

VoIP Implementation: Who's Doing It, and Why

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In the spring and early summer of 2002, Network World held a series of eight full-day seminars on Voice over IP (VoIP). During the course of the seminars, we distributed a questionnaire asking the attendees about themselves, their opinions and their plans. We received about 450 responses, and the composite view these responses provided gives us a unique insight into the companies that are planning to implement VoIP and why they are making these plans.

It's only fair to admit that this sample group is not representative of the entire industry. The attendees self-selected themselves by their willingness to spend a day learning about the state of VoIP. This would indicate that they are in evaluation mode. If they had no interest, they wouldn't attend. Nevertheless, there did seem to be a contingent that attended as a defensive move - to make sure they weren't missing something even though they were not yet ready to begin an implementation.

Overall, the tremendous response to this seminar (about 200 attendees per city) and their responses to the questionnaire give a critical view into the plans, concerns and impediments to implementing VoIP.

Voice, LAN or WAN?

One of the most striking demographics among the attendees was the mix of a "voice people" and "data people." A show-of-hands poll indicated that there was a relatively even mix of people who considered themselves "voice people," "WAN people" and "LAN people." As shown in [Figure 1](#), the attendees had a varying degree of responsibility for voice and data. In fact, even though there were significantly more attendees who were 100% data than 100% voice; 70% had at least 25% of their responsibility split between voice and data. For some of the analyses that we will share later, there also seems to be a significant difference in opinions depending on whether at least 50% of their responsibility is for voice as opposed to mostly data.

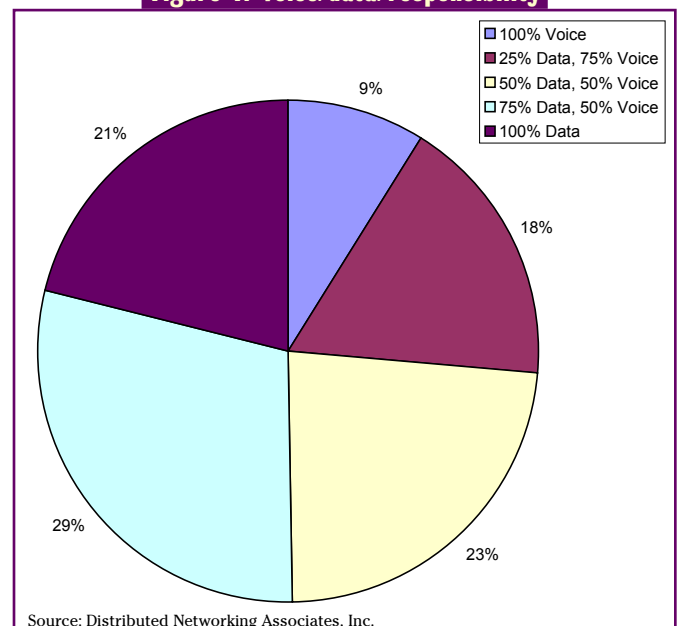


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Figure 1: Voice/data/responsibility



Overall, 36% of the respondents indicated that they already had deployed VoIP (in some form), while 64% had not yet deployed VoIP. The attendees also were asked to classify themselves concerning how they rate their company relative concerning rapidity of adopting new technology. These responses indicate that the VoIP market is still quite young, with more than half viewing themselves as early adopters. Twenty-four percent answered that they like to be among the first to implement new technologies, and 33% answered that they see themselves as early adopters, but they wait until they see the problems others have had. Of the remaining attendees, 38% said they adopt new technologies when they are confident that they have become mainstream and widely accepted, while only 5% stated that they are reluctant to go to new technologies and generally will do so only when necessary.

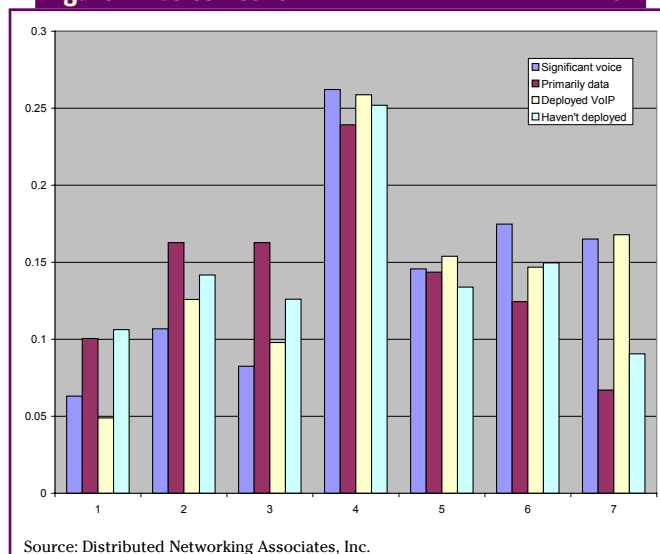
Strategic or Tactical?

Because it is becoming abundantly clear that many of the reasons to implement VoIP are more tactical than strategic, it was interesting to see the extent to which the attendees viewed their voice and data networks as being tactical as apposed to strategic. The attendees were asked to rank both the voice network and the data network for their company on a scale of 1 to 7, with 1 being purely tactical and 7 being purely strategic. When all attendees are grouped together, both are viewed as being "slightly strategic," data being a little more strategic (average response of 4.6) than voice (average response of 4.1).

This also turned out to be a place where the attendees with significant voice responsibility (up to 50%) differed from those with primarily data responsibility, as shown in [Figure 2](#). Overall, the attendees with up to 50% voice responsibility for ranked the voice and data networks almost equally (4.6 for voice vs. 4.5 for data), while the attendees who were data-centric viewed the data network as equally strategic (rating of 4.5) and the voice network as much less strategic (rating of 3.8).

As indicated in [Figure 2](#), the responses to the question of whether the voice network is viewed as tactical or strategic varied rather strongly among the respondents not only based on whether they had significant responsibility for voice, but also according to whether they already had deployed VoIP in their networks. Those who had significant voice responsibility tended to view the voice network as much more strategic than their data-oriented counterparts. Similarly, those who already had deployed VoIP tended to view the voice network as being much more strategic. Interestingly, this type of division was much less pronounced in the tactical vs. strategic view of the data network.

Figure 2: Voice network - 1=Purely Tactical - 7=Purely Strategic



In some ways, this could be viewed as a purely sociological result. People who are involved heavily in one part of the network tend to view their network as strategic and the other network as tactical. One also could argue that those who attended the seminar from the voice side had strategic voice networks, so the "data people" were exactly right. Their tactical counterparts didn't show up.

Nevertheless, this does highlight two points. Voice people who are implementing VoIP are taking a strategic view of their network. People who are implementing VoIP view the voice network as having a strong strategic component.

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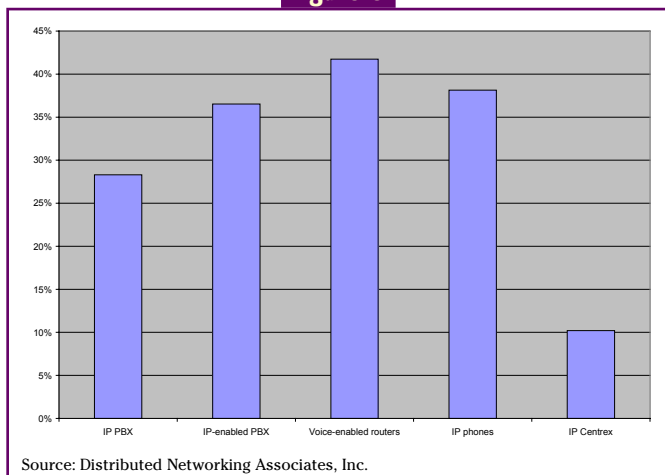
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Deployment Plans and Satisfaction

Because the target population we surveyed was attending a VoIP seminar, it's not surprising that the majority plan to deploy VoIP in some form. When we asked the attendees to use a scale of 1 to 7, where 1 means "definitely will not" and 7 means "definitely will," to indicate the likelihood that their company will deploy VoIP in the next year, the overall average was 4.65. More than half, 56%, indicated a value of 5 through 7, indicating that there was a positive probability that they will deploy. By contrast, only 27% indicated a low probability of deployment (value of 1 through 3), and the remaining 17% indicated a neutral position. Twenty-six percent overall, representing 46% of those indicating they would deploy, indicated that they definitely would deploy VoIP (value of 7).

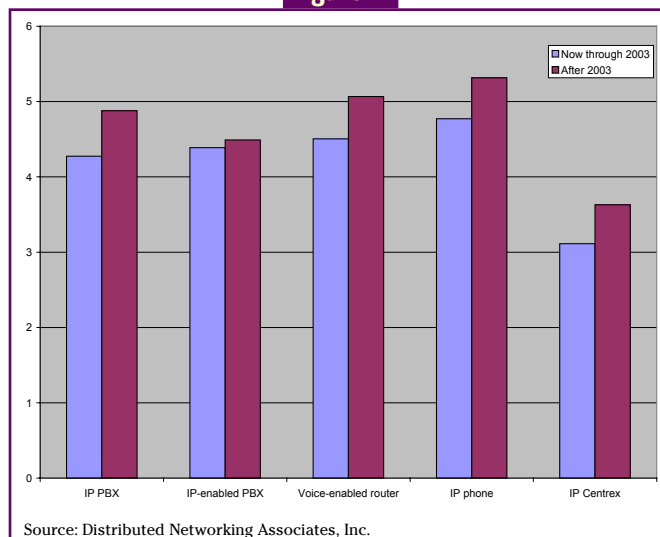
Figure 3



The attendees also were asked what type of VoIP equipment and services they had deployed or planned to deploy. As illustrated in Figure 3, voice-enabled routers were by far the most widely deployed, with almost half of the respondents currently using these products. IP phones and IP-enabled PBXs essentially tied for second place among the systems deployed. Almost 10% more of the respondents (37% vs. 28%) were using IP-enabled PBXs, which are traditional PBXs with IP capabilities, than were using "pure" IP PBXs. On the service side, only 10% indicated that they were using IP Centrex, but even this number was surprisingly high.

Figure 4 looks down the road at the anticipated use of various products and services. In this chart, the attendees were asked again to indicate the probability that they would use the various options using a scale of 1 meaning "very unlikely" and 7 meaning "definitely will evaluate/deploy." There are two values for each category, one for now through 2003 and the other indicating after 2003.

Figure 4



The overall message here is clear. All segments of the market will tend to even out, with more uptake for each segment after 2003. The only exception is IP Centrex, which will remain, at least according to the respondents, in the "less likely" rather than the "more likely" territory.

Nevertheless, the bottom line is that those who have deployed VoIP are pretty happy with their deployments. When asked again to rank their satisfaction on a scale of 1 (not satisfied) to 7 (extremely satisfied), the overall ranking was 4.77. And the vast majority were quite satisfied, as indicated in Figure 5. In fact, even though the satisfaction peaked at a 6 out of 7, the number of respondents assigning a 7 (10%) outstripped those assigning a 1 or "2 (7% total).

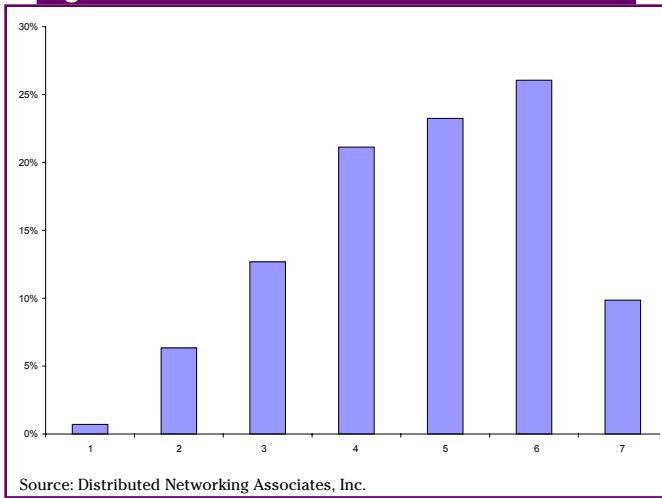
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Figure 5: Satisfaction - 1=Not Satisfied - 7=Extremely Satisfied



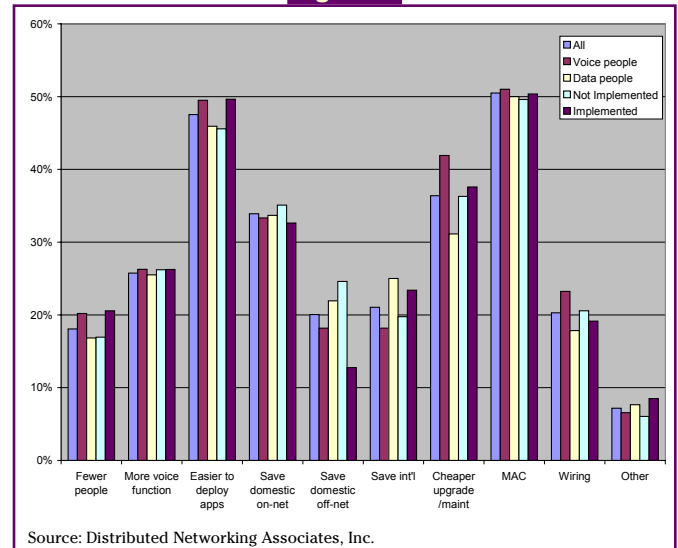
Expected Benefits and Impediments to Deployment

The proverbial rubber met the road in the survey, though, when we asked about the expected benefits and the impediments the attendees faced in going forward with a VoIP implementation.

Figure 6 shows the response to the most important benefits, where the respondents were presented with the following list (listed here in full text for completeness) and asked to check up to three:

- Fewer networking people to support the business requirements.
- Deploying voice functionality (i.e., ACD or three-way calling) to offices that didn't have it previously.
- Easier to deploy new integrated applications.
- Cost of domestic calls between company sites will drop significantly.
- Cost of domestic calls other than between company sites will drop significantly.
- Cost of international calls will drop significantly.
- Ongoing cost of upgrading and maintaining our traditional PBXs will drop significantly.
- Cost of moves/adds/changes will drop significantly.
- Cost of wiring will drop significantly.

Figure 6



Clearly, the two most important categories were "easier to deploy new integrated applications" and "cost of moves/adds/changes will drop significantly." The percentage of respondents indicating that these were significant benefits also did not vary greatly among the populations of those with and without significant voice responsibility nor those who have or have not deployed VoIP already. "Fewer networking people to support the business requirements" was the least expected benefit overall.

Saving on toll charges, both internationally and domestically, is an often-touted tactical advantage that seems to have relatively little impact on the respondents. About 34% overall expect to save money on domestic on-net calls, with very little variation among the different groups. While the overall population repre-

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sented 20% who expected to save on domestic off-net calls, the responses here varied sharply between those who had implemented VoIP (13%) and those who had not (25%), indicating that this might not be a particularly realistic goal. After all, domestic phone charges are so low that the business case is really tough. On the other hand, this response was reversed for international calls, where those who had implemented VoIP represented 23% vs. 20% for those who had not. The more telling differentiation here is the difference between those with and without significant voice responsibility. In this case, only 18% of the "voice people" chose international toll savings as a significant factor, while 25% of the "data people" chose this in their top three. One possible explanation for this is that perhaps the international charges are viewed as higher than they really are by the data people who don't deal with these tariffs every day.

On the flip side of the benefits, the respondents also were asked to choose all that apply from the following list of primary impediments that they face for implementing VoIP

- The benefits of VoIP are not compelling enough to deploy additional systems at this time.
- The lack of the budget.
- The lack of the people to plan, design, implement and manage VoIP.
- Having an installed base that must be fully depreciated.
- Do not think that technologies such as quality of service (QoS) are ready for broad deployment.
- Do not think that a broad deployment of VoIP is easily managed.
- Concerns about interoperability between vendor's equipment.

As shown in [Figure 7](#), many common perceptions about the primary impediments are flatly wrong. The idea that there is no compelling benefit and that there are huge concerns about QoS not the major issues. Instead, in these tough economic times, budget is the major concern. The business benefits are there if the budget is there to support it.

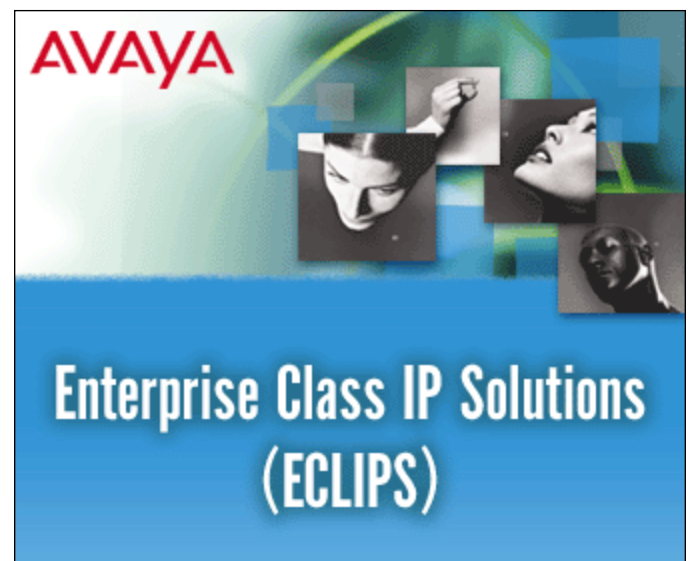
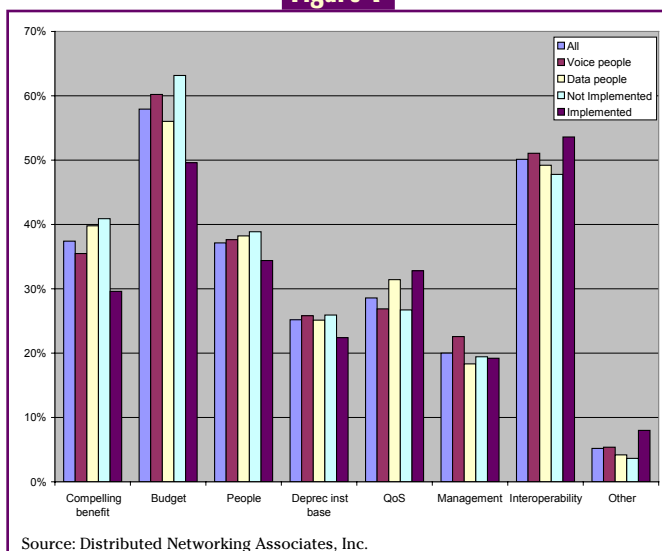
Digging a bit more deeply, it's certainly no surprise that budget is a major issue among those who have not implemented VoIP (63%) as compared with 58% overall. Even those who have implemented VoIP list budget as their second greatest concern (50%), close on the heels of interoperability. Similarly, interoperability is a slightly greater concern (54%) among those who have implemented VoIP than among those who have not (48%). This probably is the voice of experience speaking here, indicating that there is a significant concern to be addressed.

One of the most discussed impediments is the lack of a compelling benefit - often referred to as the "killer application." Clearly, this is not the major issue among the respondents. Among those who have implemented VoIP, the concern, weighing in at 30%, is among the lowest. Not surprisingly, this is more of a concern for those who have not implemented VoIP, weighing in at 41%. Had they found the compelling benefits, then they would have implemented.

The lack of QoS often is used as a reason that VoIP has not been implemented. This doesn't seem to be a major concern among the respondents, with 29% of the overall respondents listing this as a top concern. Interestingly, this was more of a concern among those who have already implemented VoIP than among those who have not.

Even so, QoS was less of a concern than lack of the people to plan, design, implement and manage VoIP. This concern, which came in as a tie (with the lack of compelling benefits) for third with

Figure 7



37% overall, probably is indicative of the economic climate more than an actual lack of skilled people available in the labor pool.

Finally, having an installed base that must be fully depreciated and not thinking that technologies such as QoS are ready for broad deployment did not weigh in as factors that were nearly as important as any of the other factors discussed above.

The Bottom Line?

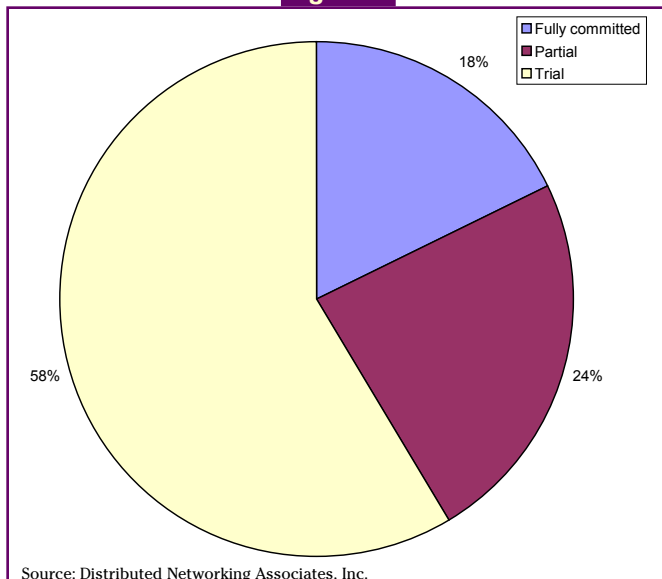
So what's the key take-away from all this? VoIP is ready for full deployment, and many enterprises are ready to proceed as soon as they find budget. Among those who have found budget, we believe that is was often because of a combination of looking at the overall benefits and the immediate savings as opposed to an immediate tactical payback.

Perhaps the ultimate message is best summed up, though, in the final question asked in the survey, which was: "Which of the following best describes your company's current approach to deploying VoIP?" The choices were:

- We are committed to a complete deployment of VoIP and are heading in that direction.
- We are committed to deploying VoIP, but only in certain parts of our network.
- We will trial VoIP in selected parts of our network and evaluate how well it works before going any further.

The assumption in asking the question was that most attendees at the seminar were committed to at least trying the technology. Otherwise, they would not have dedicated the time to come to the seminar. (However, there was an "other" box for those who were not yet committed.)

Figure 8



As **Figure 8** shows, a significant number are committed to a full or partial commitment, but many more are committed to trailing the technology.

Is it full-steam ahead? Not quite. But there is a clear direction of moving ahead with some caution, and we can expect the deployments to pick up as the major impediments - budgets and interoperability - are resolved.

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