CHEEKTOWAGA, NEW YORK

CASE STUDY   **ASTERISK**

OVERVIEW

When the township of Cheektowaga, New York – a suburb of Buffalo - submitted a Request for Proposal (RFP) in January 2010, to replace their mixed-bag analog telephone system with a web-centric VoIP infrastructure that would reduce communications costs for their municipality of nearly 96,000 residents, more than ten vendors competed for the project. "There were a lot of telephony solutions that would have worked," says Eric Heuser, president and chief technology officer for Digium partner, Source Technical, the company who won the contract for Asterisk. "However, I think the final decision in favor of Asterisk was based on price, design, and Asterisk's overall performance in terms of providing multiple site redundancy." The project included designing and implementing a VoIP infrastructure for 500 employees in 15 separate locations including the mission critical police department; the town hall campus, which contained six buildings; and the core location at Alexander Street.

Located in North Tonawanda, NY, Source Technical specializes in structured operating system support, network infrastructure, and strategic technical applications. Their technical personnel hold advanced certifications in specialty applications like Asterisk, the world's most widely used open source communications platform. According to Lou Ebert, Director of Business Development, "Fortunately there was a high-ranking Cheektowaga police captain who had some advanced technical knowledge about open source applications, and he was a huge advocate for presenting an open source solution to the city." Digium also develops software, hardware, and a variety of components needed to create a unified communications solution. Together with Asterisk, Source Technical offered the capacity for flexible, customizable options at an affordable price.

Asterisk Saves a New York Township $60,000 in Network Upgrades, While Helping Them Cut Communication Costs Across the Board

CHALLENGE

Cheektowaga sought to replace a telephone system made up of a variety of telecom products, most of which were Nortel. The equipment had reached the end of its 15-year lifecycle and the city was having difficulty managing the system themselves. They resorted to hiring external vendors for support, but were having increasing difficulty with this option as well; and essentially, had no choice but to overhaul the system from the ground up. Although pieces

of the system had been rigged to provide voice mail capabilities, the system was non-expandable and they faced voice mail failure in one location, and limited voice mail capability in another.

Cheektowaga required multiple levels of redundancy for what they termed "Continuous Government" - that in the event of a power failure, server failure, or Telecom outages at any one location, the phone system would continue to function. If worst-case scenario saw a fail-over at any location, an outlying office had to be able to pick up operations. This, along with the existing patchwork analog structure required that Source Technical replace and redesign every aspect of the old system, with a highly customized infrastructure that would accomplish both an upgrade to VoIP, and cut communications costs. Additionally, the 911 Dispatch center required added flexibility, and presented some challenges along the way.

Then there was budget. Cheektowaga did not have a set-aside budget, which was one of the reasons they had waited so long to issue an RFP for the sizeable project. Since Asterisk is a free software solution, Source Technical was able to save the City the $60,000 they had allocated for network upgrades by rolling $60,000 in equipment into what amounted to a $100,000 communications budget with no out-of-pocket product costs. This alternative proved significant in terms of cost savings to implement the overall task.

SOLUTION

Asterisk costs thousands of dollars less than traditional PBX systems and uses broadband (Internet) connections to tie a business network to the traditional global telephony network. There is no difference in the way calls are made, and the way calls are received; and since it uses broadband instead of phone lines, employees can work remotely, as long as they are connected to the Internet. Better still, when a caller calls your office and chooses your extension, it doesn't really matter where you are – working from home, lying on the beach, or having lunch – the caller doesn't know (and can't tell) the difference in call quality.

In companies with several locations, like the City of Cheektowaga, Asterisk lets employees from multiple offices connect on a call without the expense of conference calls, and it also cuts down on travel frequency because as long as your customer has an Internet connection, employees can stay connected. Furthermore, Asterisk phone systems provide a voicemail box for every caller, which are connected to email accounts, so there is no reason to ever miss a call! This provided Cheektowaga's Police Chief, City Council members, School Superintendent, and Recreational Director to all meet via conference calling at the touch of a button.

Source Technical started the Asterisk 1.6 system design in January 2010 after winning the bid process. They used four technicians who worked each individual campus at a time. They installed 300 Polycom desk set phones, and redundant Dell servers at each of the four main campuses, which included the Police Department complex, the Town Hall complex, the Recreational Department complex, and the Alexander Street campus. After lining up carriers to cut the system, the entire process took about eight months.

"Cheektowaga has a lot more functionality than they did before," Heuser says. "They have unified communications that allow voice mail to email communications. They do not use a PBX, but have a centralized administrative console at each of the three main locations with auto-call routing and direct inward dial (DID)". The DID unit enables callers to dial directly into an extension without using an auto-attendant.

They also utilize SIP trunks, a means for transporting multiple telephone conversations across metro or long distances on a single line, replacing the legacy Primary Rate Interfaces (PRIs) and analog lines that were driving up communication costs.

They also took advantage of call queues, group rings, and Find Me, Follow Me capability; two call forwarding services commonly used in conjunction with each other. Find Me service lets the user receive calls at any location while the user is reachable at any of several phone numbers with the Follow Me service.

Source Technical also built in an Auto Attendant Console plug-in that supports the traditional manual control hardware device that lets a live attendant quickly monitor every line in the system and efficiently dispatch calls using traditional busy-lamp-fields and direct-station-select functions.

Source Technical admits there were some surprises along the way, but none that weren't to be expected in such a complex project. A main PBX located at one of the core buildings at the Police Department routed a few phone extensions to outlying locations, primarily the Town Hall complex, unknown to Source Technical until after they began implementing the newly designed system at that location. Presented with this anomaly, Source Technical created a work-around to make those lines route to the correct location.

Furthermore, there were some special requirements needed in the 911 Dispatch Center with its alarm system; and of course the newly required fail-over back up and disaster recovery system at each location.

RESULTS

"Cheektowaga is very happy with the system because it is engineered for flexibility, reliability, functionality and expansion that will keep up with the growth of the town," Heuser says.

Contrary to some myths about open source technology, Asterisk provides technical support directly through Digium and their consulting professionals not only help with problems, but also are always open to hearing about bugs in the system – in fact, that feedback contributes to the overall improvement of the Asterisk software. "It is a common misconception among some companies that open source is void of support, but with the police captain's technical expertise and their high comfort level with the open source model – most particularly Asterisk - provides factory support through Digium, they were very positive about going this direction."

Digium's vision is a world based upon open communications.

Our mission is to transform the way businesses acquire and operate their communications systems through the application of open source software.

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