



CASE STUDIES

Case Study

Campbell County, USA

Versatile 3Com® Router, Voice, and Data Solution Optimizes Constituent Services for Campbell County, Kentucky

Organization: Campbell County, Kentucky

Location: Newport, Kentucky, USA

Employees: 181

Market Segment: Local Government

Applications: Departmental hunt groups, E911 for physical security, direct inward dial (DID) numbers, four-digit extensions, voicemail, unified messaging, Exchange/Outlook email, dialing from Outlook, call transferring, phone conferencing, call parking, usage and cost tracking, automated failover to ensure network availability, AS400 financials, proprietary departmental databases, Internet access.

The Challenge

Located in Northern Kentucky, Campbell County, <http://www.campbellcountky.org/> encompasses 152 square miles and serves over 88,000 residents. The county is experiencing economic and population growth due to its location in the Greater Cincinnati metropolitan area and the presence of Northern Kentucky University as well as businesses including General Cable Corporation, Shire US Inc., and Lafarge North America.

Previously, the county's government relied on separate, non-integrated PBX systems and Ethernet networks in 10 locations for its voice and data communications. As the county grew, these systems caused increasing inefficiencies and expense. County telephone systems lacked basic features like voicemail and transfer capabilities. The phone and data systems were not only fragmented but also costly and difficult to maintain. Although the county paid \$1,500 per month for phone system service contracts, the equipment often failed, causing downtime that was often exacerbated due to difficulties obtaining replacement parts. Additionally, many phones required their own analog lines, costing tens of thousands of dollars yearly in circuit fees. Despite these high costs, citizens routinely experienced busy signals or lost calls during peak periods such as tax collection season. Moreover, the county was running out of network ports in some older buildings, which were difficult and costly to rewire.

To improve its service to constituents, Campbell County sought a single, countywide voice and data solution to share a common phone directory and resources. The county required the solution to provide voicemail, call transferring and conferencing capabilities, and other modern telephony features. Because its existing routers were outdated, the county also sought routers capable of routing voice over Internet Protocol (VoIP) traffic over its wide area network (WAN). Additionally, Campbell County required an economical means of addressing its network ports shortage. The county also mandated for the solution to be secure from Internet intrusion, manageable, scalable over a 10-year period, and provide a rapid return on investment (ROI).

Why 3Com

To solve these problems, The Campbell County Technology committee requested public bids. One respondent, 3Com Silver partner Global Business Solutions, Inc, <http://www.gbs-inc.com/>, proposed the versatile 3Com solution below, which Campbell County is now using:

- **3Com® SuperStack® 3 NBX® Networked Telephony Solution**
Read more [here](#)
- **3Com NBX 100 Communications System**
Read more [here](#)
- **3Com Router 5000 Family**
Read more [here](#)
- **3Com OfficeConnect® Switch 8 with Gigabit Uplink**
Read more [here](#)
- **3Com SuperStack 3 Firewall**
Read more [here](#)
- **3Com SuperStack 3 Switch 4900**
Read more [here](#)
- **3Com SuperStack 3 Switch 4400 Family**
Read more [here](#)
- **3Com IntelliJack™ Switches**
Read more [here](#)
- **3Com 11 Mbps Wireless LAN Outdoor Bridge Solution**
Read more [here](#)
- **3Com Network Supervisor**
Read more [here](#)
- **3Com GuardianSM Service**
Read more [here](#)

Chosen over 10 competing bids for its price/performance, quality of service (QoS) features and full-featured routing, the 3Com solution is delivering an 18-month ROI and major service benefits for Campbell County and its constituents. The solution, which Global Business Solutions implemented, links the county's 10 sites into an integrated, multi-location layout providing cutting-edge IP telephony features and ultra-fast data networks.

Today, a SuperStack 3 NBX chassis and call processor sits in the county courthouse, with NBX 100 Communications Systems located in the police department and county jail to ensure continuous availability and disaster recovery. A SuperStack 3 Switch 4900 in the county courthouse feeds the server farm and can be upgraded as needed with an innovative 3Com XRN™ (eXpandable Resilient Networking) Kit to provide greater port density and redundancy. The county is also using 3Com's managed IntelliJack switches to instantly quadruple network ports in growing but hard-to-wire locations such as the courthouse and sheriff's department. 3Com OfficeConnect® Switch 8 switches with gigabit uplinks provide high-performance connectivity for the county's smallest offices.

In addition, high-value 3Com routers supply every necessary feature out of the box rather than as an additional cost. SuperStack 3 Switch 4400 PWR switches provide Fast Ethernet connectivity and inline Power over Ethernet (PoE) to 3Com NBX phones and IntelliJack switches, reducing the county's electrical cabling requirements.

A SuperStack 3 Firewall provides perimeter security for the network, letting the county rest assured that its data is protected from Internet hackers. As a result, county departments and employees can safely access the Internet to research grants and problem resolutions, seek federal assistance, correspond with other Kentucky counties, and download patches and software updates.

Due to 3Com switches' ability to perform automated failover, Campbell County will soon use cable company pipes for its primary site connectivity while reserving their T1s as backups.

The Benefits

With the SuperStack 3 NBX Networked Telephony solution replacing Campbell County's 122 analog phone lines with two PRI circuits, the county is saving \$75,000 to \$100,000 per year in telephone circuit costs. The 3Com solution also utilizes a wireless outdoor bridge to link the county's adjacent senior center and apartments, eliminating \$250 to \$300 monthly in recurring T1 fees. Additionally, NBX NetSet™, 3Com's built-in administrative application, lets the county effortlessly manage its 202 phone voice network in-house, saving \$6,000 per year in service contract costs. Phone moves-adds-changes are now a snap for the IT department, removing another drain on the county budget. Furthermore, 3Com Network Supervisor helps the IT team proactively manage the county's networks, graphically mapping and pinpointing every phone, computer, and other IP-enabled devices to quickly identify blockages and other potential trouble spots.

Easy to acquire and deploy, the new 3Com Router 5000 family of routers eliminates hidden upgrade costs for the county by embedding popular security features such as firewall, VPN, QoS, and traffic filtering without requiring additional software purchases. With advanced QoS, congestion, and traffic management capabilities, as well as support for IP telephony, the routers allow Campbell County's WAN to efficiently handle the demands of converged voice, data, and video. This guarantees bandwidth with zero frame loss for

delay-sensitive traffic such as voice communications driven by the county's NBX IP telephony solution. The routers further allow the network to effectively expedite application, site-to-site phone calls and data delivery across the county's T1 circuits - even during times of heavy network use.

Utilizing a flexible 3Com dial plan in coordination with the local telecom provider, Campbell County is reinforcing employee security using the E911 system. As a result, emergency workers can immediately identify the location of 911 calls to facilitate rapid response. Dial plans also let the county set up custom hunt groups for each department that speed citizens to the next available employee. In addition, 3Com account codes and call detail reporting (CDR) allow the county to track and monitor phone usage and billing by department as well as control permissions that restrict long distance, international, and toll number calling.

Citizens and employees alike appreciate the phone system's call distribution and feature enhancements that eliminate busy signals during tax collection and property assessment periods. Direct inward dial (DID) numbers, four-digit extensions, and voicemail accounts make county employees more readily available, facilitating constituent service and departmental collaboration. Employees also use the 3Com NBX system's unified messaging capability to retrieve and manage both email and voice mail messages from Microsoft Outlook.

Using the 3Com system's computer telephony interface (CTI), employees additionally dial outgoing calls directly from their Outlook contact records. Calls can now be transferred from one department to another with two buttons, or to individuals using the proper extensions. Moreover, employees rely on advanced telephony features, such as phone conferencing, speed dial, and redial to further streamline their communications. Call parking is another widely used feature, with the police chief and other key managers relying on it to be reachable when visiting other departments.

3Com switches also boost productivity and help employees provide faster service to constituents by accelerating the county's key data applications. Chief among these is AS400-based financials used by each department for budgeting, expenditure tracking, and reporting. The network also delivers each department's proprietary databases with no network lag. In addition, rapid delivery of Microsoft Exchange/Outlook email messages fosters better and timelier communication with citizens.

3Com's service organization is extending and enhancing Campbell County's warranty benefits on its routers via a Guardian service agreement. Customized for the county's needs, the Guardian agreement provides rapid on-site response to minimize downtime, as well as telephone consulting with 3Com engineers, software upgrades, and access to an extensive online knowledgebase.

"3Com's routing, voice, and data platform is improving our constituent service and communications while driving down costs to give us immediate returns on our investment," said Andy Kuykendall, director of IT, Campbell County. "The new 3Com routers give us both firewall and routing capabilities out of the box at a lower price than the competition without requiring the software add-ons that further inflate the price. Support from 3Com and Global Business Solutions has been superb. I consider 3Com not just a vendor, but a partner."