

2016 Unified Communications, SIP, SIP Trunking, and SBC Plans and Priorities

July 2016

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Introduction

Unified Communications (UC) continues to be one of the most far-reaching developments in enterprise networking, and it represents a technology that continues to grow and evolve. One of the most significant developments in recent years has been a move from UC solutions based on a single vendor to multi-vendor solutions using Voice over IP (VoIP) standards and other real-time IP-based services. The key enabling technology for these IP-based services is the introduction and adoption of the Session Initiation Protocol (SIP) in both Enterprise and Service Provider networks. We've seen an explosion in SIP usage due to Service Providers providing better pricing and bundling offers (using SIP trunks as a replacement for traditional T1, PRI and analog trunks) and the ability of SIP to support multiple interactive media.

But SIP by itself is not enough. In order for SIP to be used within a network, typically a Session Border Controller (SBC) must be used to provide security, interworking and policy. Simply put, SBCs govern the manner in which real-time calls are initiated, conducted and terminated over an IP network. SBCs also handle interconnection with legacy equipment as well as network security and NAT traversal. The SBC may be implemented in several form factors, for instance as an appliance or as a virtualized function. It also may be implemented as a service or an on-premises function.

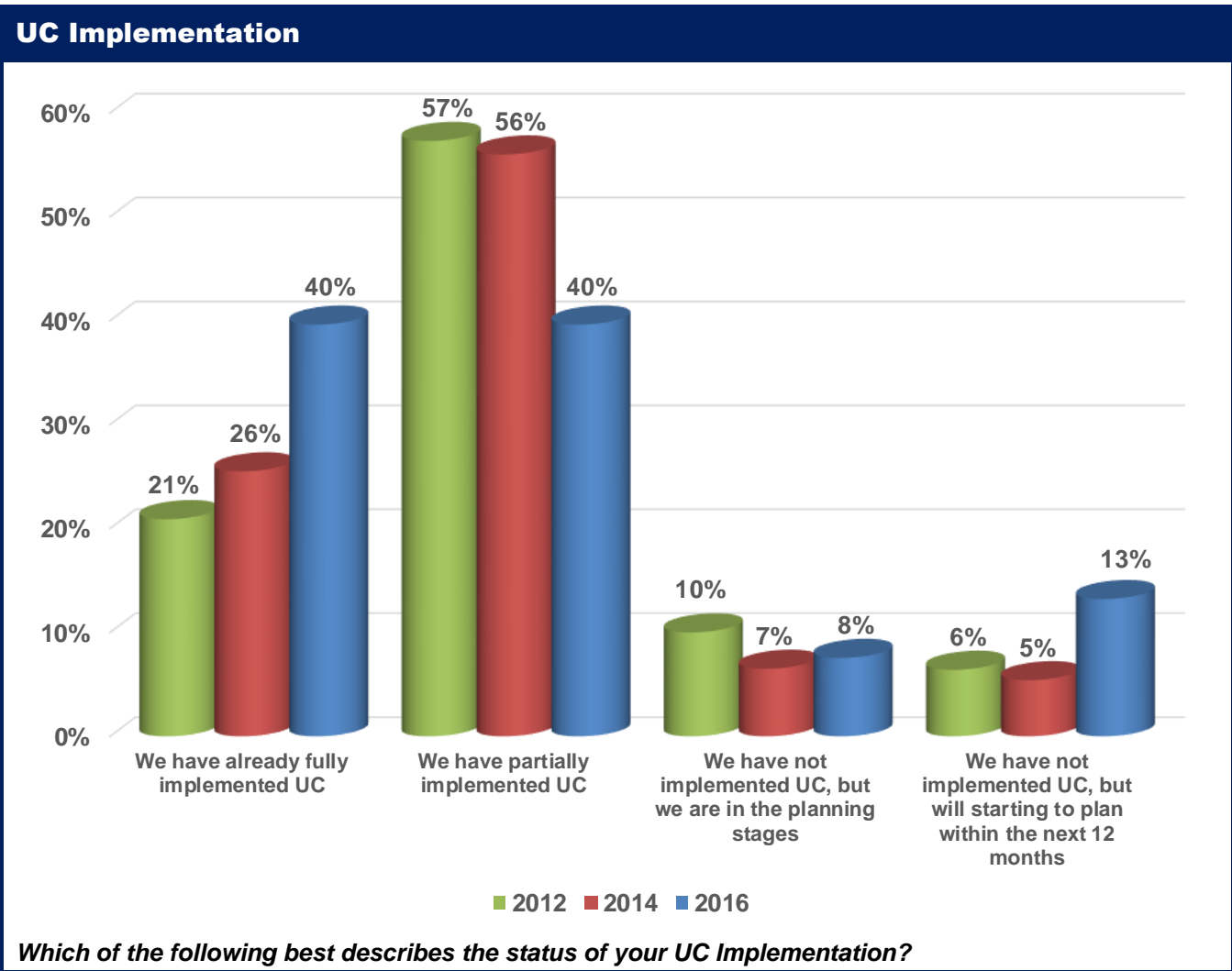
In December 2012, September of 2014, and March of 2016, Webtorials surveyed IT professionals to determine their plans and priorities for UC as well as their attitudes toward the inextricably linked SIP protocol and SBCs. In each case, we repeated the survey with an identical set of questions to the extent possible. The purpose of this latest survey was to identify which trends have changed and which have not, plus measuring the growth of adoption for certain technologies.

As shown in the following pages, Unified Communications continues to be on a roll, with a major shift toward UC solutions being implemented via SIP. In looking at the plans for implementing a wide variety of UC functions via SIP, there is a clear indication that Session Border Controllers will be the enabling technology that provides the necessary interoperability among diverse functions along with the requisite Operations, Administration and Management (OA&M) necessary for a secure, reliable, and highly functional network.

In comparing data collected over three surveys, major progress has been shown in many areas, but many implementations are still similar to what they were previously. However, the intended paths remain consistent.

Further, this latest survey addresses the cost savings by the use of SIP trunking, and found that there was an average of 35% savings for trunks that have been converted to SIP.

UC Implementation



In comparing the survey data sets under consideration, we find that the level number of respondents indicating that they have either partially or fully implemented UC hovered at about 80% since the reporting began. However, there is a significant shift in the percentage that say that they have fully implemented UC, with a 14% difference from 2014 to 2016.

Though there is a non-negligible percentage, there are relatively few respondents who claimed to have no plans to deploy UC or have not yet started planning. Again, this is typical of the base, plus the obvious factor that one is not tempted to respond to a survey about UC if there is absolutely no interest.

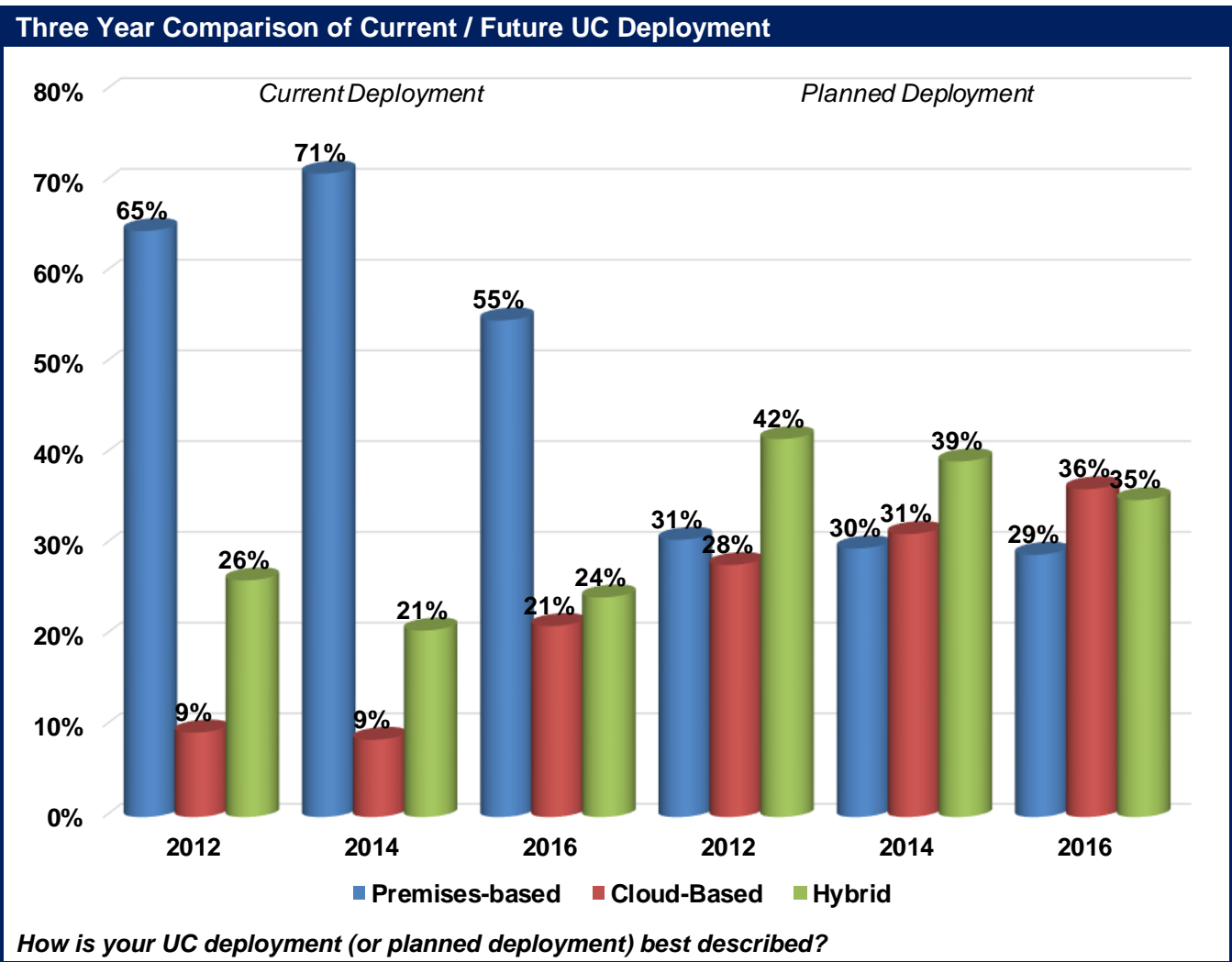
Overall, this shows that the UC market itself is maturing nicely, but, as we will see in the following sections, the way in which the market is growing is shifting dramatically.

Why is this important?

Over the past two surveys, we have consistently seen that about 80% of respondents have either partially or fully implemented UC. But there has been a major shift - by about 15% - from partial to full implementation of UC over the past two years.



Unified Communications Deployment



Over the past two years there was a 16% drop in premises-based deployment of UC, though 55% of deployment being premises-based is still significantly above the target of about 30%. Most of the movement was to cloud-based deployments, which is now at 21%, still short of the goal of 36%. Hybrid deployments are at 24% with a goal of 35%.

Starting with the current deployments, we see a fairly sharp drop in premises-based deployments, by almost 16 points since the most recent survey. And the vast majority of the shift has gone to cloud-based deployment, with a smaller shift toward hybrid.

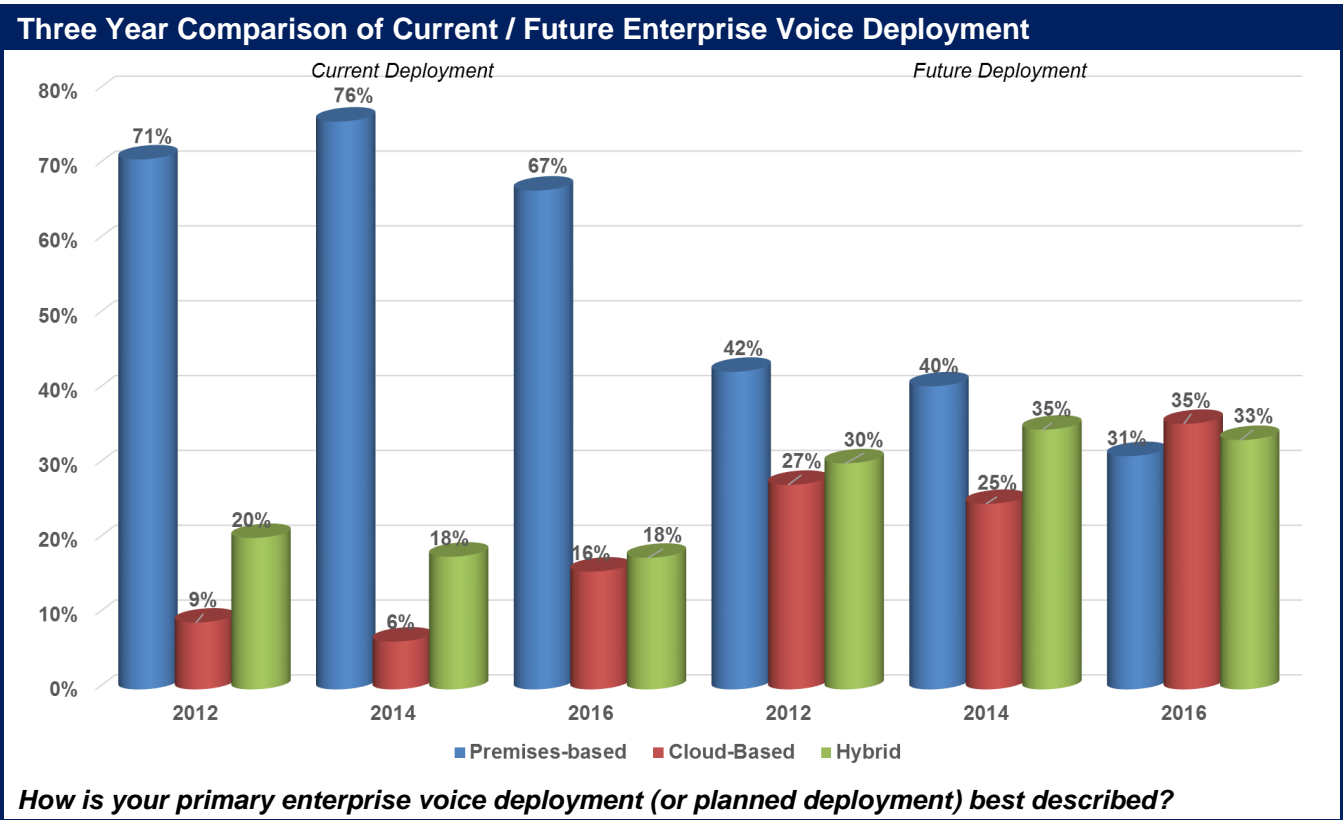
In looking at plans for future deployments, it is striking that according to the three surveys 2012 to 2016, the *planned direction* is still the same, but the *magnitude of the shift* is still relatively small. For instance, the plan to have only 30% for premises-based deployments is consistent. Yet, even now, the actual implementation as premises-based systems is still almost twice the goal. It's also notable that the strongest change in plans over the years has been a shift from hybrid to cloud-based implementations, going from a 14% deficit for the cloud to a virtual tie. We see this as a testament to increased confidence in cloud-based implementations.

Why is this important?

Even though there has been a significant drop in premises-based deployment of UC, premises-based deployment is still dominant, and these deployments are significantly above the target of about 30%. Most of the movement was to cloud-based deployments, which is now at 21%, still short of the goal of 35%. Hybrid deployments are at 24% with a goal of 35%.



Enterprise Voice Deployment



A key component of UC is, of course, enterprise voice.

The current enterprise voice deployments somewhat mirror the UC story, with the vast majority being premises-based implementations. In fact, the actual percentage are even higher than for UC. It's also notable that the shift away from premises-based implementations is quite similar to UC, with cloud-based implementations picking up and hybrid implementations holding steady.

There are additional data points worthy of note. The data presented above has been normalized to remove answers indicating "Not Applicable / Still Planning" in order to give a more consistent view. The number who are still planning varies from year to year and from UC to Enterprise Voice. Turning first to Enterprise Voice, because it is simpler and more consistent, those answers ranged from only 5% to 8% for the current deployments, and were quite consistently around 20% for the future. And of course there is more inherent uncertainty in the future.

When looking at the uncertainty in how UC will be implemented, the "current" results for this year jumped to almost 20% this year, from almost 10% in prior years. Similarly, the uncertainty for the future rose by about 10% to 28% this year. This uncertainty indicates that while respondents are moving forward with their deployments, there is still a lot of uncertainty about the extent to which the deployment will be based on the premises or in the cloud or with a hybrid approach.

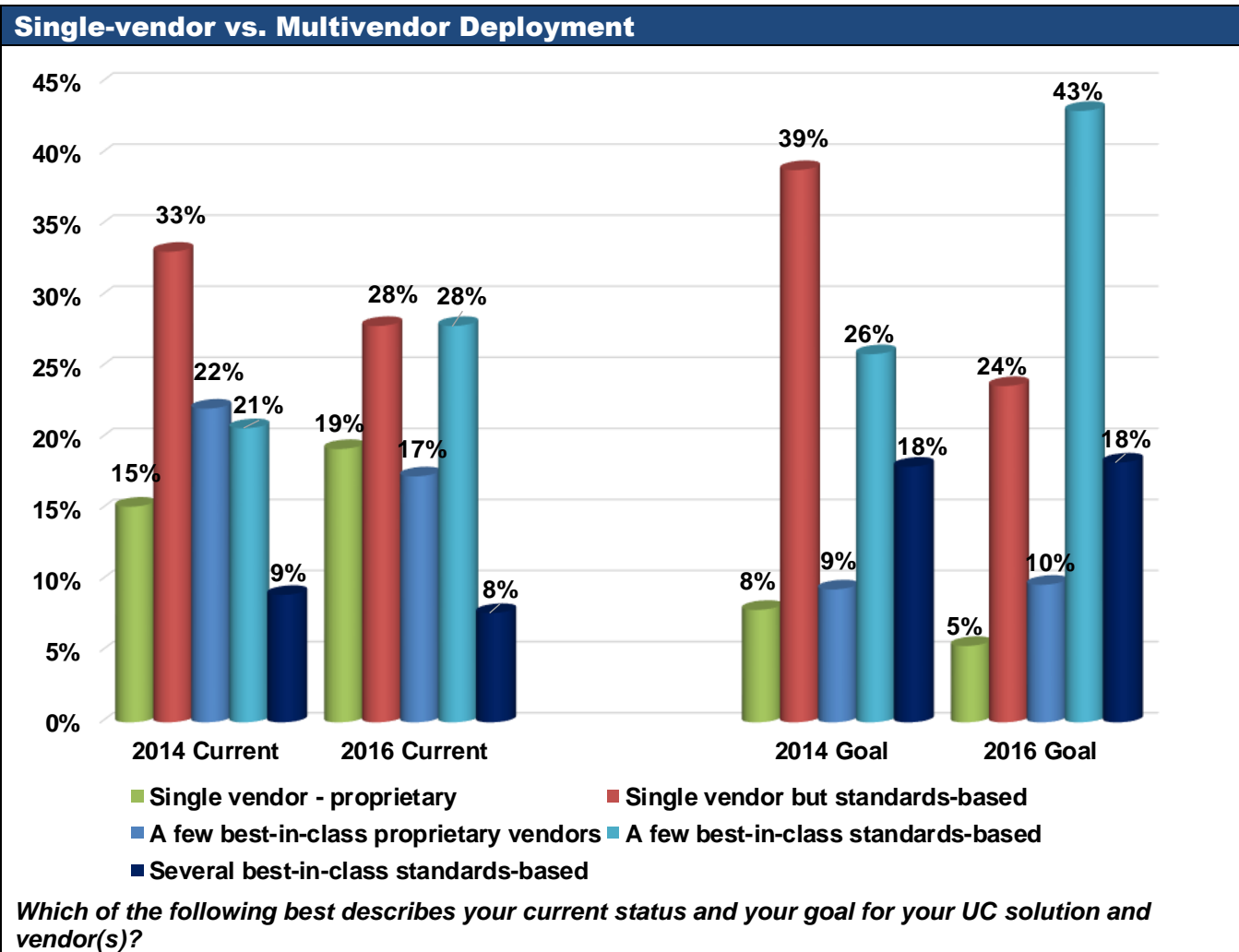
Finally, when asking about deployments this year, the question was split into two parts: "Who is responsible for **providing** the products and services?" and "Who is responsible for **managing** the products and services?" This is a reasonable distinction as there are many models in which providing the deployment and managing the deployment may provide different answers for cloud vs. premise vs. hybrid. However, the difference was never significant, ranging from none to 3%, and usually only 1% or 2% difference.

Why is this important?

The deployment of enterprise voice mirrors that of UC at a macro level. There is a decrease in premises-based deployments with a commensurate increase in cloud-based deployments. And in the case of enterprise voice, the current implementation of premises-based deployments is more than twice the stated goal, indicating a lot of change to come.



The Movement to Multivendor UC



The current mix of single/proprietary vendors as compared to multiple/standards-based vendors represents a rather complex story. Single-vendor proprietary implementations rose by 4%, while a mix of best-in-class proprietary vendors dropped by 5%, perhaps signaling some market consolidation. Single-vendor proprietary implementations dropped by 5%, with the gain seen by a combined 6% increase in multiple standards-based vendors.

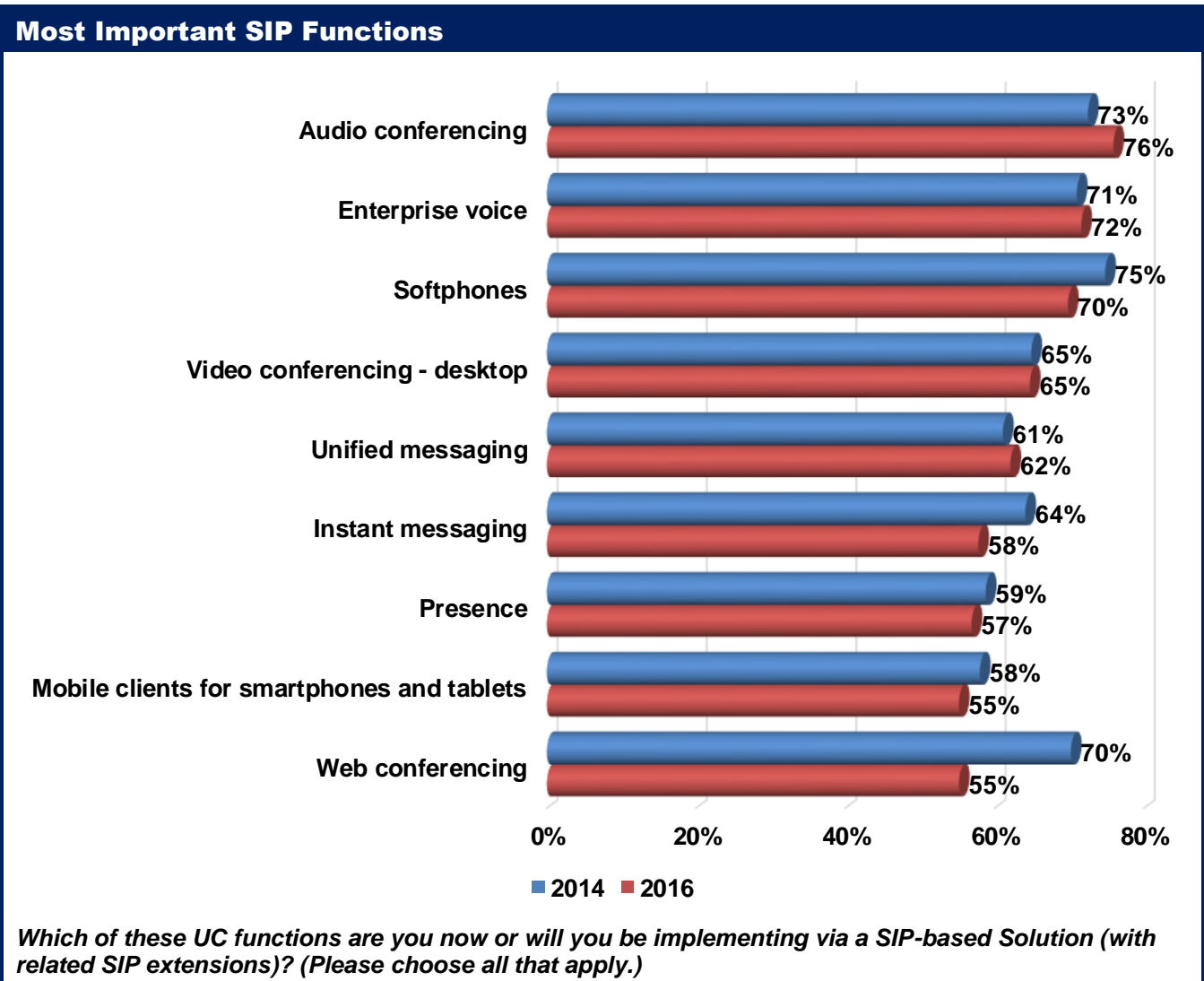
Comparing these current stats to what was desired in 2014, we see that the number of single vendor proprietary implementations still comes in at 11% below the goal. Proprietary vendors are still coming in at 36% (19% + 17%), 19% above the goal of 17% (8% + 9%). For multiple standards-based vendors, the current implementation is at 36%, shy of the 2014 goal of 44%. So while the target remains elusive, there is movement toward meeting the desired mix.

That said, the goal itself has shifted significantly in the past two years. Proprietary systems remain acceptable to very few, 15% now as opposed to 17% in 2014. However, single-vendor standards-based solutions dropped by a whopping 15%, while multiple-vendor standards-based systems now dominate as the goal, moving from 44% in 2014 to 61% this year – an increase of 17%.

Why is this important?

Fueled by SIP capabilities, the desire for multi-vendor standards-based solutions is growing significantly. It will take a while to reach the goals as products are developed, current investments are aged out, and the requisite planning and acquisition timeframes elapse.

The Continued SIP Explosion



One of the challenges with this question is differentiating among a range of results with very little difference in the data. In this case we see that the most important features all are noted as being implemented (or planning to be implemented) by at least 50% of the respondents. It is also noteworthy, but not surprising, that there is little change from 2014.

Why is this important?

Audio conferencing, enterprise voice, and support for softphones were chosen by greater than 70% of the respondents as functions that are or will be implemented via SIP.

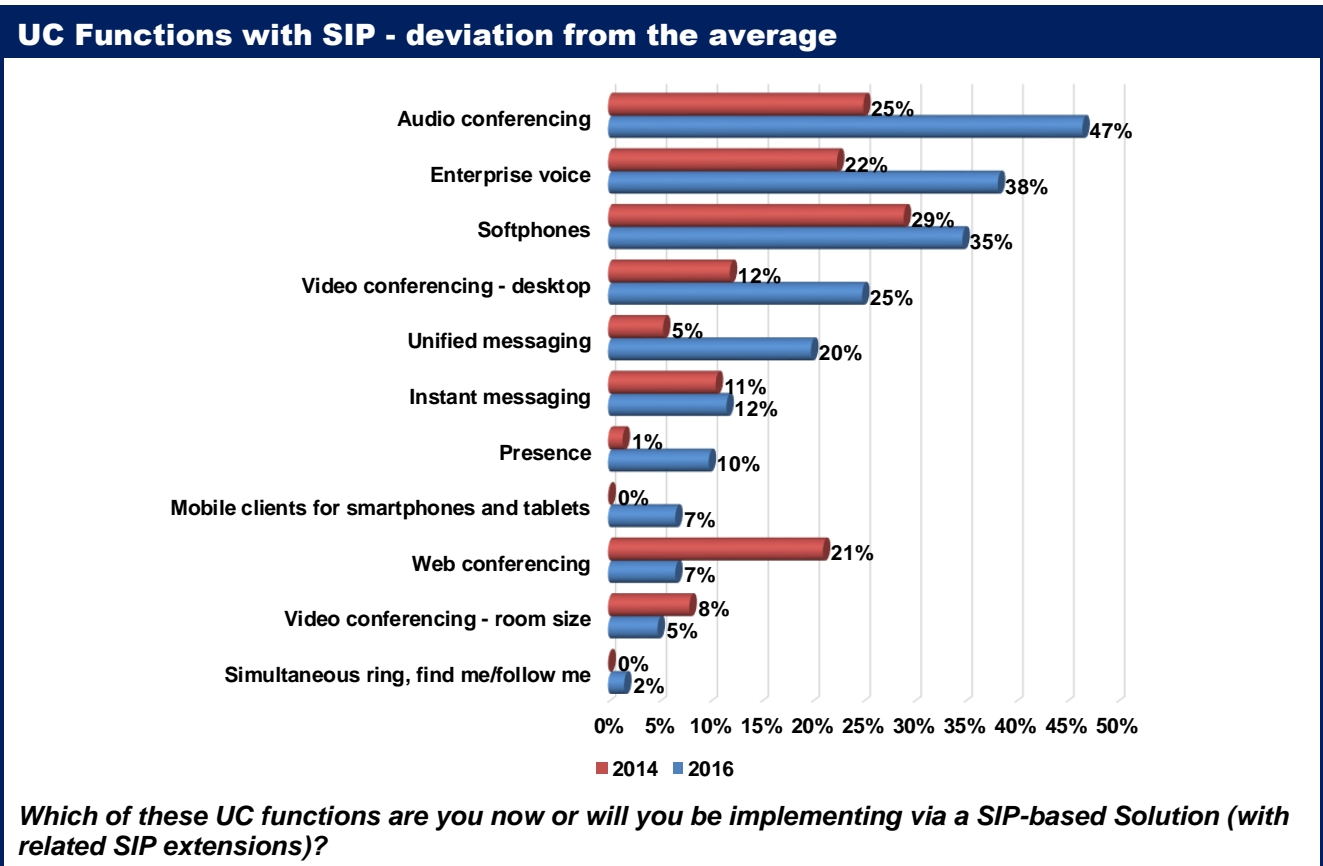
Defining the “Deviation from the Average”

In an attempt to delve a bit deeper into the data and to make it easier to understand which are truly more important than others, we deployed a technique of looking at the “deviation from the average.” This also makes it much easier and more accurate to look at changes from year to year since the number of choices marked by respondents change from one survey to the next.

The methodology is actually quite simple. First, the average percentage of respondents for all categories is calculated. Then the amount each category deviated from the average is calculated. Thus, we are looking at the extent to which each answer differs from the average of all answers rather than just at the answers themselves. We can, therefore, highlight, factors that are much more important (positive deviation) and factors that are much less important (negative deviation).

The use of the deviation from the average makes it is much easier to see exactly what is – and what is not – really important by amplifying small differences.

A Closer Look at the SIP Explosion



We saw in the raw numbers above that audio conferencing was deemed as the most important SIP function with 76% seeing it as being important. Enterprise voice was the second most important with 72. But can we make this more meaningful?

For 2016, the average was 52% for all functions, and in 2014 the average was 58%. The 76% figure is 24 points above the average, and consequently 47% above the average. The bottom line is that this accounts for the differences in average percentage from year to year.

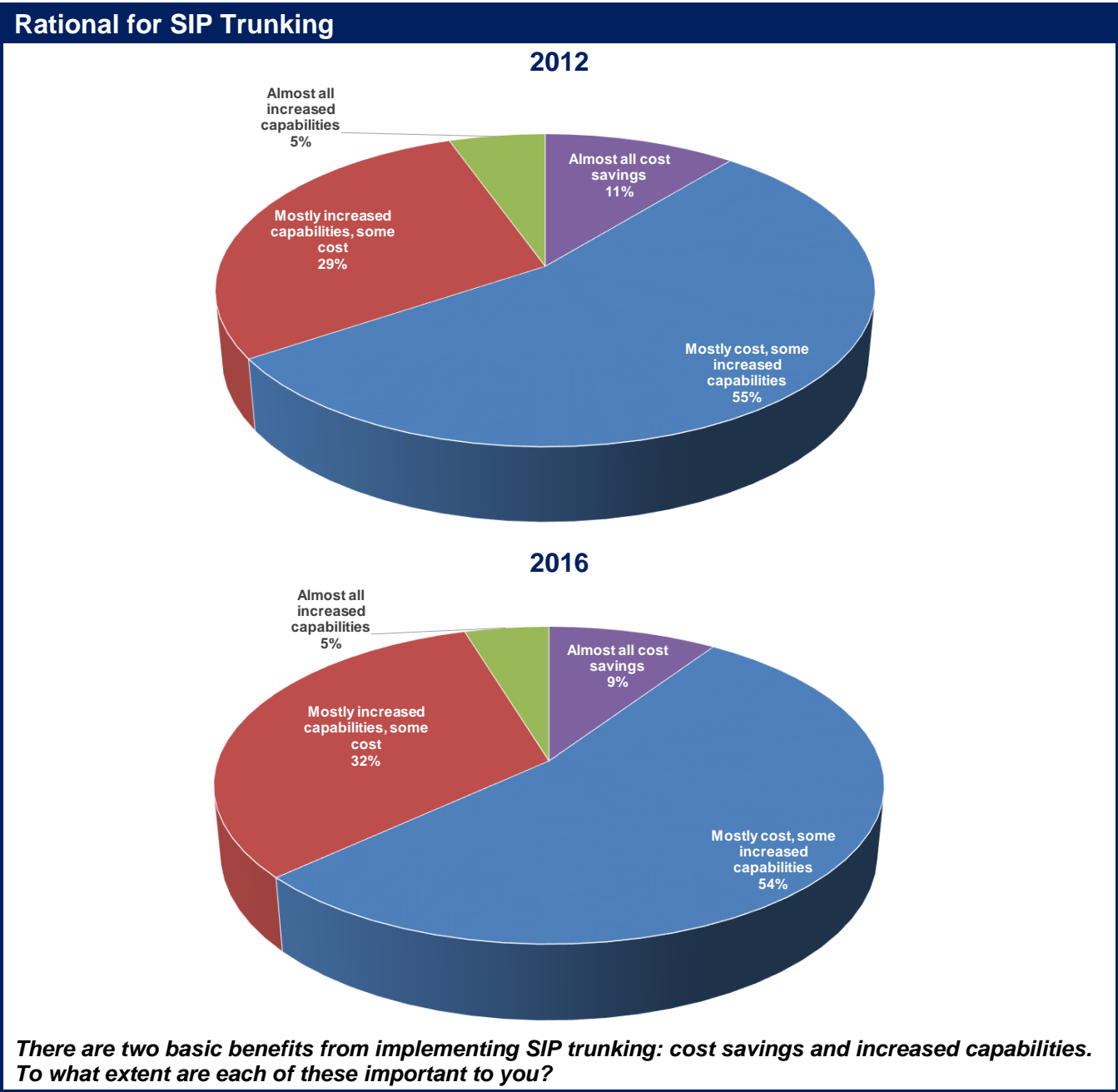
Back in 2014, this same function was 73%, but the average was higher, at 58%. So it was 15 points above the average, so this nine-point swing gives it a relative importance of 25%.

It's much easier to see that audio is clearly the most important, and the average importance is significantly greater than in 2014. Overall, the most important factors are emerging as the core business processes.

Why is this important?

By looking at the deviation from the average for responses, we see that the key SIP-based applications such as voice and video are increasing in importance, indicating that reality has set in about SIP and the respondents are viewing the options as immediately available solutions rather than as a panacea that might apply to a tremendous range of future capabilities.

SIP Trunking Rationale



One of the biggest areas of evolution in the VoIP arena is how VoIP traffic is handed off to the network. Traditionally, the network consisted of fixed-bandwidth digital trunks, so off-net (off the private network) traffic was converted to ISDN or similar technology trunks. Today however, with the prevalence of VoIP within the network, the trend is toward handing off traffic to the net in its native IP format using the Session Initiated Protocol (SIP).

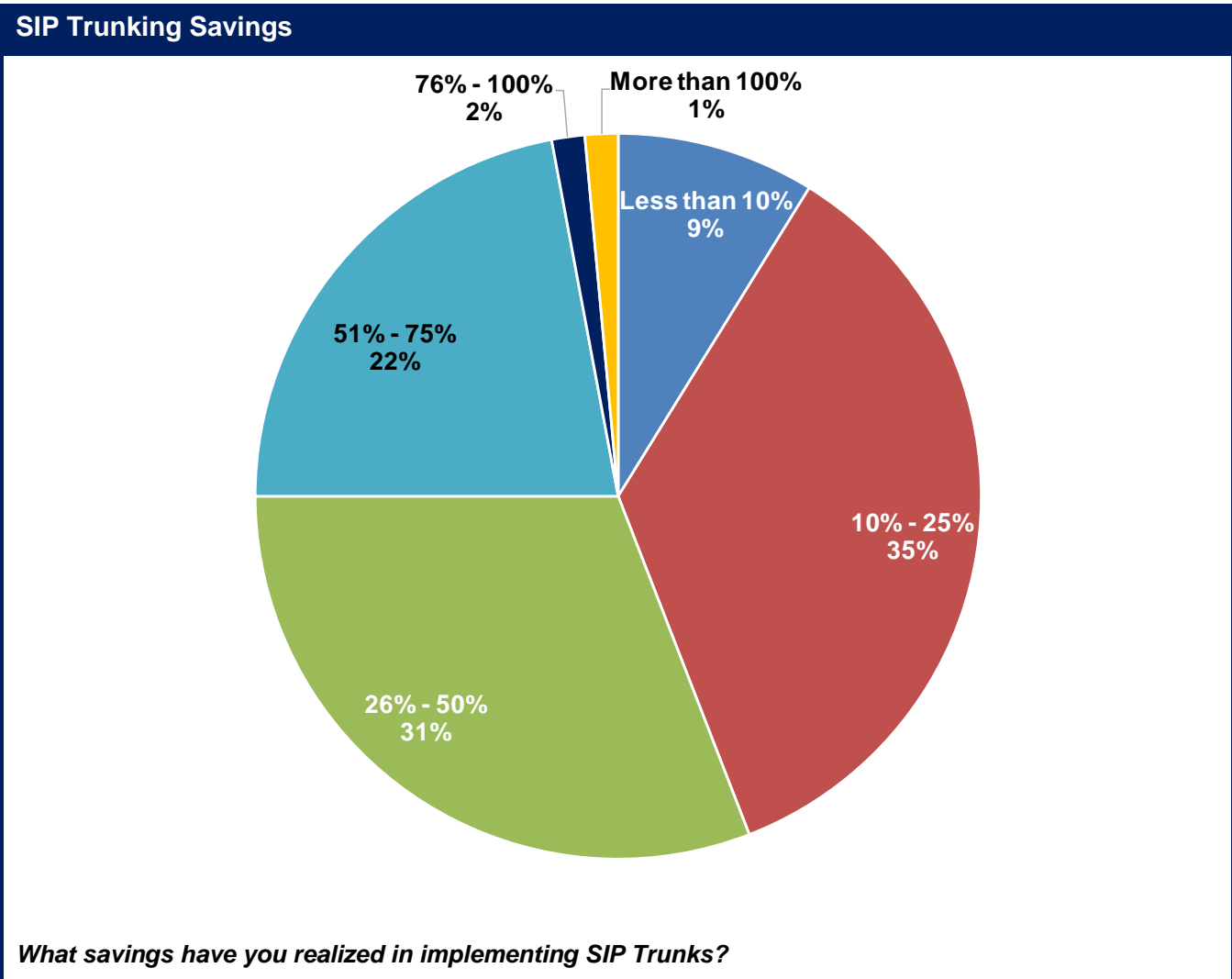
Of course, there are two fundamental reasons to do anything in IT: To save money and/or to increase capabilities. And while all decisions have a mix of these reasons, one often is more important. In the case of implementing SIP trunking, almost two-thirds of the respondents indicated that cost savings was the major factor in their move.

While we often see shifts in multiyear studies, this is a case in which there was essentially zero movement from a study in 2012. In that study, we asked the same question, but included an option for “about the same.” When we then assigned half of the “about the same” answers to each of the “Mostly” categories, the percentages were almost identical to these current results.

Why is this important?

The move to SIP trunking is mostly driven by cost savings, though increased capabilities play a strong secondary role.

SIP Trunking Economics



But now it's time to bring these cost savings to reality. The respondents were asked to indicate how much they saved by using SIP trunks.

While the individual results vary greatly, the average savings is about 35%. To further estimate the economic impact of SIP Trunks to date, we also asked about the level of implementation of SIP trunks at major sites and at branch offices, and found about 53% and 46% respectively.

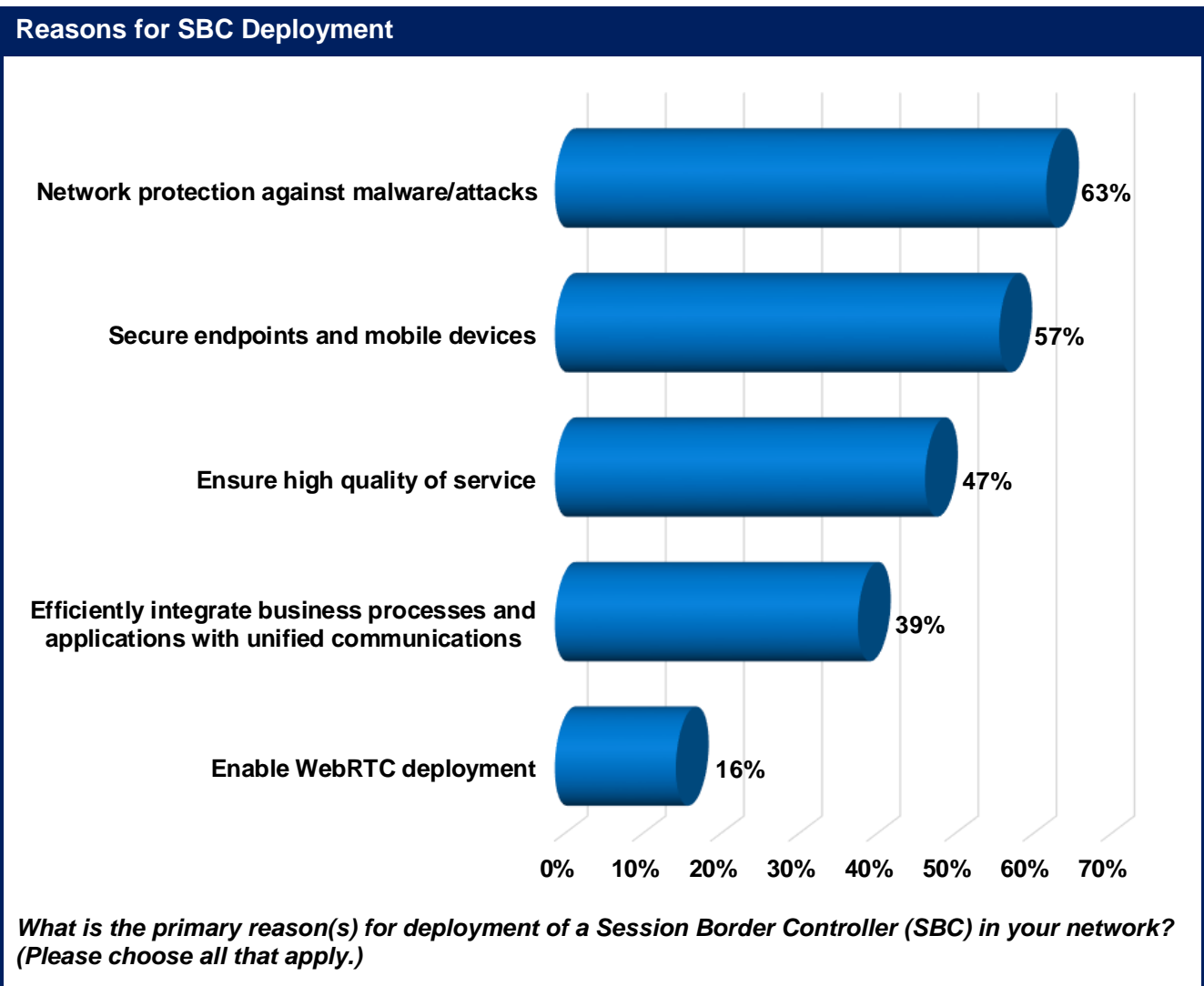
Now let's bring this down to real dollars and cents. Start by assuming a relatively modest spend of \$100,000 on traditional trunks. Then convert half of these trunks to SIP trunks. So there's still \$50,000 for the unconverted trunks, and the converted trunks cost 65% of \$50,000, or \$32,500, for a total spend of \$82,500 – a saving of 17.5%. But that's still leaving a lot of money on the table. If all of the trunks were converted to SIP, the total cost would only be \$65,000, saving an additional almost 27%.

The bottom line is that the 35% savings is great, but there remains a LOT of incentive for a more extensive deployment.

Why is this important?

The respondents reported an average of 35% savings by implementing SIP trunks, but only about half of the respondents' trunks have been converted. The increasing adoption of SIP trunking and cloud services is likely a big piece of why we see more an uptick in multi-vendor deployments as these are prone to exist in a hybrid environment for second generation VoIP deployments.

SBCs: Bringing IT All Together



While the usage of SIP is exploding, one must remember that SIP is just a protocol. There needs to be a way to actually control the functions specified by SIP, and this is where the Session Border Controller (SBC) comes in.

Even though the need for a Session Border Controller has been recognized for several years, especially for call control, security, and address interworking when using SIP, the awareness of this technology has grown side-by-side with the plans for SIP implementation.

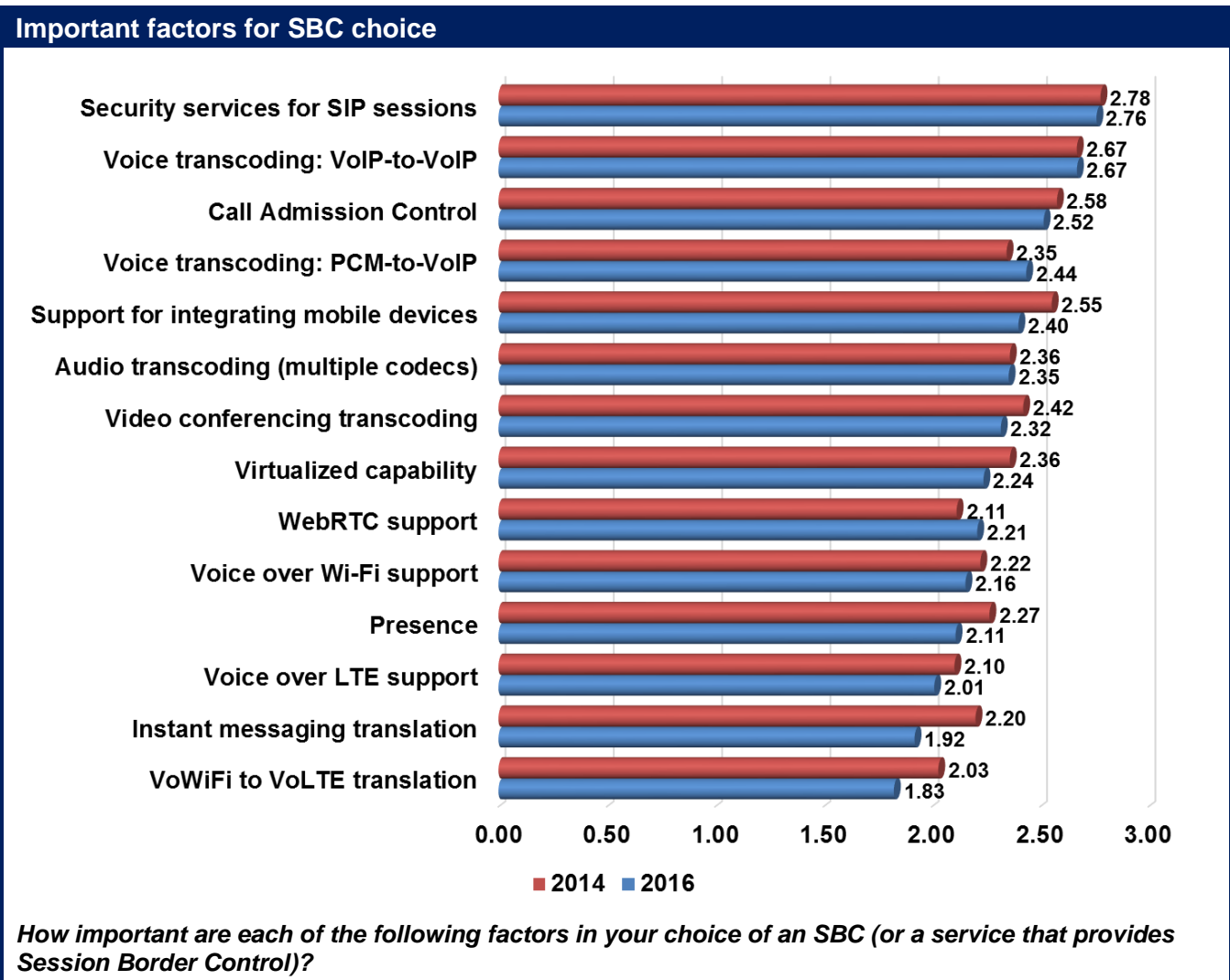
When asked about the primary reasons for deploying an SBC in their network, various issues related to security was clearly the primary concern. The respondents were asked to choose “all that apply” among some choices, and “Network protection against malware/attacks” was the most important reason, with 63% choosing this – an increase of ten points compared to 2014. “Secure endpoints and mobile devices,” the top reason in 2014 with 59%, came in second with 57% of respondents choosing this. Both of these could be considered to be “classic” reasons in that they involve issues such as translating IP addresses from public to private address spaces.

The third most popular response, “Ensure high quality of service,” selected by 47% this year and 44% in 2014 of respondents, is important, but also somewhat classic. For instance, a major feature that an SBC can perform is to implement some form of Call Admission Control (CAC) to ensure that there is sufficient bandwidth available to support calls (voice and video) when a call setup request is received.

Why is this important?

Session Border Controllers (SBCs) continue to be deployed primarily for security, including protection against malware/attacks and securing endpoints and mobile devices.

Most Desired SBC Features



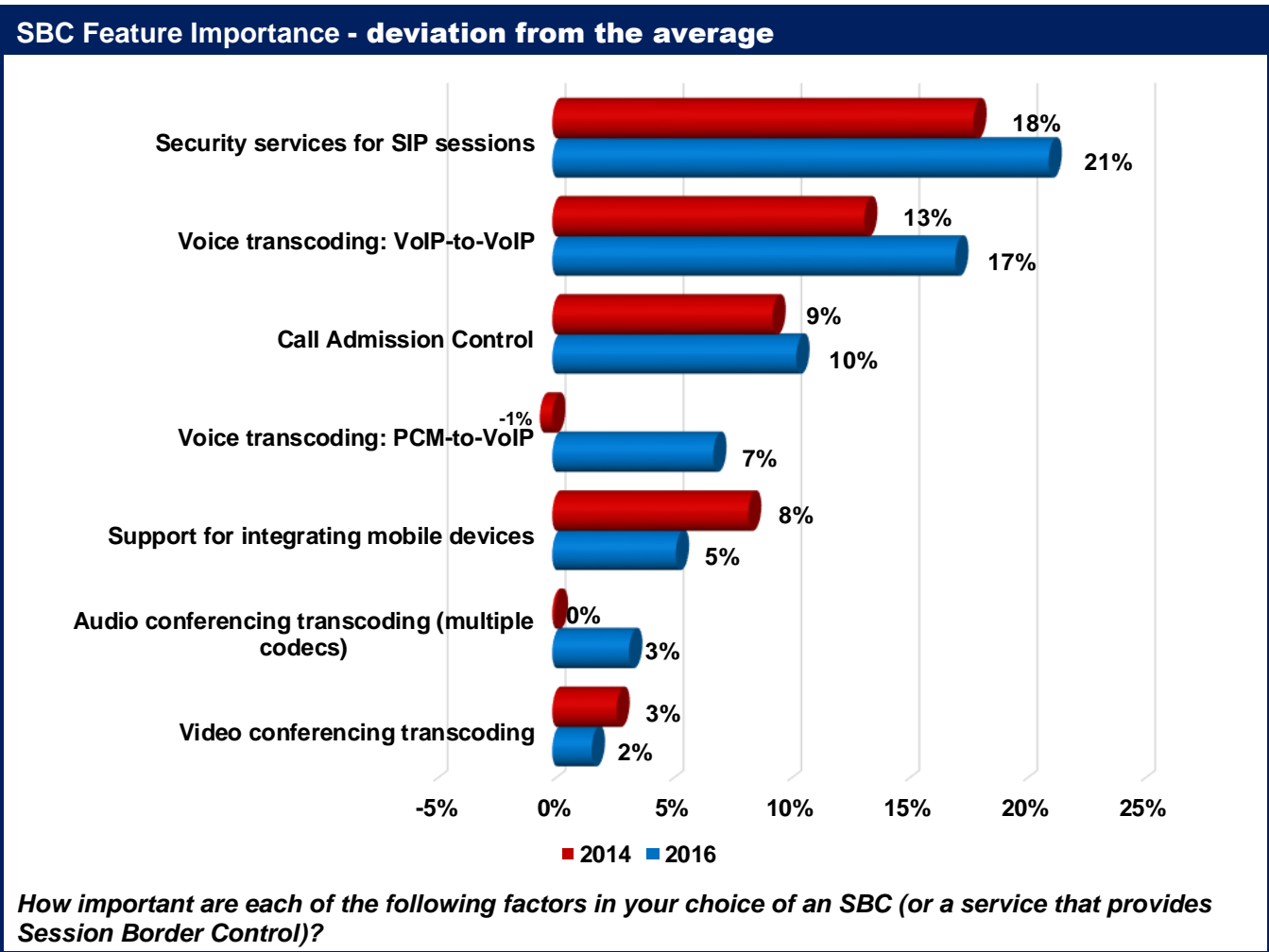
The survey asked respondents to rate SBC features as “Must have,” “Nice to have,” or “Not important,” with the three responses being assigned 3, 2, and 1 point respectively. Answers of “Don’t know” and “Not applicable” were given zero points.

While the information here is interesting, it is also somewhat difficult to differentiate among the fine differentials, so once again it is instructive to look at the “deviation from the average” (as described above.)

Why is this important?

Among specific features in SBCs, security for SIP sessions is most important, while transcoding – both VoIP-to-VoIP and PCM-to-VoIP – and Call Admission Control rounded out the top four.

Differential Importance of SBC Features



It's not surprising that security is the highest ranked, and that it is slightly more important than last year. The importance of voice transcoding – both for VoIP-to-VoIP and for PCM-to-VoIP – is indicative of the current use of VoIP and SIP. We can expect transcoding to continue as an important feature in SBCs/gateways as multi-vendor implementations move forward.

The importance of Call Admission Control shows that the management aspects performed by an SBC are critical, rounding out the multiple functions that the SBC provides.

Why is this important?

When looking at exactly how much more important some SBC features are than others, security and transcoding between different VoIP algorithms are much more important than others. We can expect transcoding to continue as an important feature in SBCs/gateways as multi-vendor implementations move forward.

Summary

The key findings show:

1. Over the past two surveys, we have consistently seen that about 80% of respondents have either partially or fully implemented UC. But there has been a major shift - by about 15% - from partial to full implementation of UC over the past two years.
2. Even though there has been a significant drop in premises-based deployment of UC, premises-based deployment is still dominant, and these deployments are significantly above the target of about 30%. Most of the movement was to cloud-based deployments, which is now at 21%, still short of the goal of 35%. Hybrid deployments are at 24% with a goal of 35%.
3. The deployment of enterprise voice mirrors that of UC at a macro level. There is a decrease in premises-based deployments with a commensurate increase in cloud-based deployments. And in the case of enterprise voice, the current implementation of premises-based deployments is more than twice the stated goal, indicating a lot of change to come.
4. Fueled by SIP capabilities, the desire for multi-vendor standards-based solutions is growing significantly. It will take a while to reach the goals as products are developed, current investments are aged out, and the requisite planning and acquisition timeframes elapse.
5. Audio conferencing, enterprise voice, and support for softphones were chosen by greater than 70% of the respondents as functions that are or will be implemented via SIP.
6. By looking at the deviation from the average for responses, we see that the key SIP-based applications such as voice and video are increasing in importance, indicating that reality has set in about SIP and the respondents are viewing the options as immediately available solutions rather than as a panacea that might apply to a tremendous range of future capabilities.
7. The move to SIP trunking is mostly driven by cost savings, though increased capabilities play a strong secondary role.
8. The respondents reported an average of 35% savings by implementing SIP trunks, but only about half of the respondents' trunks have been converted. The increasing adoption of SIP trunking and cloud services is likely a big piece of why we see more an uptick in multi-vendor deployments as these are prone to exist in a hybrid environment for second generation VoIP deployments.
9. Session Border Controllers (SBCs) continue to be deployed primarily for security, including protection against malware/attacks and securing endpoints and mobile devices.
10. Among specific features in SBCs, security for SIP sessions is most important, while transcoding – both VoIP-to-VoIP and PCM-to-VoIP – and Call Admission Control rounded out the top four.
11. When looking at exactly how much more important some SBC features are than others, security and transcoding between different VoIP algorithms are much more important than others. We can expect transcoding to continue as an important feature in SBCs/gateways as multi-vendor implementations move forward.

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The primary authors of this study are Steven Taylor and Leslie Barteaux, Webtorials.

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