Level(3)®

THE WIDE AREA NETWORK

A BUYER'S GUIDE

## How to Use This Guide

When it comes to making a wide area network (WAN) purchase decision, you know that you should consider more than just price per bit. Modern applications demand low latency, availability and scalability. In addition, preparing for future applications without paying too much is the key to developing a Smart WAN — an intelligent, cost efficient, elastic and adaptable network environment.

How can you be sure that you won't regret tomorrow the WAN decisions you make today? This buyer's guide can help. Here, you'll find information and questions that you can use to assess your current WAN and help determine if a future WAN purchase is a Smart WAN.

## Big Data and the Accidental Architecture

In 2012, businesses will have the opportunity to collect and analyze more data on their processes, customers and the impact of their business decisions than ever before. The concept and catchall term becoming familiar to enterprises of all sizes, across virtually every industry segment, is Big Data.

*Your network partner needs to ensure that you don't lose productivity, the ability to execute or customers because your network doesn't effectively manage your traffic.*

On an ever-increasing basis, the productivity of your organization is contingent on your network's ability to intelligently manage your traffic. To make sure that it helps you elevate productivity, hone process execution and grow your customer base, you should carefully consider how each WAN purchase impacts the overall network architecture. Avoid the pain of an "accidental architecture," a network design that is created when you purchase what is easiest to install, or react to changes in your business by acquiring more of the technology you now have without considering future application needs.

Enterprise IT teams should be evaluating their WANs for visibility and management, performance in regard to bandwidth and application support, and scalability. In collaboration with your network service provider, you can rethink your WAN architecture and establish a network that will handle Big Data and serve as a catalyst for making good decisions.

## What Separates Network Provider Leaders From Laggards?

Finding the best fit for your company is another important decision, one you can make with confidence by evaluating the solution portfolio, services and technological foundations endemic to each provider. You can use the list of questions on the next page as a springboard for identifying which provider can best meet your needs. We suggest that you make notes during discussion in the blank areas on the right.

| Question | Why this matters | Write your provider's response here |
|---|---|---|
| What level of network and application performance visibility can you provide? | Effective application performance management requires network visibility beyond traditional carrier SLAs. Average latency, jitter and network availability statistics do not give you insight into the performance of your critical applications. You need a network that provides network monitoring at a higher layer to ensure effective network performance. | |
| Do you have a security strategy for protecting access to public cloud applications and infrastructure? | Protection from harmful attacks is the responsibility of end users, cloud service providers and your network provider. Look for a carrier that actively manages the security of their public network to ensure your data and your customers' data is sufficiently protected. | |
| Is your network elastic? How can it adapt to my changing application needs? | Networks not only need to be able to grow, sometimes they need to shrink. Your network provider should be able to offer options that will let you "right size" your WAN without ripping out connections or requiring expensive changes to your equipment. This includes the ability to add and remove both hosted and third-party applications delivered through the cloud. | |
| How will you work with me to improve our current WAN design and the network going forward? | Every service provider can bring in expensive consultants to help design your network, but how well will they support you when all you need is help fine-tuning what you already have? Or when you just need advice? The demands on your network will continue to rapidly change. You'll want to work with a service provider that won't charge you for "consulting" every time you need to reconfigure a connection. | |
| Other than a service level agreement, what other ways can you help ensure that my organization will not be impacted in the event of a network disaster? | The financial penalties of SLAs almost never fully compensate for the potential loss of revenue or other consequences of business disruption. Your service provider should be able to provide a full suite of options, from protected services with a variety of protection levels, to fully diverse service routing. | |
| What kind of pre-sales support do you offer? | The most important component of a successful network turn up is taking the time to thoroughly understand your requirements prior to installation. Does your carrier assign dedicated resources to ensure your network design meets your requirements? | |
| What is your strategy for controlling network latency? | As organizations become more dependent on virtual resources and cloud computing, network latency will become the key factor influencing end-user satisfaction. And unlike bandwidth issues, which are easier to troubleshoot, network latency issues can be very difficult to isolate and can severely limit the performance of voice and video applications. | |
| How ubiquitous are your service offerings? Can I be sure that I can grow my network not only as my bandwidth needs change but also as my endpoints move or increase? | A lot of carriers can claim to offer you global reach. What they won't tell you is that those services are offered from separate networks or from network resources only reached over a network node interface (NNI). Multiple network hops can severely limit the performance of your critical applications. Eliminating NNI connections will mean that the advanced features like traffic shaping will work across your entire WAN. Look for a provider that can offer the most reach with homogenous network resources. | |

**Managing application performance is complex.**

This matrix enables you to compare performance characteristics to the most common business applications.

| Application | Required BW | Sensitivity to Errors | Latency Sensitivity | Jitter Sensitivity | Burstiness |
|---|---|---|---|---|---|
| Messaging e-mail | Very Low | Low | Low | Low | Medium |
| Voice (TDM) | Low | Low | Low | High | Low |
| Voice over IP (VoIP) | Low | Medium | Low | High | Low |
| Web Browsing (non-critical) | Medium | Medium | Medium | Medium | Medium |
| Web Browsing – SaaS | High | Medium | High | Medium | Medium |
| Video Conferencing | High | Medium | Medium | High | High |
| Telepresence | Very High | High | High | High | High |
| Remote Workers | Medium | Medium | High | Medium | High |
| Streaming Media | High | High | Medium | High | High |
| Storage Area Networks | Very High | High | High | High | High |
| Server Virtualization (WAN) | High | High | High | High | High |
| Unified Communications | Medium | Medium | Medium | Medium | High |

**The Level 3 Smart WAN**

The Level 3® Smart WAN solution is next-generation networking technologies like MPLS, Ethernet, and Application Performance Management combined with collaborative professional services.

At Level 3, WAN optimization begins by assessing the ability of your network to support the applications that are important to your business. Leveraging your network to help maximize productivity now, as well as positioning it to get the most value from your investments into mobility, cloud deployments, Big Data analytics and other enterprise initiatives, calls for understanding how network performance affects those applications.

**Take the first step toward improving the health of your WAN. Contact Level 3 at 1.877.253.8353 or visit www.level3.com/smartwan to get started today.**

# Level(3)®

**www.level3.com**