The SIP Survey 2013

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The SIP School

Learn and Qualify

Survey and Thought Leadership:

SIP Trunking is what everyone is talking about but if we can't get the basics right will the talk be for all the wrong reasons?

Editorial and Research
Graham Francis
CEO The SIP School

Introduction

For the past 2 years The SIP School has carried out a survey that has been growing in terms of the responses from industry professionals around the world. This 3rd year we received over 850 responses which is almost double the amount on last year and increases the accuracy and credibility of this survey's results.

The biggest response was from the USA with 46% of people originating from there (down from 50% in 2012), with a growing number of people from other countries such as India with 8%.

IMPORTANT NOTE: Unlike a lot of surveys this one was sent out to people who actually 'work' in the Telecommunications industry and with this in mind they answered the questions in this survey with varying degrees of knowledge and consequently some level of interest already in SIP and SIP Trunking. You may even question some of the results but please note the Survey's actual purpose in the next paragraph.

Why this kind of Survey?

The survey's purpose is to take a look at SIP Trunking and specifically, to find what the most common issues during SIP Trunk deployment are and what can be done to make these issues occur less frequently, if at all.

Understanding these issues will help companies focus their efforts on improving the 'failing' elements and also ensure that its staff members understand what to do when things go wrong so that they are able to fix problems quickly. It's not ideal having the latest and greatest service that's feature packed if you can't count on it to not fail when least expected.

Let's be clear, SIP Trunking is one of the fastest moving elements of VoIP in the world of Telecommunications and not without good reason. It offers benefits ranging from low cost calling, centralization of lines into a business, fast disaster recovery (or failover) and much more.

However, as manufacturers, service providers and enterprise customers are finding out, SIP Trunking is not always an easy service to implement and sometimes not an easy one to support if things go wrong.

As the survey has been carried out by The SIP School, all of the opinions in this report are our own unless clearly stated. We have been able to embellish this report with comments from people who work in the SIP Trunking 'space' and believe that their insights can help people understand what is important and actually happening out in the real world.

Note: The SIP School does not formally recommend any one provider, service or product as we are a friend and supporter of all who are involved in the world of SIP, Voice and Video over IP.

We started the Survey with the usual 1st question where we asked:

Q1: SIP Trunks are becoming more and more popular, where do you and your organization fit?

Figure 1
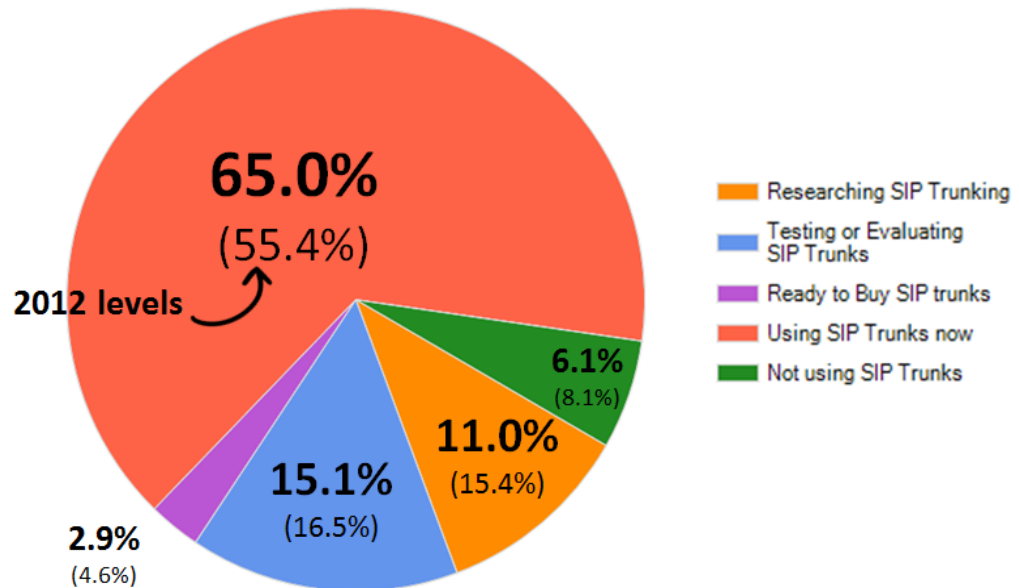
> "VoIP has fundamentally changed the market in two dimensions:
>
> TDM is now a small fraction of new sales and rapidly declining as embedded technology; and SIP is the protocol of choice for building a multi-vendor, multi-domain solution."
>
> **David Chavez
> AVAYA
> Worldwide Sales
> Vice President &
> Chief Technical
> Officer**

As you can see in [figure 1], the results indicate that organizations are embracing SIP Trunking with only 6.1% of respondents saying that they are not even testing them.

Here is a breakdown of all respondent locations.

- 46.0% **USA**
- 8.2% **UK**
- 8.2% **India**
- 7.5% **Canada**
- 30.1% **Other**

With the majority of respondents using or at least testing SIP Trunks; manufacturers, service providers and dealers/resellers should take a close look at what people are saying in this survey.

NOTE: Remember the 3rd paragraph on page 2 of this document about the 'type' of respondents to this survey to understand these numbers more.

Now it's important to know something about the companies that the respondents work for.

Q2: How many employees are at your company?

Figure 2

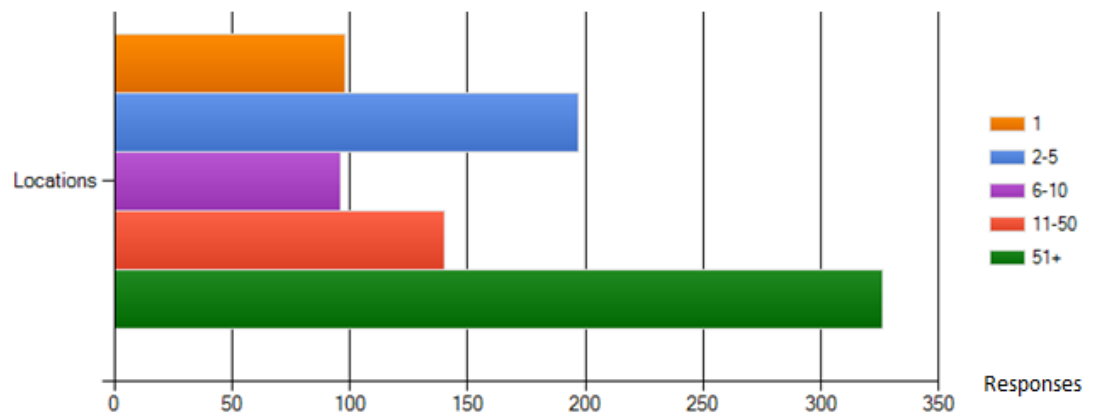**Q3: How many locations or sites does your company have?**
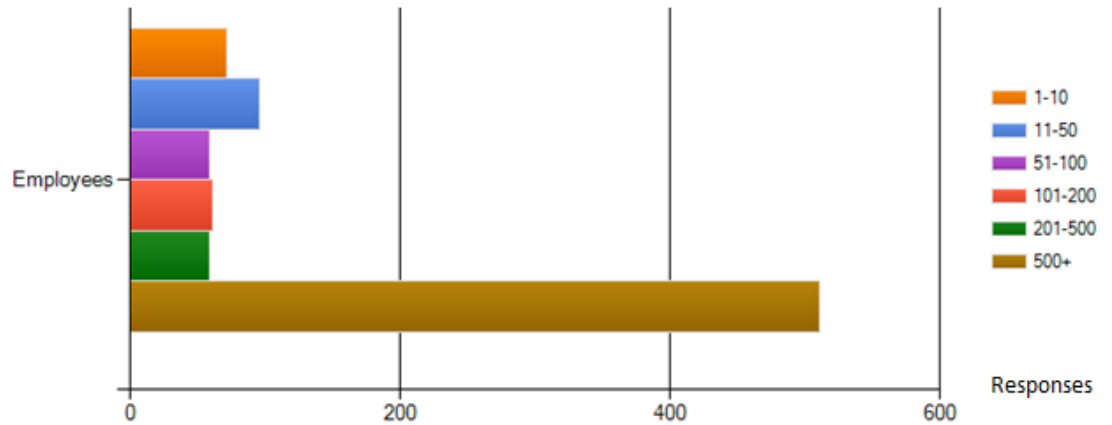
"I totally agree with that as the bigger the enterprise is with more sites and employees the larger the savings"

Ron Zobell Senior Technical Sales Trainer, Verizon Training and Development

Figure 3

The figures here are 'percentage wise' really similar to the figures in 2012 (therefore no 'comparison lines' with 2012) yet of course this time around we had almost double the number of respondents.

Figures 2 and 3 show that large enterprises are adopting (or at least trialing) SIP Trunking. Small businesses are of course seriously looking at SIP trunking if only for the fact that you do not have to buy more lines than you need. You want 7 trunks; you can have 7 trunks – exactly!

So, understanding the respondents a little will help you make more sense of the survey results.

Let's move on and get a little information about what equipment people are using so we'll start with the PBX. We asked the following question to see who is using VoIP.

Q4: Is your 'main' PBX system a VoIP one?

Figure 4
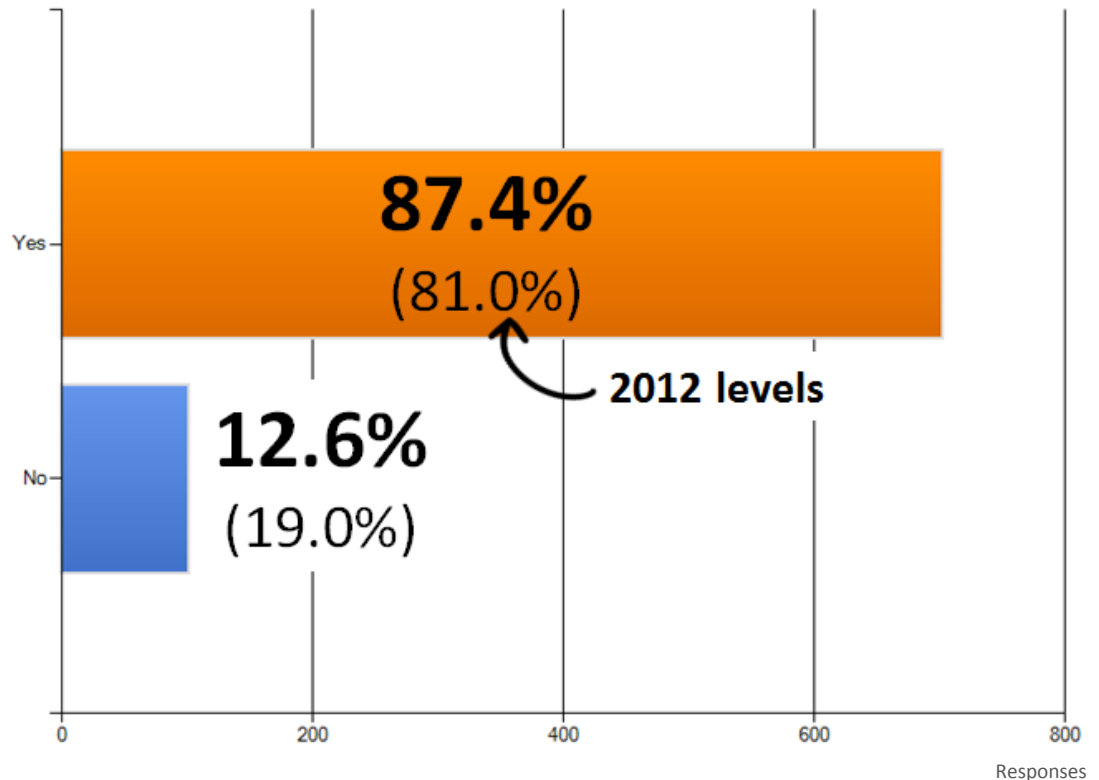
So an increase again in companies using a VoIP based PBX. Not much to add here as the continual move towards VoIP is known by all in the industry.
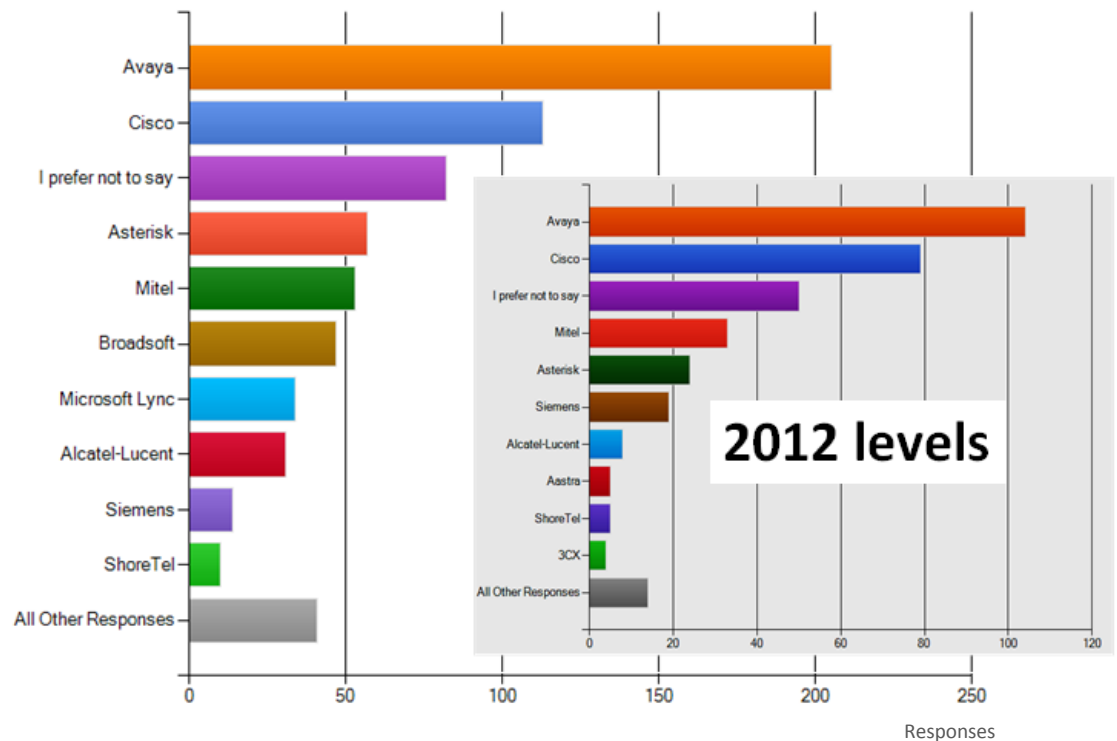
I do like another comment from Ashish:

"How many enterprises are using PBX and/ or UC services from the cloud?"

Maybe we'll add this as question into the next Survey…

The next logical question had to be related to the manufacturer.

Q5: Who is the manufacturer?

Figure 5

"Lync deployments are exploding so seeing them still so low was interesting."

Ron Zobell
Senior Technical Sales Trainer, Verizon Training and Development

Although we had more responses this year, the shape of the chart is quite similar.
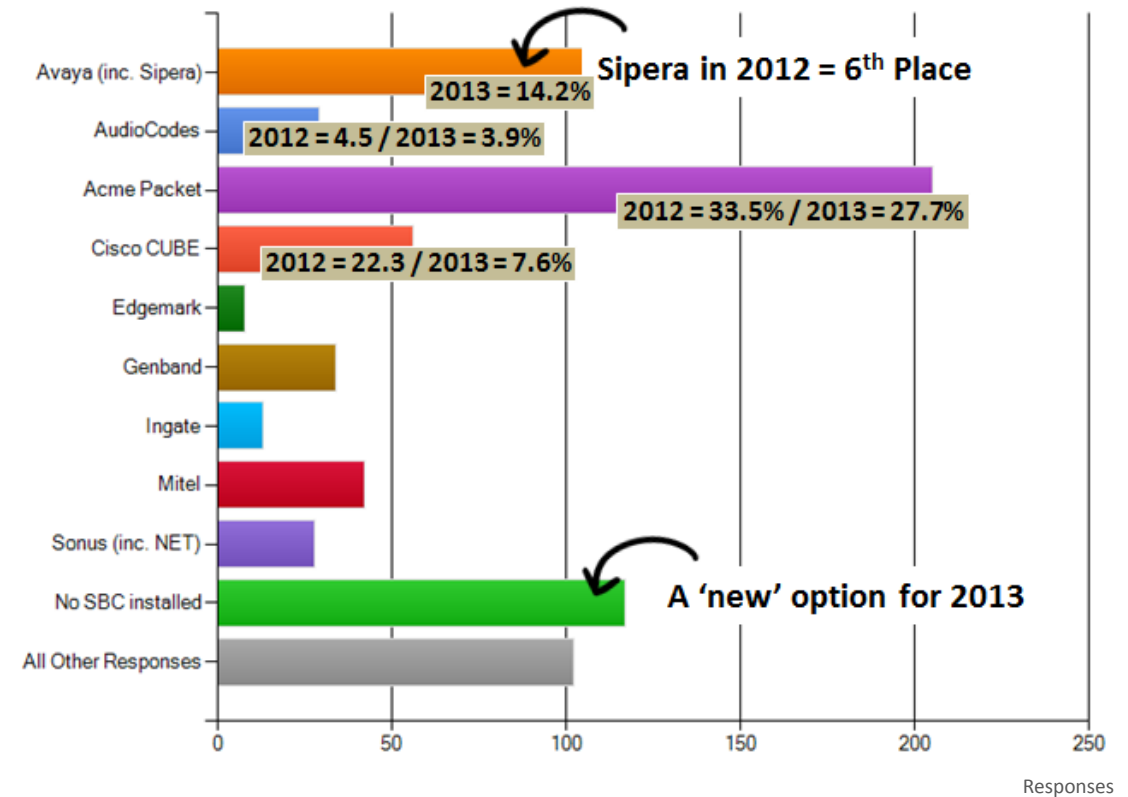
A lot of people still preferred not to say, maybe worries of exposing themselves re: Security etc.

We can also see that Mitel and Asterisk swapped places along with new entries for both Broadsoft and Microsoft Lync.

We next asked about the Session Border Controller (if any) people were using.

Q6: If you use a Session Border Controller on the Edge of your network, who is the manufacturer?

Figure 6 chart annotations:
- Sipera in 2012 = 6th Place
- 2013 = 14.2%
- 2012 = 4.5 / 2013 = 3.9%
- 2012 = 33.5% / 2013 = 27.7%
- 2012 = 22.3 / 2013 = 7.6%
- A 'new' option for 2013
- Responses

"It is a little scary to see the number of respondents with "No SBC". I wonder if these businesses also leave the loading dock door unlocked all night too?""

**Alan D. Percy
Sr. Director of
Strategic
Marketing, NA
AudioCodes**

Last year we pondered the effect of Avaya acquiring Sipera and look what happened! Avaya in 2nd place behind (a very strong showing by) Acme Packet. So does this mean Oracle will be number 1 next year? Let's see what the 'branding' people do at Oracle.

Even more interesting is the new result of 'no SBC installed'. This is quite a high response and I really do hope that all these companies are working with a service provider that has security on their own network configured correctly and that if one of these companies wants to make any changes to their Trunk configuration that the ITSP is quick to respond to the requirement. Having your own SBC allows you to make changes as and when you need to along with giving an extra layer of security into your network that only you control.

One comment from last year was 'Why tell anyone?' A good point as again, you can give clues on your security setup.

Now, if SIP Trunks are installed and all works fine, then that's great and your business is reaping all the rewards promised. But what if things go wrong?

Q7: If you've had problems, where have the issues been?

Figure 7
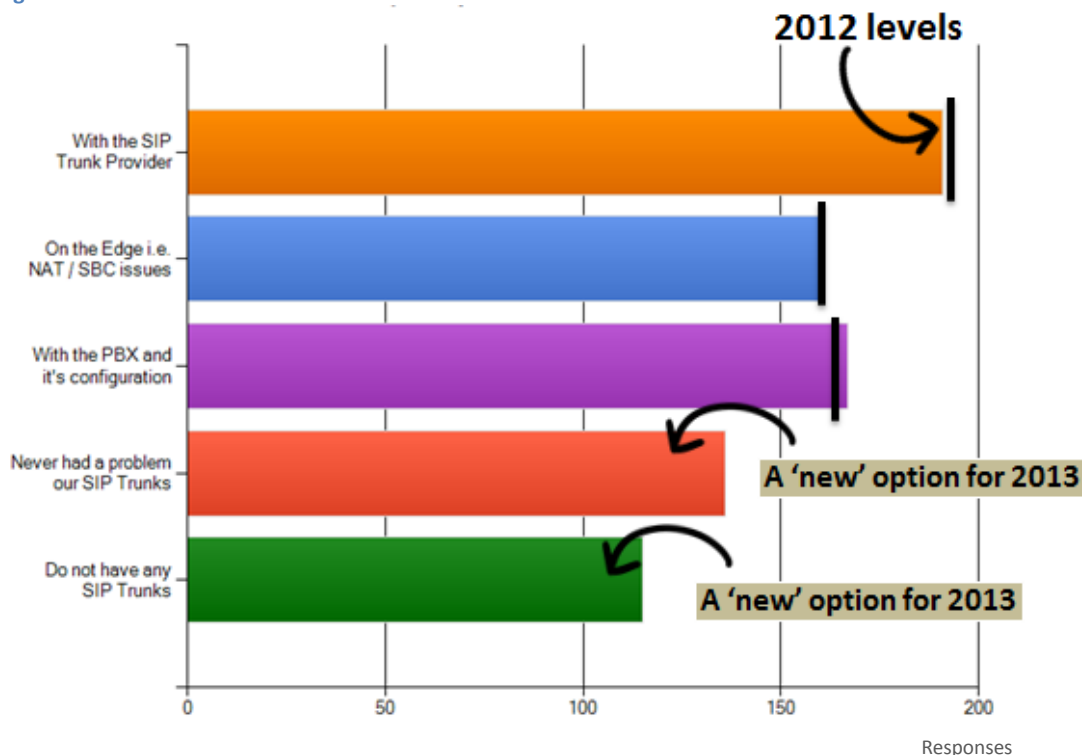
This is so similar to last year it's almost scary…! It's also clear that it is an even enough spread to show that the problems found cover the three elements that make up a SIP Trunking scenario. The PBX inside the enterprise, the ITSP and where it all meets; on the edge.

Of course none of this helps the client as uncertainty of where the actual problems lie can often cause a lot of 'finger pointing'. We even had a lot of this finger pointing in our survey responses..!

A suggestion that was passed to us last year resulted in a couple of new questions and to see that a lot of people have never had any problems is extremely encouraging. Was this a result of good planning or a great partnership with the equipment manufacturers and service provider for these people? Probably and thus demonstrates that working together can result in a happy and long standing client.
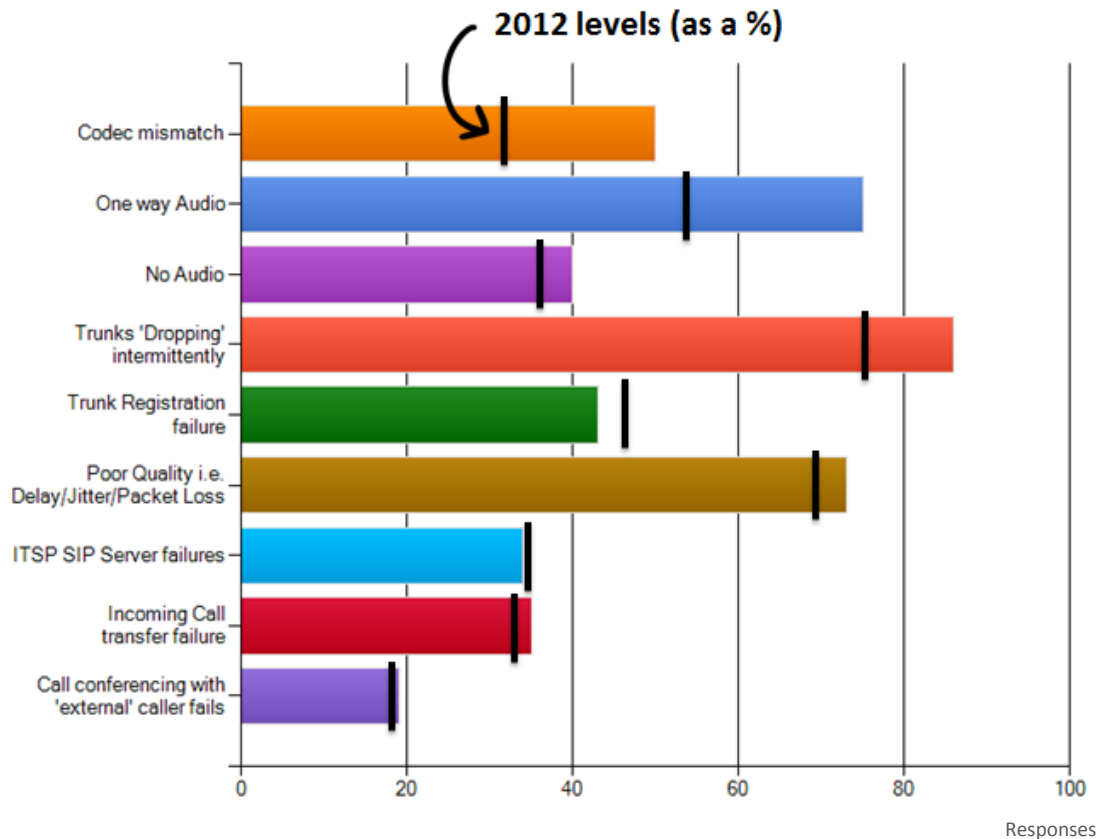
Please note that respondents we able to select multiple options.

Now, let's look at the three elements in isolation, starting with SIP Trunks.

Q8: If you've had problems that were found to be on the SIP Trunk provider side, what were they?

Figure 8

"Getting the audio right seems to be a challenge. One way audio and codec issues should be on the decrease this far into SIP trunk implementations. It appears that the education, documentation, and sloppy data entry problems are not unique to the providers."

**Gary Audin
Delphi, Inc.**

To show last year's results we did some percentage calculations to demonstrate how the figures have changed this year – and as you can see we have some small improvements yet an increase in issues.
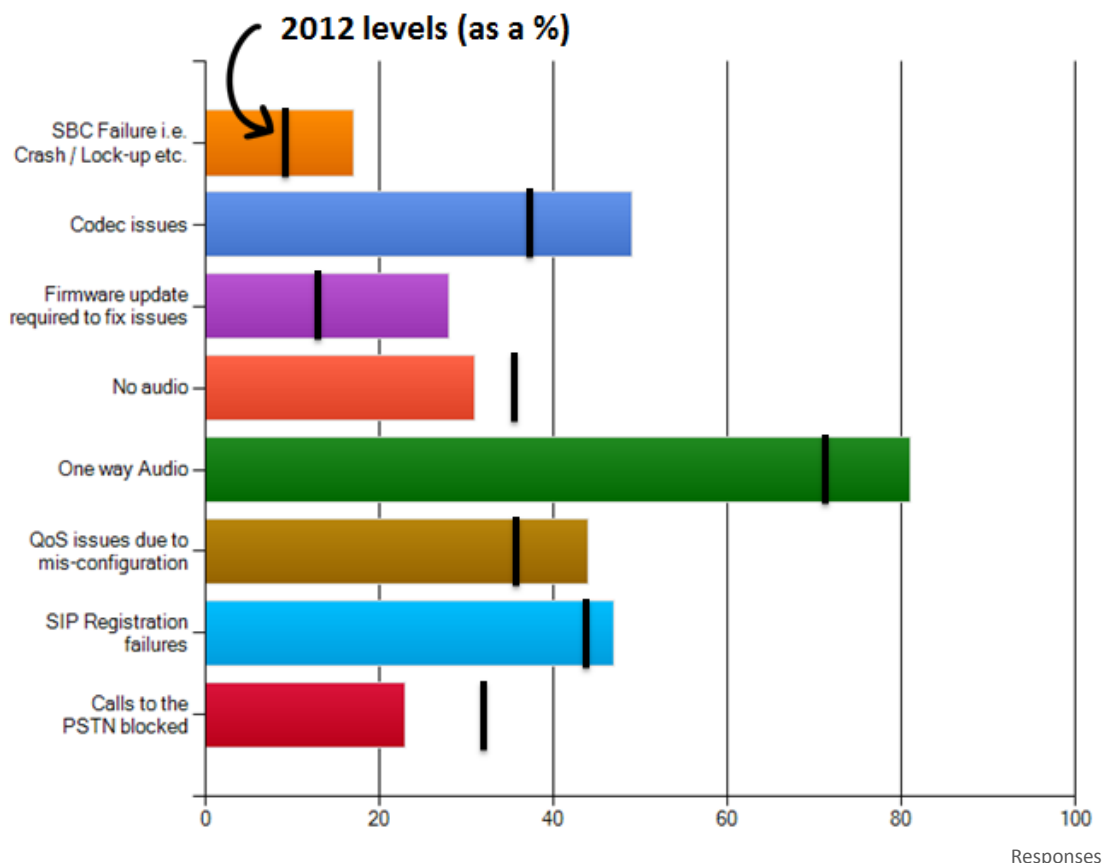
Let's look at a few of these:

- Trunks' 'Dropping' intermittently is an issue that must be addressed during testing / trials as losing a call 'midway' is one of the most frustrating things to happen when talking to a valued client.

- Codec mismatch should not really happen as 'config settings' should ensure a match. This can be fixed on the SBC as well as 'One Way Audio problems'.

- Poor Quality. It's really hard to understand how this figure is rising. Delay / Jitter and Packet loss has been talked about for years – why is it still an issue? Poor documentation? Poor configuration practices?

So, onto the 'Edge' with the next question.

Q9: If your problems were with your SBC / Edge devices, what were they?

Figure 9

One way Audio again jumps out at us. Misconfiguration of SBCs (that are needed to fix NAT traversal issues) is the most likely culprit.

'Firmware updates required' is frustrating as last year this value fell. Are too many new features and shorter version cycles the issue here?
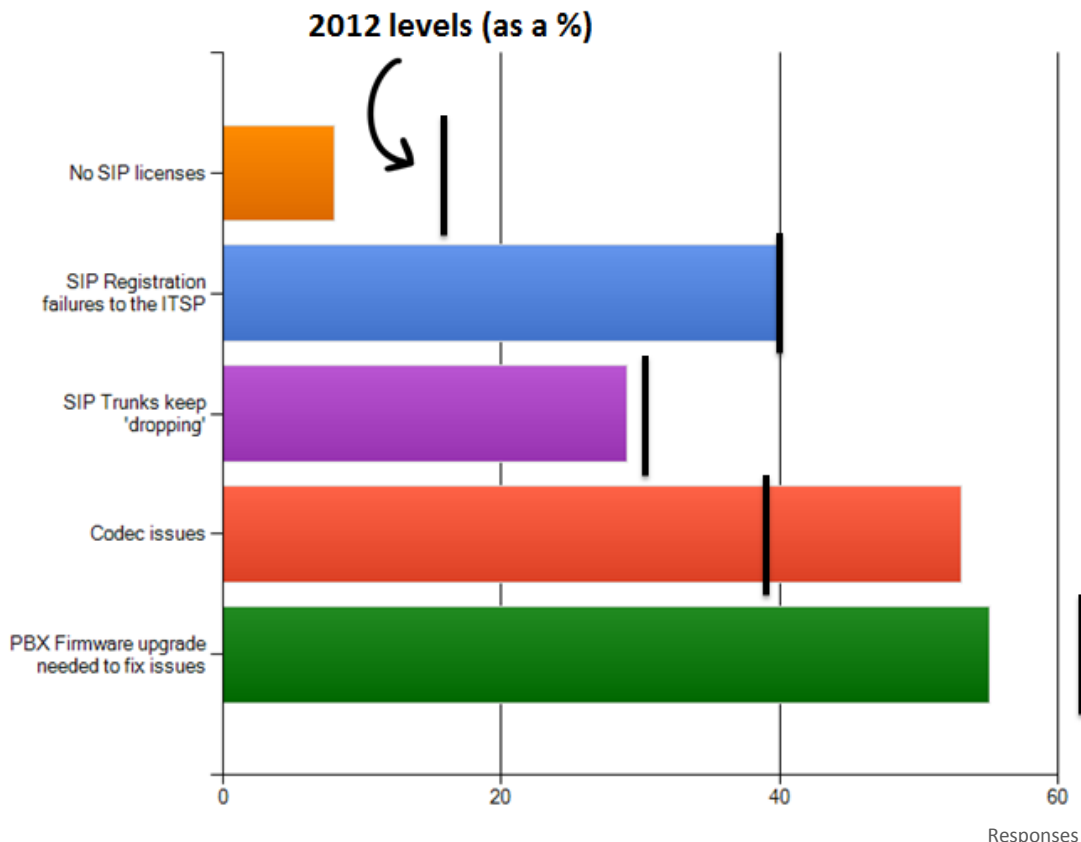
'Codec issues' is something that shouldn't really be on the rise as people working with this type of 'specialized' equipment should have a good understanding of Codecs and be able to work with others involved in an implementation to ensure that Codecs are configured correctly and tested thoroughly.

The 'SBC failure' results are quite concerning as these devices should not crash or lock up so maybe that's why there are more Firmware updates required to overcome these failures. Again, test thoroughly and work with the manufacturer closely to see if there are any known issues with products.

"The preponderance of one-way-audio problems is almost always the result of NAT traversal issues – an issue most frequently solved by a properly configured SBC."

Alan D. Percy Sr. Director of Strategic Marketing, NA AudioCodes

"I would think by this time that codec mismatch and one way audio should have decreased as problems. This could be poor education, poor documentation, or just sloppy technician data entry."

Gary Audin Delphi, Inc.

Let's move onto the PBX.

Q10: If the problems were found to be with your SIP/ VoIP based PBX what were they?

Figure 10

2012 levels (as a %)

As ever, it's always frustrating to get problems but how easy to sort out the majority here?

- Upgrading firmware: This figure has fallen but is still high. It is so easy to check with manufacturers first to see if there are updates for any issues that may affect SIP Trunk deployment and operation?

- Registration failures: Usually 'typos' so be careful!

- Codec issues: A big rise for this year, probably mismatches again. Check settings early on to avoid this problem.

- 'No licenses' has fallen, excellent and such an easy thing to fix.

A lot of these issues can be avoided by taking time, talking to the ITSP for correct configuration information and entering it into the PBX in the right places.

"Most of the issues we see are with Codec mismatch or registration failures."

**Keith Barnes
Manager - TSD
Technical
Services
Toshiba America
Information
Systems, Inc.**

"Codec issues also pop up for the PBX installation. All three participants (provider, SBC and PBX) need to do a much better job dealing with codec and audio issues."

**Gary Audin
Delphi, Inc.**

This year we added in a new question that we think reflects on how people approached SIP trunking installations along with their reactions when things didn't quite work out as planned.

Q11: After your initial SIP Trunking 'Trial' period, what did you do?

Figure 11

Responses
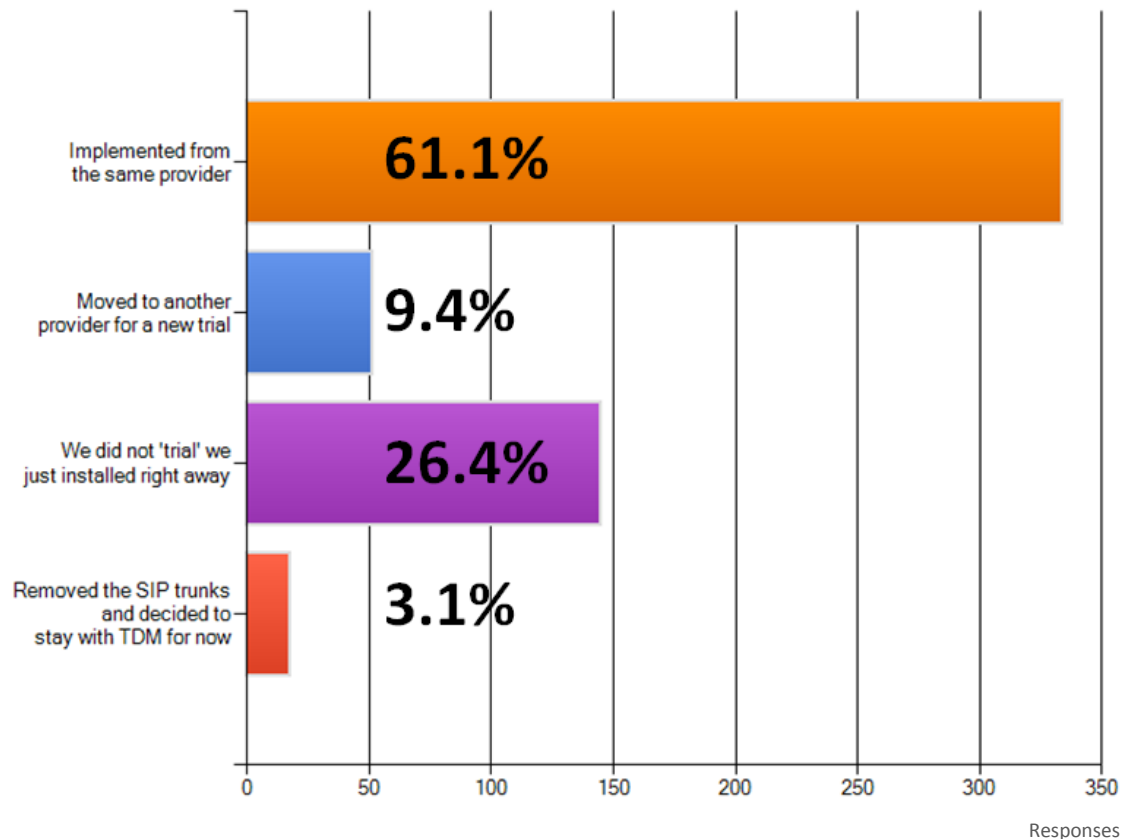
> "An effective and well planned out trial process is clearly a successful path to a long-term customer."
>
> **Alan D. Percy Sr. Director of Strategic Marketing, NA AudioCodes**

So it's pretty clear that if things go well a client will (most likely) stick with the solution that they chose for the trial. There is no bigger reason than this kind of decision by the client for manufacturers/providers/dealers etc. to work together to make it work for the client. A happy client will stick with you for years thus making the time, effort and expense of offering a trial to them more than worth it.

Seeing that 9.4% decided to try another provider after a trial period indicates that they are committed to the move to SIP trunking it's just that they haven't found the right partner yet.

Wow, some of you are really brave. 25.4% jumping feet first into the world of SIP trunking. Well I am both happy that they were committed enough to do this but also a little concerned as 'try before you buy' I think is usually the best policy as committing to a contract and then finding issues later (due to testing not covering all scenarios) will cause a lot of pain, especially the financial kind.

Let's move on a little here and focus on what happens when things *do* go wrong.

Q12: When things go wrong with the SIP Trunks (operationally) and you talk to support staff, how do you rate their ability to fix problems?

Figure 12
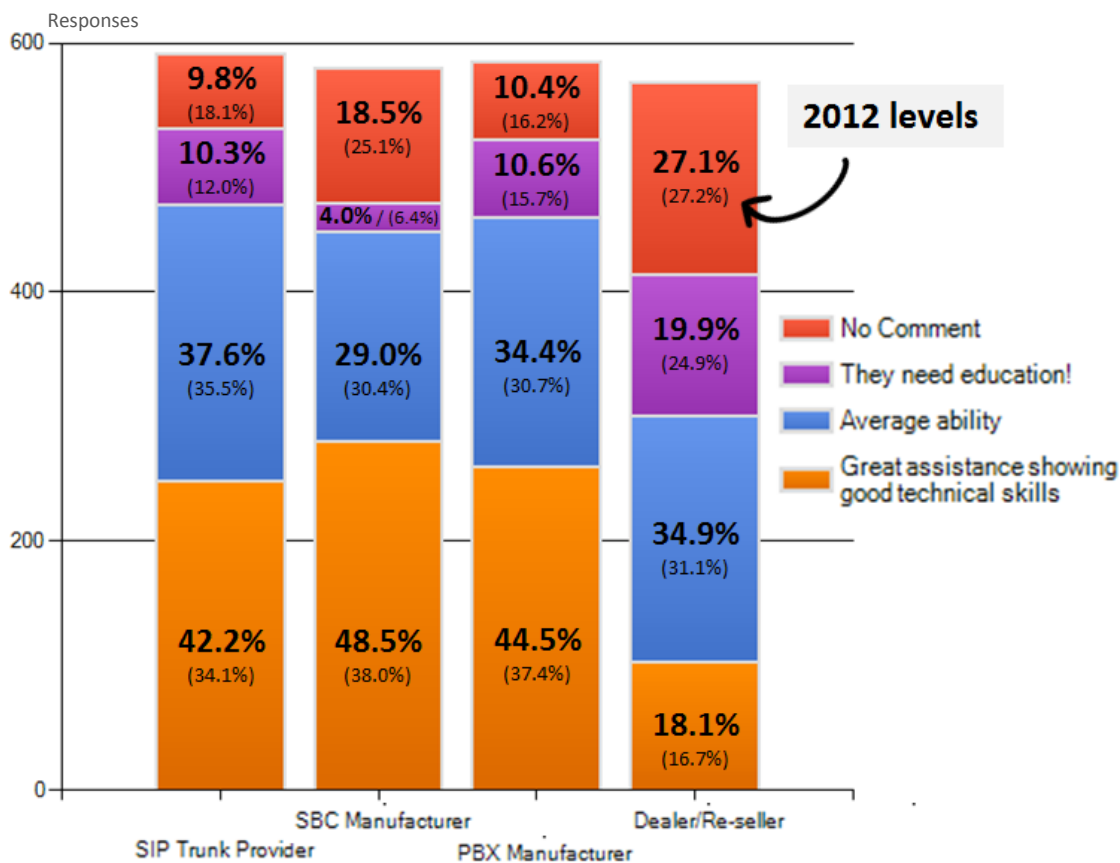
Now it's a tough job working in support and if people at both ends of the conversation have a good technical understanding of SIP then it bodes well for a satisfactory and quick resolution but this is not always the case. The answers here I think are promising for the ITSP, SBC and PBX companies as most respondents replied that approximately 80% of support staff were at least 'average' for their assistance on specific issues with some, a lot better. The figures for the Dealer/Reseller are again pretty poor and as they are the company that is usually the one that puts it all together for a client, this appears to need some addressing when it comes to education.

Of course we didn't ask for specific incidents that support people had to deal with, all we wanted to get from this question was the customer's view of their support experience in general.

Remember that it is customer experiences and perceptions that can win or lose business regardless of whether the fault actually lies!

Let's take a look at what people are asking for from the ITSP for the (not so far away) future.

Q13: If you could ask one question of your SIP Trunk provider what would it be?

Figure 13
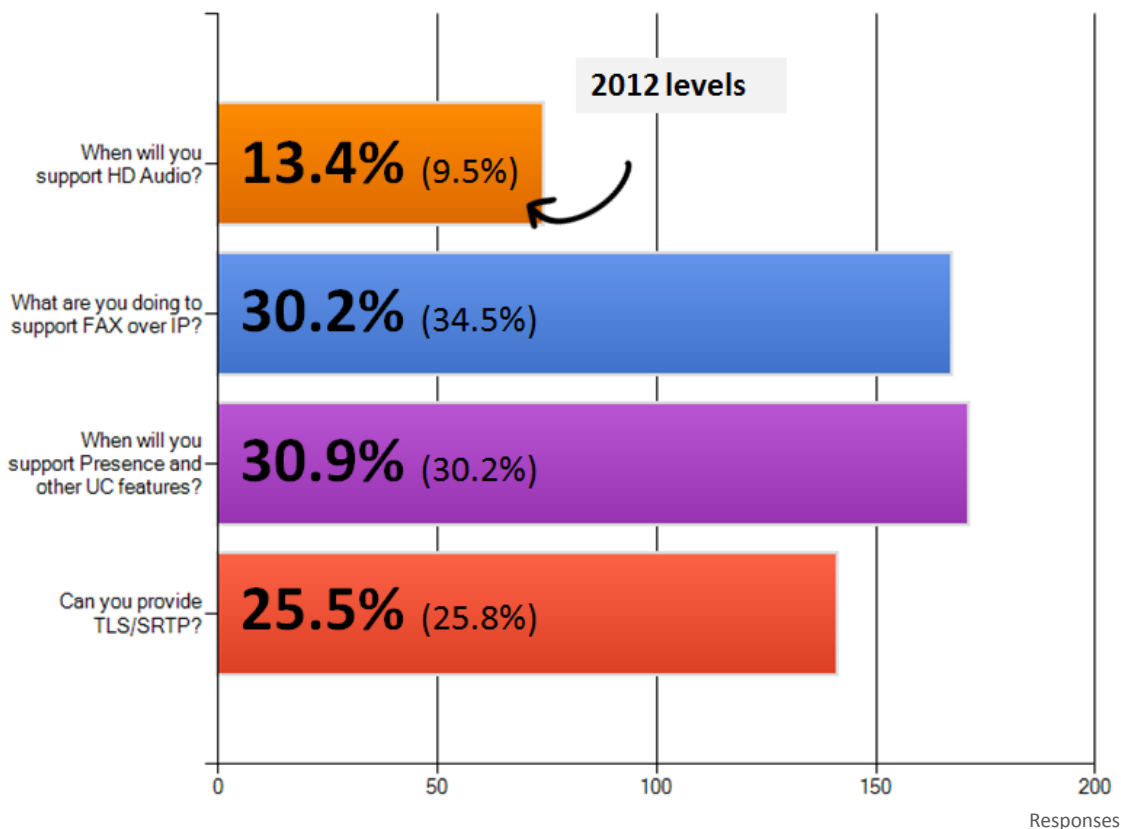
"I see that Fax over IP is one of the most important requests from customers, but in a world where Fax sales are actually almost gone to zero, it seems counterintuitive. Most people today would scan and email a document and most faxes are actually stored and distributed electronically, not sure why you would get that (result).

Anon

Fax over IP support is as ever an important service that needs to find good support in the SIP/IP world. If your provider offers this, then that's great; though make sure you test it thoroughly before disconnecting those 'old' lines. Note the comment to the left. We rarely would use an anonymous source though we thought the comment worthy of inclusion for discussion.

Desire for more than 'just calls' is very interesting here as people are probably assuming that Voice support is the base element (on offer) and that ITSPs should be providing more UC elements to fully support the move to SIP, which of course has the ability to deliver much more than Analogue and ISDN ever could.

TLS and SRTP support is something that scored high here (again) and with requirements such as the one from the PCI I expect ITSPs to be offering a secure option soon.

Note, numbers would add up to 100% if we showed the chart element for 'others'.

Q14: Understanding SIP is important, which most interests you?

Figure 14
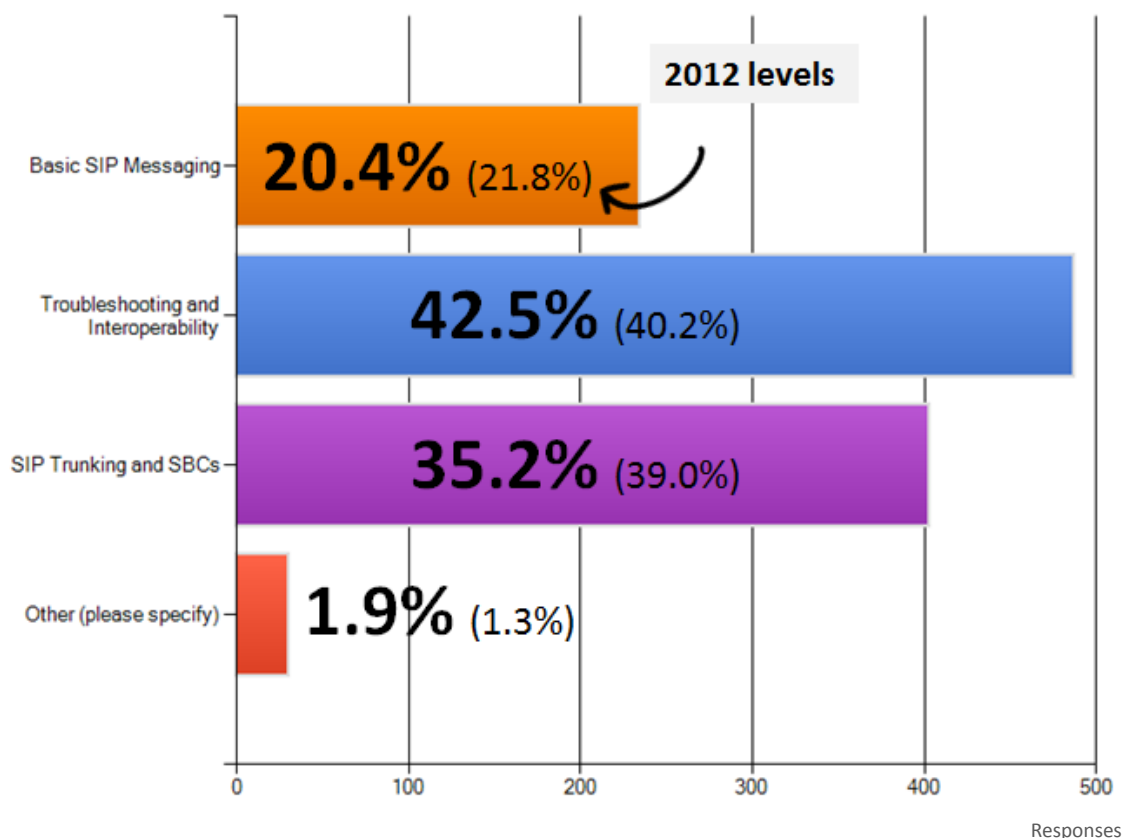
> "We find SIP Trunking and SBCs probably the top thing…most of our customers can get through Interop testing fine because they're using the major manufacturers and most the issues are documented and supported."

**Mike Uttley
Senior SE
Training
Consultant
Level 3
Communications**

Not much of a change from last year and we have already (based on the 2012 Survey) further embellished our own training.

Since last year's survey we have added a whole lot of new elements with a focus on SBCs, NAT traversal solutions (such as ICE), Troubleshooting Video codecs, Security along with more SIP trunk deployment scenarios.

This year will see more on Testing and Troubleshooting QoS issues along with even more examples on SIP trunk deployments.

We even went a step further and asked about what people feel they need to see more of in The SIP School's own training program.

Q15: What would you like to see in our SIP training program?

Figure 15
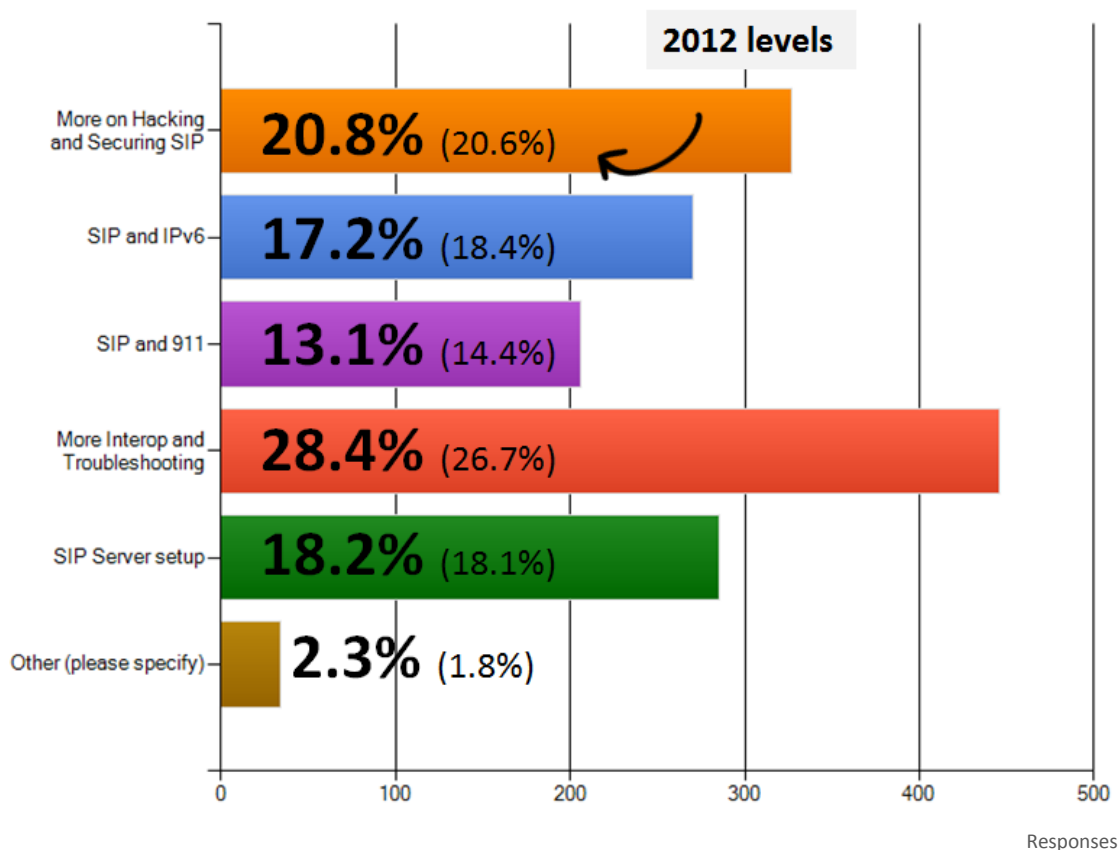
Interop and Troubleshooting wins again and of course we're always adding more into the program to reflect the needs here.

SIP and IPv6 is interesting as there are very few ITSPs out there that provide a SIP trunking service over IPv6. If you know about any, then please pass their details to us so we can talk to them about their service offering.

As ever, we will take on board what people are suggesting and look to embellish our programs.

The SIP School™ is the issuing authority for the SSCA® Certification and we thought that this survey may be a good time to see if people want or even need a SIP Certification. We asked:

Q16: Is an 'official' SIP Certification important to you?

Figure 16

"Yes, absolutely. We use SIP Training and Certification to ensure our Sales Engineers have a better understanding of SIP in their knowledge and skills development. This is our 3rd year of using The SIP School and it is still the most favorite on-line training of our SE's according to their feedback. The fact that it's industry and technology based and not vendor biased as so many courses are, makes it a true training course."

**Mike Uttley
Senior SE
Training
Consultant
Level 3
Communications**

So, [figure 16] again suggests that a certification is very important with almost a 9% increase from last year.

So, let's take a step back and see what we've found out and hopefully learned from this year's Survey.

As we saw through the Survey last year, there are still significant issues that can arise when implementing SIP Trunks and these issues must be faced head on in order to make installations go smoothly. SIP Trunk installations have to be as clean as existing Digital and Analogue installations as that's what the customer is used to and also expecting from all of the industry generated hype.

SIP Trunking is working in a lot of places where competent companies work together to ensure interoperability and continuity of service but looks like its hitting problems (as also seen with previous year's surveys) when it's installed quickly and without careful thought for Quality of Service and ongoing service management. Customers can get exasperated when they can't make or receive calls from their own clients and can resort to extreme measures.

Here's a story that we wanted to share as we really do want everyone to understand that SIP Trunking is a fantastic service but should be configured correctly as there can be dire consequences

Here at The SIP School, we recently had a call from our local police department. No worries, we've been good and it was simply a call to talk about advertising possibilities in their regional news magazine.

During the call, the police officers voice kept cutting out, sounding 'tinny' and robotic and generally sounding terrible. Occasionally the quality was good and of course, I had to comment.

"Your line sounds terrible" I said. "Oh yes", said the officer – it often "breaks up and then clears up again!"

Now this is clearly a case of 'poor' or no QoS configuration on the SIP trunk and maybe even on the local LAN and what an organization to have these issues – the police!!! Imagine what could go wrong if the call was more important than selling ad space – it doesn't bear thinking about.

If you are a client and you get these issues then shout loudly at your provider to sort them out as you pay a lot of money for equipment and rentals and you need a service that is 'better' than the one you replaced it with. Though you may have to shout at them over a mobile phone as your main line has QoS issues…

"SIP presents challenges to deployments that should not be overlooked, including security and privacy (often addressed by SBCs); multi-vendor interworking and real-time-communication resource management (often addressed by session management); application integration and system monitoring. These challenges are just a few among many others on a more comprehensive list. Every customer and every business supporting that customer's communication needs should invest in better SIP education, tool sets and understanding the different architectural approaches to realizing a highly available and flexible SIP architecture."

**David Chavez
AVAYA
Worldwide Sales
Vice President &
Chief Technical
Officer**

Recommendations

This survey shows clearly that issues occur during the installation and configuration of SIP Trunks and in order to make things as painless as possible for all parties involved there are some simple things that can be done and most of these can be done relatively quickly.

Firstly, it's always wise to talk to all parties involved before moving forward. Get case studies from ITSPs and the manufacturers you are working with. Talk to their people about their installation experiences along with discussing the issues they have come across and how they overcame them. Talk to people about interoperability testing and conformance to standards and recommendations such as SIPconnect from the SIP Forum. In essence, good research and talking to people early on will help you decide which companies to work with.

If you are an enterprise looking for a SIP Trunking solution to suit your needs then ask ITSPs to respond to your business requests and see if they can cover everything you need from Service Level Agreements (SLAs) to support for the smallest of sites in the remotest of locations, even international locations. You need to ensure that everything can be covered by the ITSP and that they understand everything you need before things move closer to provisioning SIP Trunks. ITSPs should also be willing to let you trial SIP Trunking for free for a reasonable period of time. The result of the survey clearly display that a successful trial will normally result in a full implementation. If so, then do it and test the Trunks using all the call scenarios you can think of such as call transfers, conferencing and so on. Also test the ITSP's support people at various times of the day, why not call them at 6pm on a Friday evening and see what the response time is and the level of knowledge of the support personnel available?

When it actually comes to installation of the SIP Trunks the one thing that really stands out is the need for correct documentation that supports the configuration of the PBX and the SBC/Edge device in order to get SIP Trunks to register and work. In our own experiences we've found that installations go way more smoothly if educated and experienced people use documentation that is clear and easy to understand and also based on settings that have been proven to work in the combinations of equipment being configured. For example, if you are installing SIP Trunks from Comcast, connecting to an Acme Packet SBC and then into a Mitel PBX it's important to check that these all interoperate and if so, get the configuration documentation into the hands of the installers. Again, make it easy for people to get it right the first time.

Once SIP Trunks are in and working it's not the end of the story. To ensure they continue to operate and function at their best it's wise to continually monitor their performance and also ensure that whenever any software upgrades are to be carried out on the PBX or SBC that these upgrades do not affect service. Again it's wise to talk to manufacturers first before making any changes that may affect operation of the SIP Trunks.

Conclusion

This survey has again highlighted the need for all parties involved in providing a complete SIP Trunking solution to clients to work together and continually test their products and services for interoperability so that it's not the customer's premises that becomes the test bed.

We all know that SIP, Voice and Video over IP services are the future and PRI lines will one day be a thing of the past. How quick this all happens is up to the people providing the services.

The SIP School would like to thank all those who contributed with their valuable comments and insights.

About The SIP School
The SIP School™ is owned by Vocale Ltd which was founded in April 2000. It's SSCA® SIP training and Certification program has become recognized as the globally accepted Certification for VoIP professionals to strive for. Organizations such as the Telecommunications Industry Association officially endorse the program and Bicsi value the program at 16 CEC credits towards their own certification. Details of more industry supporting companies can be found at
http://www.thesipschool.com/industry.html

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