



## **INTEGRATED SOLUTIONS CASE STUDY**

### **Open Source IP-Based PBX Enables Texas Telecom Service Provider To Support VoIP Technologies And Deliver Feature-Rich Services At A Competitive Price: Solution Supports Corporate Growth From Regional To National Telephony Services Provider**

In a rapidly changing competitive telecom environment, solutions providers need to be able to offer their customers the latest technologies at a cost effective price point. When Ntegrated Solutions, an Irving, Texas-based telecom solutions provider launched their business focused on supporting VoIP technologies, they included Asterisk, the industry's first open source IP-based PBX into their infrastructure. Today, the company is able to provide competitive services, and as a result, have graduated from a regional provider to one with national capabilities.

Ntegrated Solutions is a regional, national telecom solutions provider that specializes in IP telephony and has focused its business on detailed customer support and high-end telephony systems for small to medium sized companies. Headquartered in Irving, Texas, Ntegrated Solutions provides a unique combination of vision, skills, knowledge, and delivery capabilities to ensure the best possible telephony solutions are made available to their clients throughout Texas and future clients located nationally since June 2006.

#### **Keeping Costs Down and Functionality Up**

As a facilities-based solutions provider, one of the biggest challenges is the cost of implementing solutions that enable the company to provide state-of-the-art services at a cost competitive price point. As more businesses adopt VoIP technologies - a new study from Infonetics Research predicts that deployments will double by the year 2010 – companies like Ntegrated Solutions have to offer highly functional, feature-rich solutions at a better price point than their competitors to maintain and grow their customer base.

When the business was launched, JR Richardson, director of Business Development for the company, began looking at proprietary software-based IP solutions but quickly determined they were priced outside of the company's budget. At the same time, the functionality offered by those solutions, including voice mail, auto attendant, Interactive Voice Response (IVR), and four-digit dialing, were business mandates. Realizing they needed to be competitive to attract new customers and meet business users needs, the company embraced a philosophy of embedding as much open source solutions as they could support into their infrastructure.

"We needed to be able to supply some of the more advanced telephony features to some of our anchor customers," noted Richardson. "I learned about Asterisk many years ago and at that time used it as a training platform. The first time I installed it, I fell in love with it and quickly realized it was not just a training solution, but a powerful telephony application."

#### **Getting Service To Customers Quickly: Solution is Fast to Implement And Cost Conducive**

Created by Digium, Asterisk is a complete PBX in software. It runs on Linux, BSD and MacOSX and provides all of the features you would expect from a PBX – and more. Asterisk does voice over IP in many protocols, and can interoperate with almost all standards-based telephony equipment using relatively inexpensive hardware. Providing voicemail services with Directory, Call Conferencing, Interactive Voice Response and Call Queuing, Asterisk also has support for three-way calling caller ID services, ADSI, SIP and H.323, as both client and gateway.

"What I really like about Asterisk is that it gets the service out there quickly to our customers," said Richardson. "Also appealing is its maturity, feature sets and the ability to customize customer solutions without needing to go back to a proprietary vendor and ask them to massage their code to have a solution do what I am trying to accomplish."



Richardson notes that one of the first things they set out to do was augment their network with voicemail capabilities and notes that had they chosen a proprietary solution, they would have had to charge per seat, license and user, which would have driven costs up and compromised their ability to deliver a competitive offering.

In addition to purchasing an Asterisk PBX, Richardson also incorporated Digium quad T1 cards and TDM FXS Modules, enabling seamless integration with Asterisk and the ability to interconnect with legacy telephone equipment easily and inexpensively. Richardson notes that many of his customers were trying to offload legacy PBX solutions and others needed technology that could connect remote offices with one contiguous dial plan – needs that were easily met and addressed by an Asterisk solution.

## **Ready, Set, Go**

Richardson admits that Asterisk is easy to use but notes that he did run into some challenges segmenting Asterisk into multiple application servers and the dial plan scripting to support it.

“Asterisk is a great one-box solution to do anything and everything you need to do in a PBX type of environment,” he said. “But in a core telephony switching network, you run into the challenge of segmenting the voicemail function into its own platform, segmenting voice conferencing into its own platform, segmenting registration servers from TSD and gateway servers and then coming up with a contiguous dial plan that sees all the functions and routes all the calls appropriately.”

Richardson recommends others allocate enough time for the lab work to get the solution to work as desired and notes that support from the open source community, where Asterisk is “the 800 pound gorilla of open source telephony,” eased the process for his group.

“There was never a situation I came across where somebody else hadn’t already solved the problem I was working on,” he added. “The people in the community offer great support, new ideas and new ways to do things like dial plan scripting. It really is a terrific resource.”

Another resource Richardson commends is the Asterisk bug fix list and user group. He notes that when he posted a bug he found in the voicemail platform it was fixed in less than 48 hours and was impressed with the rapid response.

## **Meeting Business Needs: Delivering Customizable Solutions Positions Company For Growth**

Making the biggest difference for Ntegrated Solutions is the ability to offer customers customized solutions extremely quickly at a cost competitive rate as compared to other service providers in their region. Because of their quick deployment and growing customer base, excitement about the company is building and incoming carriers in other regions have expressed interest in working with the company.

As they prepare for explosive growth, Richardson is confident that Asterisk will continue to be able to meet the needs of their business model as well as customer needs for customization and contiguous dial plan scripting.

“The Asterisk core switching network as designed is extremely scalable, fault tolerant and highly available,” he said. “I can massage the data infrastructure to handle call capacity at the same time adding the needed servers that are built on Asterisk – and I can do that at an extremely low cost.”

Recently, Richardson did a cost analysis on VoIP channels comparing a proprietary IP-based solution with Asterisk and noted that the proprietary solution incurred a charge of nearly \$17 per channel to deploy versus Asterisk, which came in at just two dollars. Another cost savings is the interoperability with multiple vendor telephone equipment – alleviating the need for Ntegrated Solutions’ customers to purchase proprietary hardware.

“From a strategic perspective, the solution enables us to be price competitive and get customers turned up without the heavy licensing fees associated with proprietary solutions,” said Richardson. “The greatest advantage is being able to learn our craft as technologists and telephony professionals. The more we use Asterisk, the more we learn and the more we want to customize solutions for our customers – and with Asterisk, we have had great success with that.”