SIP Trunking Will Displace PRI

Long Distance, Audio Conferencing and Hosted IP Telephony service providers have been taking advantage of the lower cost and scalability of IP Trunking for years. Many of the current IP Trunking circuits are based on the H.323 protocol. Nearly all new deployments however, employ SIP as the signalling protocol.

While not yet widely adopted, IP Trunking for enterprise PSTN connectivity offers significant advantages to enterprise relative to the common PRI model. I am convinced, that there will be very few, if any, new PRI circuit deployments in Canadian urban locations, within five years.

If you are about to migrate to IP Telephony you should seriously consider, replacing your PRI and in some cases BRI or analogue trunks with IP Trunks.

The following table contrasts PRI vs. IP Trunks and highlights just some of the compelling advantages enabled by IP Trunking.

PRI vs IP Trunking

PRI	IP Trunks
Physical connections:	Connections are virtual:
Each circuit requires physical connection and costly termination hardware.	Number of available trunks is a function of available bandwidth, not physical termination hardware or circuits.
Scaling up requires the installation of new circuits and additional termination hardware.	Scales up or down easily and quickly (a software configuration change) and can offer automatic and on-demand burst capabilities
Providing sufficient backup circuits to remote sites in an IPT-distributed architecture can negatively impact the ROI.	Automatic IP re-routing capabilities allow practical geographic distribution of PSTN connectivity to sites with limited or no network redundancy
Cost is usually per circuit per month	A variety of pricing models (i.e. usage based) are likely to emerge, including on-demand capacity. Relative to PRI circuits

PRI	IP Trunks
	and the associated supporting hardware, IP Trunking costs are likely to be significantly lower.
Capacity planning & engineering is critical: Additional capacity must be planned well in advance since considerable lead time may be required for the ordering and installation of new circuits and termination hardware	While capacity planning is still important, adding additional capacity can be as simple as a software change. Additionally, providers are likely to offer burst capabilities.
Only way to accommodate loss of hardware or facility where PRI's terminate is to build-in excess capacity with associated cost impact.	Can be designed to retain PSTN reachability and capacity in the event of the loss terminating hardware (or even an entire office location) without the need to build in excess capacity
Including dispersed locations in most current IP Telephony deployments requires the addition of network redundancy or significant local PSTN connectivity to ensure that individual locations can function autonomously in the event of a failure. These factors can add substantial Opex and Capex.	Dispersed locations can be connected to the PSTN via an IP connection. Should a network failure occur incoming calls can be automatically rerouted to the isolated location.
Diversity across service providers is usually cost prohibitive.	Can accommodate diversity across service providers much like is done today with Internet access via BGP.

Even if you no immediate plans to migrate to VoIP, IP Trunks connected via a gateway to your existing PBX can result in cost savings and can allow you to enhance your current system's functionality and features.

Rick McCharles
Telecom Consultant, Toronto
RIC Services