

## GREENBERG & CO



CASE STUDY

SWITCHVOX

### OVERVIEW

Two years ago, attorney Daniel Greenberg, feeling his law firm's growth potential stifled by a weak local economy and growing anti-business regulatory burdens in the United States for his international entrepreneurial clients, sought a way to diversify his small "boutique" commercial law firm of Greenberg & Co located in Fairfield County, Connecticut, by emphasizing its growing international interests. Greenberg developed a strategy for opening a satellite office in an international financial center that would allow him the freedom to pursue new international business; maintain his changing operations in Shelton, Connecticut; but keep the office space for his remaining employees, while renting out the underutilized space to independent attorneys with their own areas of legal focus.

After passing the Qualified Lawyers Transfer Test (Solicitors Examination for credentials in England and Wales) Greenberg opened a satellite office (under the name Greenberg & Co. Solicitors LTD) on the island of Tortola, the largest island in the Virgin Island archipelago, and the financial center of the British Virgin Islands. Clearly, Greenberg & Co needed a unique VoIP telephone system that was flexible enough to accommodate multiple phone lines, not all of which were exclusive to his business, but that provided a centralized switchboard of sorts that could answer any of the phones in the office. It must also provide a seamless but economical means for connecting him to his office in Tortola and from Tortola to anywhere in the world; be able to handle a high volume of calls per day; and allow him full VoIP functionality and mobile access internationally.

Working with Digium partner NETiMAGE, located in Shelton, CT, Greenberg purchased the Switchvox AA65 model, ideal for offices with limited space, and designed to support up to 30 users. Believing that every company deserves to use cutting-edge technology regardless of their budget, NETiMAGE was the perfect choice for Greenberg because they helped him seek out the most exciting and innovative products available that would help him accomplish his goal. Wanting to get away from the expensive proprietary phones required by their reliable but now obsolete Nitusko/NEC system, NETiMAGE recommended they purchase an additional 25 Polycom phones, and implement Digium's popular open source Asterisk software for flexible functionality. "With an exhaustive list of features I was not even aware I needed, a call quality that is crisp and clear even from Tortola, which is not the most mainstream of locations, I am very, very pleased!", Greenberg says.

## Switchvox and Asterisk Utilize SIP Trunks to Increase Bandwidth for Growing International Company with Office in the BVI

### CHALLENGES

In Spring 2010, Daniel Greenberg was building his credentials for practicing law under British mandates and preparing to pass what is the equivalent of a U.S. Bar exam for England and Wales. These credentials allowed him to open an office to practice commercial law and develop a supplemental insolvency practice on the island of Tortola in the British Virgin Islands. Foreseeing that his current Nitusko/NEC telephone system, which was suffering from both age and obsolete technology, was incapable of managing the complex configuration of cross-platform telephony on which he was about to embark, Greenberg began investigating his options. The challenges would be enormous and they would be unique.

First, Greenberg was making his personal space in the Connecticut office more flexible, while at the same time, diversifying the space with independent attorneys. There are currently 16 people located in the Shelton facility made up of five law firms and a virtual office for an attorney who works out of his home office. Each of the attorneys and their staff would need customizable, rules-based telephone options. For instance, the virtual office may wish to set rules in which the phone rings twice before automatically forwarding to their home office line. Another tenant may request an automated attendant via an Interactive Voice Responder (IVR) to ask for information and disseminate information to the caller through a series of instructions. i.e. "You have reached the Law Offices of Smith and Johnson. To reach Mr. Smith press one on your touchtone dial...", etc. Customized to Greenberg's specifications, the system would handle eight simultaneous conversations acting like five separate entities all at the same time, and send voice mail to email addresses among many other VoIP functions with the flexibility to increase that capacity if needed.

Secondly, Greenberg needed his own system to provide a live receptionist in the Shelton office during regular business hours in which his receptionist could simply switch a call from Connecticut to the Tortola office as though it were nothing more than an extension down the hall, which is in essence how any outside caller experiences the call. Because they were dealing with international clients in a variety of time zones worldwide, the system also needed rules for switching calls to his Tortola office, his home phone, or his iPhone or Blackberry after hours, and providing access from these devices to the calling options available on the Shelton system. Additionally, he needed to be able to conference call by way of clients calling in from anywhere in the world; to be able to conference call by way of calling out to anywhere in the world; and for clients to be able to call each other from within the Greenberg & Co. system worldwide.

Greenberg knew the system needed to be web-centric, computer/VoIP based; highly customizable with voice and email capabilities; remote accessible; and include his iPhone as one of the accessible phones in which he could make calls through the Switchvox appliance with unlimited domestic calling and Wi-Fi. In addition, he had a softphone that connected through his laptop. "I wanted to be able to focus on business and not worry about whether my phone system was up to the task," Greenberg says. "Your success is based on how you function in a high technology world. If the technology is there, you should use it to your advantage."

Started in 1991, NETiMAGE provides computer networking and IP communication solutions to small and medium-sized businesses in Connecticut and New York. They had to design a system that worked invisibly; required little if any training; and produced high quality sound across all systems. Greenberg did not want there to be a difference in call quality whether it was a local or international call; whether the calls were coming in via cell phone, internet, or through the Switchvox switchboard interface (IVR); and it must maintain that quality whether he was answering via another cell phone, an office Polycom phone, or through headsets.

Because Greenberg & Co was in growth mode, the system had to be expandable without requiring a big investment every time they added a phone, moved staff offices, or took on new international clients. This was a recurring problem with the existing Nitusko/NEC system, which required proprietary telephones that were more expensive than others with similar features; and mandated a technician on the premises to do simple reprogramming, install new lines, and if necessary, lay new cable.

Finally, with 60% of Greenberg & Co's business coming from clients in 15 countries, finding an efficient and economic means for high volume international calling was another imperative, and not a simple one to solve.

## SOLUTIONS

Throughout March and April 2010, Greenberg studied a number of telephone options. He knew he did not want a standalone system, and he was technologically perceptive enough to know the specifics of what he wanted, but was admittedly not knowledgeable enough to know how or whether some of his wants and needs could be accomplished. Narrowing the field down first to six vendors, and then down to three of which were serious contenders for the job, he decided on Switchvox with Asterisk. "After talking to NETiMAGE Network Solutions, I could tell they were well-versed in merging computer communications with telecommunications, and I was impressed with the inclusion of so many features all within one Digium Switchvox system, while Asterisk was clearly technologically mature enough to handle my unique requirements – to allow me to supervise operations in the BVI efficiently and economically".

The Switchvox AA65 IP PBX application runs in any web browser and the intuitive switchboard interface places all communications within a single click. The Greenberg & Co receptionist could drag and drop calls, chat, and update the CRM system; customize each user, see every line on the system, drag-and-drop transfers, take immediate note of busy lamps that show when users are on the phone or away – even tell when they will return. What's more, any user was now able to access it from any internet-connected computer be in the office kitchen, the conference room, an apartment in Tortola, or by cell phone.

Greenberg & Co. embraced NETiMAGE's suggestion for using SIP Trunks as the main outgoing/incoming method of connection for its phone system, and the most economical means for assuring the highest level of system performance. NETiMAGE began by implementing SIP Trunk technology to Greenberg & Co's new Switchvox 65 IP PBX. Session Initiation Protocol (SIP) is the preferred choice for establishing sessions in an IP network and makes available a number of innovative collaborative multi-media services run by Digium. Consulting with NETiMAGE prior to implementing the new system, Greenberg & Co. beefed up their internet connectivity by allocating a portion of their service to an ITSP (Internet Telephony Service Provider, who provides VoIP products that interoperate seamlessly with the new Switchvox IP PBX. The SIP Trunks let Greenberg & Co use VoIP outside the enterprise network by using the same Internet connection. A SIP trunk is a virtual phone line that utilizes a broadband connection for access, and creates two-party, multiparty, or multicast sessions that include Internet telephone calls, multimedia distribution, and conferences. SIP trunks were the catalyst for Greenberg's ability to allow eight or more simultaneous conversations at the same time, locally and internationally.

Greenberg & Co. had some experience with VoIP phone line performance as it had been experimenting with dedicated VoIP lines for its international calls for several years. As the quality and reliability of those lines improved, they were ready to consider VoIP for their main incoming and outgoing lines.

By eliminating the need for costly onsite international PSTN gateways (Public Switched Telephone Network, or Plain Old Telephone Service); ISDN BRIs (Basic Rate Interfaces); or PRIs (Primary Rate Interfaces), Greenberg & Co saved a lot of money. Individual SIP Trunks run around \$20 to \$30 per trunk and include unlimited inbound and local calling, along with a long distance rate that can be under 2 cents per call.

Having solved the problem of high international calling rates; created the ability to facilitate inbound, outbound, and across-network conference calling without overloading the system; and providing an expandable solution that easily integrated into the company's IT infrastructure; Digium Switchvox along with Asterisk solved the more complex requirements of the Greenberg job.

The totality of the Switchvox/Asterisk product application addressed all the remaining concerns. Greenberg was no longer forced to buy expensive proprietary phones, but solved that issue by purchasing the 25 Polycom phones, 20 of which are used throughout the Shelton facility. Furthermore, Switchvox offered a whole host of features at no additional cost, some of which the benefits were not appreciated until later. "Call reports were something I hadn't

considered that I have found to be invaluable to me,” Greenberg says, “I can measure the amount of bandwidth I am using and see for instance that we are averaging just under one thousand phone calls per week or about four thousand calls per month. Each of those calls is about two and a half minutes, which gives me a measure of the system and the staff’s efficiency. If I need to make adjustments, I can see where those adjustments need to be made.”

Also impressed by the number of plug-ins, subscriptions, and applications that are available, Greenberg can get automatic updates; integrate with email servers and applications like Microsoft Outlook, and with a variety of web browsers like Mozilla Firefox.

If Comcast, the local cable service goes down, Digium provides a system for the telephony to switch over to so they never lose service. “The sound quality is superb,” Greenberg says. “No matter what device I am using, cell phone or headsets; no matter from where I am calling, whether I am in Shelton, or speaking to a client in Brazil from Tortola, I get no crackling, echo, or hollow sounds I used to get from POTS lines, and occasionally from Skype.”

## RESULTS

“When I compared the final two telephony systems with Switchvox and Asterisk, they were all within a ten percent margin. I read all the reviews about Digium’s products and they were all positive, although I don’t think your company communications should be based completely on lowest cost,” Greenberg explains. “What I like about the open source technology of Asterisk is that when I explained to NETiMAGE not just what I have to have, but what I want to have if it is possible, they were able to make it work with Switchvox!”

*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.*



The Asterisk Company

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