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How will the SIP Trunking market develop as the PSTN is switched off?

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How will the SIP Trunking market develop as the PSTN is switched off?

Over the next decade, the majority of enterprises will have no choice but to migrate from the legacy PSTN infrastructure to an all-IP SIP Trunking architecture. The open question for enterprises is: Will they use this change as an opportunity to take advantage of new SIP-enabled, integrated, communication-related applications for their users?

Firstly, the argument around whether SIP and IP networks would become the de facto method for delivering voice communication instead of traditional TDM networks is now over; incumbent operators around the world have announced end of life dates for their legacy PSTN networks. So, in the next decade, enterprises will ultimately need to make the change from their traditional ISDN services to new SIP-based services.

Deutsche Telekom has been leading the charge on conversion to all-IP networks, having committed to moving all its entities around Europe to an IP network, with their subsidiary in Macedonia already making the move. This commitment was made in 2014 when Claudia Nemat (member of the Board of Deutsche Telekom for Europe & Technology) commented: "Our vision is a Pan-European network on the basis of All-IP. This network will integrate mobile communications and fixed-line network technology. The objective is to have the customers across Europe migrated to IP by the end of 2018."

The latest commitments have come from British Telecom, which, after looking at the opportunity for a number of years, announced its intention to move all its customers off legacy networks by 2025. AT&T has also been actively working with the FCC to drive the transition in the US. In the diagram below, we can see some of the announcements from major service providers around the world.

Operator	Country	Transition Date	Source
AT&T	USA	2020	AT&T Investor presentation & http://www.attpublicpolicy.com/
CenturyLink	USA	Made Request to FCC 06/2015	FCC filing [1]
Verizon	USA	2018-2020	Verizon Policy Blog[2]
BT	UK	2025	BT Investor presentation Jan 2015
NTT	Japan	2025	Announced in 2010: http://www.ntt-west.co.jp/news_e/1011/pdf/101102a_1.pdf
Telstra	Australia	2021	http://www.telstrawholesale.com.au/nbn/nbn-transition/index.htm
Deutsche Telekom	All major countries	2018	http://www.telekom.com/media/company/214696
Swisscom	Switzerland	2017	https://www.swisscom.ch/ [3]

[1] http://apps.fcc.gov/ecfs/comment/view?id=60001073108

[2] http://publicpolicy.verizon.com/blog/entry/verizon-responds-to-the-fcc-fiber-is-better-even-for-pots

SIP Trunking Services

The SIP Trunking market is quickly developing in most markets. The commonly held description of a SIP Trunk is the ability to make a simultaneous call across the Internet or a dedicated IP network. A SIP Trunk is effectively the equivalent of a traditional ISDN channel.

Initially, SIP Trunks were positioned directly to replace ISDN, with early offerings focused on ensuring enterprises could integrate seamlessly with existing PBXs like ISDN and featuring a few core benefits and capabilities.

In the early SIP Trunking market, service providers focused on the cost savings of SIP Trunking versus ISDN and some of the core capabilities, such as being able to offer out of area numbering. However, in the last couple of years, we have seen the emergence of more advanced network services that offer enterprise customers the advantages of having various Resilience and Disaster recovery-type services with the ability to flex the number of channels almost simultaneously in line with customer demand.

This ability to offer these initial network-type services has led to strong demand for SIP Trunking services. The US and UK markets have now reached over 35% penetration of the traditional ISDN market, and leading SIP Trunking vendors, like BroadSoft, have seen large scale deployments of SIP Trunking on their customers' networks.

"Globally BroadSoft has seen over 6 million SIP Trunks deployed on its platforms"

Traditional Use Cases and Customer Segments

SIP Trunking has been widely adopted in both the Small Business and the Large Enterprise segments. Cavell has researched the Small Business segment and learned that customers often found the limitations of ISDN very restrictive. In certain markets, the minimum number of ISDN 30 channels you could purchase was 9, or, if you purchased ISDN2, it proved very expensive to provision roughly 5+ lines. In contrast, small businesses found a real cost advantage in purchasing the exact number of SIP channels they required over Broadband access.

On the other hand, larger enterprises often saw clear cost benefits from SIP, as often they had their own VPN network so they could easily overlay SIP in this environment and reduce costs of ISDN at each site. Cavell has also seen some specific use cases where SIP Trunking has been particularly beneficial:

Outside Area Numbering – With a SIP Trunking solution, it is possible for enterprises to have a geographic number point to another geographic location without the need for expensive forwarding fees. This is very important for businesses that may move or want to centralize their switchboard, but currently have multiple locations. This flexibility was one of the first drivers for SIP Trunking services.

Dynamic Capacity Requirement **-** Flexibility to Change capacity in nearly real-time is an important proposition for all sizes of customer when compared with ISDN. There is a specific set of companies where the capability to add large amounts of capacity on a dynamic basis is crucial. Examples of these companies include: call centers, betting companies, television/radio and universities (during the clearing process).

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[3] https://www.swisscom.ch/content/dam/swisscom/de/about/medien/faktencheck/documents/20140318_Faktencheck_All_IP-de.pdf.res/20140318_Faktencheck_All_IP-de.pdf

Rationalization of Access/PBX estate - Another key driver for SIP is where enterprise customers are looking to rationalize their PBX estate when either moving to a new hosted UC service from a service provider or utilizing VPN technology and modern IP-PBXs to rationalize their own estate from multiple location-based PBXs to one or two hosted centrally.

Redundancy & Disaster Recovery - With a SIP Trunking service, it is very easy to redirect traffic from one location to another; SIP Trunking has been used a lot where customers are particularly worried about disaster recovery. Often, service providers will offer lower priced load balancing and redundant SIP Trunks, which are used as a fall-back option.

New ERA for SIP Services

What we are now starting to see is the evolution to SIP Trunking where service providers are looking to combine traditional SIP Trunking services with the ability to overlay integrated applications. These new services focus on giving the customer access to additional UC & communications applications (including Mobility, CRM, Recording, Video, etc.).

Interestingly, research in this field has always highlighted the operating cost benefits of SIP Trunking services over ISDN as the key driver for enterprises. After cost savings, however, the enterprise ranks the enablement of SIP-based communications applications as the next most important driver to taking a SIP Trunking service.

As well as enabling the potential for a consistent set of services, SIP Trunking can also help provide an easy migration path to a fully hosted service in the future. End-users can use the same applications on top of their legacy infrastructure as they will in a newly Hosted VoIP environment, thus enabling a smooth transition and also enabling customers to maximize the value from legacy equipment.

This means that although end-users are certainly looking to SIP Trunking for the traditional benefits of cost savings and the inherent flexibility it can offer, they are also looking to use it as an enabler of a common set of services.

"BroadSoft has already seen that around 5% of the trunks deployed are now offering Value Added Applications"

With the emergence of SIP Trunking integrating with Application, we are starting to see more advanced customer use cases that really are starting to have significant impacts on businesses beyond simple cost savings. In the following section, we identify some of those new use cases that SIP Application Trunks are addressing.

Mixed PBX Estate UC provision

Enterprise customers often find that either via acquisition or just fast organic growth, their telecoms infrastructure has grown or they now have multiple PBX providers or multiple versions of PBX software in their Telecoms estate.

"Deloitte Mergers and Acquisition report in April 2014 reported that 84% of executives in the US anticipated M&A activity would maintain or increase in the next 12 months" [4]

[4] http://www2.deloitte.com/us/en/pages/mergers-and-acquisitions/articles/mergers-and-acquisitions-trends-report-2014.html#

"Institute of Mergers, Acquisitions and Alliances reported that there were over 40,000 mergers and acquisitions worldwide in 2014"

This mixed environment becomes a real issue when you want to start to look to offer a set of Unified Communications capabilities to all your users. The answer from some vendors may be to replace your entire PBX environment at once with one consistent supplier, but often this is not desirable due to the costs and disruption involved. The enterprise can now solve this problem by leaving its existing PBX estate intact and deploying a common SIP Application Trunk to each of the legacy PBXs. The enterprise can then offer the desired applications from the Trunk service provider's cloud without having to replace its PBX estate.

Common Mobile Applications

Mobile usage in business shows no sign of abating, with a large percentage of business communications being made over mobile. In the UK, Ofcom reported that, in 2013, more business calls were initiated over mobile than fixed telephony. With this move to mobile, many enterprises want to extend their Unified Communications capability to the device via FMC (Fixed Mobile Convergence) applications, giving the user greater control and functionality in their communications capability.

Industry analyst firm, IDC, reported that there were 3.35 billion mobile workers worldwide in 2014 and that number is expected to climb to 3.71 billion by 2018[5]

In this scenario, an enterprise can connect all its PBX assets via a common SIP Application Trunk provider. The SIP Trunk provider can then provide a common end-user FMC application capability from its cloud that all users can implement and that will then work seamlessly with the existing communications infrastructure.

In markets such as Scandinavia, the Mobile UC solution has become mainstream with offers available for many of the major service providers. Indeed as much as 80% of the enterprise estate is now deployed on mobile in this market.

Hybrid Environments

Often now, we find enterprises want to move to a Hosted UC environment, but rather than move all their users at one time, would prefer to migrate users over time. At the same time, they would, if possible, support a common set of UC capabilities to all users during this migration.

In this scenario, the enterprise chooses a service provider that can offer both a Hosted UC solution and a SIP Application environment of the same infrastructure. Then the enterprise migrates the initial set of users to the hosted environment immediately while connecting the legacy users over a SIP A trunk in order to be able to link both environments and offer a similar set of UC applications to both the new hosted users and the legacy PBX users. In this way, when you migrate the legacy users across to the hosted service, they can continue to use the common set of applications and they have been able to benefit from being in an integrated platform with the users who have already migrated.

Embedding Communications in Business Process

Enterprises are now looking more and more at how they can use communications within their existing business processes to improve their overall efficiency. We have seen the start of this with integrations between CRM tools like Salesforce and platforms like BroadSoft's UC-One. We believe with the emergence of new enabling technologies such as WebRTC, this is only going to increase, and SIP Trunking

[5] Worldwide 2014-2018 Workforce Forecast by Chris Chute and Ray Boggs of IDC

is going to be a key tool to connect these business applications with the wider communications infrastructure.

Key Customer Considerations?

As we highlighted in the first section, it is now certain that enterprises will be moving their existing PSTN infrastructure to IP, be that a Hosted or SIP Trunking solution. We believe the following are some of key questions to consider when looking at your enterprise SIP Trunking strategy:

- When is the PSTN switch off going to happen in my markets? How will that align with the age of your current PBX estate?
- What role do I want SIP Trunking to play in my architecture? (e.g. Capacity Pipe, Service Enabler)
- If I plan to move to a cloud environment, how might SIP Trunking help in that migration plan?

About the Author

Matthew Townend - Director Cavell Group

Matthew founded illume research to track the emerging Hosted VoIP And SIP Trunking Markets in EMEA in June 2005. He is recognized as a thought leader and leading market analyst and has been following the emerging SIP market for over 10 years. Matthew is often found speaking at industry events and writing for industry journals as well as judging on a number of industry awards. Cavell, which merged with illume in 2012, also publishes market reports on the Hosted Voice and SIP markets in Europe which Matthew co-authors. Prior to forming illume, Matthew was Marketing Director at Inclarity. Inclarity was one of the first business VOIP providers in Europe, so he has practical experience of establishing a VoIP business. Prior to joining Inclarity, Matthew was MCI's Senior Director for Partnering & Solutions in Europe. During this period, Matthew was also European Managing Director for Digex, an MCI owned subsidiary. Matthew's career has always been based around new markets. In his early career, he launched the first magazine about Internet, and then joined PIPEX who were the first commercial provider of Internet access. Matthew's experience and passion for developing new market purveys the work he undertakes.