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VoIPeering

INTERNET TELEPHONY

Only Time Will Tell

By Hunter Newby

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Watching technical concepts move from thought and discussion to practical business application and necessity is like seeing the seasons change. Sometimes, it takes more than a year, but there are also instances where it takes less. As VoIP peering evolves and matures, it seems that new ideas extended from the foundation have a shorter cycle to their own maturity, or elimination, through the natural selection process.

This process recently played out in fast-forward at the Spring 2006 Voice Peering Forum held in New York City. The attendees were some of the most compelling and powerful supporters for VoIP peering in the industry today. Their real-life cases represent various pieces of the VoIP peering puzzle, and they are beginning to fall in to place. The foundation has been built for this group and now they are on to extending the idea to see what works best.

Besides a well run event at a great venue with excellent food, the true gems were in the presentations and Q&A from the speakers and attendees. It seemed that each and every person in attendance was educated and well-versed on the factual definitions of VoIP peering and the role each piece plays. This knowledge base is almost a prerequisite for meaningful sessions at any conference where the participants want to actually learn something. The Voice Peering Forum delivered just that.

What was particularly interesting about the attendee mix was the amount of people there who were focused on numbering issues for their respective organizations. By numbering issues, I don't mean their financial statements — although, for some, advancements being made may result in those types of issues. Numbering refers to unique identifiers, be they telephone numbers (ANI's), IP addresses, domains, ENUM, SIP URI's, or SRV records (email addresses), and the applications of those identifiers and their respective business models. For this particular event, the numbering people were focused on voice services. Representatives from Telcordia, Global Crossing, a certain RBOC, several pure VoIP service providers and many more were on hand to listen to and engage in constructive debate and knowledge development about the current state of numbering for voice services and what the present has and future holds for all.

Learn how to maintain seamless business continuity while migrating from traditional voice mail, to unified communications.

Some of the most insightful commentary came from Mark Fedor, CTO, SunRocket, on the subject of voice peering service providers and how his company makes business decisions about the use and usefulness of their services. As Mark stated, "We don't want to use any voice peering service that dictates to us what our consumer price has to be. That would be any underlying fee per call, minute, or lookup." That is fairly direct and to the point. The legacy TDM voice carriers share this feeling on their operational expense side, of course, and, as they are rolling out new flat-rate offerings, they are figuring out that on-Net, inter-carrier calls are the way to go. Now that the issue of how and why on-Net (free) calls exist has been addressed, the next challenge has been identified by the community. That challenge is the creation, administration, management, and cost of the numbers and endpoint

identifiers themselves.

The Telcordia Local Exchange Routing Guidesm (LERGsm), Neustar's North American Numbering Plan (NANP), and the databases that sit behind the SS7 transport networks are all essential to the operation of the PSTN. Until very recently, those companies and business models were so well protected that they were almost invisible and never discussed at conferences as far as potential improvements or alternatives were concerned. There just wasn't any other way, so it was assumed as a necessary method and cost of doing business. As Fedor sees it, "Exclusive databases, like the LERGsm, are restrictive." This statement goes beyond the voice peering service provider of the modern era to the original voice database services and their business models, as they all are based on fees per "lookup" as their revenue source. There seems to be a revolution brewing.

As IP has moved in to take over the future of voice features and functions, many aspects of the "call" have been changed. The switching equipment, transport media, end user devices, and CODECs have morphed to the IP standards of softswitches, Ethernet, IP phones, G.711, and SIP. ENUM exists and works, but it is an E.164 number and is still tied to the number itself, even if it is transposed and mapped to a SIP URI. The full and final departure from the last vestige of the PSTN is moving away from the telephone numbers themselves. Only then will "calls" become "audio sessions" in a full IP domain. Moving from ENUM to SRV records is a way to do that.

This will not happen overnight, but it has begun. In the same way that color TV was introduced after black & white, FM after AM radio, and digital telephone service after analog, the shift begins and takes several years, but the improvement ultimately dominates market share. Even with all of this change, the PSTN is not going away — just as I'm sure there are still a few people that have black and white TVs.

As opposed to the VoIP service providers, some carriers may have a difficult time understanding why they should make the move to SRV from E.164 numbers. This is due to the fact that all of their systems are tied to phone numbers. At the base level, there is the NANP and how digit dialing works, but there is also tied to that call routing, database lookups such as LNP (local number portability), and most importantly, billing. Everyone gets billed by their number. Minutes usage used to be the way users were billed for the service, but this is largely moving towards a flat-rate, on-Net model as we know. Many carriers contend that SRV would require expensive changes to their systems, which is probably true, and would require the users to have devices that can initiate a "call" using an email address.

The truth is that BlackBerry devices have the functional capability loaded in them today. If the software intelligence was programmed through the users contacts, they could, in fact, initiate a communication via email address "look-up" after selecting the method — email, SMS, voice, video. The same can be said about Microsoft Outlook on the enterprise network side. Open a contact, choose a method, and the routing intelligence is provided by an email address. Instead of Least Cost Routing for calls, think of it as Best Option Routing for sessions. SRV first, ENUM second, and off-Net (per-minute billed) last.

One of the top motivations from the VoIP crowd to use SRV was the cost of a URL and the ability to attach limitless extensions in front of the address verses the quantity and associated cost of numbers to reach the same amount of potential endpoints. There's just no comparison. Create extensions in front with URLs (name@url.com), rather than behind with ANIs (NPA-NXX-1234).

There was so much interest and discussion with all the presentations, it seemed that the sessions could run for hours and the participants wouldn't have even noticed. That's the sign of innovation at work. Beyond all of this wonderful discussion, though, will be actually doing the work — where the packets meet the pipe. How long will it take and how many networks will go this route? Only time will tell, but one thing seems certain: the time won't be measured in minutes. IT

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