

Global Communication Management – Hosted VoIP Solutions for Enterprises

Issue: Enabling customers to use a hosted VoIP Solution

Solution: Ingate SIParator with Remote SIP Connectivity

When Global Communications Management (GCM) was founded in May 2003 their only objective was to sell telephony subscriptions, but they soon started to look into other business areas as well, and during the fall of 2004 GCM started to offer hosted switchboard services. To supplement their new infrastructure needs, they purchased the Avaya IP Office IP-based PBX, which has support for the Internet protocol H.323. This new business strategy quickly began to pay off, as GCM soon found itself with a large customer base of small- and medium-sized business in the Stockholm area.

Increased telephony services

With the PBX and all other infrastructure in place, a natural next step for GCM was to start offering hosted VoIP services. In this way GCM's customers no longer needed a PBX of their own. They also no longer needed costly PRIs/BRIs, which are often a great expense for a small company. As the Avaya PBX had support for IP based telephony, the connection between the customer's enterprise and GCM's PBX could be over the Internet instead. Using the existing Internet connection the enterprise were able to connect to the PBX at GCM, with both incoming and outgoing calls placed over the Internet through that PBX. The enterprises could keep their old phone numbers and all "traditional" functionality like being able to make calls internally, call forwarding and voice mails. The shift to newer technology was completely transparent; users noticed no difference when making or receiving calls.

Getting the right firewall for the job

During the installation for their first pilot customer, GCM realized they had an obstacle to overcome – the firewall. GCM and their customer were using traditional firewalls, ones that didn't support IP-based telephony calls. The end result: neither outbound nor inbound calls could be placed

This is a common problem. Most firewalls and network address translation (NAT) devices lack full support for IP telephony. Firewalls are designed to stop inbound communication. Traditional firewalls see Internet traffic as "unknown" and, in an effort to protect the network, block IP telephony calls. In addition, NAT devices create private IP addresses, hidden from the outside, which makes it hard to reach the intended caller who has a private IP address.

"We solved this problem by setting up a leased line from customer's enterprise LAN directly to our LAN. It was an expensive solution, but that was the only way for us to solve it," said Berg.

New IP-PBX with support for SIP

As GCM's hosted switchboard service continued to sign up new customers, it soon became apparent the company had outgrown its PBX. They bought a new, larger capacity Avaya PBX that could handle more users. The new PBX not only supported the telephony protocol H.323, but also Session Initiation Protocol (SIP). Most new IP-PBX and IP telephones are based on the SIP protocol, which is now considered the standard for Internet telephony and all realtime communications. For GCM this change made it easier to find phones and other related products. However, the firewall issue once again needed a solution and GCM continued to solve it by setting up a direct connection or by using VPN tunnels. Once again, these "fixes" were both expensive and time consuming to install and maintain.

"We had heard about Ingate products and when we contacted Ingate, they let us try a SIParator. It immediately solved our firewall issues as it handles the NAT/firewall traversal issues just as we wanted it to do. The media ports are only opened when they have to, so it is a secure solution," noted Berg.

The SIParator from Ingate solved the problem

Ingate's SIParator connects to a traditional, SIP-unaware firewall to facilitate the traversal of SIP traffic. The architecture in the built-in SIP proxy guarantees that the SIP traffic securely traverses the firewall. The SIP proxy inspects the SIP packets before they are sent into the local area network (LAN). Ingate's add-on module, Remote SIP Connectivity, solved the NAT/firewall traversal issue for GCM's customer who had simpler firewalls and NATs. The module makes the calls to traverse the customers NATs so that they can reach and use the PBX at GCM without VPN tunnels or leased lines.

"The SIParator gives us the possibility to focus on our core business – to sell telephony services. We don't have to spend time creating pinholes in the customer firewalls or set up VPN tunnels. With Remote SIP Connectivity, it



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just works!” said Niklas Berg, Account Manager, GCM.

Although GCM’s customers with larger firewalls still use utilize direct LAN-LAN connections and continue using the protocol H.323, GCM plans to install an Ingate SIParator at these customers’ locations in the near future. This will allow all of GCM’s customers to leverage the benefits of using the SIP protocol; it will also mean GCM can do away with the expensive and cumbersome direct connections. The switch to SIP is a simple process, and best of all, GCM’s customers can keep their existing infrastructure, firewall rules and security policies in place.

Redundancy and stability

Ingate’s SIParator can also be used as a simple back-up PBX. Together with a local PSTN gateway and one BRI the telephony system will still work even if the Internet connection goes down. For GCM redundancy is important and for their own solution they have chosen a failover solution where two Ingate SIParators are connected and if the primary goes down, the secondary automatically takes over.

SIP trunking is the future

As the SIParator has support for SIP trunking it is a natural next step for GCM that, via the SIParator, GCM connect its IP-PBX over the Internet to its carrier and let their carrier handle the connection to the PSTN. Today GCM has 5 PRI’s (i.e 150 connections) to the PSTN. Although they have a good deal with their carrier they will save a lot of money using a SIP trunk instead. Also, by utilizing a SIP trunk, GCM will be able to increase their telephony capacity quickly and easily – and in a way that maximizes cost-efficiencies. With their current PRI solution, each time GCM needs one new connection, their only solution is to purchase one PRI with 30 connections. Using a SIP trunk they can grow one connection at a time.

For Berg, “It is not just an economical issue. If we have a SIP trunk and keep only one PRI we will get redundancy in this part as well. If our Internet connection goes down, we can still offer customers the service they expect. That gives us an overall redundant system and we can offer our customers a stable and secure solution.

About the Ingate SIParator®

The Ingate SIParator® is an add-on to existing firewalls that seamlessly enables the transmission of realtime communications without affecting firewall security. The SIParator handles the SIP signaling and media streams, routing them to and from the private IP addresses of authorized users on the LAN. As an organization’s needs increase, the scaleable SIParator can be expanded to incorporate additional users. All Ingate SIParators and Ingate Firewalls® boast everything necessary for SIP traversal, including a SIP registrar and a SIP proxy, support for NAT and PAT and TLS support for encrypted SIP signaling, and VPN. QoS is also available.

Ingate’s products also include optional software modules for VoIP survival in SIP-based hosted PBX environments and far-end NAT traversal solutions for remote VoIP.

About Ingate® Systems

A world leader in next generation firewall technology, Ingate Systems produces and sells the world’s only fully SIP-capable enterprise firewalls and the Ingate SIParator, a device that connects to an existing network firewall to seamlessly enable the traversal of SIP communications and three-time winner of Internet Telephony magazine’s Product of the Year Award. Ingate Firewalls solve the NAT traversal issues inherent in using SIP, and address the growing need for SIP-capable firewalls among enterprise users.

Ingate Systems has a long history of developing secure communications technology and today offers enterprises unprecedented value and ability to develop SIP-based, person-to-person realtime communications. Ingate’s security products currently protect the networks of retail companies, financial institutions, industrial firms, government agencies and small-to-large enterprises throughout Europe, Asia and North America. Ingate’s principal shareholders are Intertex Data AB and Bell Net Corp. Ingate Systems AB is located in Stockholm and Linköping, Sweden. Its wholly-owned subsidiary, Ingate Systems Inc., is located in Hollis, New Hampshire. For more information on Ingate Systems, visit www.ingate.com