

NETWORKWORLD[®] 2007

Buyers' Insights

WAN

Buyers' Insights into Purchase Trends and Challenges

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Conducted for: Network World Inc.

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EXECUTIVE SUMMARY

The purpose of this research is to investigate the key issues surrounding WAN management, the implementation of MPLS-based services and WAN-optimization tools, and the purchase of WAN products. An online survey was sent to members of Network World's Research Panel, and results are based on 363 respondents involved with the purchase of WAN-related products and services for their organization.

Top Issues Related to the WAN

- There are a myriad of challenges IT professionals encounter when managing the WAN. The results of this study indicate the top challenges are securing the WAN, the possibility of downtime and keeping application service levels up to par.
- Study respondents are most worried about running voice-over-IP traffic over the WAN, although it should be noted that more than half are concerned with storage traffic and video traffic, as well.

Multi-Protocol Label Switching (MPLS)

- MPLS-based technology was created about 10 years ago to improve the price/performance/scalability and flexibility of network-layer routing. In this study, 80% of respondents expressed some level of familiarity with MPLS networks, but only 32% have deployed it, and another 11% will do so within 12 months. Those already using it will increase the percentage of their WAN traffic running on MPLS-based networks. More than 7 out of 10 respondents expect that in five years 75% or more of their WAN traffic will be running on MPLS-based networks.
- Those using MPLS-based services said it has delivered on their expectations of lower costs than comparable data services. The technology also delivered on other key benefits including quality of service, faster response times, price/performance and improved application performance.
- Lack of a perceived need for the MPLS-based services is the main reason for not employing the technology.

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WAN Optimization Technology

- By combining technologies such as compression, caching, wide-area file services, TCP optimization and SSL acceleration, WAN-optimization techniques reduce the amount of traffic that crosses WAN circuits. Almost all (93%) respondents in this study have some level of familiarity with WAN optimization, but the technology has been deployed by only 25% of respondents with another 12% planning to use it within 12 months. One-third of respondents (32%) is considering the technology. Most respondents using WAN optimization have it deployed across domestic links only.
- At least 8 out of 10 respondents who have deployed WAN optimization indicated the technology has delivered improved application performance, and that they have saved money on bandwidth and equipment.
- The two main reasons for respondents not using WAN optimization are lack of familiarity with the technology and the perception that it is too costly to deploy. It is interesting that while almost all respondents feel they are familiar with WAN optimization in general, the results of this study indicate there is a segment that needs to be better educated since many are not deploying because they feel they are not familiar enough with the technology.

WAN Purchase Process

- Almost all organizations surveyed (97%) will purchase a product or service for the WAN in the next 12 months. Servers and bandwidth-management products (hardware and software that let enterprises control their bandwidth and manage QoS) are most likely to be purchased. More than one-third (40%) will increase spending on WAN-related endeavors, and another 42% will spend the same amount.

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PURPOSE AND METHODOLOGY

Purpose

The objective of this research is to investigate the key issues surrounding WAN management, the implementation of MPLS-based services and WAN optimization tools, and the purchase of WAN products.

Methodology

An e-mail blast was sent to members of Network World's Research Panel in August 2007 asking for their participation in a survey related to WAN management. There were 363 qualified respondents involved in the purchase of WAN products and services. All survey results are based on 363 respondents unless otherwise indicated. Some percentages may not add up to exactly 100% due to rounding.

The specific ways in which respondents are involved with purchasing WAN-related products are outlined below:

RESPONDENTS' ROLE IN PURCHASING WAN PRODUCTS	% RESPONDING
Determine the business need	75%
Determine the technology solution	86%
Oversee purchase process	55%
Research vendors and technology solutions	83%
Create short list of vendors	72%
Select final vendor	63%
Manage/responsible for budget	44%
Approve budget	25%
Other involvement	17%

Multiple Responses Allowed

The majority of respondents have a network/IT job function (73%). Nine percent are Independent Consultants, and 7% are Corporate Management (the remaining 11% are classified as "Other"). Respondents represent a diversity of industries; those mentioned by at least 3% include Manufacturing – not computer related (11%); Web Hosting/ISP (10%); Travel/Hospitality/Entertainment (9%); Business Services (8%); Carriers (8%); Insurance/Real Estate/Legal (7%); ASP/SSP (6%); Utilities (5%); Health Care Services (5%); Aerospace (4%); Manufacturing – computer related (4%); Process Industries (4%); Education (4%); Transportation (4%); and Consulting (4%).

Respondents work in SMBs and large organizations.

	DEFINITION	% RESPONDING
Large companies	1,000+ employees	58%
Medium-sized companies	100 to 999 employees	26%
Small companies	Less than 100 employees	16%

MANAGING THE WAN

WAN Challenges

WANs are growing as more business services are transported around the globe. However, WAN downtime can be costly, and IT hears the complaints when users are left without important business applications. Which aspects of running the WAN are keeping IT professionals up at night? Respondents rated their level of concern with six WAN issues (1 = Not at all concerned to 5 = Very concerned). As seen in Figure 1, at least 7 out of 10 respondents are concerned with securing the WAN, downtime on the WAN and keeping application service levels up to par. Another top concern is the growth in the amount of WAN traffic (68%).

Figure 1: WAN Challenges

(% "Very concerned" or "Concerned")

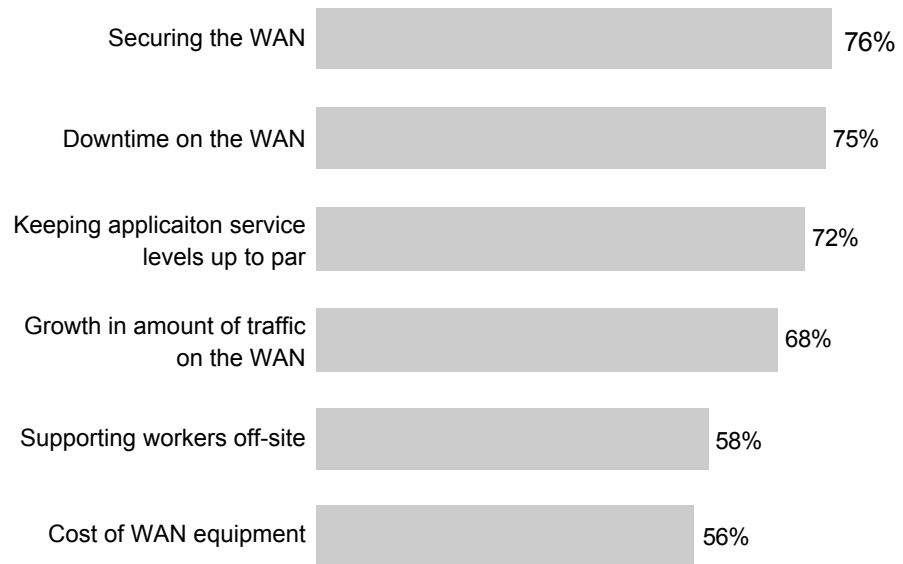


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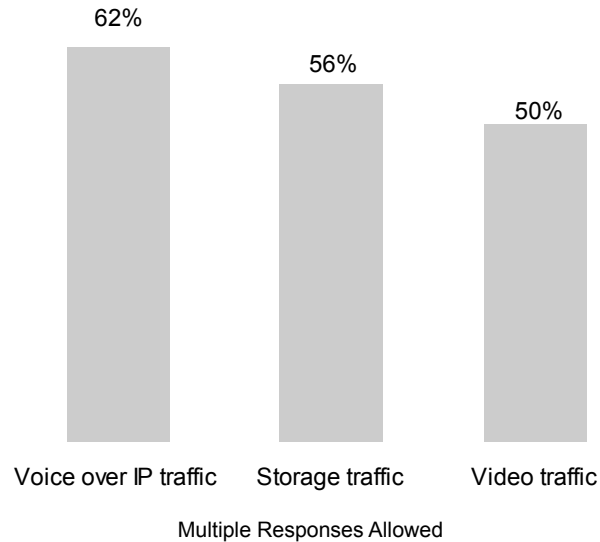
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WAN Traffic Concerns

Some traffic types can require enormous amounts of bandwidth, monitoring and management. Respondents were asked which types of traffic they worry about running on the WAN (see Figure 2). The results show that 62% are concerned with VoIP traffic, 56% are concerned with storage traffic, and 50% with video traffic.

Figure 2: Types of Traffic that Cause Concern on the WAN



WAN TECHNOLOGIES

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Multi-Protocol Label Switching (MPLS)

MPLS was created to improve the price/performance, scalability and flexibility of network-layer routing. The technology integrates Layer 2 information about network links (bandwidth, latency, utilization) into Layer 3 (IP) in order to simplify and improve IP-packet exchange. MPLS affords the ability to integrate voice, video and data across a common platform that delivers QoS. It provides a scalable range of services, unlike frame relay, which was originally designed to operate at less than T-3 speed (45M bit/sec), or ATM. MPLS-based services scale from low bandwidth to very high bandwidth (no defined upper limit).

MPLS-based technology was created about 10 years ago, and as seen in Figure 3 below, almost half of respondents (49%) indicated they are either "Very familiar" or "Familiar" with the technology. Just under one-third (31%) is "Somewhat familiar."

Figure 3: Familiarity with MPLS Networks

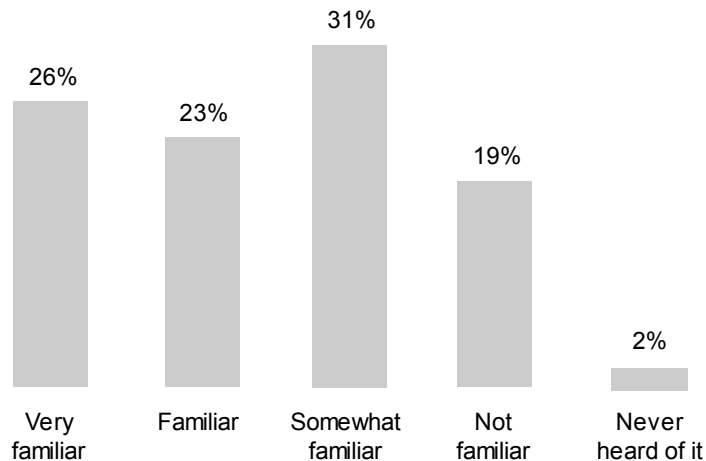
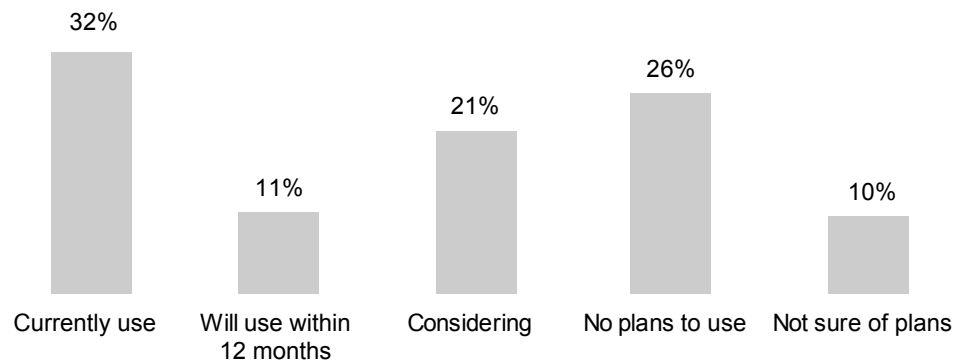


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Figure 4 shows the status of MPLS-based services at respondents' organizations. Currently, 32% are using MPLS-based services, and another 11% have plans to use it within 12 months, bringing deployment to just under half of the organizations surveyed (43%). Another 21% are considering using MPLS, and 26% have no plans at this time.

Figure 4: MPLS-based Services Usage



Base = 357 (Among respondents who have heard of technology)

Does MPLS represent the wave of the future? In order to provide insight into the infiltration of MPLS-based networks within organizations, respondents who indicated they are already using MPLS-based networks were asked what percentage of their total WAN traffic is running on MPLS today and what percentage they expect to run on these networks 5 years from now. Currently, two-thirds (67%) indicated at least half of their WAN traffic is running on MPLS. This figure jumps to nearly 9 out of 10 respondents in 5 years. This indicates that companies currently using MPLS plan to rely on it more in the future, most likely at the expense of other legacy WAN services such as ATM and frame relay.

Table 1: Percentage of WAN Traffic Running on MPLS-based Networks

	TODAY	IN 5 YEARS
Less than 10%	7%	2%
10% to 24%	10%	2%
25% to 49%	16%	9%
50% to 74%	22%	15%
75% to 100%	45%	73%

Base = 113 (Among respondents already using MPLS)

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MPLS-based services deliver several advantages, and respondents currently using them were asked to what extent it delivered on five specific benefits (see Table 2).

Depending on the specific mix of applications and network configuration, MPLS-based services can reduce costs over comparable data services, such as frame relay and ATM. Based on the results of this survey, MPLS-based services have met expectations on the important benefit of saving money as at least 9 out of 10 respondents (91%) indicated MPLS has delivered lower costs than comparable data services.

One of the primary benefits of MPLS-based services is the ability to support QoS, which is particularly important for companies running voice and video on their networks. QoS has exceeded or met expectations for 85% of respondents.

Because of the “any-to-any” nature of MPLS services, network designers can reduce the number of “hops” between network points, which translates into a better response time. At least 8 out of 10 respondents indicated MPLS-based services exceeded or met expectations for faster response times, price for performance and improved application performance.

Table 2: Ability of MPLS-based Services to Deliver Benefits

	NET EXCEEDED OR MET	EXCEEDED OUR EXPECTATIONS	MET OUR EXPECTATIONS	DID NOT MEET OUR EXPECTATIONS	TOO SOON TO TELL
Lower costs than comparable data services	91%	18%	73%	7%	3%
Quality of service	86%	14%	72%	9%	5%
Faster response time	85%	14%	71%	10%	5%
Price/performance	84%	14%	70%	8%	8%
Improved application performance	82%	10%	72%	12%	6%

Base = 113 (Among respondents already using MPLS)

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Respondents either considering MPLS-based services or those with no plans for the technology were asked which factors were holding them back from using it. The top reason was “No need” (36%). It is surprising that just over one-third cited “no need” given the technology’s ability to deliver cost savings and provide QoS, among other benefits. This may be due to a lack of familiarity with the benefits offered by MPLS.

Table 3: Factors Holding Back Usage of MPLS-based Services

	% RESPONDING
No need	36%
Lack of financial resources	29%
Technology too new/not yet proven	29%
Too costly	28%
Standards are still emerging	24%
Other	13%

Base = 170 (Among respondents without definite MPLS usage plans)
Multiple Responses Allowed

WAN Optimization

Improving application performance over the WAN has become an important goal for many companies. While organizations want to get the most of their WAN, they are cautious about paying for costly network upgrades. By combining technologies such as compression, caching, wide-area file services, TCP optimization and SSL acceleration, WAN-optimization techniques reduce the amount of traffic crossing WAN circuits. IDC estimates the total worldwide market for WAN application delivery will reach \$670 million in 2006. By 2011, the market will reach \$920 million.

Nearly all respondents (93%) in this study have some level of familiarity with WAN-optimization technology, and more than half (57%) are either “Very familiar” or “Familiar” with it.

Figure 5: Familiarity with WAN Optimization Technology

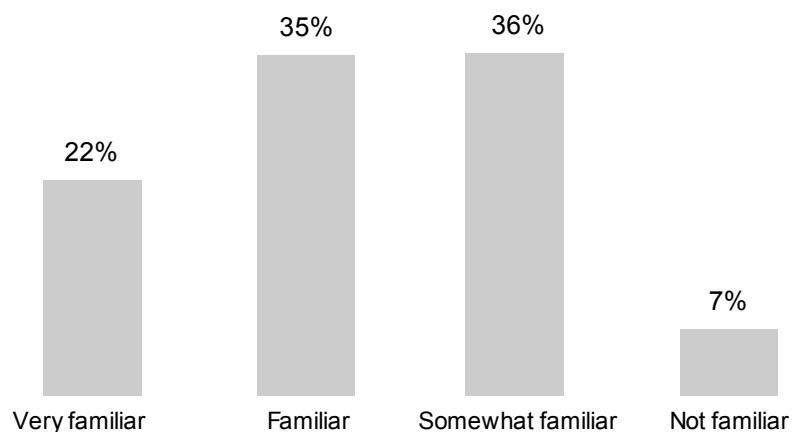
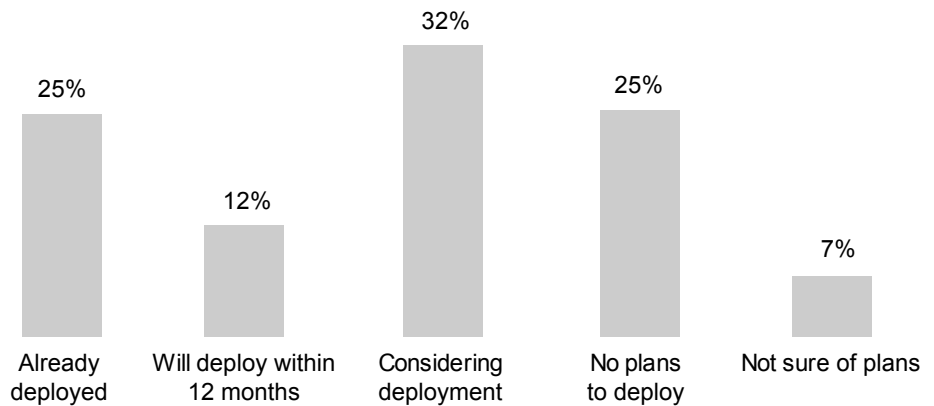


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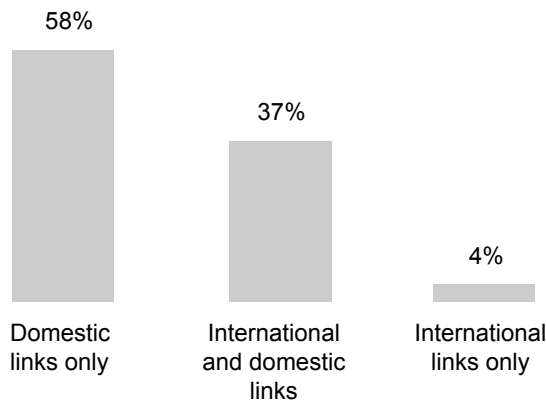
While WAN-optimization devices can improve transaction times between sites by as much as 90% or more, sometimes these devices are overlooked by potential users. Based on the results of this study, while most respondents are familiar with the technology, they are taking a cautious approach to adoption. Currently one-quarter is using WAN optimization, and another 12% will be using it within 12 months, bringing deployment to 37%. Another 32% are considering the technology, and 32% have no plans or are unsure of their plans. Therefore, there are three groups in terms of adoption — those committed to using WAN optimization (37%), those considering it (32%), and those with no plans or who are unsure of their plans (32%).

Figure 6: WAN Optimization Deployment



Respondents already deploying WAN optimization were asked where their organization has deployed the technology. Most (58%) are using it for domestic links only, while 37% are using it for international and domestic links.

Figure 7: Infiltration of WAN Optimization



Base = 89 (Among respondents with WAN optimization already deployed)

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WAN optimization has exceeded or met expectations for improved application performance for 86% of respondents currently using the technology. In addition, at least 8 out of 10 indicated that they did save money — on bandwidth (84%) and on equipment (80%). Thus, the technology has delivered on two important benefits — improved performance and cost savings.

Table 4: Ability of WAN Optimization to Deliver Benefits

	NET EXCEEDED OR MET	EXCEEDED OUR EXPECTATIONS	MET OUR EXPECTATIONS	DID NOT MEET OUR EXPECTATIONS	TOO SOON TO TELL
Improved application performance	86%	20%	66%	8%	6%
Saved us money on bandwidth	84%	21%	63%	6%	10%
Saved us money on equipment (e.g., did not have to purchase additional servers)	79%	13%	66%	9%	11%

Base = 89 (Among respondents who have already implemented WAN optimization)

Respondents either considering deployment or those with no plans to deploy were asked what is holding them back from using WAN optimization techniques. The two main reasons cited for not using WAN optimization are lack of familiarity with the technology and cost. Some industry observers have noted these devices are overlooked because potential users are concerned the devices would lose chunks of data, or stall or crash. Yet this does not appear to be the case, as only 23% said they have not deployed the technology because they're concerned about its impact on their WAN.

Table 5: Factors Holding Back WAN Optimization Deployment

	% RESPONDING
Not familiar enough with the technology to deploy	39%
Technology is too costly	34%
No need	26%
Concerned about the impact the technology would have on their WAN	23%
Other	8%

Base = 206 (Among respondents without definite implementation plans)

Multiple Responses Allowed

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PURCHASING PRODUCTS FOR THE WAN

Purchase Plans

Respondents were asked which products their organization plans to purchase within 12 months. Almost all (97%) will purchase at least one of the products listed in Table 6, and more than half has plans for servers (58%) and bandwidth-management products (52%).

Table 6: Products Plan to Purchase

	% RESPONDING
Net purchase plans	97%
Servers	58%
Bandwidth Management (hardware and software products that let enterprises control their bandwidth and manage quality of service)	52%
Network Traffic Analysis Tools	44%
Network Configuration Tools (products that monitor network devices)	40%
Application Performance Monitoring (systems and software that track applications for performance issues)	39%
Network Performance Tools	39%
Application Acceleration (hardware and software that accelerates or compresses application traffic)	37%
Wireless LAN Software	36%
IP Address Tools (products that track IP addresses within an organization, automate changes and produce reports of systems/addresses)	31%
Identity Management Tools	29%
Wireless Device Software and/or Middleware	29%
Network Test Gear	27%
Fault Management Systems (software products that detect, isolate and correct malfunctions in a network)	26%
Inventory Assessment (software tools or managed services that help manage IT assets)	25%
Patch Management and Vulnerability Management Tools	25%
Security Event Tools (collect, collate and report on the log information of a variety of security devices across an enterprise network)	25%
Web Content Filtering Tools	25%
Network Management Framework	24%
Environmental Monitoring Systems (report on environmental conditions such as temperature, humidity, airflow)	23%
Network Capacity Planning and Network Design Software and Solutions	23%
Outbound Content Monitoring Tools (network-based products that can monitor data in motion and data at rest, and subsequently block sensitive data from leaving the corporate network)	20%
Wide-Area File Systems (WAFS)	17%
Instant Messaging Monitoring Software	15%
Web Performance Software	15%
Service-Level Software and/or Systems (track WAN performance and monitor existing service-level agreements)	14%
Web Analytics	14%
Other	6%
No purchases planned for the WAN	3%

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Resources Dedicated to the WAN

Respondents were asked if the amount of financial resources dedicated to their organization's WAN efforts will be more, less or the same as it was last year. More than one-third of respondents (40%) said their organization will increase spending on WAN endeavors, and 42% will maintain spending levels. Only 10% will decrease WAN spending.

Figure 8: Change in Amount of Financial Resources Dedicated to the WAN

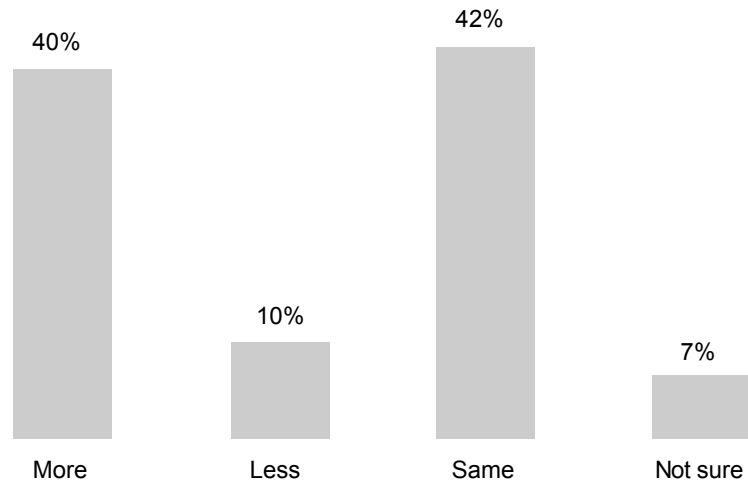


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Buyers Speaker Out: Advice to Improve the Purchase Process

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

A few respondents would like to see product demonstrations, case studies and more “real-life” examples:

- *Actually cases of usage.*
- *More case studies.*
- *Demonstrate ROI by monitoring my actual net traffic rather than case studies that don't really apply to my business.*
- *Comparison testing and results based on the top suppliers.*
- *More information and case studies.*
- *More tangible ROI documentation and case studies would be helpful.*
- *Much better cost benefit analysis.*
- *Give me 30 days try before buy.*
- *No obligation demos, possibly manufacturer financing with low interest rates.*
- *Need information related to applications and use.*

Buyers want honest communications from vendors:

- *Advertising claims must match actual performance.*
- *Be more clear about the product, and have a complete pros and cons analysis done before providing or suggesting any new technology.*
- *Be upfront and delete the fluff.*
- *Don't sell the sizzle...sell the solution.*
- *Don't oversell the product, we aren't all stupid.*
- *Less hype and better quality.*
- *Let your product speak for itself. Do not bash competitors to make you and your product look better. Tell me what the product can do and why I should buy it.*
- *Know more about your product.*
- *Simplify. Provide clear technical specifications minus sales adjectives.*
- *Talk real. Use site surveys.*
- *Vendors that don't have at least ballpark pricing on their Web sites are an instant annoyance, forcing me to contact salesmen who call back with astonishing frequency.*

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Buyers would like to see better integration among products and products that are easy to use:

- *Make them easier to integrate*
- *For me, integration and simplicity are keys to all products.*
- *WAN products should be integrated with disaster-recovery software for mission-critical applications.*
- *Develop products that can take advantage of the true any-to-any connectivity options offered by an IP MPLS service vs. a hub-and-spoke architecture.*
- *A multipurpose product.*
- *Keep it simple and straight forward for use on common technologies.*
- *We would like the products to be seamlessly integrated with Microsoft Unified Messaging and Microsoft Office 2007 Live Communications Server.*
- *Use STANDARDS. While a proprietary approach may increase throughput, efficiency, and/or features, more often than not it will also cause compatibility issues in a heterogeneous environment.*
- *Try to work on a consistent command line, where commands work across different platforms.*
- *Standardize the mechanisms for WAN acceleration between remote and data center devices, across vendor lines. Current solutions have to rely on the same vendor on both sides, instead of interoperating.*
- *Thorough implementation of standards. Offer more options of products and implementations.*

There are always some buyers who would like to see better prices:

- *Keep the cost down.*
- *Lower price.*
- *Lower your prices, improve your tech support.*
- *Make them cheaper!*
- *Please charge reasonable prices.*
- *Please keep the cost low!*
- *Target the SMB market — As a small business, we're still caught in the void between home user and enterprise equipment — we need features and a bit of horsepower, but something we can also AFFORD.*
- *Reduce equipment costs and service/maintenance agreement costs.*

Some mentioned improved customer relations:

- *Better customer relations.*
- *Be careful with customer service. Keep customer updated even if there are no status changes on an open call.*
- *I want to talk to a human, not to their voicemail.*
- *Technology services and customer service!*