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**MESSAGE FROM THE CEO**

Among the many hurdles VoIP users have encountered in the past ten years, no challenge have been as persistent as those associated with interoperating SIP across multiple networks, core network systems, and endpoints. I want to use this month's editorial to define this problem and to offer some tangible suggestions for creating a more resilient VoIP-based service.

With RFC 2543 and subsequently RFC 3261, the Internet Engineering Task Force issued a roadmap for manufacturers of SIP-enabled network gear and endpoint devices to construct their own SIP stacks around a common set of parameters. Widespread adoption/interpretation of these protocols has taken place in a loose manner—more like legal interpretation than precise mathematics. Each manufacturer of SIP endpoint devices—hardware or software—and each manufacturer of core network elements has constructed their own SIP stack. In a manner often compared to the evolution of HTTP for Web browsing and SMTP for coordination among email systems, SIP deployments usually encounter myriad challenges (some based on mismatched codec), though most are based on incompatibility between different SIP stacks, such as end point device registration problems, DTMF relay issues, extension to new features (SIP-B), backwards compatibility, and protection against erratic end-points, among others.

HTTP and SMTP took decades to evolve to the point where these protocols could be used across heterogeneous networks, so it should come as no surprise that these problems continue to exist in the SIP arena. However, because SIP has been commercialized so quickly and placed into multi-network and multi-manufacturer revenue generating deployments, this has become a problem that requires a short-term solution.

We all experience SIP interoperation problems in our day-to-day use of the technology: when you dial into a conference bridge from your SIP phone and it appears

not to hear your DTMF dialed digits; when your desktop phone loses dial tone; when you experience one-way audio. At the network core, these take a different form, but create the same predicament—interoperation failure, such as: problems when interconnecting to peering partners using multiple network components like soft switches, TDM Gateways, application servers, etc; problems when rolling out new products that require integrating additional network components; problems when performing upgrades/patches as part of regular maintenance cycles or as part of issue resolution.

With many more complex IP session based services to come, such as video, application sharing, wireless integration, gaming, etc., it is frustrating that interoperation increase churn rates, and undermine technology credibility.

The session-border controller is the network element that attempts to “normalize” the protocols, signaling stacks variants (like SIP), endpoint communication and session routing complexities – a daunting task and an ongoing process of interoperation testing as many devices and endpoints as possible. Ultimate success will mean plug and play VoIP/SIP interoperation or “turn-up” and intelligent routing of media both to minimize quality problems and to maximize profitability.

I see a lot of interest from carriers and service providers as they handle more VoIP endpoints to use an SBC. We have experienced it in the growth of our own SBC as a Managed Services product. I believe that as networks become more complex, the SBCs' value as points of security and policy enforcement will continue to increase.

Accordingly, I think you'll agree that it is wise to consider your current and future interoperation needs early on in your VoIP deployment.

**-- Micah Singer - CEO, VoIP Logic**

Q&A with Harri Kalliokulju, Transtel Consulting

Selecting a SIP Trunking Service

MPLS Turns 12: Developers Give 7 Reasons Why the Internet Standard Has Been Successful.

Vendors Call for Cloud Computing Standards

U.K. VoIP Users to Get Better Connected

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A Connectivity Revolution



## CUSTOMER CORNER

### Harri Kalliokulju, Transtel Consulting

#### *Q: Please tell us about Transtel Consulting and its products and services*

Transtel Consulting is an alternate access Network Operator focused solely on the Mexican market. Working through a network of agents, dealers and distributors, Transtel's pre-paid offerings are available in many Mexican cities. Transtel, thanks to infrastructure from VoIP Logic, operates as a virtual facilities-based VoIP service provider.

#### *Q: If you had to single out a few "nuggets" on Transtel, what would they be?*

Without question, the most noteworthy point of differentiation of our business is the flexibility of the cost structure we are able to provide to our customers. Normally, a provider the size of Transtel would operate as a reseller of a larger service provider who controls the infrastructure and switching. Using VoIP Logic for most of our infrastructure suite has allowed us to be much more flexible in adapting our costs and prices to market conditions. That flexibility has proven itself in the fact that the current global economic downturn has actually helped increase our customer base. Our model of using more than 10 different carriers, coupled with actively balancing least-cost routing with quality of service, allows us to then pass on the lowest current rate to our customer.

In addition, new laws in Mexico are currently being put in place regarding VoIP, which will allow smaller companies to compete on a much larger scale. Transtel, through its current market penetration and growing customer base, is uniquely positioned to take advantage of the changing telecommunications landscape and provide even greater cost savings to its customers.

#### *Q: What does VoIP Logic do for you and your company?*

VoIP Logic's shared system resources, collocation, monitoring devices and NOC enable us to offer the highest level of service at reasonable costs. With a fixed cost of infrastructure and the knowledge that our business is running on leading systems in a Managed Services environment at a leading telecom hub, with enforced SLAs and a history of consistent uptime Transtel has enjoyed steady growth.

We have been working with VoIP Logic for more than two years, and look forward to continuing our business with them for many years to come. Their engineering team has not only deployed services ahead of schedule, but has also helped us to learn how to manage the parts of the technology that effect the bottom line.

#### *Q: Do you have any plans for future growth?*

Yes, we hope to increase our mobile-originated call volume, and, as the market here in Mexico deregulates, we hope to allow our users to take advantage of mobile broadband and other tools for long distance account management allowed by the integration of mobile and VoIP.



## INDUSTRY TRENDS/NEWS

### Selecting a SIP Trunking Service

One advantage of IP PBXs is that they let a company eliminate one set of wiring. Because the IP phones connect to the office LAN, there's no need for separate phone lines. The same principle can help cut telecom expenses. SIP (Session Initiation Protocol) Trunking, sometimes called VoIP Trunking or IP Trunking, can carry calls to and from the company's premises over its Internet connection. That eliminates the need for PSTN (public switched telephone network) circuits from traditional carriers. It also improves efficiency and saves money in a variety of ways.

Not every SIP Trunking service is the same, however. There are major differences in how providers package and price their offerings. The technical approaches vary significantly as well. Thus, benefits the different services bring will depend on the customer company's specific circumstances.

-- VoIP News

### MPLS Turns 12: Developers Give 7 Reasons Why the Internet Standard Has Been Successful.

The IETF Thursday threw a birthday party for one of its most successful standards: Multi-Protocol Label Switching. The Internet's leading standards body hosted a panel discussion outlining the reasons why the 12-year-old protocol has been so widely deployed and such a big moneymaker for carriers. With MPLS, the IETF integrated the label-switching capabilities of Asynchronous Transfer Mode with the packet orientation of the Internet Protocol. The IETF formed its MPLS Working Group in January 1997, and protocol specifications began trickling out a few years later.

Here are the seven reasons why MPLS has proven so popular:

1. MPLS embraced IP
2. MPLS is flexible
3. MPLS is protocol neutral
4. MPLS is pragmatic
5. MPLS is adaptable
6. MPLS supports metrics
7. MPLS scales

Successful Internet technologies need to be able to scale quickly, and MPLS was able to do that.

-- Network World

### Vendors Call for Cloud Computing Standards

A group of 38 companies and academic groups have signed on to a so-called Open Cloud Manifesto, calling for open standards for cloud computing. The document echoes a recent paper on the subject by researchers at the University of California at Berkeley.

Cloud computing lets users tap into big data centers to run applications remotely. The approach is increasingly seen as the next big step in the evolution of computing in the Internet era.

-- EETIMES

### U.K. VoIP Users to Get Better Connected

VoIP is about to get more attractive for U.K. businesses as a new registry service is set to go live. The U.K. ENUM registry will mean that businesses' VoIP information will be in the public domain, meaning that better use could be made of lower-cost calls. The registry, run by U.K. registration agency Nominet, will allow users of different VoIP systems (proprietary like Skype or standards-based SIP devices) to talk with each other, provided that they both have an existing phone number.

In addition to the cost savings of using VoIP, business users will be able offer additional features such as 'follow me', allowing callers to use a single number to call someone who is not in a fixed place throughout a day, and without paying the cost of a mobile call. For the first time, VoIP users would not have to belong to the same network.

-- Network World



## Mobile Broadband Computing Services in Latin America to Reach US\$11.9bn in 2014

Revenue from mobile broadband computing services in Latin America will grow at a CAGR of 49% from US\$2.2bn in 2008 to US\$11.9bn in 2014, about 3.8 times as fast as predicted growth in fixed broadband revenue, Senior Analyst with Pyramid Research Daniel Locke told BNAmericas.

According to the analyst, Latin America has much higher spending power and broadband penetration than many other emerging markets, such as India.

-- BNAmericas

## THE REGULATORY CORNER

### Obama Taps Strickling for NTIA

President Barack Obama's choice to shepherd the National Telecommunications and Information Administration through the ongoing national digital television transition is Lawrence Strickling, a technology policy expert who served as policy coordinator for his presidential campaign. In that role, Strickling oversaw two-dozen domestic policy committees and was responsible for technology and telecommunications issues. Prior to joining the campaign, Strickling was chief regulatory and compliance officer at Broadwing Communications, which was acquired by Level 3 Communications in 2007.

-- National Journal

### Small, Mid-Sized Ops Key to Rural Broadband Stimulus

The American Cable Association (ACA), in a recent filing urged the FCC to adopt a rural broadband strategy that relies on small and mid-sized cable operators as chief recipients of federal grants and loans to close the broadband gap in rural areas of the country.

The ACA's comments emphasized that funding projects to construct last-mile and middle-mile infrastructure would extend high-speed Internet service into sparsely populated areas that have been either economically challenging or impossible to serve.

In the filing, the ACA said a grant-and-loan program should be open and transparent, following a streamlined application process for small and medium-sized cable operators or those requesting relatively minimal funding. ACA added that the program should also give consideration to entities that have the financial, managerial, operational, and technical experience running broadband networks in smaller markets and rural areas.

-- Communications Technology

## VOICES FROM THE INDUSTRY

### A Connectivity Revolution

The number of new SIP-based systems in the market is rapidly growing. Early adopters of SIP and VoIP in general have touted lower costs and trotted out dozens of ROI models, while traditional telephony manufacturers are entering the market with IP adaptations to their traditional PBX products.

Emerging SIP products must be highly flexible and customizable, and are rigorously tested for multi-vendor interoperability. By using the existing IP infrastructure and blending with the current telephony infrastructure, SIP provides a first step toward making this a reality.

SIP represents the capability to reach someone regardless of location or device, and has many of the characteristics of HTTP (looks and acts like a URL) SIP resides at the application layer of the network and establishes, modifies, and terminates multimedia sessions between intelligent devices. Traditionally, data networks have been unintelligent, but with very smart endpoints and devices. In contrast, telephone networks are inherently very smart, but with unintelligent endpoints (telephones).



As the number of SIP connections to a carrier's network increases, so does the need for protocol normalization. Each new connection added to a network may include new softswitches, gateways, application servers, or direct user endpoints. Many enterprises are still in the process of deploying SIP and today only have support for H.323 based IP-PBXs exclusively. For service providers who want to deploy next generation networks and keep their core networks to SIP, this creates a challenge to offer solutions to such enterprises.

To address this incompatibility, SBC's include a protocol interworking function (IWF) to support both H.323 to SIP translations and normalization between various vendor SIP implementations. This reduces a carrier's need for expensive and time consuming multi-vendor interoperability exercises and allows providers to successfully address enterprises either in transition or of mixed environments.

There are other types of incompatibilities to consider as well. In access deployments such as VoBB, a large number of subscribers register by sending SIP messages to the core application server (or registrar). These access devices (user phones) are generally behind firewalls and, to keep the pinhole open, send re-registration messages at very frequent intervals, say every 60-90 sec instead of every 3600 sec as typically required. This increases the re-registration traffic and imposes a requirement on application servers in the core to handle such high registration traffic. Registration messages, being compute intensive, can impact the performance of application servers. To address this class of issues, SBCs provide support for registration throttling, i.e. when such re-registration messages are received by the SBC (deployed in front of an application server), it locally responds to those registrations and does not forward every registration received to the upstream application server.

Finally, SIP extends the intelligence of a data network to the end-user on the edge, while allowing the less intelligent core to forward communication requests without much effort. This makes the data network run more efficiently and effectively by putting intelligence where it is needed most. But operators must be careful. Because of the potential number of possible incompatibilities, proven and field tested SBC solutions, with vast interworking and certification through external industry organizations, can best protect networks from potentially harmful, proprietary SIP extensions or poorly implemented protocol stacks and vendor incompatibilities.

- Natasha Tamaskar, Genband

## VoIP LOGIC: NEWS & NOTES

[VoIP Logic extends Cortex® OSS to the Apple iPhone](#)

[VoIP Logic Hits Financial and Corporate Milestones](#)

[VoIP Logic CEO, Micah Singer, Interviews with BusinessNews Americas](#)

### See Us At...

ITW, June 1- 3, 2009, Washington, DC, USA

ITEXPO WEST 2009, September 1-3, 2009 Los Angeles, CA, USA

Broadband World Forum 2009, September 7-9, 2009, Paris, France

VON 2009, September 21-23, 2009 Miami, FL, USA

COMPTEL Fall 2009, October 11 - 14, 2009, Orlando FL, USA

Supercomm 2009, October 21-23, 2009, Chicago, IL, USA

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