SIP Trunking –
Building Confidence and
Overcoming every Challenge

A Fantastic Service

SIP Trunking can be a fantastic service, but only if it's done right. It all comes down to 5 things: Bandwidth, Compression, Quality of Service, Interoperability and the Platform.

Let's make no bones about it; SIP Trunking offers real opportunities. It delivers a killer combination of cost-savings, flexibility, convergence and scalability. Not only do businesses get more affordable connection, rental and call charges than with existing ISDN services, but, if spread across multiple sites, free site-to-site calls. They also get the flexibility of having numbers that are no longer tied into geographic locations, and comfort in the knowledge that, in an emergency, key numbers could be automatically re-routed to new locations.

Convergence? SIP Trunks use the same network connection as data services, lowering costs and giving businesses one port of call for their service. Meanwhile, the scalability of SIP Trunking ensures that businesses can add new lines rapidly as their organisation grows, without the delays we're all familiar with from ISDN. And if they need to add numbers or teleworkers to the system, then that's not a problem either.

In short, SIP Trunking is a great deal, and virtually a no-brainer if businesses are moving premises or planning to replace their PBX or comms system.

Challenges Ahead

With that kind of opportunity, it seems unusual to sound a note of caution, but that's what needs to be done in some aspects. SIP Trunking can be a fantastic service, but only if it's done right. At the moment, the biggest thing ISDN has going for it is confidence; businesses know the technology, they know it works, and they're prepared to pay for that comfort factor. SIP Trunking can be every bit as good as ISDN – and better – but it needs the right approach. It's bad enough that too many businesses associate IP telephony with low-cost consumer services, but if providers deliver underperforming services, it gives that confidence in SIP another knock.

That shouldn't happen. It all comes down to 5 things: Bandwidth, Compression, Quality of Service, Interoperability and the Platform.

1) Bandwidth

This is the key element in delivering a clear and robust SIP service. Not having enough will impact on the quality and not just on single calls but on all calls. Downstream bandwidth isn't usually a problem these days, but upstream bandwidth is a different matter. With DSL, even if you have a 16Mbps downstream connection you will still only have up to 1Mbps upstream, which will only support a limited number of voice channels. If you work on the basis that a decent quality SIP call will require 100kbps of bandwidth then you can see how much the upstream bandwidth can soon get used up. Assuming a DSL circuit can deliver 800kbps upstream your maximum is going to be 8 concurrent calls.

Good advice is key. Providers can deliver SIP Trunking over DSL, but best advice is a dedicated line and a maximum of 8 channels.

Try to run 10 channels over a dedicated DSL line, or mix SIP and Internet services on a single connection and you might get lucky, but it's more likely that you'll experience a degradation of quality. Instead of saving money and enjoying the benefits, there's another case of confidence knocked. If a business wants more, then they need to look at moving upwards in connectivity. Fibre Optic Broadband services can handle up to 20 channels, while faster Fibre, EFM and Ethernet connections can easily handle over 30. It's a question of getting the best advice.

2) Compression

The SIP standard allows for a range of CODECs to compress the call traffic. Providers can use codecs with higher level of compression to squeeze more calls down a connection – which some see as a smart way to deal with bandwidth issues – but again this can come at a cost to call quality. Choose a provider that uses G.711 which has a compression rate of 64kbps, the same as ISDN.

3) Quality of Service

Some providers focus only on the line, and forget about the service wrap around it. Without proper maintenance, real technical know-how, excellent support and the right diagnostic tools it's impossible to fully understand what's happening, and impossible to get a great service.

4) Interoperability

SIP Trunking services have to work with a range of PBX equipment, and here it's easy to run into difficulties. The SIP standard is more a series of recommendations than a concrete specification, and these recommendations have been interpreted slightly differently by different manufacturers. This makes interoperability testing crucial. Some services will only support specific hardware, but this isn't much good if a business wants to retain its old PBX equipment. Most combinations of hardware and connectivity will work with a little tweaking, and if your provider has done its testing and knows which tweaks work where, almost anything is possible. Choose a provider who has done its homework and has proven its SIP Trunks with a very wide range of equipment vendors. This gives them the experience and skills to help customers get their service up and running.

5) The Platform

A SIP Trunking service is only as good as the overall platform. Some SIP providers simply resell a larger company's platform to their customers. Others have built their own, using their own engineers in their own Data Centres. This means that, while some providers have to handle maintenance or implement changes through a third party, the provider who has built his own platform can work more efficiently at the shortest possible timescales.

Get these five things right, and you're using a SIP Trunking service that will live up to and even exceed expectations.

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