

The SIP Survey 2012

Wednesday, May 23, 2012



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

Last year, The SIP School™ carried out a survey that resulted in responses from over 400 industry professionals from around the world and this year we decided to run it again with almost 500 participants getting involved. The biggest response was from the USA with 50% of people originating from there.

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.

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 and most talked about 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) along with being a platform for carrying Unified Communications across boundaries to create a working environment that could never have been dreamed of using older technologies.

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.

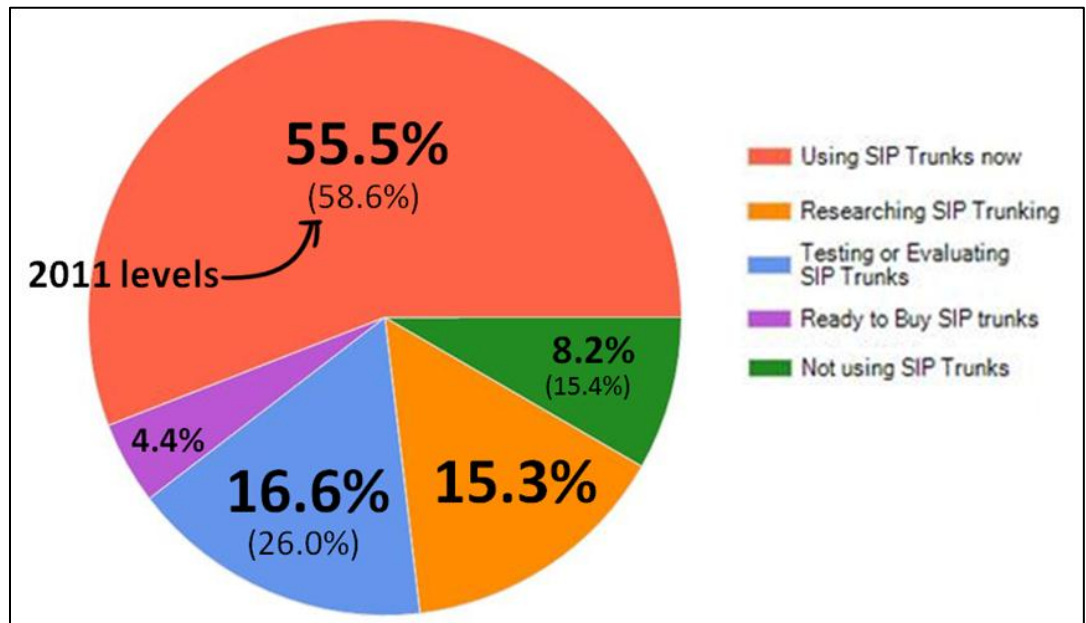
Note: The SIP School does not formally recommend any one provider or product as we are a friend and supporter of all who are involved in the world of SIP and VoIP.

Now, let's get down to business and onto the Survey.

The first question is probably the most obvious to ask but we asked it anyway.

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

Figure 1



"Growth in SIP trunking is now maturing in the IT Organization (ITO) more than ever before; we see this trend due to centralization and virtualization where ITO architecting and optimizing call flow solutions where the risk is not massive and yet brings lower risk to the ITO stakeholders."

Sam Mansour
Mitel
NetSolutions

As you can see in [figure 1], the results indicate that organizations are embracing SIP Trunking with only 8.2% of respondents saying that they are not even testing them.

Here is a breakdown of all respondent locations.

- 50% **USA**
- 6% **UK**
- 7% **Canada**
- 37% **Other**

There are many reasons for not jumping on board the 'SIP Trunk train' including being tied up in existing provider contracts but nevertheless, having almost 72% of respondents using or at least testing SIP Trunks gives the following answers real meaning and food for thought.

“Good to see larger companies continuing to embrace SIP. However, as a percentage, enterprises have adopted VoIP/SIP at a much higher rate than SMBs. However, as a target market, they are much harder to close and demand greater support.”

David Byrd
Broadvox

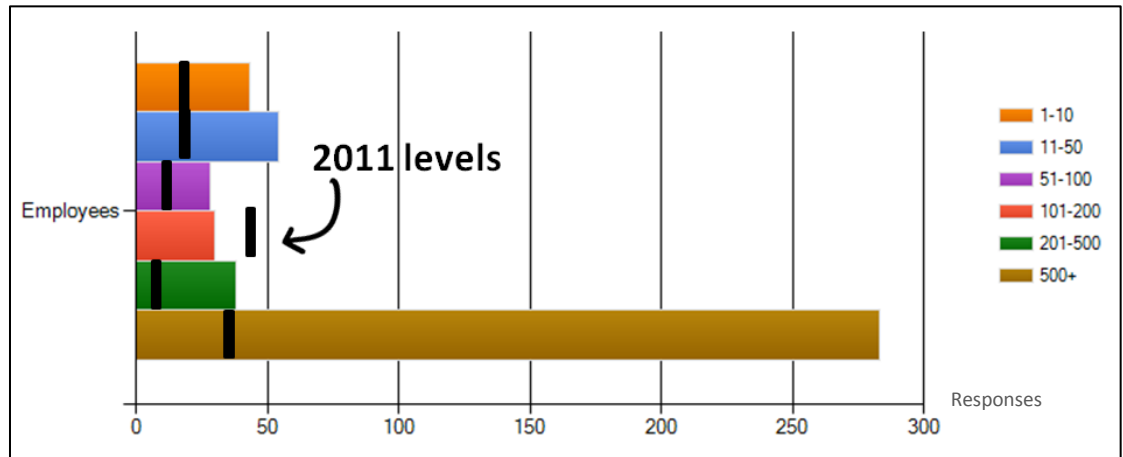
“We’ve seen that larger and denser enterprises see much more value in SIP Trunking than smaller ones; usually drivers such as centralization/virtualization, datacenter consolidations, growth within geographical presence or virtual, footprint, technology modernization and cost improvement.”

Sam Mansour
Mitel
NetSolutions

In order to understand more about the organizations who the respondents work for, we asked the following questions about employees and locations.

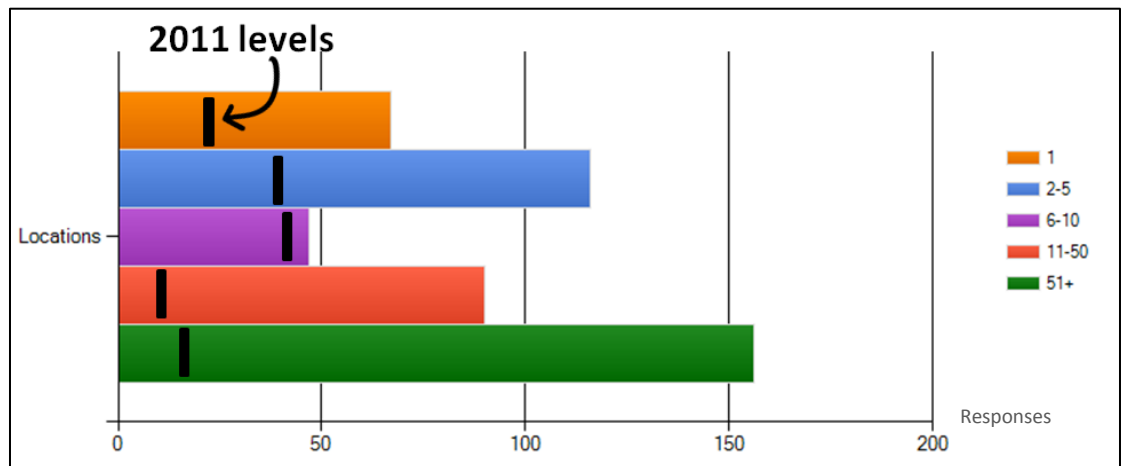
Q2: How many employees are at your company?

Figure 2



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

Figure 3



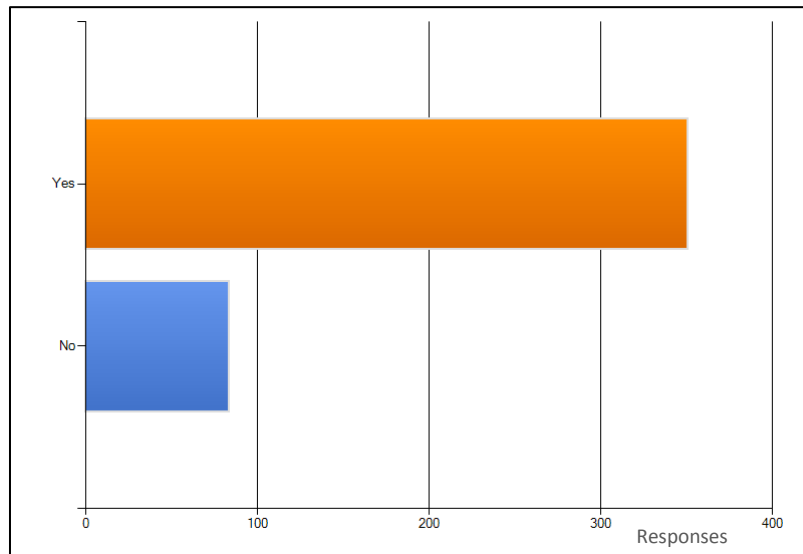
This figure literally ‘blew us away’ as the change from last year is striking. Could it be because we made the question mandatory this time around?

Anyway, it shows that its companies of such size that have been the ones to adopt / test SIP Trunking as a serious alternative to TDM lines even though the SME/SMB client has been the one that industry thought leaders and market research organizations (through various reports/blogs/news sites) has often been cited as the prime customer for SIP Trunking.

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



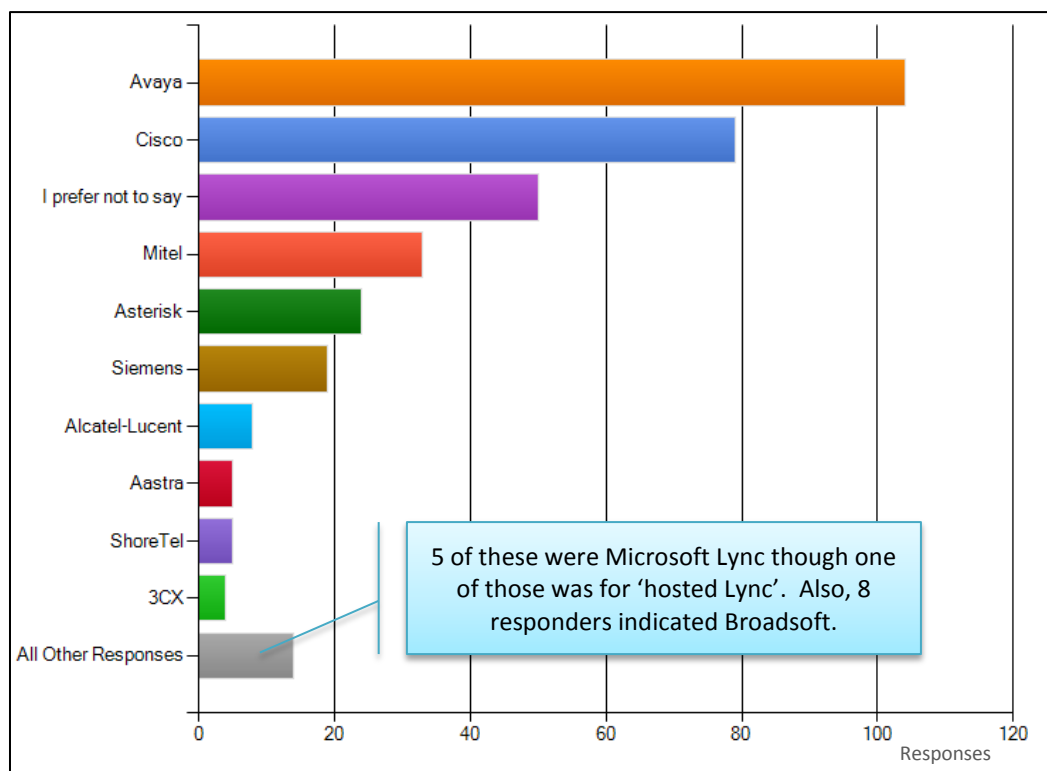
"There are some surprising results in the survey. For example, it is interesting that Avaya has overtaken Cisco in terms of the number of respondents with their respective PBXs. I would have expected Shoretel to have a bigger market position than they appear to have based on the survey. And I'm surprised that Microsoft Lync did not show up."

**Steve Johnson,
Ingate**

So then the next logical question had to be related to the manufacturer.

Q5: Who is the manufacturer?

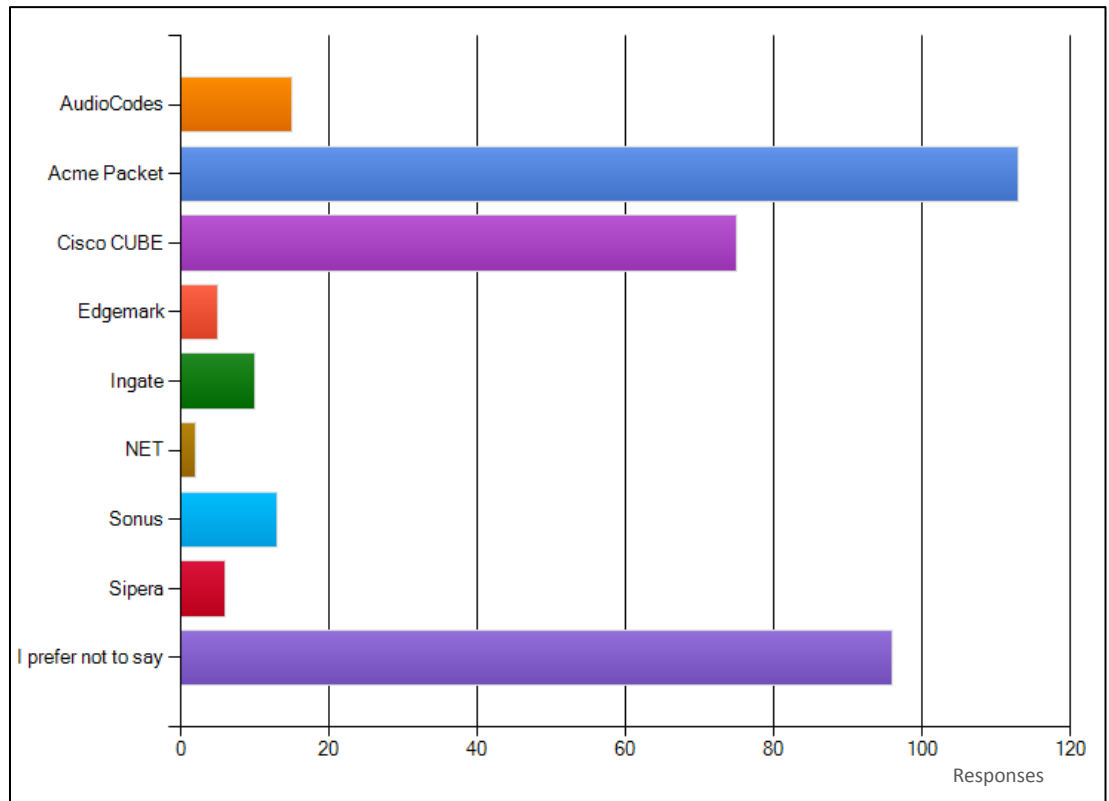
Figure 5



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



“Since an SBC is in part a security product, many of our customers have refused to participate in case studies or press releases because they don’t want to compromise the security of their communications in any way.”

**Steve Johnson,
Ingate**

These results reflect other reports on manufacturer installed bases so no real surprises here and no further analysis on this particular set of data. It will be interesting though to see how the adoption rate of Sipera grows as it becomes an Avaya product after its acquisition. Let’s check back on this next year.

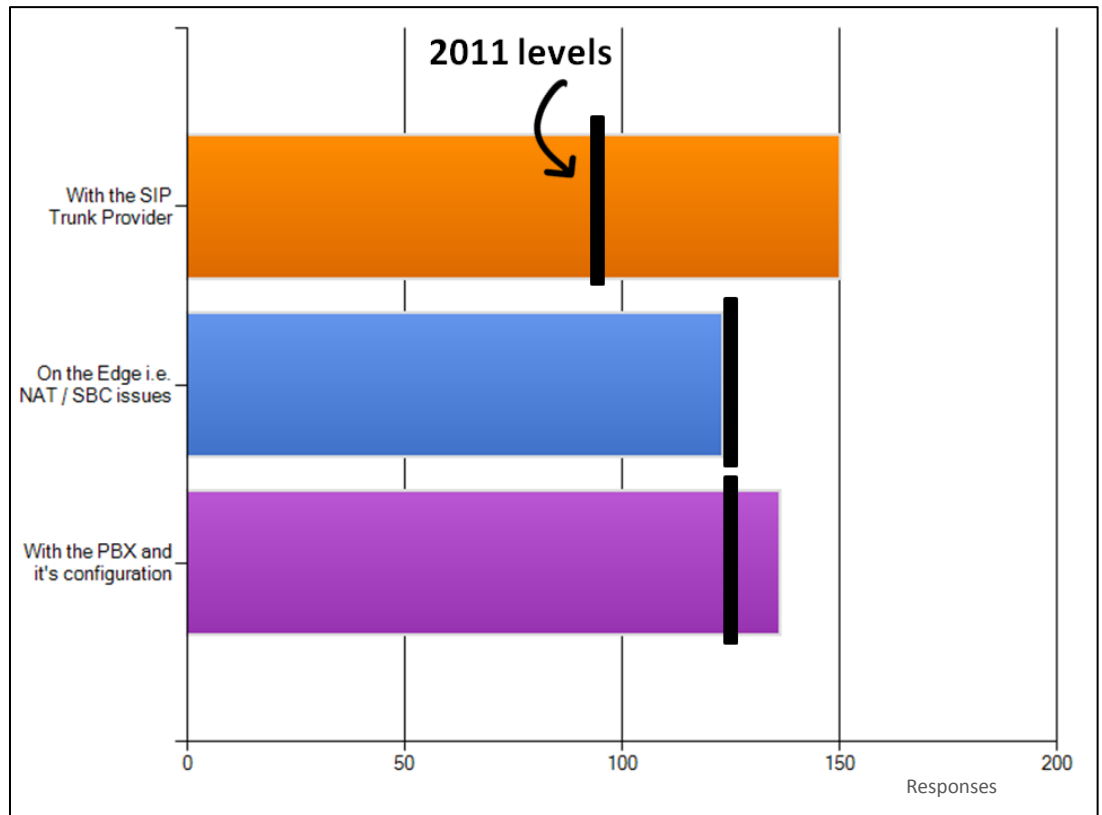
One of our ‘industry voices’ suggested that “Cisco is predominant because they are embedded in a router – Cisco shops sometimes find it easier to just order the cube software for their routers.” An interesting point and people should ensure ease of implementation should not override any specific security needs regardless of the SBCs being considered. We also like Steve’s comment in that why tell anyone (for this survey) what you are using as you don’t want to give any clues on your Security setup.

Now then, what we’re really interested in with this Survey is not so much the manufacturers involved, just the way in which SIP Trunking is implemented and the issues that tend to crop up the most.

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



Similar to last year it's pretty 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. It is interesting to see the rise in 'issues' that were attributed to the ITSP by those surveyed and we'll focus on specifics in a moment.

Of course none of this helps the client as uncertainty of where the actual problems lie can often cause a lot of 'finger pointing'.

Please note that respondents were able to select multiple options.

Now, let's look at the three elements in isolation.

"It appears that the providers are recycling the same mistakes. I would expect improvements across the board, not the results shown. I hope the providers read this survey."

**Gary Audin
Delphi**

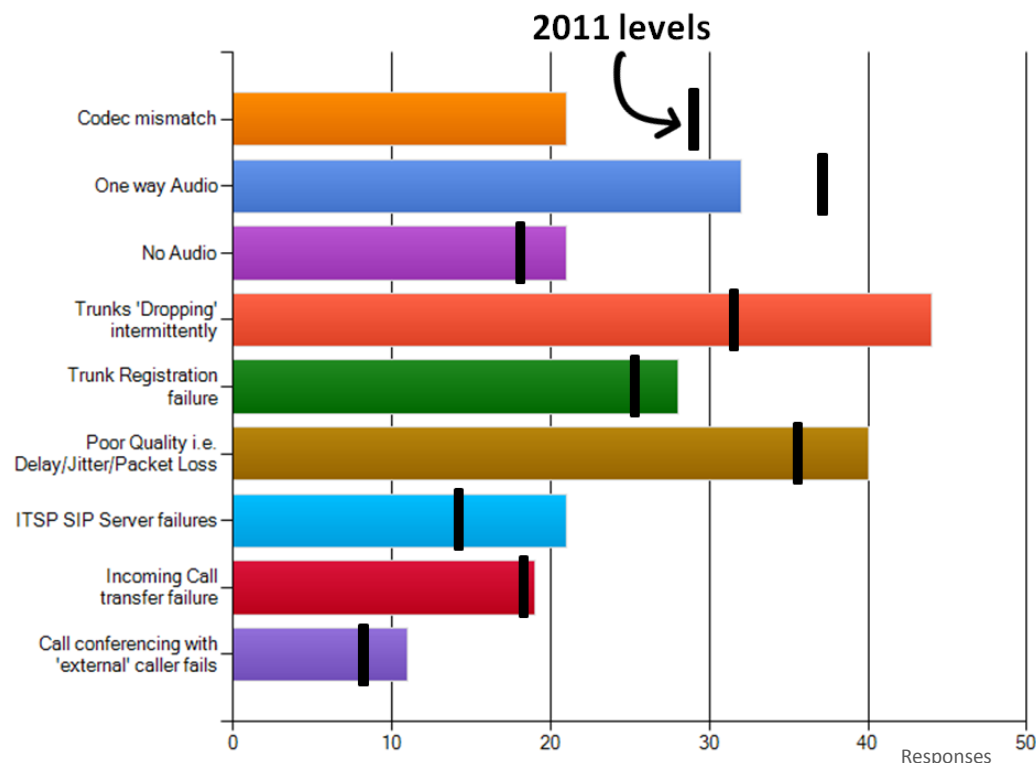
"Reliability of SIP Trunks continues to be a valid concern, which is why customers love the concept hybrid E-SBC / Gateways with TDM ports and survivability software as a back-up. The vast majority of our customers deploy SIP trunks alongside TDM trunks while they get comfortable with the technology and service provider reliability."

**Alan Percy,
AudioCodes**

We'll start with the SIP Trunks.

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

Figure 8



Anyone who's working in the VoIP industry today will recognise all of these issues but it's disappointing that they still feature strongly in the issues people are facing today and it's clear that these 'basics' are still not being tackled early on in installations so that they never become a problem. Looking at some of these issues;

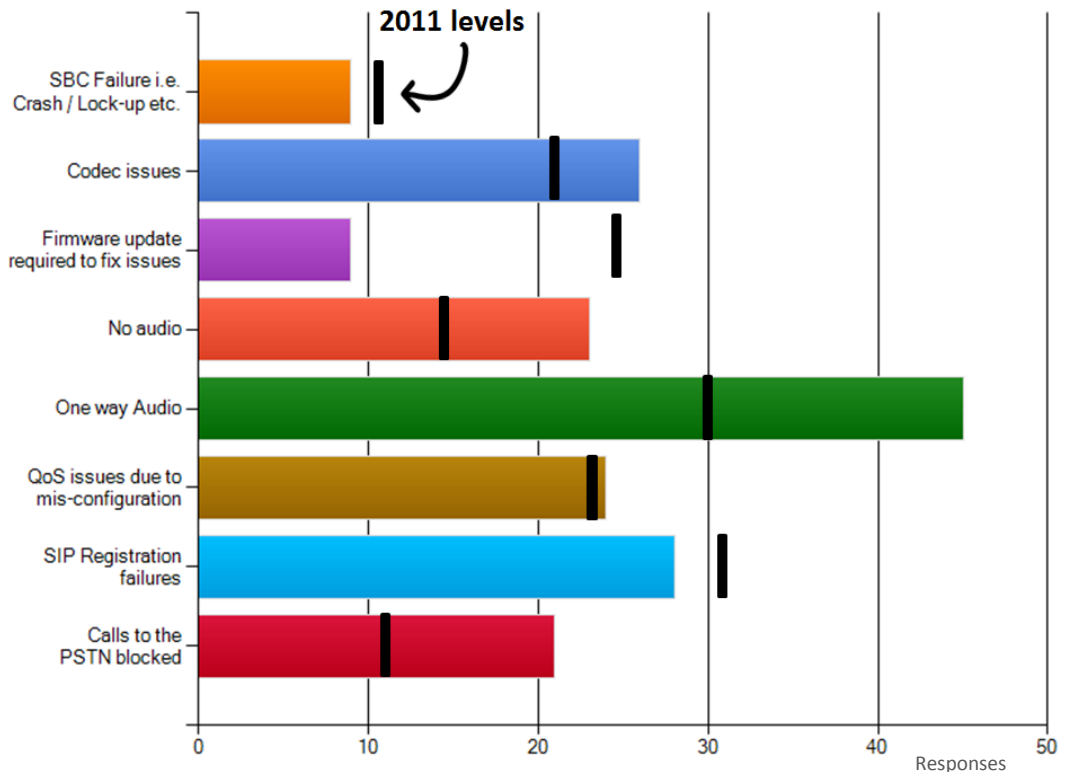
- Trunks' 'Dropping' intermittently is an issue that must be addressed during testing / trials as losing a call 'midway' is one of the most frustrating things to happen when talking to a valued client.
- Registration failures: These are usually account issues such as mistyped passwords and ITSP SIP Server failures is not something that is good to see on the rise.
- 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?

As said last year, let's try to work on these issues to bring the figures down in all areas for the Survey next year.

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 for example is most often the result of “NAT breaking SIP” which means that since SIP operates at the Application Layer and the NAT is created at the transport layer of the network, media often cannot reach the SIP device being used in the network because it’s private IP address is not routable outside the Local Area Network. One of the main benefits / functions of the SBC is to resolve that NAT traversal issue and to rewrite the header information so that SIP can reach those devices.

Steve Johnson,
Ingate

It’s great to see that Firmware updates were needed less to fix an issue as this points to products maturing.

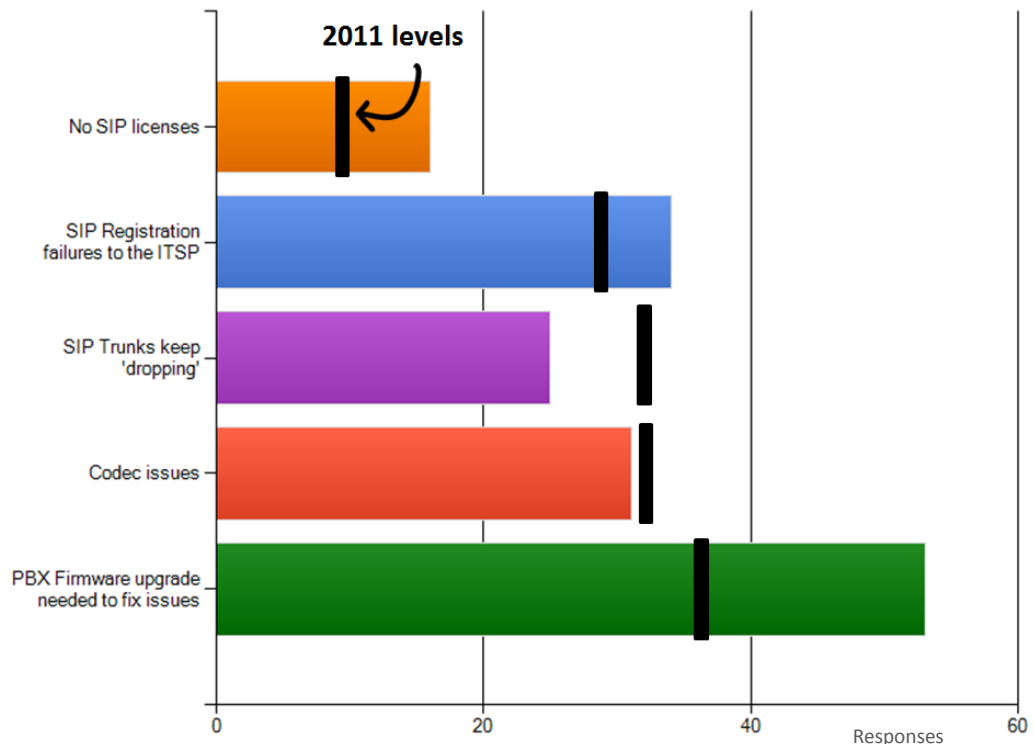
‘Codec issues’ is something that shouldn’t really be on the rise as people working with this ‘specialized’ equipment should have a good understanding of Codecs and be able to work with others involved in an implementation to ensure that Codecs are configured correctly and tested thoroughly.

Déjà vu strikes with the No Audio / One Way Audio with the rise in numbers being quite significant. This issue is featuring strongly and highlights the importance of testing the elements together before deploying. Results of such testing may even effect purchasing decisions of edge devices.

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



"What's interesting here is the SIP PBX firmware upgrades needed to fix the problem. We've found that certain PBX manufacturers are less willing than others to put out a fix."

**Mykola Konrad
Sonus**

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

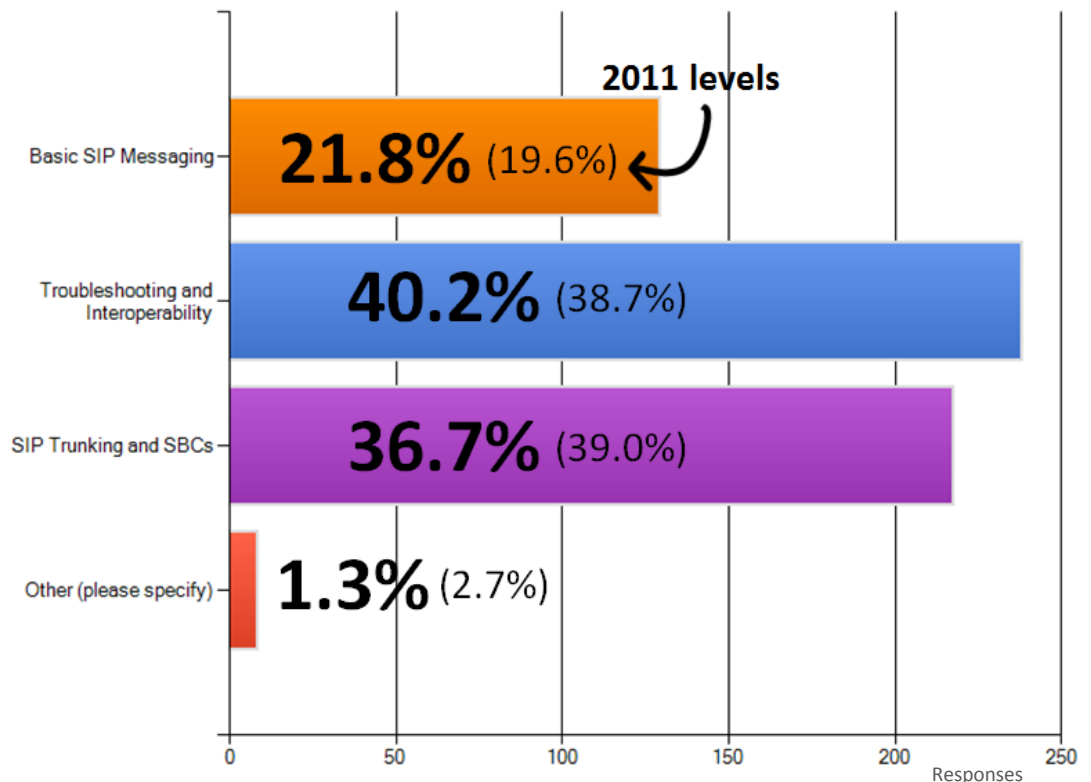
- Upgrading firmware: A big rise from 2011 is confusing. It is so easy to check with manufacturers first to see if there are updates for any issues that may affect SIP Trunk deployment and operation?
- Registration failures: Usually 'typos' and the figures show that people could be getting worse at typing!
- No SIP licenses: This is a frustrating issue and we said this last year, some PBXs need you to buy licenses and some don't. Check this out with your vendor or supplier before moving forward and ordering the SIP Trunks.

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.

We can see the issues from all the responses so far but for this survey we wanted to throw the issues back to the audience with another question asking where they think more understanding is really needed.

Q11: Understanding SIP is important, which most interests you?

Figure 11



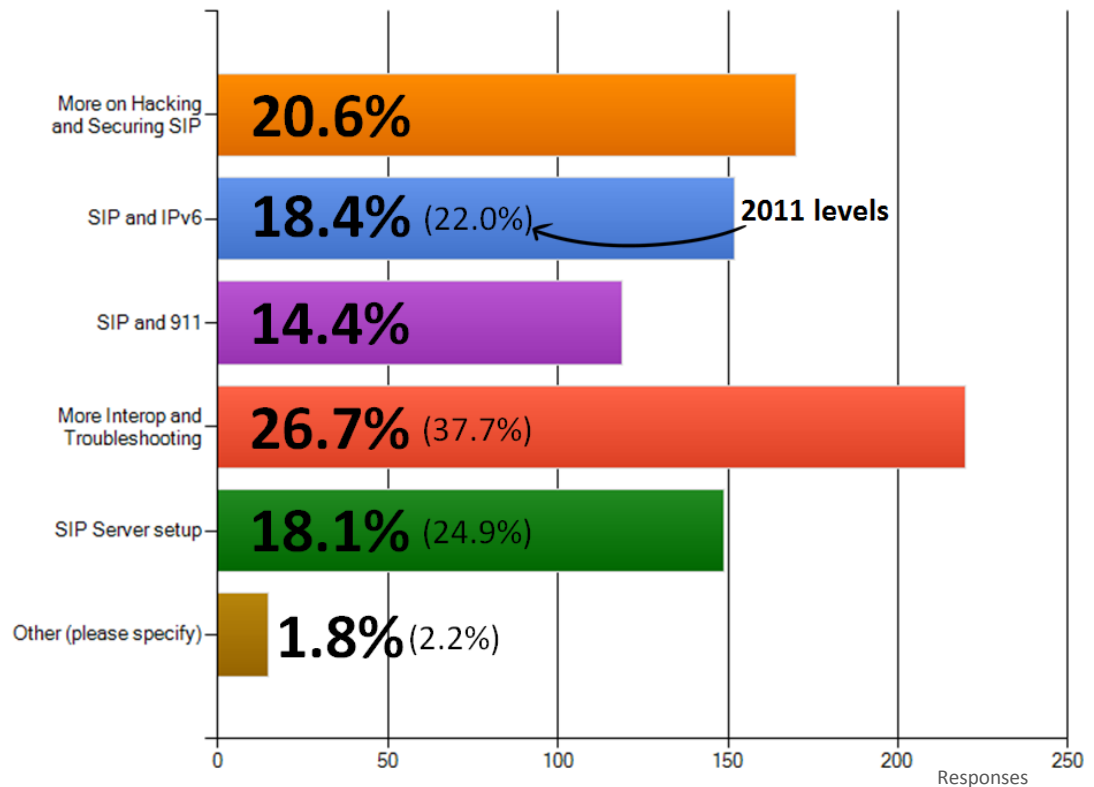
Not much of a change from last year and we have already (based on the 2011 Survey) further embellished our own training especially the section called 'Testing, Troubleshooting and Interoperability'.

Maybe we should provide 'even more' training on this as the figures show that the areas that most interest people are the same areas that we need to work on to ensure that SIP Trunks get implemented right first time. We'll keep this in mind.

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.

Q12: What would you like to see in our SIP training program?

Figure 12



"I would agree that Security is going to become more and more of interest."

Mike Uttley
Level 3

Again it's clear that Interop and Troubleshooting is something that interests people though it's good to see interest in emerging areas such as IPv6 and 911.

Secure SIP trunking is something that will be affecting the industry more and more especially as organizations such as the PCI start to ask that any traffic that carries credit card information and the like must traverse a secure trunk only. Ethical hacking is something that we have added an element of into the program as it's always a good idea to use the tools that the 'bad guys' do to see if you have any weak areas.

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

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"We find that vendors are typically very in tune with SIP signaling, providers being less so and resellers the least."

Mykola Konrad Sonus

"The VARs are a problem but it is hard to tell whether more education is needed and/or better more accurate documentation from the OEMs. In either case, the enterprise should really investigate the VARs and the specific assigned personnel's experience with the selected PBX, SBC and provider". The chart proves this point."

Gary Audin Delphi Inc.

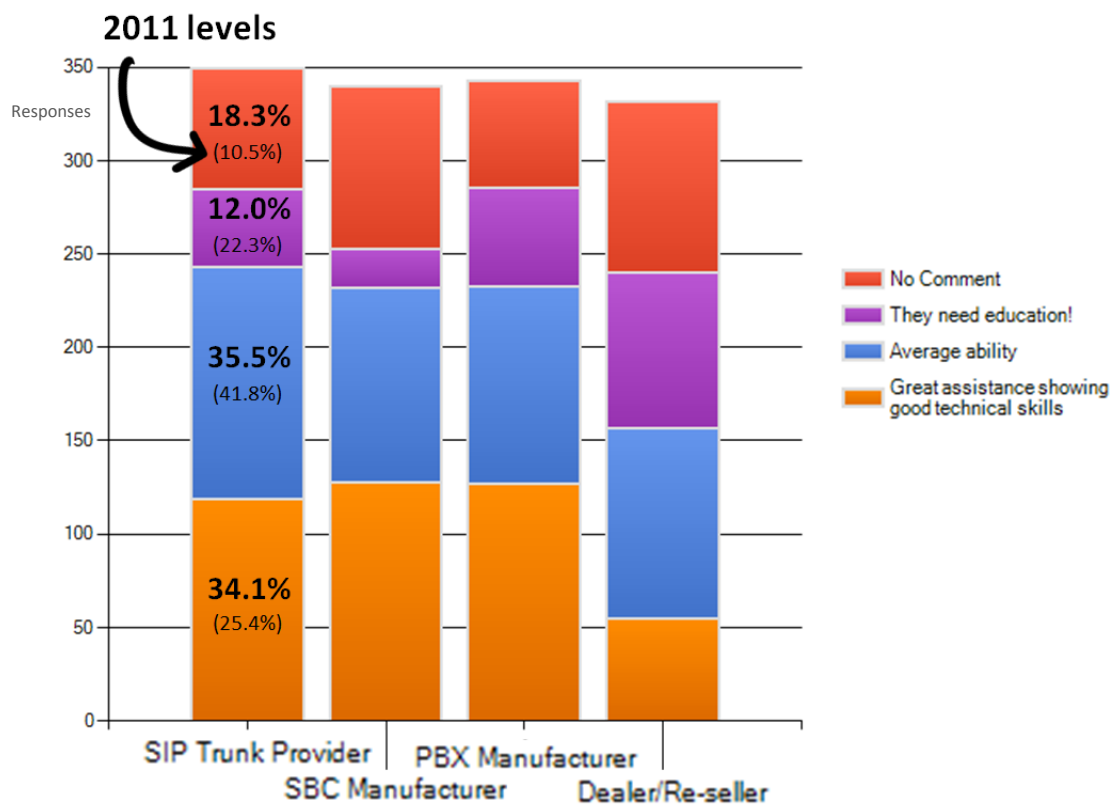
"It is good to see that the carriers have made an investment in training their staff that ranks better all the others (great + Average). I do see that "no comment" is higher than I would like. I would hope that is not a bad experience."

David Byrd, Broadvox

Let's move on a little here and focus on what happens when things do go wrong. Last year we focused on the ITSP only but this year we asked about all people involved in an implementation.

Q13: When things go wrong with the SIP Trunk provider and you talk to support staff, how do you rate their ability to fix problems?

Figure 13



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 and SBC/PBX companies as most respondents replied that approximately two thirds 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 pretty poor and as they are 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!

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"Fax support continues to be the bane of a SIP Trunking provider's existence. It is good to see the interest in UC a features. Finally, I am not surprised to see HD Audio last. Until we can offer it across networks and over the PSTN, buying such phones may not be the best use of CapEx."

**David Byrd,
Broadvox**

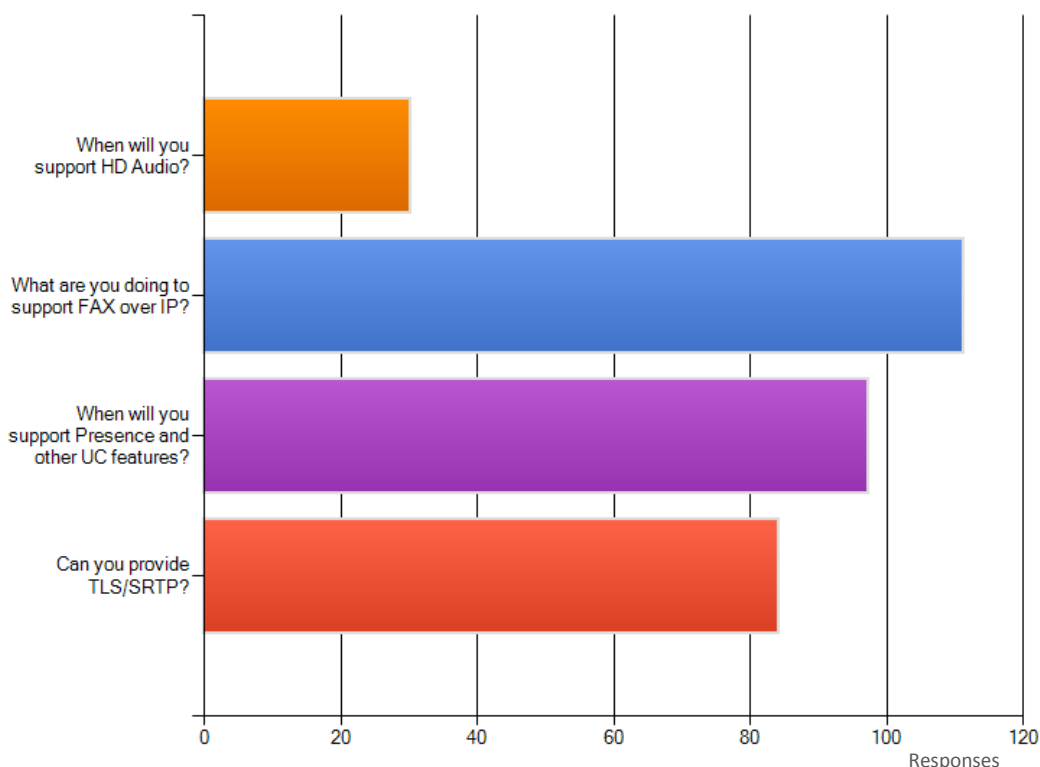
"There are many elements of current SIP Trunking networks that can be quite hostile to the sensitive nature of T.38 fax, which is why we've collaborated closely on this issue with members of the SIP Forum and invested in fax over HTTPS technology."

**Alan Percy
AudioCodes**

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

Q14: If you could ask one question of your SIP Trunk provider what would it be?

Figure 14



Fax over IP is something that has been causing issues and frustration for a while now and removing existing Fax lines should only be done once the client is completely happy with all testing that has been done using solutions such as T.38 SIP Trunks. Best practice documentation appears to be sparse when searching for help in this area though the SIP Forum and i3 forum will look to put that right with their joint effort started in 2010. The figures shown here do indicate that this is not a service that is widely available yet so will the figures reduce in next year's survey?

It's interesting that HD audio is the least requested in this list as who doesn't like the sound quality that you can get with HD Codecs?

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

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"The SIP School SSCA continues to be the preferred VoIP Certification we use to help develop all of our Sales Engineers knowledge in SIP. It has become part of our required training curriculum for all Sales Engineers. Many have commented that this is one of the best courses they have ever taken in their careers."

Mike Uttley
Level 3

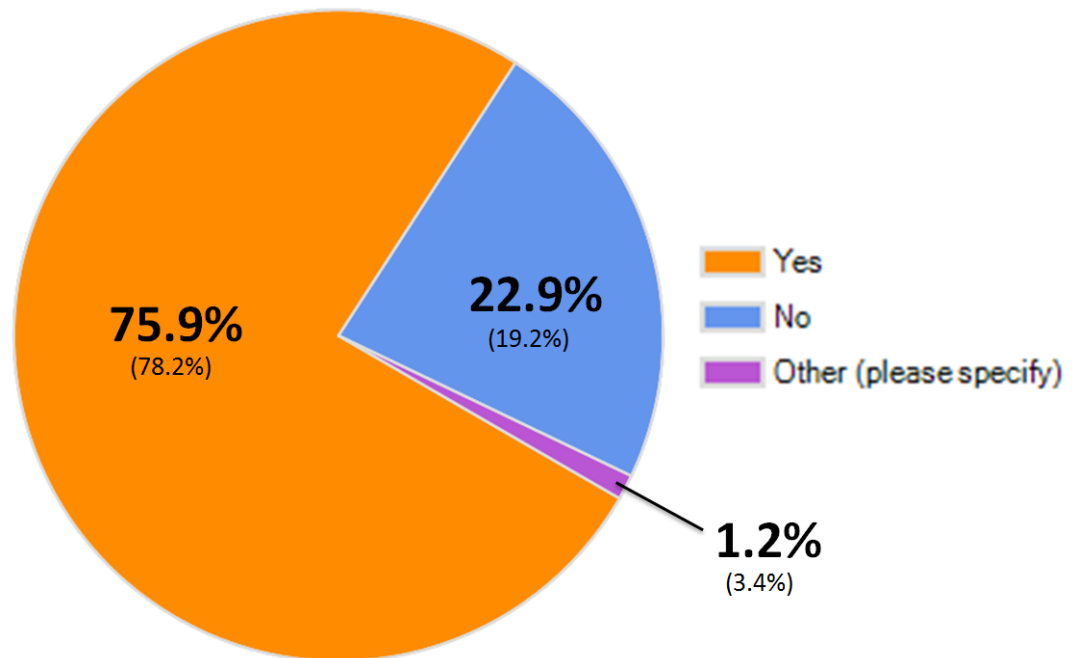
"Training and knowledge awareness is critical to where you know the SIP Demarcations and hand-off to the call control; Call flow and infrastructure; The SIP School was a core training piece to Mitel NetSolutions where we made it a requirement for our technical and solutions engineering teams to get certified through The SIP School."

Sam Mansour
Mitel
NetSolutions

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. So we crossed our fingers (like we did last year) and asked:

Q15: Is an 'official' SIP Certification important to you?

Figure 15



So, [figure 15] suggests that a certification is very important with only a slight change from last year.

We are also very happy to receive comments such as the one from Mike, especially the last sentence. Thank you.

So, let's take a step back and see what we've found out and hopefully learned from this 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 last year's Survey) 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 and with great thought for the features that are offered and a client has paid for.

At an 'event' early 2012 I spoke with an engineer who works for a large company that assists in the configuration and support of SIP Trunks and when talking he mentioned that SIP Trunking can be difficult to get working when dealing with multiple variants (PBX manufacturers / ITSPs etc.) and mostly to get things working you simply keep changing 'settings' until voice works!

Now this is worrying as to get voice working across a trunk, TLS/SRTP may have been switched off or a Codec may have been changed, possibly more Ports opened up on the SBC? So this begs the question, if voice is working and the client is happy, will these 'altered' settings ever get re-set? Is security ignored simply to get things working?

This is clearly not the right approach to configuring systems but it's easy to see why it is done especially if no clear documentation is provided and the engineers manager (plus the client maybe) are breathing down their neck asking them to simply 'get it working' and sort the 'niceties' out later.

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. 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 AT&T, connecting to an Ingate SBC and then into a ShoreTel 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.

"TIA has officially endorsed The SIP School as the training provider of choice for SIP. Along with the training program, you (or your personnel) can now become officially recognized as a SIP expert by passing the SSCA® certification test."

From the TIA website at tiaonline.org

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 and VoIP 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 and 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>

Contact: Graham Francis, CEO graham@thesipschool.com