



Monday, June 16, 2014

THE SIP SURVEY 2014

The SIP School

Learn and Qualify

Survey and Thought Leadership:

Businesses around the world are migrating to SIP trunking but are all experiences good ones and if not, why not?

Editorial and Research

Graham Francis

CEO The SIP School

Introduction

This fourth year of the SIP Survey has proven to be even more popular with 937 professionals responding. This continues a year on year increase that really does help increase the accuracy of the survey's results.

The biggest response was from the USA with 45% of people originating from there, with a growing number of people from other countries such as India with almost 11% in second place.

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 (when compared to other industry surveys) but please note *this* 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 easy 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 and now, WebRTC.

"Data published by Infonetics Research and other sources indicate continued rapid growth in sales of SIP trunking services by carriers. I would interpret this graph to indicate lots of people already using SIP trunks expanded their use in 2013. In other words, not all TDM trunks get shifted to SIP at once and transitions can take a couple of years, depending upon contract termination dates and other variables."

Carl Blume, Oracle

"It appears the market and adoption of SIP is maturing past the "bleeding edge" into The "leading edge" technology."

Mike Uttley, Level3

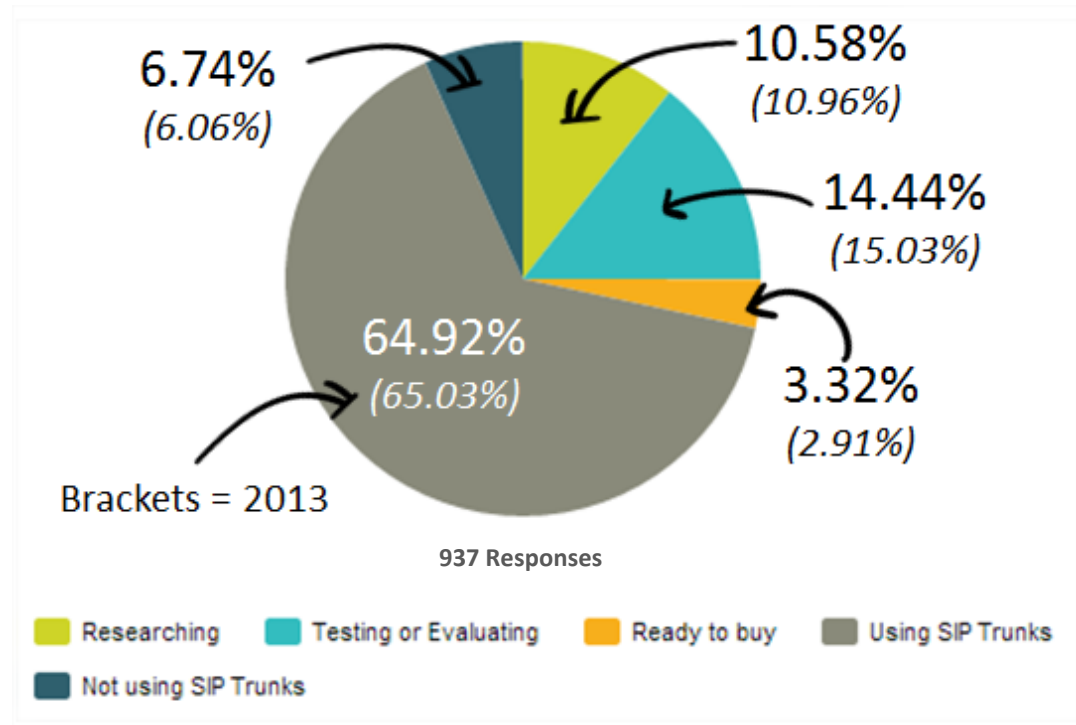
"Would be nice to know if those who are using are expanding and how quickly."

Craig Gironda, ShoreTel

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

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

Figure 1



As you can see in [figure 1], from 937 responses the results indicate that organizations are embracing SIP trunking with only 6.74% of respondents saying that they are not even testing them.

Here is a breakdown of all respondent locations.

- 45.19% **USA**
- 10.82% **India**
- 7.71% **UK**
- 6.76% **Canada**
- 2.57% **Mexico**
- 1.48% **Netherlands**
- 25.47% **Other**

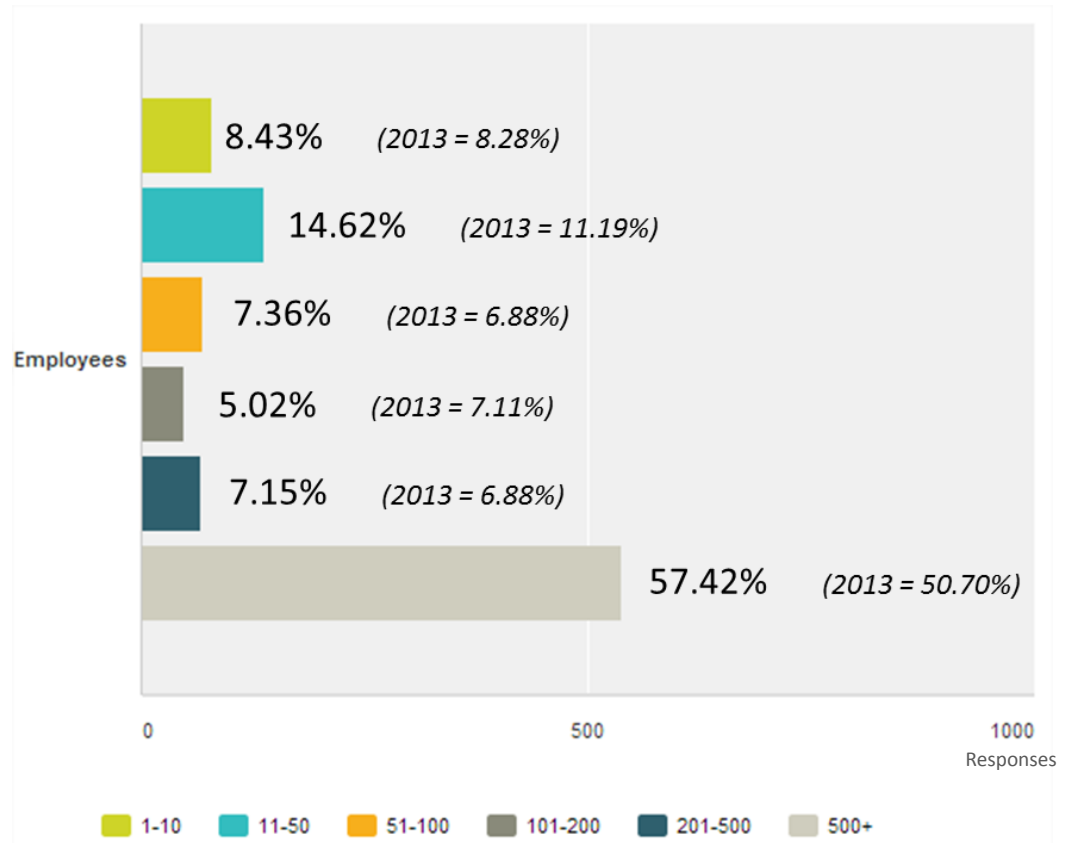
With the majority of respondents using or at least testing SIP Trunks; manufacturers, service providers and dealers/resellers should take a close look at what people are saying in this survey.

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



"Verizon has a ton of employees and locations throughout the world, a different question may be how many employees/location utilize VoIP compared to TDM"

Ron Zobell, Verizon

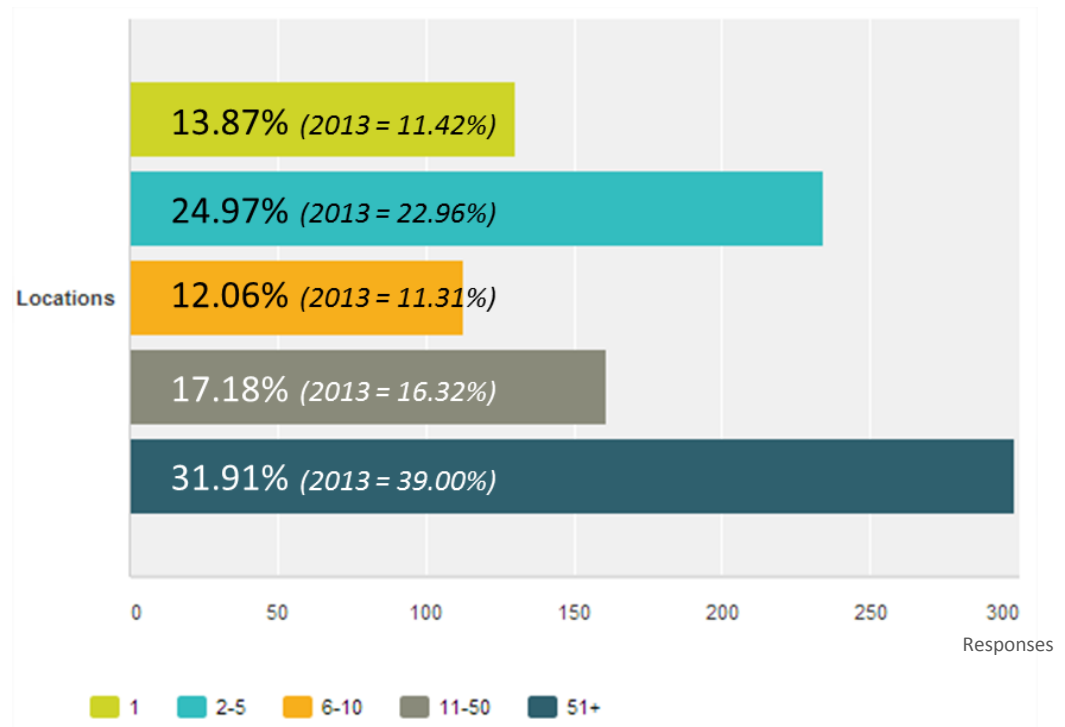
*[Editor's Note:
Interesting point
Ron, we will bear
this in mind for the
next Survey]*

A good increase here in the 11-50 employees option which is actually one of the most targeted company 'sizes' with regards to SIP trunking for Internet Telephony Service Providers (ITSPs).

The Enterprise sized company shows very strongly here with an almost 7% rise on last year.

Q3: How many locations or sites does your company have?

Figure 3



Cost savings can be substantial for a well implemented SIP trunking infrastructure so it's great to see organizations with many locations taking advantage of all that SIP trunking can bring

And remember, that with SIP trunking you do not have to buy more lines than you need. You want 13 trunks; you can have 13 trunks – exactly!

Q2 and Q3 responses will hopefully help you understand more who has participated in the survey which should then help you make more sense of the survey results.

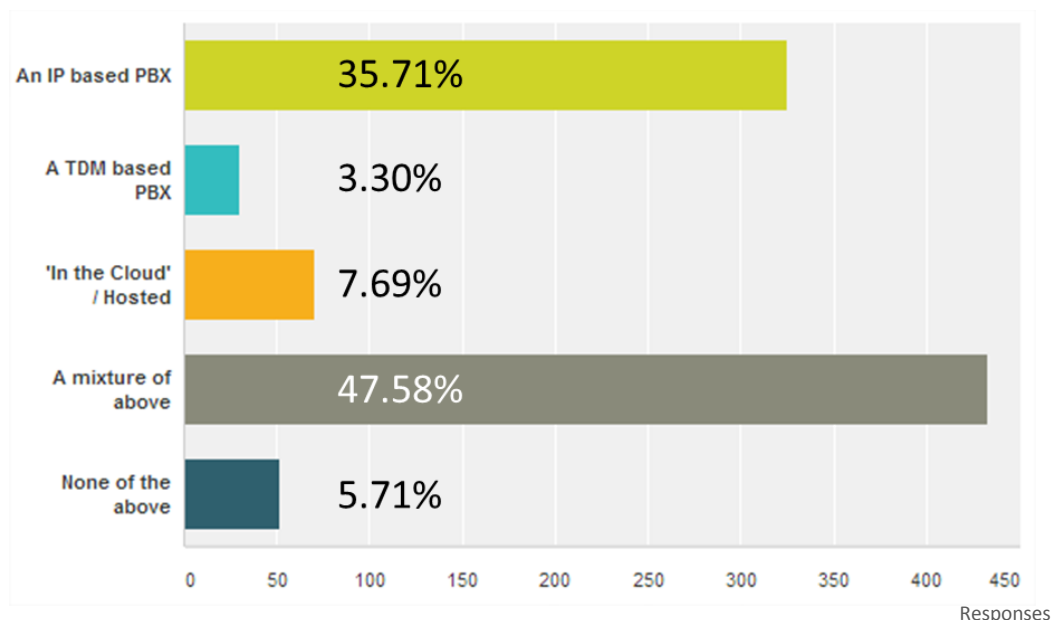
“It is interesting to see a validation of what we see in the market i.e. that a large percentage of enterprises have a mix of several PBX models – on premise IP and TDM based PBXs, and in the cloud or hosted environment. We will see more and more of that as enterprises transition to an all IP environment and create a modular network to leverage the best. This will mandate a need for centralized session managers that can normalize the incompatibilities across the multi-vendor multi-modal PBX/ UC environment.”

Ashish Jain,
Genband

Let's move on and get some information about what equipment people are using so we'll start with the PBX. For the past 3 years we asked “Is your ‘main’ PBX system a VoIP one” and 87% of respondents said Yes! This year we wanted to break it up a little and asked

Q4: Does your company have for its own ‘Internal’ use?

Figure 4



83.29% for IP PBX implementations (including the ‘mixture’ responses) indicates that companies have come a long way down the path in the migration from TDM only based systems. Of course, Ashish makes a great comment in that a lot of companies will have a mix of systems and it will take time to migrate fully to a complete VoIP based system and even then it's likely that Cloud based services will take up some of the load, maybe with cloud based Call Center services, Call Recording etc?

Most of the ‘None of the above’ responses (where people can add in their own option via the survey form) should have actually been answered (in our opinion) by selecting ‘A mixture of above’ and thus that figure should have been higher.

There was even one lonely respondent stating that their PBX is Analog only.

Other interesting comments expressed that some companies don't have a PBX but they are using ‘pure’ Microsoft Lync with Gateways etc.

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"Did you ask if customers had multiple solutions? We typically see customers engage in a phased migration over to a different solution (vs. Rip/Replace), so they have several PBX solutions."

Andrew Cook,
Microsoft

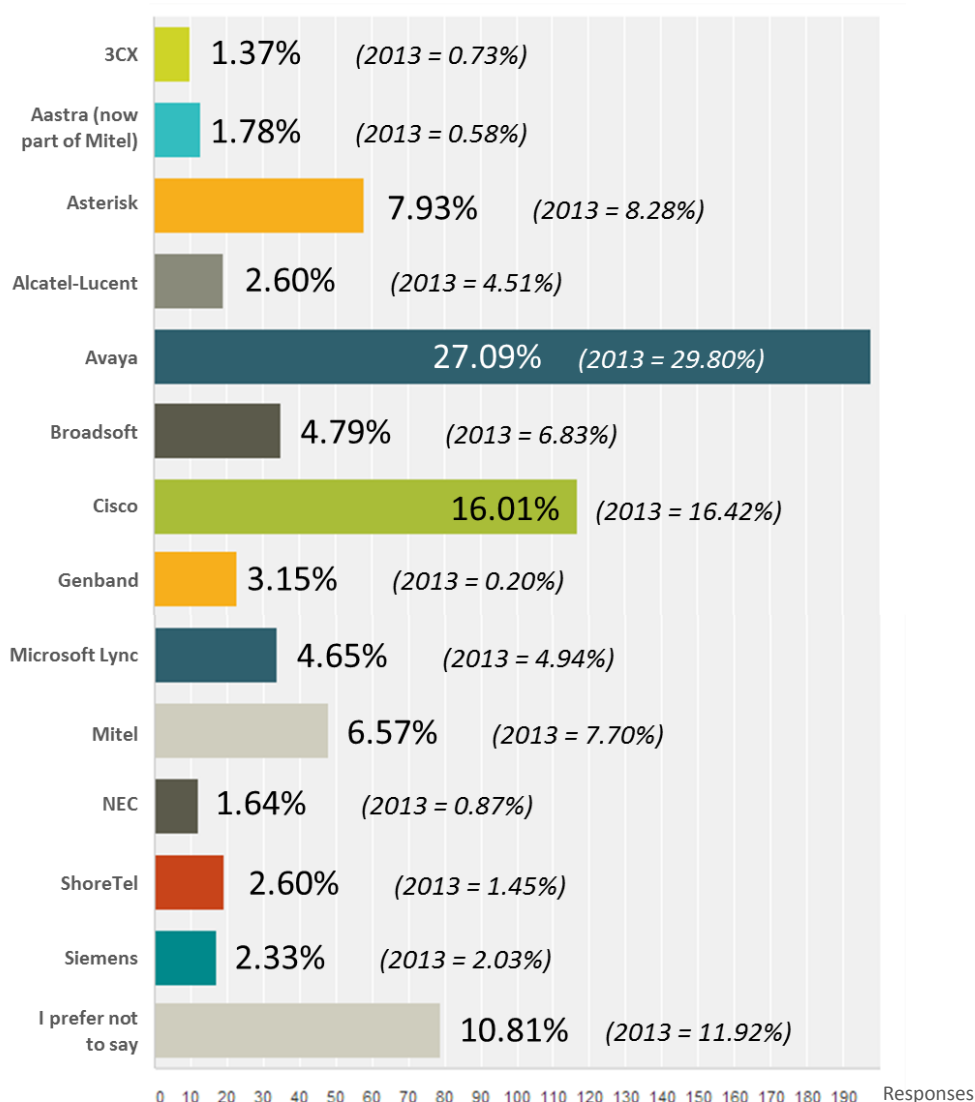
"The numbers *could be* artificially low for Lync because many companies do not use it solely as their Primary PBX (except possibly specific industry verticals such as Gov/Educ – where promo bundling offers make Lync attractive as an org's primary PBX). In many cases, Lync is leveraged purely as a Collaboration or Conference server that could still benefit from leveraging the benefits of SIP Trunking. In such a case, Lync's primary role would not be that of a mainstay PBX but instead it would serve as an organization's core collaboration engine."

David Leon-Guerrero,
Cox Business

Our next question relates to the manufacturer of any installed PBX system.

Q5: Who is the manufacturer?

Figure 5



We added more options to the list this year though a lot dropped under the 1% mark so we made the decision not to display them.

Avaya stays strong followed by Cisco and with Mitel acquiring Aastra, they move into 3rd place on this survey when the numbers of the two companies are combined.

A little confusing that with all the noise around Microsoft Lync that the number has actually gone down this year! The comments in the side bar do offer some insight on to why the Lync numbers are 'lowish'....

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“Some of the people who get cloud service may not know/care how the traffic is secured. An interesting question would be to ask if they worry about the security of their SIP Trunks? For people using SBCs to solve, who provides? For people using cloud, do they know how they are secured? Another interesting question would be to ask if they intend to remote SIP users. If so, do they worry about security in the extended station? If so how do they secure? (VPN, SBC, Secure Access Proxy, security gateway, etc ...)

David Chavez,
Avaya

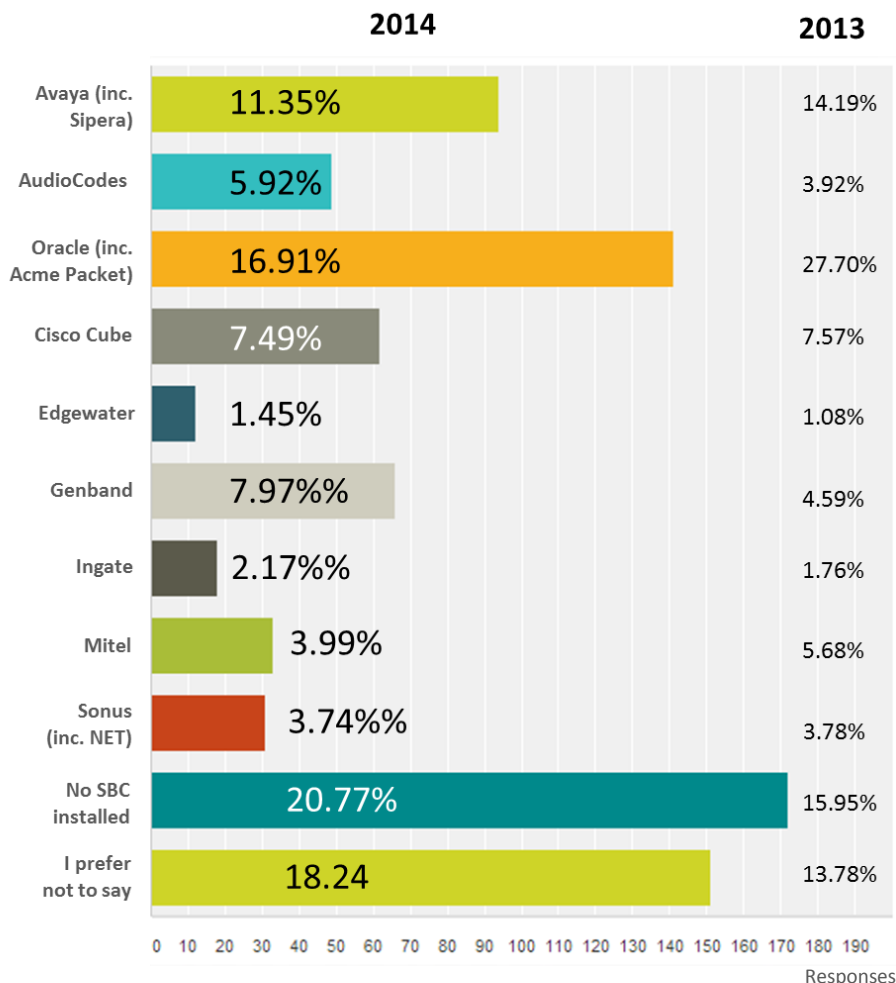
The rise in “No SBC installed” is alarming. These organizations are exposing their communications to DoS attacks, fraud, malware and lots of other threats. Perhaps our industry needs to do a better job of educating the customer about the risks of connecting their UC directly to a SIP trunk.

Carl Blume, Oracle

Then we 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



So, Oracle is now on top (in this survey) due primarily to its acquisition of Acme Packet. The Oracle/Acme percentage value should actually be even higher here as a lot of people did not select Oracle yet typed in ‘Acme’ in the ‘other’ box on the Survey form! Maybe some people do not realise that Oracle has bought Acme Packet? Does Oracle need to promote/advertise their new capabilities more?

One ‘previous’ response was ‘Why tell anyone?’ A good point as again, you can give clues on your security setup or it may simply be that corporate security policies prevent disclosure of such detail.

‘No SBC installed’ has actually increased which really is confusing as solid security that you can control yourself is pretty much a necessity for enterprises.

Actually, we had so many comments on the ‘No SBC Installed’ option we have added them onto the next page, thanks all.

Extra comments re: Q6 ‘No SBC Installed’ option.

“Increase in “no SBC” is interesting. I wonder what is driving that response . . .?”

Eric Newton, AT&T

“The fact that over 20% of responses claim to have no SBC is really shocking. The SBC has become a major element of the successful deployment of SIP Trunks. Of course, some PBX vendors claim to have a built in SBC solution. But most security gurus would advise against relying on a combined system like that and would prefer to have the SBC or security device separate from the application it is protecting. Consider that if a company comes under a Denial of Service attack. If the PBX and SBC are all-in-one then everything will come to a halt. If the SBC were separate then the SBC may grind to a halt, but the PBX would still be operable. These respondents need to know that the SBC is a wise investment providing features that cover: security, interoperability, Quality of Service, routing, encryption handling, and diagnostics. For the price of the products, they seem an invaluable addition to any SIP trunking (or any SIP) installation.”

Steve Johnson, Ingate

“It is interesting to see that quite a large set of respondents don’t have SBCs yet. An SBC is a critical element for providing session management at the enterprise edge – for intra enterprise communication; enable remote users and teleworkers with mobile SIP clients to connect to corporate PBX system, and for SIP trunking with carriers. An SBC is a must have for enterprise mobility strategy to succeed.”

Ashish Jain, Genband

“The increase in “No SBC Installed” is a concern because SBCs greatly enhance security, simplifies the SIP Trunk interface, provides diagnostics and promotes reliability by acting as the default gateway hiding subnet changes.”

Robert Kinder, Cox Business

“The point regarding problems at the network edge is specifically the original role of the SBC, resolving firewall and NAT traversal. We have many customers who call us in the middle of an installation to get a quote on an SBC because they are getting one way media. An SBC should be planned into every SIP installation, no matter whose PBX is used or which service provider is chosen.”

Steve Johnson,
Ingate

“For people who have had no problems, who do they attribute it to (mostly)?”

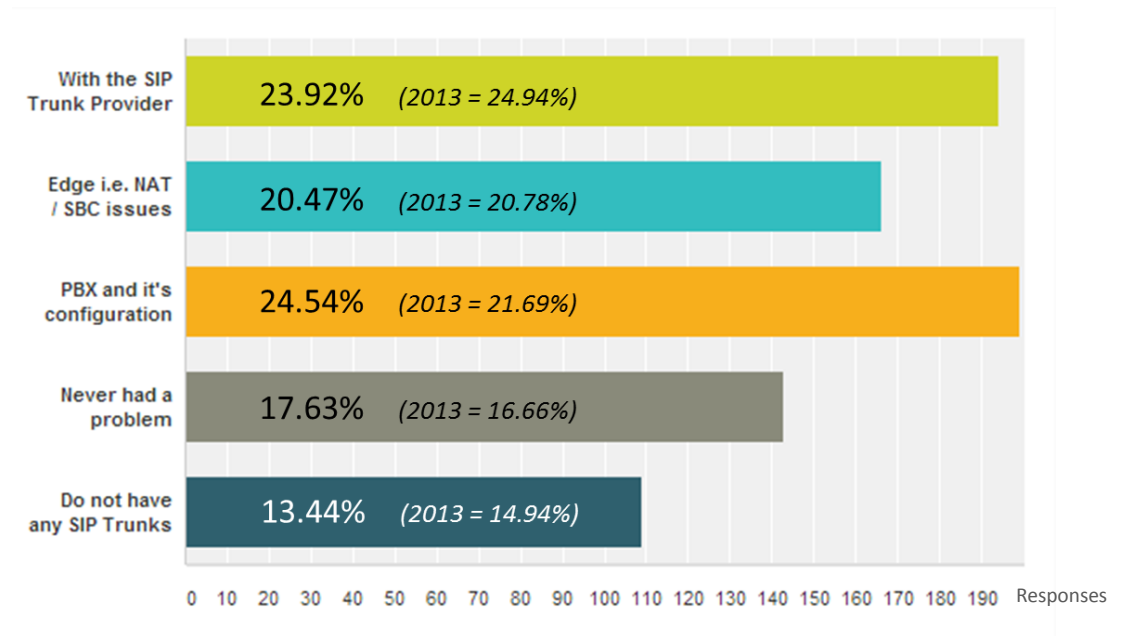
David Chavez,
Avaya

*[Editor's Note:
David's comment
may prompt an
extra question in
the next Survey to
help find these
'positives']*

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



As with last year (and the years before) an ‘even’ spread across the three elements though the PBX has shown to be even more problematic this time around.

We’ll focus on these three elements in a moment but for now, it’s really good to see that 17.63% have never had any problems. Can we get this higher next year with more new installs and increased focus on good installation / testing practices?

NOTE: Respondents were able to select multiple options. In fact, if any of the totals (in this survey) do not add up to 100% then assume this is so with the question you are looking at.

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“One issue surrounds QoS and the mistaken view that proper marking of traffic both signaling and media is unnecessary if “we just throw bandwidth at it.” It is our position that proper marking based on all standards body recommendations is critical and that the approach of performing no marking as there are ample amounts of BW is incorrect and can only lead to call quality issues as evidenced by your response results.”

Joe Alice, Verizon

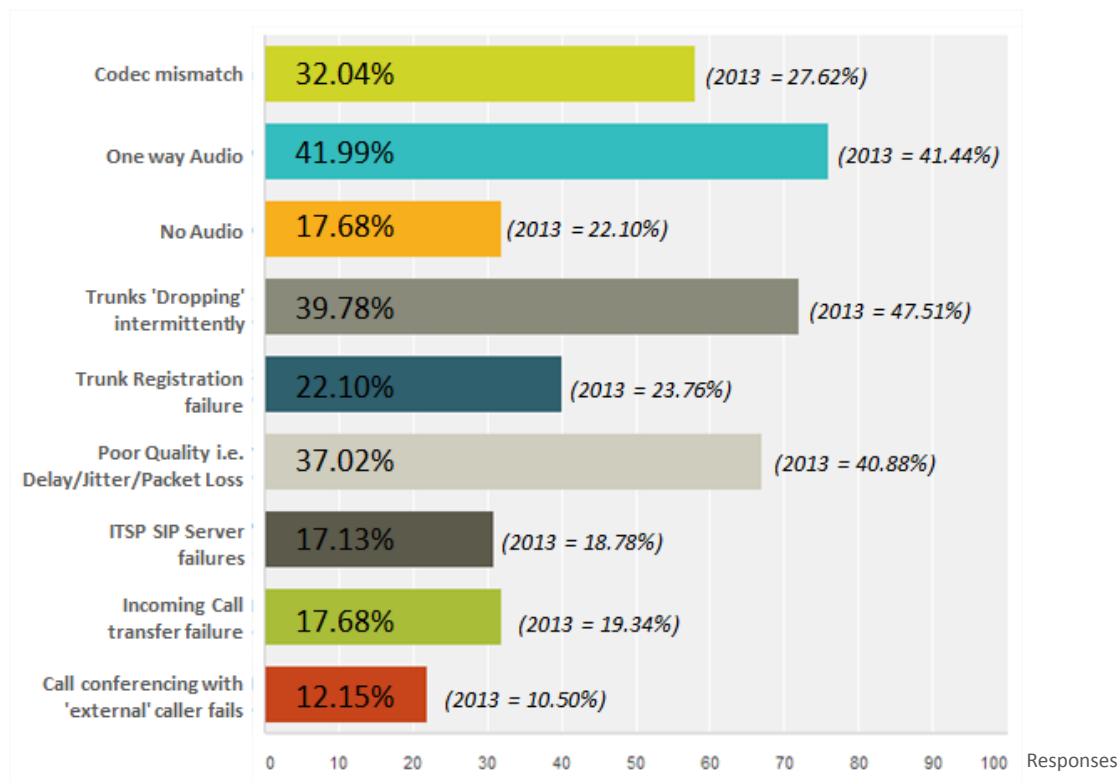
“Overall slight improvement over 2013 as SIP trunking providers become more experienced. PBX interoperability testing and configuration guides should eliminate most turn-up issues. What often happens are software upgrades and network rearrangements on either side of the network may cause call setup or routing problems.”

Robert Kinder, Cox Business

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



These items all highlight issues that can be avoided. For example ‘Codec mismatch’. If the ITSP supplies the client with all the settings it needs for successful service installation/setup then these settings can be put into the PBX/SBC configuration forms to ensure successful setup.

Provision of good documentation for clients to use re: any settings such as Codec, RTP rate, Port numbers, DNS address, Specific IP addresses etc. etc. should ensure a really good chance of getting the service up and running without issue. BUT, even if great documentation is available how can it be guaranteed that it is used and read as sometimes people just want to install and run to the next job? We all know that ‘rushing’ is a dangerous game.

Also:

Craig Gironda, ShoreTel comments on this “I see many issues with companies who order SIP trunks without checking for compatibility before they order.”

David Leon-Guerrero of Cox Business adds, “The challenge for a successful turn-up is more about process and support vs. the technology being poor.”

“Codec mismatch/one way audio are indeed the biggest volume generators for support cases. It is also critical to configure CAC based on your environment needs. An avalanche of calls, more than the box’s capacity or your BHCA studies is a major concern in a SIP environment, and everyone should re-visit CAC configuration to ensure it takes into account the ever changing SIP Trunking environment.”

Hussain Ali, Cisco

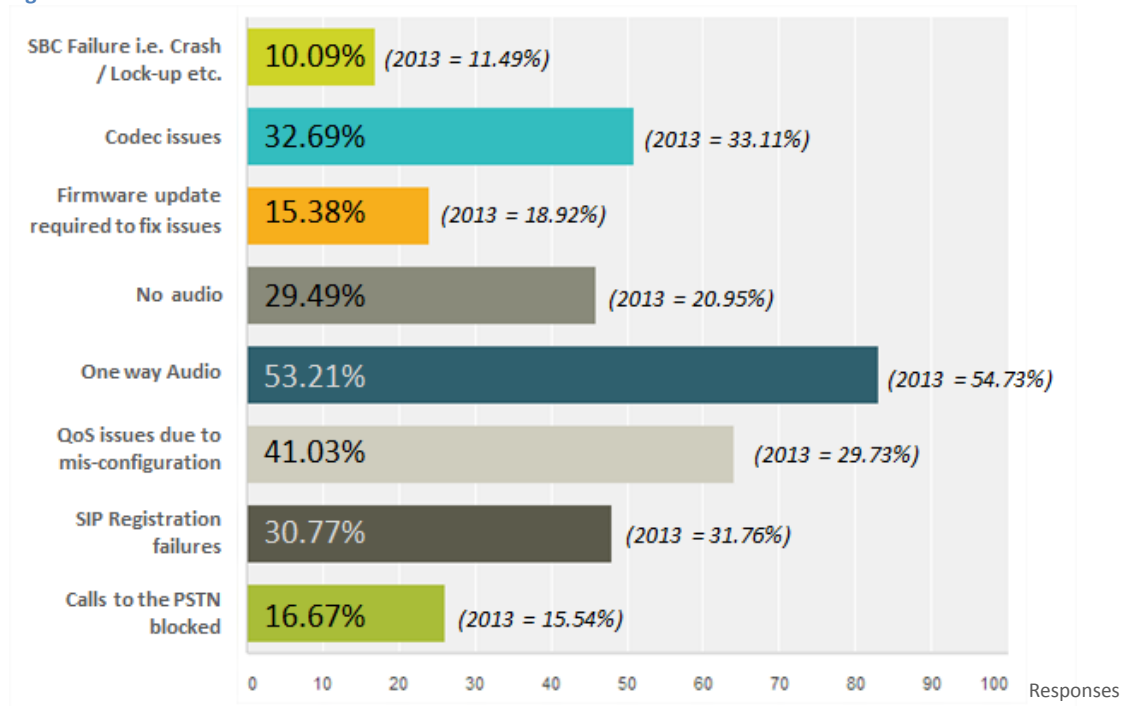
“Again, the SBC resolves most of the listed issues, especially the one-way media concern which is directly related to NAT and firewall traversal. This shows up in over 50% of the answers and points out the strong need for an SBC at the enterprise edge.”

Steve Johnson, Ingate

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 is still the biggest issue here and fixing ‘one way’ audio is one of the (many) reasons people actually purchase an SBC, so why the problems? Misconfiguration probably...

‘Codec issues’ is still too high and I will repeat that this is something that shouldn’t really be a major issue 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.

Still, ‘SBC failure’ results are quite concerning as a device with such a fundamental role on the network should not crash or lock up. Again, test thoroughly and work with the manufacturer closely to see if there are any known issues with products before you ‘leave’ the testing cycle and also be extra careful afterwards when needing to apply updates to an ‘active’ system.

Regarding SBC failure, Hussain Ali has made a good point about CAC (Call Admission Control) in the sidebar. Keep this in mind.

“Maintaining interoperability with PBXs is a challenge for SIP trunking. It is also a major cost and time to market barrier for carriers to assure interoperability with every PBX model and version they support for their SIP Trunk service. An issue at one enterprise can impact another enterprise.

**Ashish Jain,
Genband**

“There’s a mix of both symptom and cause here. E.g., if I have one-way audio because of a codec mismatch, which do I select? What about if I have trunks dropping intermittently because of registration issues?”

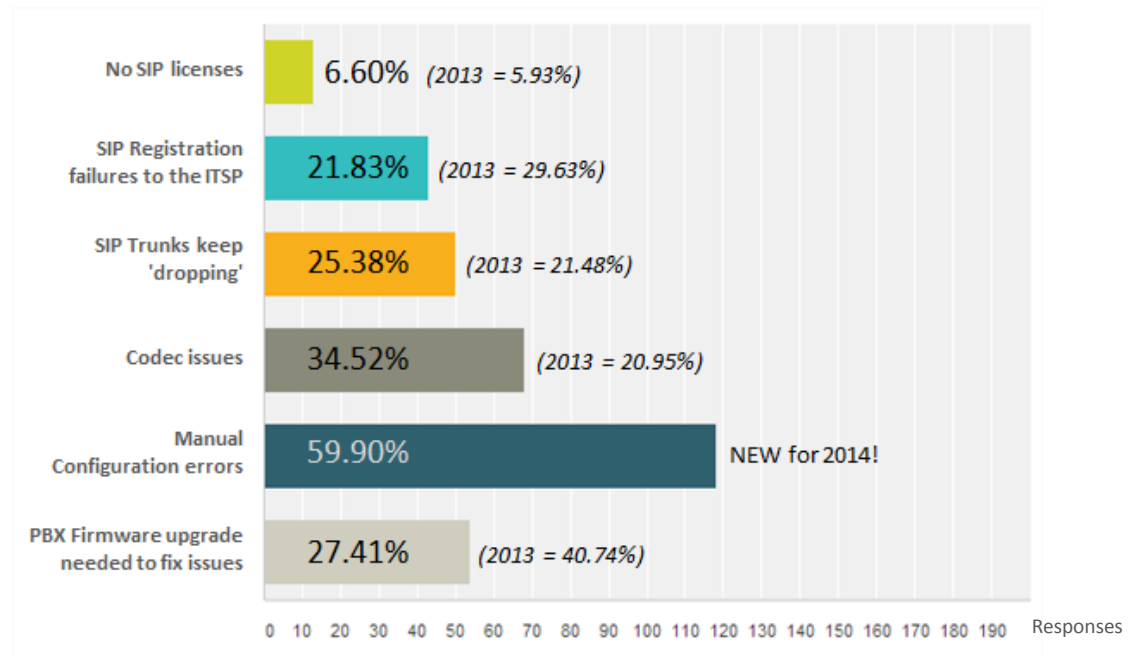
Eric Newton, AT&T

*(Editor’s note:
Good point Eric
and something
people should now
bear in mind when
looking at the
responses)*

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



As ever, it’s always frustrating to get problems but it should be easy to sort out the majority here?

- Upgrading firmware: This figure has fallen dramatically and may be down to code bases / SIP stacks maturing?
- Codec issues: A big rise for this year, probably mismatches again. Check settings early on to avoid this problem. Maybe in the future SIP trunk ‘registration’ could take a leaf out of the WebRTC book and specify (somehow) that there should be auto negotiation of codecs i.e. Opus or G.711 (as 1st choices) and manual override if something else is required i.e. G.729. Difficult to achieve?
- ‘No licenses’ has risen again? Why? Simply ask the vendor how many (if any) you need and then purchase them. Then activate them, of course...

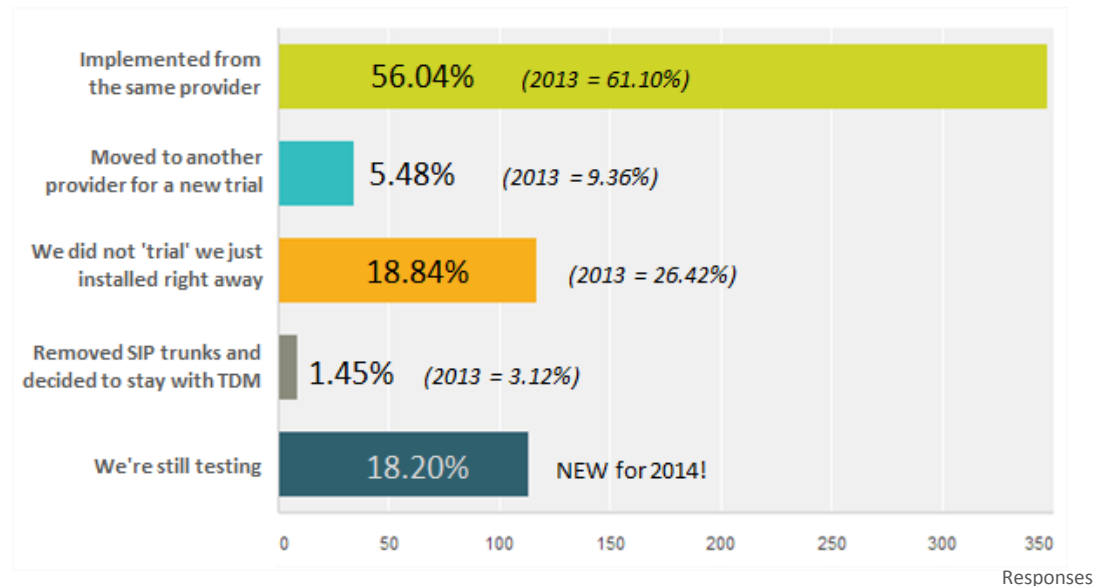
We added the ‘Manual Configuration errors’ option this year for the first time and look what came out with the biggest percentage! Us ‘humans’ have a lot to answer for.

Now whether the configuration error is a typo, lack of knowledge, wrong information supplied etc. it’s all fixable. Training and good service documentation should ensure no issues with configuration or at least a lot less.

This next question explores 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



"Positive experience = more business."

Eric Newton, AT&T

"I agree with the findings – once the field trials or interoperability tests are complete that most customers will stay with that carrier."

Ron Zobell, Verizon

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.

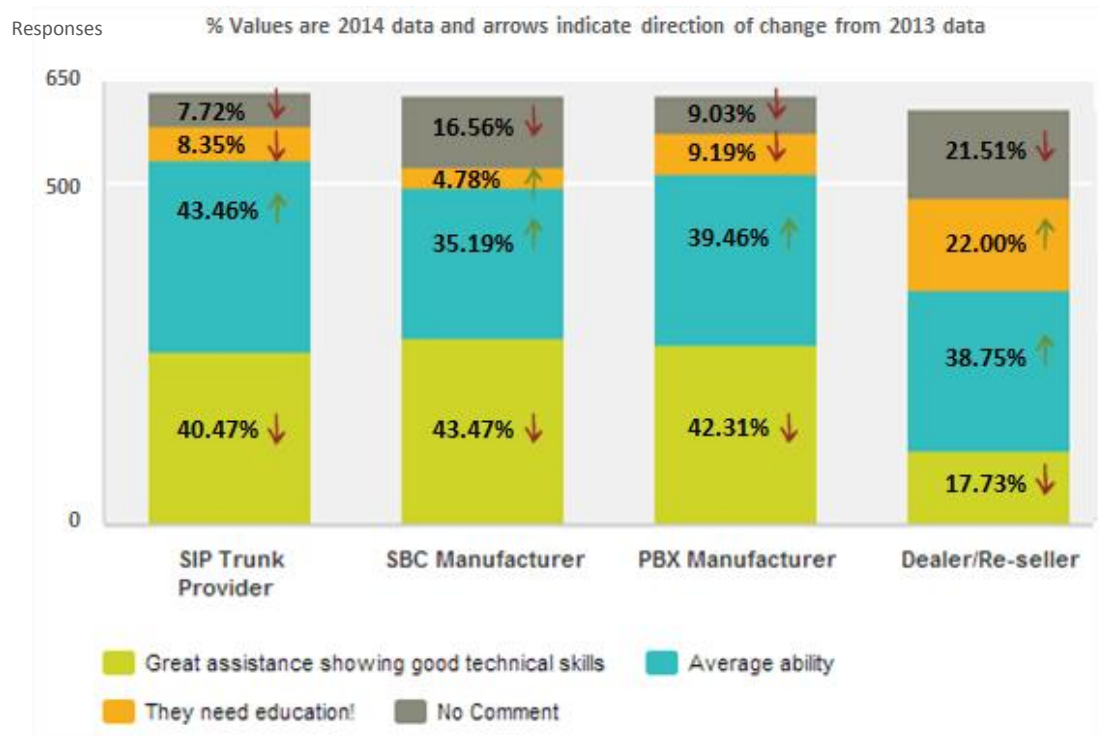
Seeing that 5.48% (down from 9.4% last year) decided to try another provider after a trial period indicates that they are committed to the move to SIP trunking it's just that they haven't found the right partner yet.

Bravo, but be careful (I say). 18.85% jumped in feet first into the world of SIP trunking yet I continue to think it is usually the best policy to trial SIP trunks before committing to any kind of contract and then finding issues later (due to your 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



"Resellers are not getting the message. They either ignore their shortcomings or choose to remain ignorant. Maybe the resellers would get the message about improving their support if the justification was based on truck rolls and labor costs that could be reduced with better training."

Gary Audin, Delphi Inc.

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 yet again pretty poor and as they are (sometimes) the company 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 - it is customer experiences and perceptions that can win or lose business regardless of where the fault actually lies!

“HD audio and FAX over IP work fine for SIP-to-SIP calls but require transcoding for compatibility with TDM endpoints and the PSTN. FAX over IP implementations vary significantly requiring interoperability testing.

TLS/SRTP is mostly used today for securing calls within the customer’s enterprise network and Internet (BYOB) SIP Trunks. It doesn’t add much for trunks with a facility-based managed network provider except to secure the IP WAN port handoff at the customer site from an internal eavesdropper.

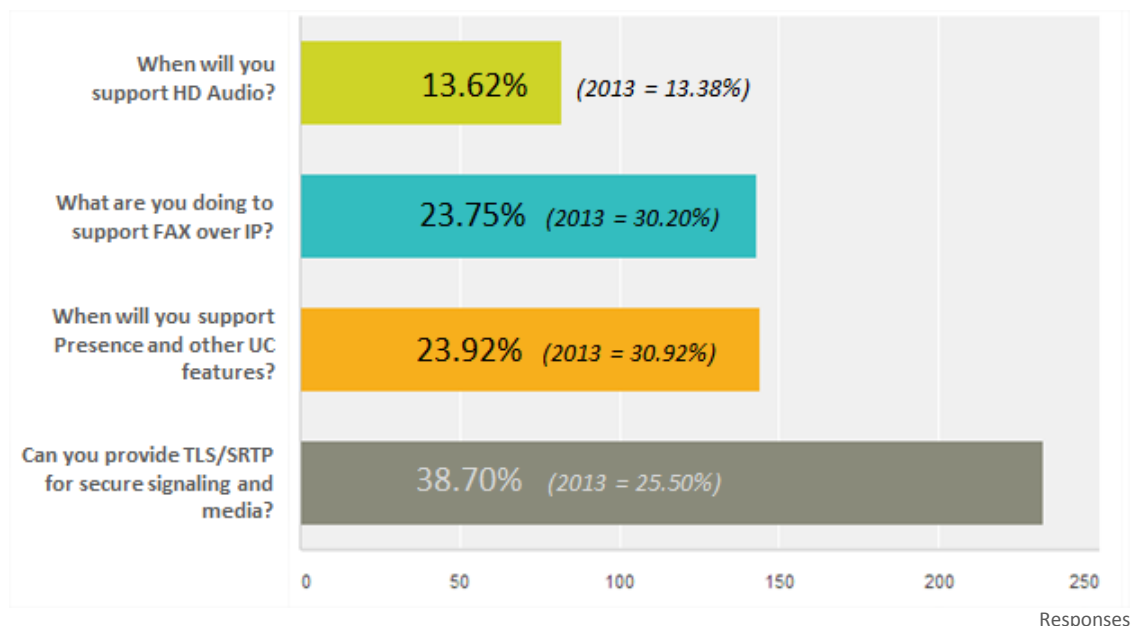
. TLS/SRTP will really shine with the PSTN transition from SS7/TDM to SIP/IP.”

Robert Kinder, Cox Business

Let’s take a look at what people are asking for from the ITSP for the (not to distant) future.

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

Figure 13



‘Support for HD Audio’ is the much the same as later year yet both Fax and UC requests have fallen. I think that these are desired services though Fax over IP is still a service that not all ITSPs are providing.

The fall in the Fax / UC numbers (in this survey) are most likely related to the large increase in requests for secure SIP trunking services. Maybe the need for security has been emphasized even more since the disclosures relating to the NSA though people should not be reactionary, they should build a security strategy to support the business strategy where good security practices will allow the business to operate and grow whilst being protected against a wide range of threats.

I do want to mention one comment from a responder that we think would be a great help to all.

“When will you support SIP Profiles to match each PBX manufacturer's configuration?”

Although this is a tough one for ITSPs to do, providing setup guidelines for their service with each PBX / SBC manufacturer they support (not just the ‘majors’ such as Avaya, Cisco etc.), would surely mean that problems are less likely to occur.

“All three responses are equally important. Folks just copy paste the manufacturer’s config and things work. Now when it is time to troubleshoot, basic understanding of SIP stack is critical and most folks lack it. This is where the SIP School comes into a critical role. Basically, gone are the days where Telecom engineers truly knew up to the wire level of what is going on. Nowadays focus is configure, it works, I am out of here.”

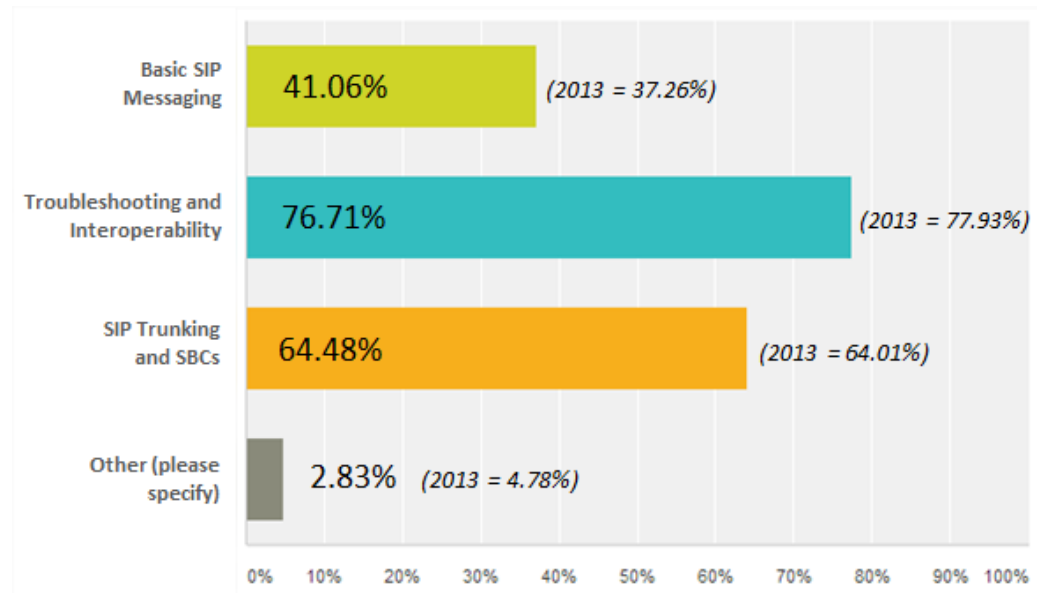
Hussain Ali, Cisco

“Those percentages reflect the reality I see on a daily basis where customers, engineers, VARS, etc are in need of basic training on SIP or further deep-dive training on SIP to perform troubleshooting.”

Joe Alice, Verizon

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

Figure 14



Based on last year’s survey we’ve embellished all areas of the program. If you visit ‘The SIP School’ website at www.thesipschool.com and click on the ‘News’ menu item, you can see all that we’ve done there. Lots on SIP Headers, Mobile clients, Codecs, Assured SIP, ICE, Hosted SIP, Testing and Troubleshooting etc. as well as our big release of the WebRTC School during 2013. It was a busy year.

With the results looking like they do this year, people will be pleased to know that there is a lot to come in these areas before the year is out.

“Most hacking occurs through the customer’s data connection to gain access to the network and computers. Businesses should deploy firewalls/SBCs, anti-virus/malware and educate employees on security conscious practices. Also consult with the PBX manufacturer or VAR for security hardening recommendations.

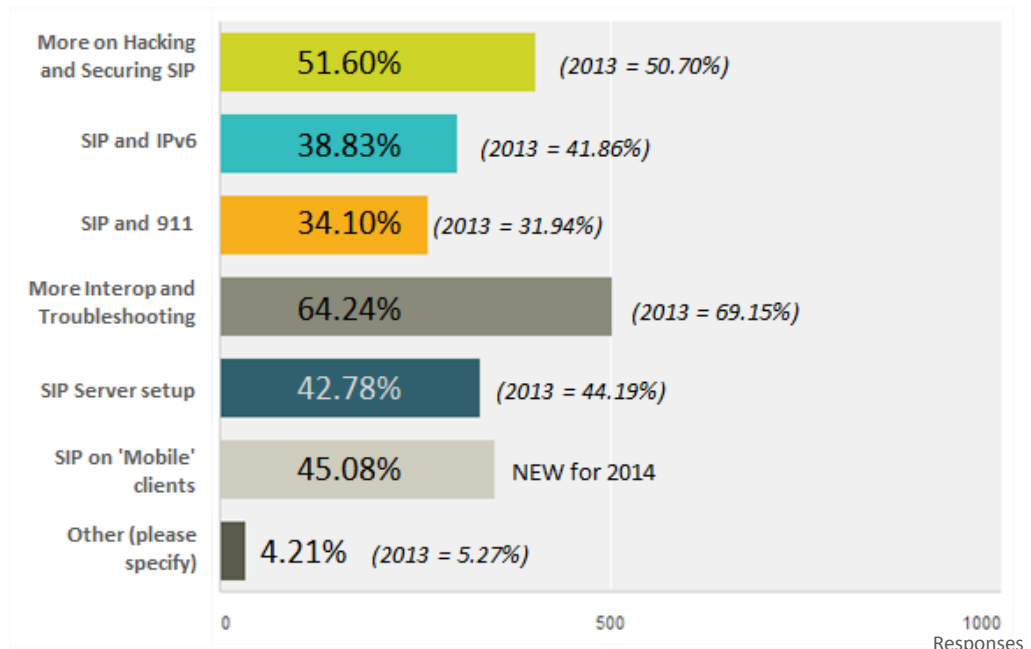
“More on Interop and Troubleshooting / SIP Server Setup / Mobile Clients” – Service Provider interoperability testing with the PBX manufacturer is the most effective means to identify, resolve and document supported configurations and troubleshooting techniques. It’s best to discuss upgrades with the service provider to identify potentially service-impacting changes.”

Robert Kinder, Cox Business

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 is our ‘yearly winner’ and of course we’re always adding more into the program to reflect the needs here.

Interesting how SIP & IPv6 has fallen and I remember that last year I asked if anyone knew of an ITSP offering SIP trunks over IPv6... Not one response. Is that still true?

‘SIP on Mobile clients’ is a new question where the responses show there clearly is a need. As we have added config/examples for the iPhone, iPad and Android devices I think we have ‘ticked that box’.

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

"Many IT managers struggle with the transition from TDM to SIP trunks. They may need to brush-up on the protocol as they prepare to implement the new demarc. The SIP School provides a good complement to Oracle's own customer education services."

Carl Blume, Oracle

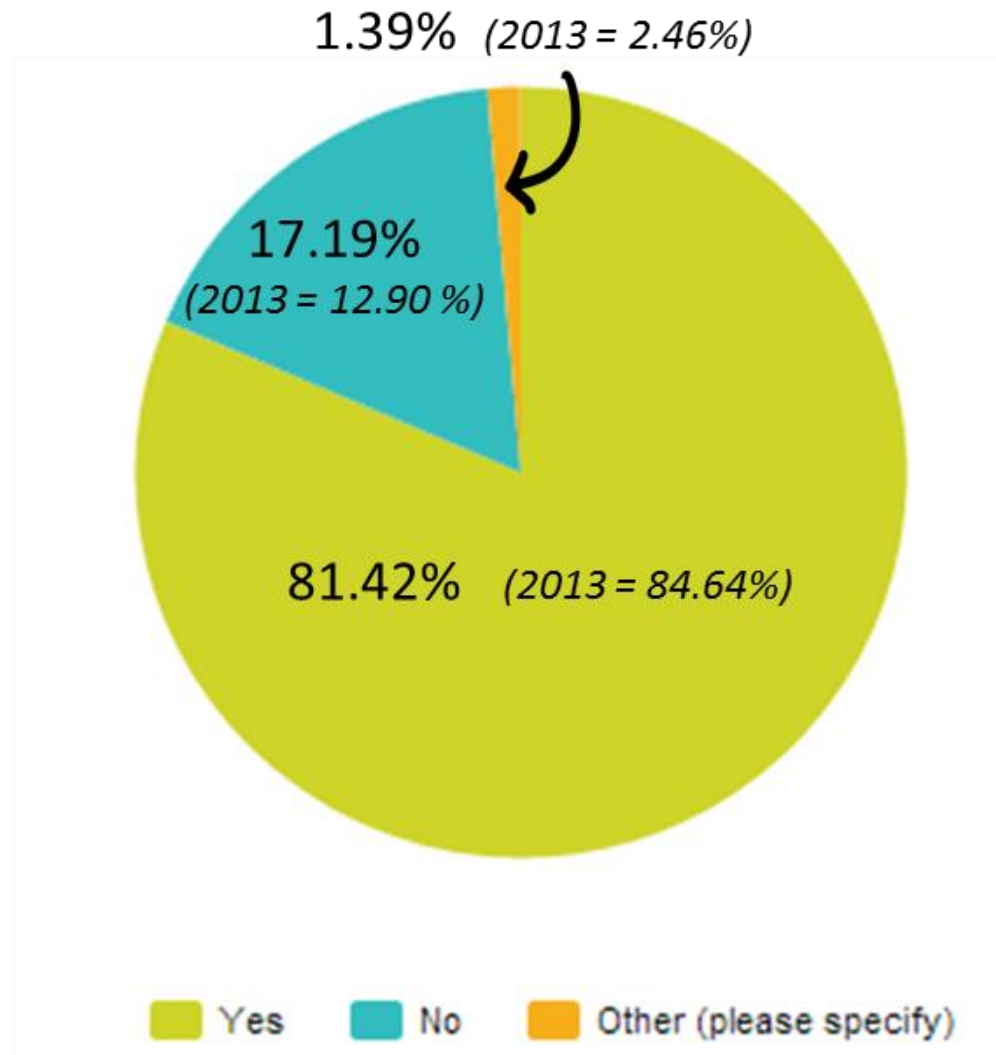
"I agree that having a SIP certification is essential for manufacturers, carriers and the customers IT staff (lack of a better word) with VoIP and all of the open standards (RFC's) that set the rules. Once the rules are understood then all of the nuances and interpretation of a particular RFC by the different players can be discussed and hopefully remedied during the field trial or interoperability testing."

Ron Zobell, Verizon

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

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

Figure 16



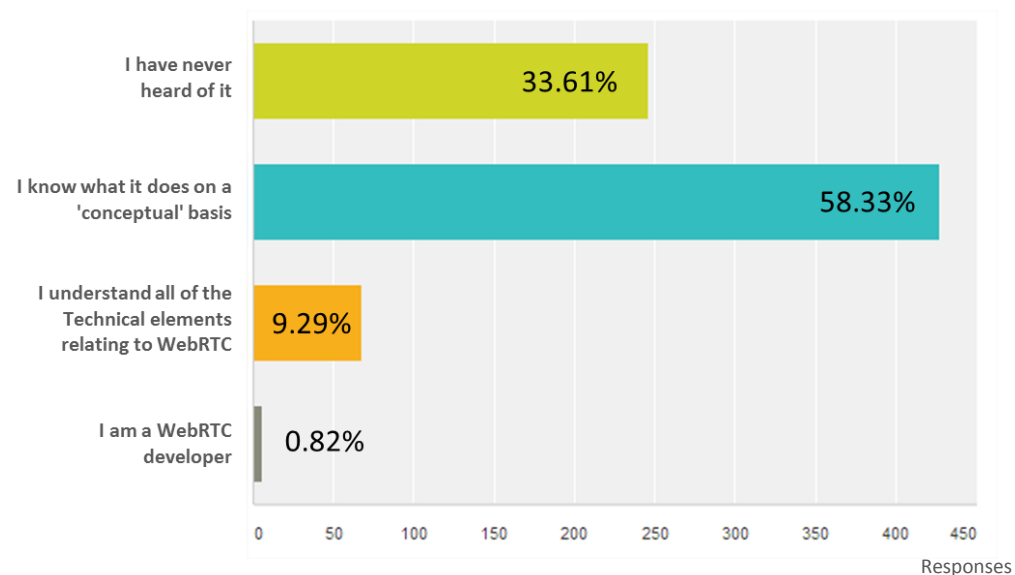
Small changes from last year but still with over 80% of people saying yes, it indicates that having a standard certification to aim for helps students strive to attain the certification that industry recognizes.

But hang on, this is not over yet!

WebRTC is the topic of the moment and is generating so much buzz in the Telecom world as well as it's intended 'Web' world that we wanted to ask a couple of questions to get a general 'feel' for what people are thinking.

Q17: What do you know about WebRTC?

Figure 17



WebRTC is a BIG new noise in the world of communications yet there are still many people out there who work in Telco that have never heard of it.

It is good to see that over 50% understand what the 'idea' of WebRTC is because they then have it on their 'radar' as the specification develops and more applications become available. It's also a really good time to start 'playing' with WebRTC to make sure that when your company is ready to work with it with clients you are not starting from scratch ... Build your experience up now...!

Some great resources for learning about WebRTC we like are:

Blogs: <http://www.chriskranky.com/> and <http://bloggeek.me/>

Book: <http://www.webrtcbook.com/>

Conference: <http://www.webrtcworld.com/conference>

Training: <http://www.webrtc.school.com>

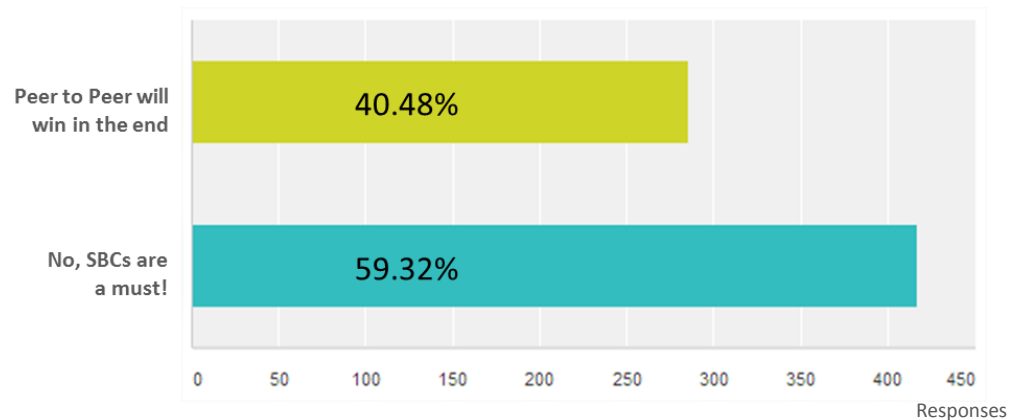
“The last question is the tricky one. It shows that people don't really understand WebRTC as much as they attest in the previous question, or that their world-view and use cases are narrowed down to Telecom. Probably both.

My own belief is that most of the interesting use cases of WebRTC won't need an SBC and won't be part of a world that has SIP trunking (or SIP) in it. SBCs in such a case are useless for it.”

Tsahi Levent-Levi,
BlogGeek.me

Q18: Do you think WebRTC will be 'allowed' to flourish as a Peer to Peer technology or do you think it will follow the same path as SIP and require multiple intermediary devices such as Session Border Controllers to work?

Figure 18



This is a revealing question where the answers will shock / disappoint the WebRTC purists.

SIP was initially developed as a Peer to Peer protocol yet time has shown that varying implementations of SIP services has required the use of SBCs in order to normalize traffic, provide support for NAT traversal, transcoding etc. etc.

WebRTC can be a 'pure' Peer to Peer play that the existing Telco world needs to understand doesn't need any intermediary devices. SBCs will come into play (providing lots of Gateway functionality) when WebRTC sessions need to include services / devices running other protocols such as SIP, Jingle, XMPP as well as non-WebRTC (recommended) codecs. WebRTC utilizes Opus for Audio and VP8 for Video (though the standards bodies are still 'discussing' video codecs).

At this early stage with so many people expecting to have to use an SBC, will this hamper WebRTC's Peer to Peer model or will the sheer volume of WebRTC implementations over the web start to bypass the need for SBCs as all communications move to the Web over time?

Here is another comment that everyone should really think about and remember when looking at and talking about WebRTC. Serge Lachapelle of Google commented during the 2014 WebRTC Global Summit; “WebRTC wasn't created with Telecom in mind. Neither was it created with UC in mind. It was, and still is, about the web”.

These indeed are, interesting times...

Wrap up

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.

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.

It should be noted that the SIP Forum is starting work on the next version of the SIPconnect recommendation (version 2.0). This will be a really important update to version 1.1 of the document and I urge all those involved in SIP to take a look at what's happening - even get involved in helping to 'shape' the new recommendations.

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. Survey responses 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?

The market is also changing quickly with smaller companies merging and being 'absorbed' by larger organizations, along with the 'giants' of the industry finally coming to market with SIP services.

If you are 'looking' for SIP trunking services then you need to decide who can deliver exactly what you need today as well as being around in the short / long term to continue to deliver these services – not an easy thing to predict with such market activity at the moment.

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 Verizon, connecting to an Oracle 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 TDM services 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 (Vocale Ltd is also the owner of the WebRTC School). 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 19 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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