Cherry Picking Peering

By Hunter Newby

Editor's Note: *The "VoIPeer Me" series demonstrates the marriage of Ethernet and VoIP through actual VoIP peering implementations of network operators within the carrier hotels. Its purpose is to show where VoIP peering currently exists, who provides it, who uses it and how.*

There are many ways to pass minutes in the carrier world. Some are easier, more reliable and more cost effective than others. Beyond the straight-up bilateral deals and interconnections exists the realm of VoIP peering. However, making a general assumption on all that is down that packet-paved road is probably not the best way to assess it. If your network operations team is looking for an example of how to approach the VoIP peering service market they may be well served by taking a page from the iBasis playbook.

iBasis is in the carrier voice business, providing wholesale termination and prepaid retail services to the full range of carriers and voice service providers—from tier one to emerging voice over broadband providers. The pending merger of the international wholesale voice business of Dutch carrier Royal KPN into iBasis will form one of the largest international voice carriers in the world, with combined annual international traffic exceeding 20 billion minutes.

Currently iBasis has ongoing trials with several VoIP peering service providers, including X-Connect, NeuStar and FibernetUK (IP London Carrier Ring). Aside from the trials, they have one actual implementation, and that is with Stealth Communication's Voice Peering Fabric. The reason they are using and trialing so many providers seems rather logical once you hear it. "They all do things differently," states Alan Bugos, iBasis vice president of advanced technology and engineering, "and there is value to be created by using them and leveraging their respective strengths."

This is a very insightful observation from an industry veteran that could help save time for others that follow iBasis into this space. All things under the VoIP peering umbrella are not created equal, and many times there is a reason for it. As a result, iBasis is not limiting itself to using only one provider, as if that would accomplish all that it seeks to do, but rather iBasis leaves open the ability to pick the best of breed for each application within the service provider's special category. Its approach may seem more intensive and detailed, but the end result is an optimized network.

In addition to its unique analysis method, iBasis has what is equally interesting: a hybrid network architecture. iBasis has a packet-switched VoIP core with public and private IP access, as well as a traditional digital access cross-connect (DACS) serving as an edge device for legacy TDM (time division multiplex) networks to interface with. This front-end DACS setup allows iBasis to switch out media gateways in the background for maintenance and upgrades without impacting the whole network, making the network very stable and scalable.

Since it continues to support legacy telco access methods, iBasis can get into certain deals that other, purely IP/Ethernet network operators cannot. Although this can be an advantage in some deals, the costs to support it can be challenging. Therefore, iBasis's preference is to use IP over the public Internet as access away from TDM for cost savings reasons.

"This access method is acceptable for certain types of users, such as Web portals, small ISPs (Internet service providers) and broadband voice providers," comments Bugos. "The truly optimal interconnection method for the tier one carriers, mobile providers and enterprise network operators is private IP links for security and quality reasons beyond cost savings." This is one of the major motivations for having its own connection to the VPF.

iBasis uses the VPF for private, secure connections to other VoIP networks as well as utilizing the VPF ENUM (electronic numbering) Registry. Its initial desire to use ENUM was to peer in a multi-lateral fashion with other VoIP network endpoints. Since the VPF and its ENUM Registry is currently carrying an annual run rate of more than 2 billion (multi-lateral/free) ENUM minutes and 115 billion (bi- and multi-lateral) minutes in total, it gave iBasis what it was looking for in that regard. The VPF is a liquid market. It currently uses ENUM only for external routing but plans to look at ways to use it for internal routing as well. As for the ENUM implementation in its network, Bugos has this to say: "From a design perspective ENUM can be complicated internally, but the VPF ENUM Registry is rather simple to use."

Since the VPF is the only live VoIP peering implementation

for iBasis, that is what the service profile template was based on. The other VoIP peering trials that iBasis is in the midst of represent different access methods and service types, which it wishes to use for various reasons. Currently iBasis uses a dedicated Fast Ethernet circuit to connect to the VPF, but it uses the public Internet to connect to X-Connect, for instance. The X-Connect service serves the purpose of being a facilitator for Internet VoIP connections as well as some protocol conversion services such as H.323 to SIP (session initiation protocol). iBasis has its own capabilities internally to perform those functions. For iBasis, it is a matter of analyzing the benefits of outsourcing, but for some other networks that lack those capabilities, outsourcing protocol conversion is probably a much easier decision to make.

Overall, the iBasis case study is a great example of how diverse VoIP peering service offering types can be for network operators and how it is possible and practical to not be limited to only one provider. As long as the network operator knows what it needs to accomplish, it can seek the right providers and put it in the proper place. From that point an accurate analysis can be conducted to determine maximum utility based upon the needs and application.

In the not-too-distant future a "best of breed" process should emerge for the identification and selection of VoIP peering providers. By then each provider should have a much better understanding of what it does and what it doesn't do, and should be focusing on its strengths. The combination of the two evolutionary tracks will accelerate the arrival of the future. In the minds of many, it can't come fast enough. **FAT**

Hunter Newby is chief strategy officer of tel[x]. If you know of a VoIP peering implementation and would like to suggest it for a future article, please email him at hnewby@telx.com.

iBasis VoIP Peering User Case Study

VoIP Peering User	
iBasis	
Contact: Alan Bugos, abugos@ibasis.net	
Type of entity: International Telecommunications Carrier	
VoIP Peering Service Provider	
Stealth Communications - The Voice Peering Fabric	
Contact: Shrihari Pandit; spandit@stealth.net	
Network Architecture and Model	
Does your company currently generate revenue from voice traffic?	Yes
Were you seeking to reduce monthly opex by reducing the cost of voice minutes?	Yes
Is your current VoIP network all IP end to end?	No
Is your current VoIP network actually TDM call switching with an IP interface?	No*
Bilateral VoIP Peering	
Are you using a bilateral VoIP peering service?	Yes
Does the service provider allow you to establish multiple direct bilateral relationships?	Yes
Is there a broker, counter-party or transaction fee associated with the minutes?	No
Do you send calls to only one VoIP service provider for termination?	No
Do you manage least cost routing of multiple VoIP service providers?	Yes
What is the percentage of savings achieved through this service? A=10-30%; B=30-60%; C=60%+	B
Multi-Lateral VoIP Peering	
Are you using a multi-lateral VoIP peering service (ENUM)?	Yes
Is the multi-lateral service easy to use?	Yes
Does the multi-lateral service eliminate the per-minute cost to terminate a call?	Yes
Was the motivation to use the service based on multi-lateral peering between your own sites?	No**
Are there any fees for the use of the multi-lateral peering service?	No***
Was the motivation to use the service based on multi-lateral peering between other VoIP networks?	Yes
If you are not currently using a multi-lateral (ENUM) service, do you plan to within the next 12-18 months?	N/A
Provisioning	
Do you interconnect to the VoIP peering service using Ethernet?	Yes
Do you interconnect to the VoIP peering service over the public Internet?	No
Were there savings realized moving from TDM to Ethernet for provisioning ports?	Yes
What is the percentage savings achieved through this service? A=10-30%; B=30-60%; C=60%+	A
Is the VoIP peering service providing protocol conversion (TDM-SIP, H.323-SIP)?	No^
What is the savings from managed conversion services? A=10-30%; B=30-60%; C=60%+	N/A
** iBasis has a packet-switching core with a traditional TDM DACS access option*	
*** Currently external, future internal routing potentially*	
**** There is a monthly port fee to use the VPF - no fee for the use of ENUM*	
^ Others do and iBasis is exploring those	