

NETWORKWORLD[®] 2007

Buyers' Insights

CONVERGENCE

Buyers' Insights into Purchase Trends and Challenges

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Conducted for: Network World, Inc.

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KEY INSIGHTS

This research investigates key issues associated with deploying and managing converged networks. An online survey was conducted among members of Network World's Research Panel. Survey results are based on 473 respondents involved with the purchase of network equipment and services.

VoIP Penetration within Organizations

- Based on the results of this study, VoIP is making significant strides infiltrating the enterprise market. At least 7 out of 10 organizations that have implemented the technology have started or completed full-scale deployment, and an average of 56% of their phones are VoIP-enabled.

VoIP Drivers and

- Vendors have been emphasizing the cost savings associated with VoIP networks. In this study, more respondents cited cost savings ahead of productivity gains as the factor driving VoIP deployment.
- Once VoIP is deployed, one of the top benefits is the ease of making moves, adds and changes. VoIP's flexibility compared to traditional land lines should be a key selling point for vendors.
- Most VoIP users surveyed find the technology to be the same as or better than PBX systems on important attributes such as security, reliability and voice quality. However, it should be pointed out that providing adequate voice quality and monitoring the performance of IP phones are among the top challenges encountered when VoIP is deployed.
- As for VoIP applications, organizations are most excited about call center programs and multimedia conferencing.

Reasons for Not Using VoIP

- Among respondents with no definite VoIP plans, the main reason cited for not deploying the technology is lack of a perceived business need. Vendors should take note to illustrate the business case for VoIP as organizations want to be assured that the benefits outweigh the costs involved with deploying the technology.

Unified Communications

- There is a lot of buzz surrounding unified communications in which e-mail, instant messaging, VoIP and presence are converging. Almost all respondents in this study have some level of familiarity with unified communications. Yet, based on the results of this study, organizations are taking a cautious approach to implementing it. Almost half of respondents indicated their organization is either considering implementation or is still trying to figure out what unified communications is.

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Insights Into the Purchase Process

- The good news for vendors is that more than 7 out of 10 respondents indicated their organization will increase or maintain spending on convergence-related endeavors.
- Most organizations that participated in this research will make a convergence-related purchase in the next 12 months. The products most likely to be purchased are IP phones. Quite a few organizations find it challenging to monitor the performance of IP phones, so vendors addressing this issue should find their products well received.
- With many planning to make a convergence-related purchase in the next 12 months, vendors should take note that buyers offer a myriad of suggestions on how to improve the purchase process. Buyers would like more information on how VoIP works and the business issues it can address. They also want honest communication without hype and buzzwords. The VoIP solutions with the most appeal are those that are easy to use and understand, adhere to standards and are interoperable with existing infrastructure.

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PURPOSE AND METHODOLOGY

Purpose

The objective of this research is to investigate key issues surrounding the implementation and management of converged networks and how organizations are making decisions to buy related products. Specifically, the following insights are provided:

VoIP

- Status
- Factors holding back deployment
- Primary driver for deployment and benefits realized
- VoIP applications
- Challenges managing VoIP networks

Unified Communications

- Familiarity
- Usage

Purchase of Convergence-Related Products

- Resources dedicated
- Planned purchases
- Feedback for vendors on how the purchase process can be improved

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Methodology

An e-mail blast was sent to members of Network World’s Research Panel in September 2007 asking them to participate in a survey related to convergence. There were 473 qualified respondents who are involved in the purchase of network equipment and services at their organization. Due to rounding, some percentages may not add up to exactly 100%.

The specific ways in which respondents are involved with purchasing are outlined below:

RESPONDENTS' ROLE IN PURCHASING NETWORK EQUIPMENT AND SERVICES	% RESPONDING
Determine technology solution	86%
Research vendors and technology solutions	84%
Determine business need	77%
Create short list of vendors	69%
Select final vendor	60%
Oversee purchase process	50%
Manage/responsible for budget	46%
Approve budget	27%

Multiple Responses Permitted

The majority of respondents (62%) have some type of Network/IT job function. Ten percent are Corporate Management, and 14% are Independent Consultants (the remaining 13% are classified as “Other”).

Respondents represent a range of industries including: Manufacturing (13%); Web Hosting (13%); Business Services (9%); Aerospace/Defense (8%); ASP/SSP (7%); Transportation (5%); Government (5%); Utilities (5%); Education (4%); Insurance/Real Estate/Legal (4%); Travel/Hospitality/Entertainment/Recreation (4%); and Process Industries (4%).

Small, medium and large enterprises are represented in this research.

COMPANY SIZE	DEFINITION	% RESPONDING
Large enterprises	1,000 or more employees	40%
Medium-sized companies	100 to 999 employees	21%
Small companies	Less than 100 employees	38%

VOICE OVER IP

VoIP Status

Figure 1 below shows the deployment of VoIP. The technology has already been implemented at 41% of respondents' organizations, and another 19% has plans to deploy. This brings deployment to 60% of organizations within 2 years. Thirty-nine percent of the organizations that participated in this research have no definite plans for VoIP.

Figure 1: Voice over IP Status

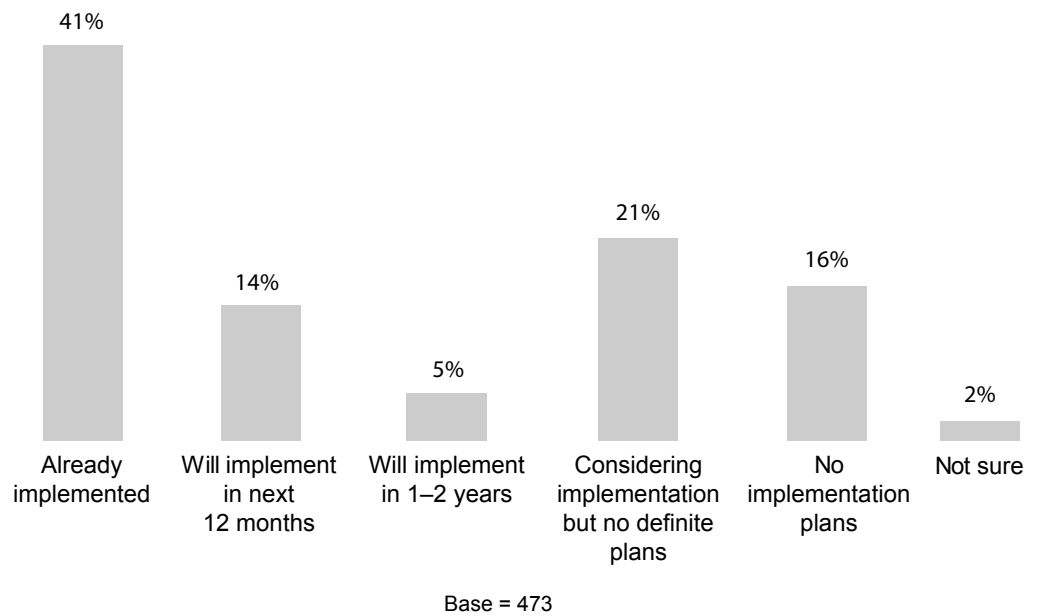


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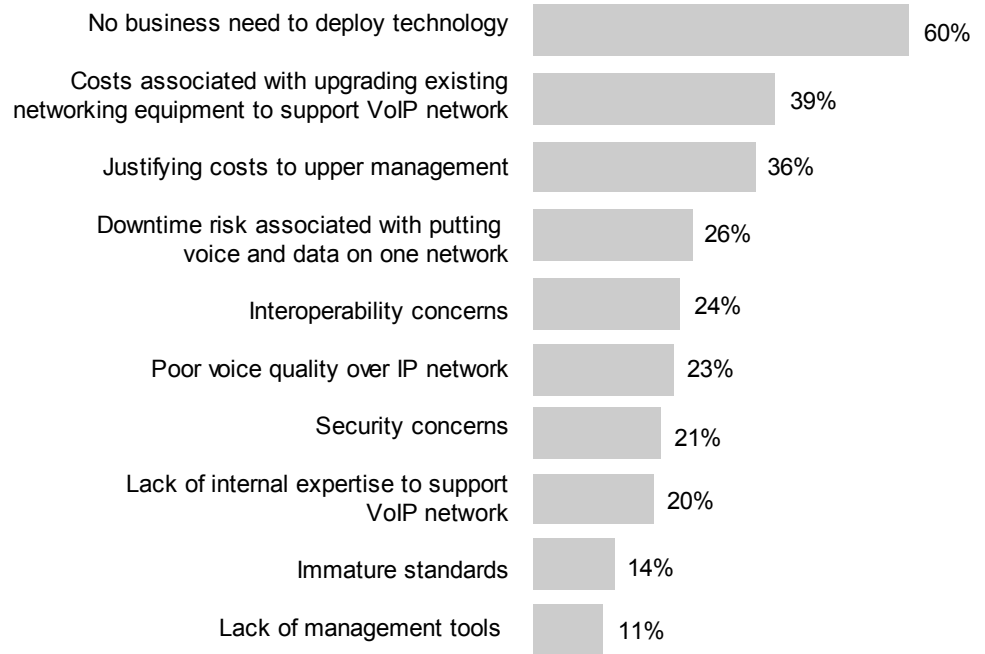
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Those with no plans to deploy VoIP were asked to indicate the factors affecting their decision. The top reason cited for not deploying the technology was lack of a business need (60%). Nearly four out of 10 respondents are not deploying because of the costs associated with upgrading existing network equipment (39%).

Figure 2: Reasons for Not Implementing VoIP



Base = 176 (Among respondents with no plans for VoIP)
 Multiple Responses Permitted

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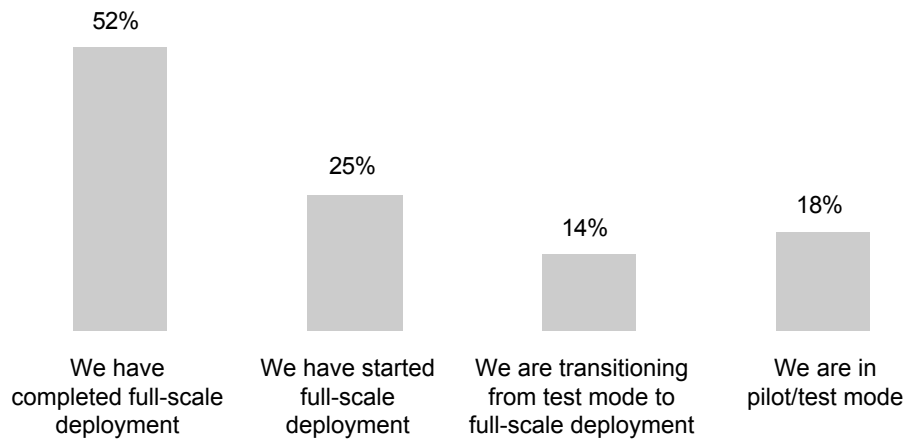
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Infiltration of VoIP

In order to provide insight into the extent to which VoIP has infiltrated organizations, those with the technology already implemented were asked how far along their organization was with deployment (see Figure 3) and the percentage of their phones that are VoIP-enabled (see Figure 4).

Most organizations in the process of deployment are well on their way to implementing VoIP, as more than half (52%) has completed full-scale deployment, and another 25% has started full-scale deployment. Only 18% are in pilot/test mode.

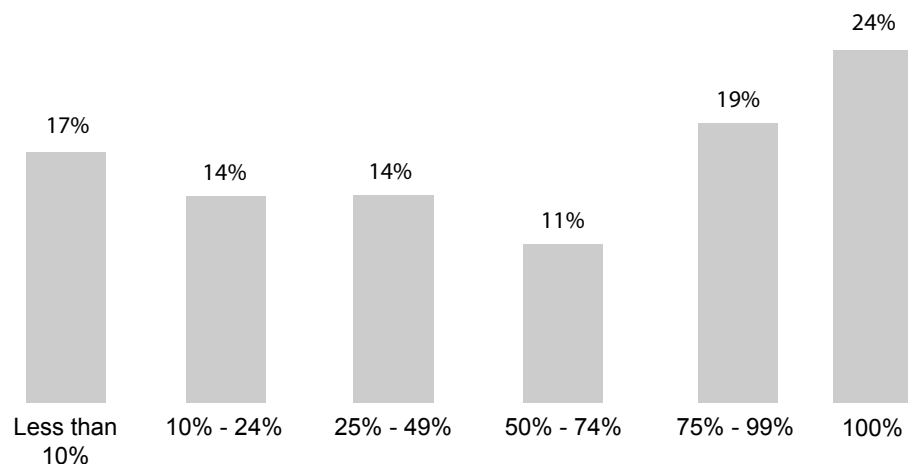
Figure 3: Status of VoIP Deployment



Base = 195 (Among respondents with VoIP deployed)
 Multiple Responses Permitted

As seen in Figure 4, more than 4 out of 10 respondents (43%) indicated that 75% or more of their phones are VoIP-enabled. Across all respondents who have deployed the technology, an average of 56% of phones are VoIP-enabled.

Figure 4: Percentage of Phones that are VoIP-enabled



Base = 195 (Among respondents with VoIP deployed)

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VoIP Benefits Realized

Vendors have been promoting the many benefits businesses can achieve by using data networks to carry their voice traffic, but are users finding the technology delivers promised benefits? Respondents with the technology already implemented were asked to what extent four VoIP benefits have met their expectations (see Table 1).

The technology exceeded or met the expectations of at least 8 out of 10 respondents on all benefits investigated. The top benefit cited is the ease of making moves, adds and changes. With VoIP, a telephone number is associated with an IP phone, not a location, so IT Departments can easily add and delete telephone numbers, and turn features on and off from a centralized location. When employees change locations, they simply plug a handset into a VoIP-ready jack.

Table 1: Ability of VoIP to Deliver Benefits

	NET EXCEEDED OR MET	EXCEEDED OUR EXPECTATIONS	MET OUR EXPECTATIONS	DID NOT MEET OUR EXPECTATIONS	TOO SOON TO TELL
Ease of making moves, adds and changes	90%	23%	67%	6%	5%
Saves money on long-distance telephone charges	82%	17%	65%	5%	12%
Simplicity of management since VoIP transmission combines voice and data on one network	80%	16%	64%	11%	9%
Enhanced or new features available on phones	80%	22%	58%	13%	7%

Base = 195 (Among respondents with VoIP deployed)

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Some industry observers believe that eventually VoIP will replace traditional phone service. Yet, some organizations worry that voice quality will be worse than their current PBX, and that the technology is less secure and reliable, and will require more support.

Respondents were asked to indicate how VoIP compares to PBX on four specific factors (see Table 2 below). Based on the results of this study, few VoIP users are finding it to be worse than PBX systems. The areas in which VoIP fared the worst compared to a PBX system were reliability and the amount of IT support needed for end users. However, the percentage of respondents was still low — only 26% indicated it was less reliable, and 23% indicated more support was needed. Voice quality was not up to par for 21%, and security was viewed as a problem for only 13% of respondents.

Table 2: Comparison of VoIP and PBX

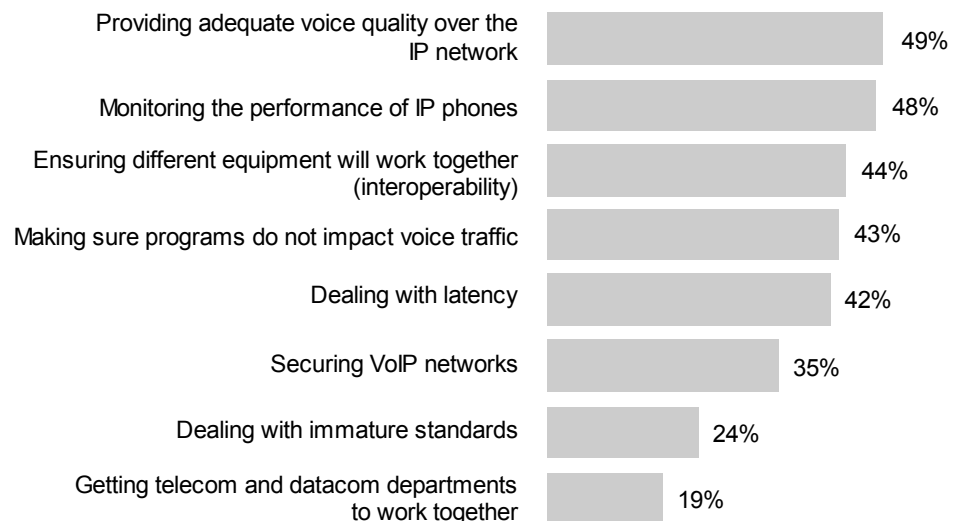
	BETTER THAN PBX	SAME AS PBX	WORSE THAN PBX	NOT SURE/ TOO SOON
Amount of IT support needed for end users	30%	36%	23%	11%
Security	25%	49%	13%	13%
Reliability	18%	46%	26%	10%
Voice quality	16%	57%	21%	6%

Base = 195 (Among respondents with VoIP deployed)

VoIP Challenges

Respondents were asked which of eight challenges they have encountered during their VoIP deployment (see Figure 5). Two challenges were mentioned by nearly half of respondents — providing adequate voice quality (49%) and monitoring the performance of IP phones (48%).

Figure 5: VoIP Challenges



Base = 195 (Among respondents with VoIP deployed)
 Multiple Responses Permitted

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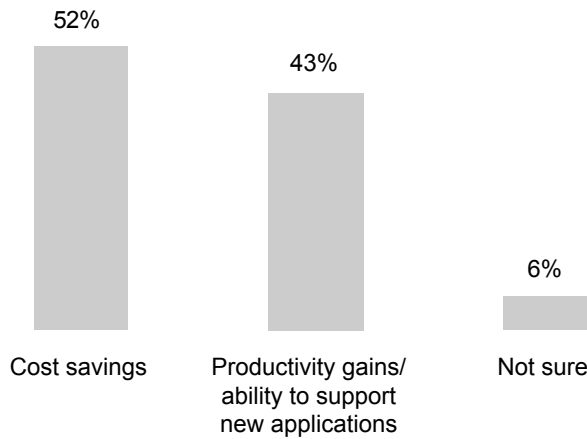
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Factors Driving VoIP Deployment

Businesses are expected to convert their phone systems to VoIP to take advantage of cost savings and the range of new features the technology offers. For several years, some industry observers have predicted that VoIP has the potential to make dramatic changes in the way organizations conduct their business. Yet, costs savings may be more influential in getting organizations to deploy VoIP because they can save on reduced telco charges and gain efficiencies in expenses and procedures related to employee moves, adds and changes.

Respondents in this study were asked whether the primary driver for VoIP is the promise of productivity gains or potential cost savings from merging voice and data onto a unified infrastructure. The results in Figure 6 show that slightly more respondents are deploying VoIP for cost savings (52%) than for productivity improvements (43%).

Figure 6: Primary Driver for VoIP



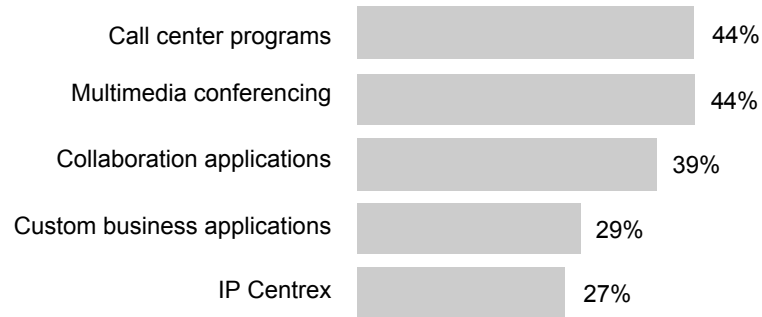
Base = 287 (Among respondents with VoIP deployed or plans to deploy within 2 years)

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Figure 7 below shows the VoIP applications respondents indicated their organization is using or will be using. Call center programs are at the top of the list (44%), which is not surprising since deploying VoIP can mean eliminating the need for some organizations to own and operate a call center as employees can take calls in their homes. Also at the top of this list is multimedia conferencing. Using VoIP can lower multimedia conferencing costs significantly.

Figure 7: Current and Planned Use of VoIP Applications



Base = 287 (Among respondents with VoIP deployed and plans to deploy within 2 years)
 Multiple Responses Permitted

UNIFIED COMMUNICATIONS

Familiarity

Right now there is a lot of buzz surrounding unified communications, in which e-mail, instant messaging, VoIP, traditional voice and presence (knowing whether someone is online/offline and how they prefer to be contacted) are converging. Respondents were asked how familiar they are with unified communications (see Figure 8).

Nearly half (49%) are "Very familiar" or "Familiar" with the technology, and another 37% is "Somewhat familiar." There are a variety of vendors talking about unified communications, so it is not surprising that more than 8 out of 10 respondents have some level of familiarity.

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Figure 8: Familiarity with Unified Communications

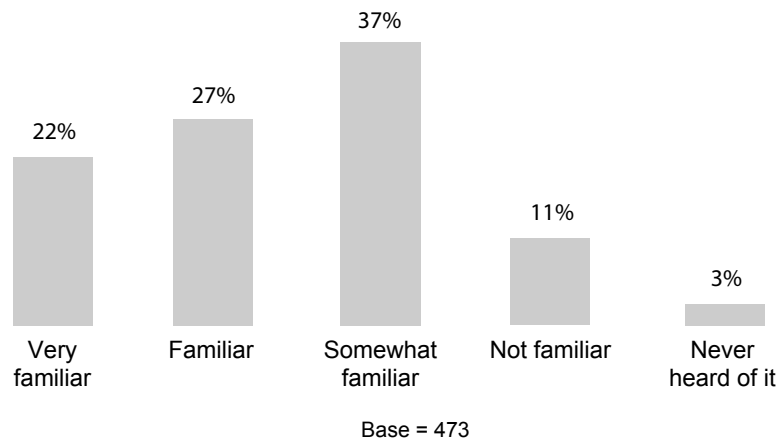


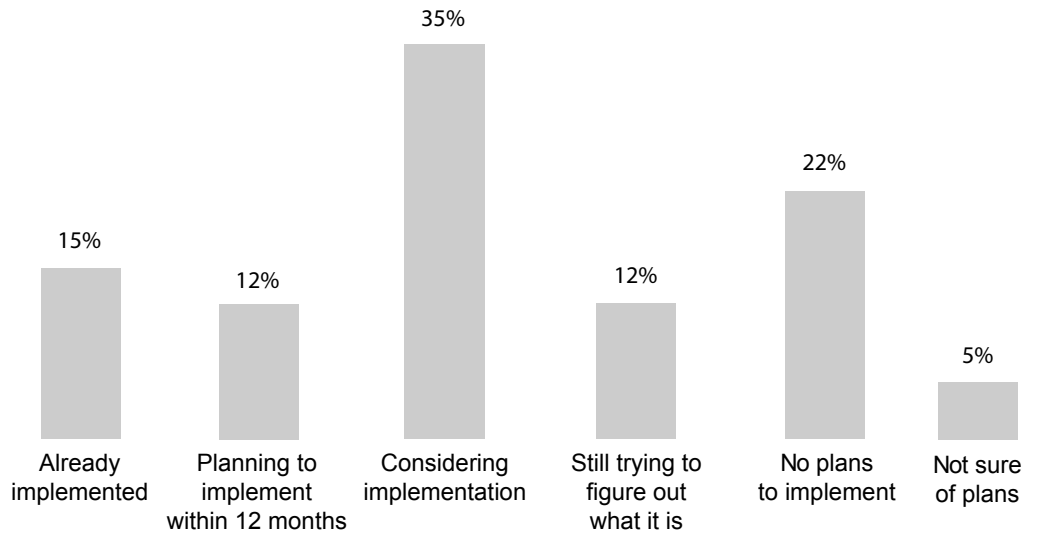
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Usage

Respondents who have heard of unified communications were asked to describe where their organization is with respect to implementation (see Figure 9). More than one-quarter (27%) has begun or completed implementation. The remaining respondents are on the fence – 35% is considering the technology, 12% is still trying to understand it and another 22% has no plans for it. Making real-time communications work reliably on a large scale is challenging, which most likely explains the cautious approach organizations are taking implementing unified communications.

Figure 9: Status with Unified Communications



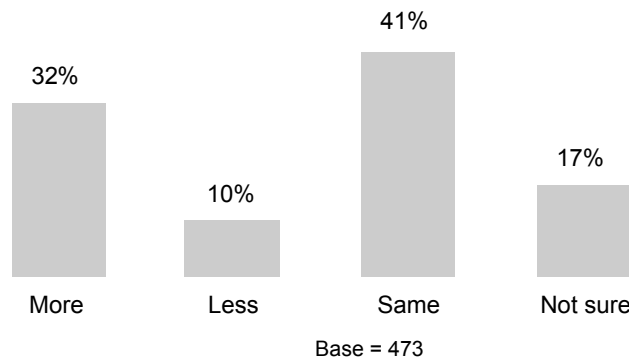
Base = 459 (Among respondents who have heard of Unified Communications)

CONVERGENCE PURCHASING

Resources Dedicated to Convergence

Respondents were asked if the amount of financial resources dedicated to their organization's convergence efforts will be more, less or the same as last year. Nearly one-third of respondents (32%) said their organization will increase spending, and 41% will maintain spending levels. Only 10% will decrease spending.

Figure 10: Change in Amount of Financial Resources Dedicated to Convergence Efforts



Purchase Plans

Respondents were asked which convergence-related products and/or services their organization would be considering for purchase or are planning to purchase in the next 12 months. At least 7 out of 10 will make a purchase, and VoIP phones will be purchased by almost half (47%).

Table 3: Convergence-related Purchase Plans in 12 Months

Net purchase plans	73%
IP Phones	47%
Voice/Video/Data Conferencing Products	35%
IP Video Products (e.g., video broadcast – Webinar, etc.)	29%
Unified Messaging Products	29%
IP-PBX Systems	28%
VoIP Monitoring, Analysis and Management Tools	28%
VoIP Security Products (session border controllers, SIP-based firewalls, etc.)	19%
IP-based Contact Center Solutions (e.g., virtual call center products)	18%
Broadcast and Notification Systems	16%
Hosted IP-PBX Services	9%
Other	3%
No purchase plans for any convergence-related products or services	27%

Base = 473 / Multiple Responses Permitted

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Advice for Vendors to Improve the Purchase Process

Respondents were asked what feedback they would give convergence vendors that would improve the purchase of products at their organization. The verbatim responses were organized into different areas and are shown below.

From the feedback received, it is evident that vendors have an opportunity to educate potential buyers. Specifically, buyers would like information on how convergence works and the business needs it addresses:

- *Education. VoIP is new, so don't throw out TLAs and expect customers not familiar with them to know immediately what you are talking about.*
- *A knowledge of just how their product would enhance our workability in the office.*
- *Offer local seminars on their services and products.*
- *What is your business case for convergence and VoIP?*
- *Don't assume that Convergence is a priority and a good thing and that we must follow your lead and implement it.*
- *Can we use existing phone and infrastructure? Promise of reliability and flexibility. Free support for how long?*
- *Explain the cost of the infrastructure needed and how having a third-party provider can save employee and hardware/software expenses.*
- *Help prospective user organizations understand the role of VoIP telephone systems vs. VoIP carriers, and assist them in taking advantage of both rather than focusing on one area.*
- *If it makes sense to invest in the solution then it would seem to be a win-win situation for all involved.*
- *It is no secret that this part of the industry is still in its infancy, and many of our clients still remember the failures of the "next big thing" mentality. They do not want to be beta-test sites as early adopters; however they are willing to take a chance on clearly documented and proven technological components. In short, there is an information and track record void, help us fill it so we can help you sell it.*
- *Cost-effective comparisons showing amount saved monthly and annually. The bottom line appears to be the most pressing item vs. the initial amount spent upfront.*
- *Currently, there is no business need. Even if the need arises, I do not see how the current convergence products can offer a technology solution. It seems vulnerable, depending on too many servers that we'd have to maintain internally and in general less than complete.*
- *Technologies need to stand on their own and prove value, reliability and risk so goals can be met.*
- *Monitoring, management and analysis tools are critical for successful VoIP tools, but relatively few IT people are adept at protocol analysis. Make SURE you emphasize the need for adequate analysis before, during and after deployment!*
- *ROI should be divided between hard and soft savings; e.g., hard savings are immediate cost reductions, whereas soft savings are expected or realized productivity gains, etc.*
- *We need migration plans as well as a complete financial analysis of the impact both to our WAN, LAN, and access points (such as Voice T1s).*

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It is important for vendors to keep their communications honest. Buyers can see through the hype and are frustrated by it:

- *Be clear in the explanation of what you offer. Don't fall into the trap of using buzzwords.*
- *Be realistic when discussing the implementation challenges, don't present best case only.*
- *Have clear and precise information.*
- *Less pie in the sky and more realistic info about their products strengths and limitations.*
- *Cut through the current smoke in the technology.*
- *I know that convergence vendors are in the game to make a few bucks, but you will save yourselves time, money and headaches if you provide realistic expectations with regards to transition to all parties involved. Biggest problem we had was the false promises made by convergence vendors to our executives when we (IT dept) knew the reality. IT didn't take a political hit, but the vendor did. Second major issue was the vendor's inability to coordinate their own resources with a multi-site (and state) rollout. Multiple phone systems for one enterprise were all configured differently so when the "converging applications" were turned up, a number of technical problems appeared. Again, the vendor took a political and financial hit for not being prepared. In short – communicate better and synchronize your project plans.*
- *Stop using industry euphemisms.*
- *Simplify the language. Avoid the buzzwords, because many companies who are ready to buy will wait until they understand/see through the smoke screen. Focus on capabilities and how they translate into day-to-day employee efforts. Don't hide prices/costs ... lay that all out front.*
- *Test and verify that the products perform as advertised.*

Buyers want VoIP solutions to be easy to use and understand:

- *Ease of use is critically important.*
- *Ease the pain of design and implementation.*
- *Easier troubleshooting tools and traffic measurement (trunking) tools.*
- *Keep it simple for end users.*
- *Make it simple ... make it inexpensive.*
- *Make the learning curve simpler, and provide more tools for analysis and management!*
- *Making the products easier to manage, (e.g., HR could provision phone).*
- *Market to small businesses low cost, turn-key systems that can be managed by someone who has other duties not related to infrastructure. Nearly all IT products get passed over in my current organization because it's too time-intensive and/or costly to implement without a dedicated IT staff.*

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Vendors should adhere to standards – this is important to quite a few buyers:

- *Adherence to standards, (802.1p, 802.1q, 802.3af, LLDP, QoS, mapping QoS to MPLS service levels, VoWLAN).*
- *Open standards PLEASE.*
- *Comply 100% with the standards, especially SIP!*
- *Follow standards.*
- *Participate in the standard-making process.*
- *Get standards bodies and work toward truly interoperable equipment that is green (environmentally and energy-efficient).*
- *Please standardize on SIP, and don't tell me you support SIP when you really don't. Stop marketing to upper management levels that VoIP will save you money because it's simply not true.*
- *Standards and VERIFIED interoperability, not just: "We can't see why it wouldn't work." This was our biggest headache.*
- *Standards should be developed that allow for completely open and interchangeable products by all vendors and manufacturers. These standards should be shared with open-source developers.*

The interoperability of VoIP solutions is also important:

- *Ensure interoperability with legacy and other vendors.*
- *Don't try to sell a solution that requires the client to build their VoIP implementation from scratch. Propose systems that integrate with the current infrastructure (if that option is available).*
- *Interoperability and adherence to standards is VERY important.*
- *Interoperability continues to be a chief concern and obstacle, especially with regard to support of SIP (and any vendor-specific extensions, in particular).*
- *Interoperability is paramount.*
- *Interoperability and "Licensed Sub-Component" Disclosure is a must. Some of our clients were very disturbed by the Vonage fiasco and were left with a low comfort level regarding the entire industry effort. By providing a structured component map (For large-scale functional blocks on the network) illustrating what other vendors do and, more importantly, do not provide 100% functional compatibility with is critical.*
- *Improve interfaces between your products and those of other vendors (yes, Microsoft and Cisco that means YOU). Concentrate on distinguishing your products by their superior features not by their proprietary-ness.*
- *Seamless integration with handheld OS such as Windows Mobile via Skype over such handhelds Wi-Fi (instead of EDGE or G network).*
- *Integration with Asterisk-based systems is a key feature that VoIP device manufacturers need to focus on.*
- *Explore more integration with mainstream business functions.*

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- *Business clients have already a significant investment in near legacy voice solutions now. Some are POTS, but many are now in a hybrid state. To incorporate your hardware, we as the redesigners need to be able to create a (somewhat) clear upgrade path that allows enterprises to leverage and merge as much of the existing infrastructure as possible.*

The costs associated with VoIP are an issue for some:

- *Bring down the cost.*
- *Bring the prices down!*
- *Cost. Interface with more than just Windows platform.*
- *Low-cost turnkey solutions.*
- *Lower costs; improve ease of application and service.*
- *Reduce the cost, complexity and troubleshooting efforts needed.*
- *Tools, like Chariot, are too stinking expensive.*
- *To keep prices competitive with the technology and have the salespeople know what they are talking about.*
- *They need to lower the price and include more benefits for small businesses.*
- *Pricing has to meet our 3-year ROI projection.*

A few suggested specific features they would like to see in a VoIP solution. Quality received some mentions as well:

- *Quality seems to be the problem.*
- *Enterprise quality.*
- *Would suggest some more quality parts.*
- *Security! Applications like VOMIT have shown us that our infrastructure is very vulnerable to attack. We are planning on implementing ZRTP for our security needs but we would like phone vendors to include great security in their products... standards driven or de facto standards driven at worst. Please... security.*
- *Powerful, but easy-to-use Web-based management utilities. Full or most features included in cost. Solid state hard drive technology. Easy back-up and restore process. Low- or no-cost call center reporting options.*
- *Consider an open-source environment when designing your products.*
- *Give me a single vendor solution.*
- *Purchase IP phones and devices that were 802.1x compliant.*
- *Offer more Unix-based products.*
- *Offer VoIP as a managed service.*

Support could be improved:

- *Much, much more practical implementation guides, ongoing resource requirements, monitoring and security management tools. The current environment is unacceptable.*
- *Solutions need to be better supported after installation. Also the impact on data transfers and application QoS.*
- *Listen to your customer.*
- *Try to understand the business needs for SMBs.*