and Verizon all have different telephone versions they offer. The client chose Cingular for its best all around coverage, its GSM network and quad band phones. GSM networks are the standard overseas so Cingular works in just about every country. Windows 5.0 mobile has full Microsoft Office integration so you can create, open and read Microsoft Word, Excel and Powerpoint files directly from your cell phone. It also has an Internet browser and Windows

Terminal Services client, allowing them to remotely control servers and troubleshoot issues directly from their cell phones. Using the Bluefire VPN client, they can securely terminate VPN connections to any Cisco VPN endpoint installed at their client sites. This phone, along with Cisco Unified Messaging, allows them to get important telephone voicemail directly from Microsoft Exchange.

Cisco IP Phones, Call Manager Express has been deployed to the employees. This required an upgrade of a switch infrastructure at the client site. A Cisco 3560 Layer 3 power over ethernet “POE” switch was installed and configured with Quality of Service “QOS” to tag important voice traffic as priority ensuring high quality voice to all phones. VLAN’s were defined to segment Voice traffic and Data to ensure proper design and performance. A software based IP phone called “Cisco IP Communicator” has been deployed to all laptops. This allows engineers and sales force to get their telephone calls directly to their laptops whether onsite or at a remote location. Utilizing the 515 PIX firewall for VPN tunneling allows secure connectivity into their company and allows IP Communicator to register to the Call manager express. Once registered the laptop will ring and can be answered when a call is made to an individuals extension. XML features of the Cisco phone have been used to provide weather updates, stock quotes, Airport conditions and CNN news articles to all IP phones.

Cisco UNITY is a unified messaging solution from Cisco that runs on Microsoft SQL server. It runs the logic for the auto-attendant, fax and voice mail recordings. All messages are written to the central Microsoft Exchange email database. This allows all voicemails and faxes to be immediately available through Windows 5.0 mobile while on the road. Text to speech capabilities allow all emails to be read back to the engineers on the road. UNITY brings unique features to Microsoft Exchange and the Voicemail. Converging the information in one database allows easy access and editing capabilities that are all tied together. Whether deleting an email from the phone system or listening to a voicemail from within outlook or windows 5.0 mobile, it allows the client to be more productive by saving valuable time. This allow access to all Microsoft Word, Excel and Powerpoint files via email. Using the Cisco VPN technology of the PIX firewall allows secure access to all other data via a normal Microsoft share using a laptop. Access to printers and other systems is also available from the Cisco VPN.

Conclusion

NIKTEK’s solution has helped the company’s productivity and responsiveness while leveraging its current infrastructure. This solution has optimized their ability to grow while allowing them to keep the level of service their client’s have come to expect. Through identifying current systems and investments, researching their capabilities and providing a secure scalable solution, NIKTEK was able to solve their needs for real-time access to email, voicemail and data. This design is a direct solution to improve company productivity and response times while leveraging current investments. This whitepaper was created to show you a sample of the technical abilities and ideas of NIKTEK LLC. If this document is of interest to you and you would like to talk more about this or other technical solutions, NIKTEK can be reached at (203) 874-1273 or on the web at <http://www.nikte.com/>.