

white paper - white paper - white paper - white paper - white paper - white paper - white paper

why more is less:
justifying the economics of
upgrading your network



Business
Services



summary

- 3 the network: obstacle or enabler
- 4 today's network challenges
- 5 the changing workforce
- 8 offsetting investment
- 10 summary
- 11 appendix

the network: obstacle or enabler

What is the biggest bottleneck in your business? What is the greatest time cost for your company's employees? If asked, probably few people would say "the network," but we're willing to bet that it is in the top five. Every second spent waiting for a file to download; every minute spent waiting on a conference call for a colleague who didn't get the invitation; every hour spent traveling to an unnecessary meeting because there was no alternative.

Once you factor in security breaches, network downtime and remote workers struggling for connectivity, a poor network quickly becomes an easily recognizable cost to your business. Upgrading can boost the bottom line and can certainly make your employees less frustrated. But there's no point spending the additional money unless you will see these tangible benefits.

In this white paper we'll look at how you can justify the economics of upgrading your network, outsourcing some of the challenges it presents and deploying new services that can enhance productivity and reduce costs – a key driver in a tough economic climate.

We will focus on two questions:

- Does your network keep staff from working as they want to work?
- Will your network allow your staff to work as they want to tomorrow?

today's network challenges

does your network prevent employees from working as they want to work?

The way in which people work is changing. People are now almost completely reliant on the network for communication and access to information. When did you last see a reference book on someone's desk? Google is now the ultimate reference tool. How much does the fax machine get used in your office? These days almost all communication is conducted digitally.

Today, the network and the applications and services that it carries provide the primary business environment for most office workers, and many outside the office environment. So when the network fails in even the smallest way, it causes complaints.

These complaints are not just idle whining. People complain when they are obstructed from doing what they need to do; when a barrier prevents them from working at their maximum capacity. People complain when technology becomes an obstacle, rather than an enabler.

where time is lost

It doesn't take a major systems failure to have a massive impact on productivity. The cost of an email outage or loss of connectivity is clear, though hard to quantify. But there are also lost seconds throughout the day: the time spent waiting for an email to download or a remote database to open; repeating yourself on a conference call because the quality on the VoIP line is poor; the frustration when a mobile device won't sync properly.

work styles

This problem is exacerbated by the changing nature of companies and the changes in work style that this has brought about. Work is increasingly global. Teams are increasingly distributed. Collaboration is a way of life in today's enterprise, and that collaboration takes place across many miles and multiple time zones. Gartner suggests that by 2010 more than 40% of our work time will be spent collaborating with colleagues in different locations and working at different times. A further 20% will be spent working concurrently with colleagues in different locations.

New technologies are quickly integrated into people's changing work styles. Wi-Fi is a great example. Just one work generation ago it was considered a bonus if you found a hotspot where you could get online. Today people are surprised and disappointed to find they can't get online anywhere in an airport or coffee shop, let alone in an office.

Adapting and enhancing your network to support these changing work styles will require investment, but that investment can often be proven to deliver significant returns. For example, improving the communication between company sites and reducing the need for travel delivers both financial and environmental returns that can be properly quantified. Investing in mobility solutions can reduce the downtime workers face while traveling, a productivity return that again can be measured.

finding the bottlenecks and breakdowns

Putting a financial cost on the lost time caused by poor network performance or capabilities is difficult. But you can start to quantify the problem by looking at the user experience: their work styles; what applications they rely on; how they use the network; and when it lets them down. A simple survey tool such as Zoomerang or SurveyMonkey can make it very simple and quick to collect data. In the appendix we have included a draft survey that will help you to build a case.

You can verify these results by looking at trouble tickets from the help desk, allowing you to see how often problems occur against a given application, how long it takes to resolve these problems and whether they re-occur.

Once you have information about the real-life experience of the network, you are in a much stronger position to choose a service provider and negotiate appropriate service agreements that address the challenges your co-workers face.

the changing workforce

will your network allow your staff to work as they want to tomorrow

According to CNET, “the technology revolution in the enterprise has been about communication, not computing.” That communication revolution is what has supported the changing nature of work over the last ten years, and continuing developments will drive further change in the workplace over the next ten. Communicating with colleagues, partners and customers around the world has become progressively cheaper, simpler and richer over the last decade. Business has become not just international but distributed, with organizations performing different functions in the locations where they can be completed with the maximum efficiency. This creates unique challenges for the enterprise, for the employees that work within it and for the network that supports it.

accelerating adoption

Cost and environmental imperatives are placing a huge amount of pressure on enterprises to improve efficiency through improved communications. But there are also drivers from inside the business. As people become increasingly familiar with technology through experiences at home and in the workplace, they begin to test its capabilities. They change their habits to leverage the benefits of the technology. They change the way they communicate. They multi-task faster. Their expectations grow. And suddenly, technologies that might have raised a “wow” just months earlier become the cause for complaint.

These complaints are the early warning signs that the capability of your workforce is outpacing your network. With each new generation entering the workforce, the process of adoption accelerates. Your challenge is to keep your network ahead of the curve, able to leverage the enhanced productivity and efficiency available from technology-literate staff. At the same time you need to balance costs and avoid any “white elephant” investments.

from desktop to palmtop

There are a number of technology enhancements available to improve the productivity and efficiency of the workforce. Which is right for your company will depend on your company’s culture and work style. The available options can be categorized roughly as follows:

- **mobile data integration**

According to Gartner (March 2008), 43% of U.S. businesses report that at least 20% of their employees travel for business more than once a month. In many organizations, perhaps including yours, this figure is much higher.

Yankee Group¹ reported earlier this year that there are almost 51 million mobile workers in the U.S. The benefits to the traveler of remote access to corporate data and applications are clear. Implemented properly, these systems can also save significant time for users in the office (see *unified communications* below). Top concerns reported by enterprises in the Yankee Group report include: protecting corporate data (43%); managing mobile devices (38%); solution costs (37%); and securing the corporate network (36%). Where previously these concerns may have presented a technical sourcing and integration challenge for the IT department, today they are often outsourced to a managed service provider.

- **enhanced conferencing and telepresence**

Based on the latest Gartner Hype Cycle², video telepresence is currently at the top end of the “peak of inflated expectations” while video telephony is approaching the “trough of disillusionment.” Not good indicators for investment in either technology, you might think, yet early adopters have already benefited from video communications. According to a Chadwick

1 Enterprises Don't Have to Manage Mobility Challenges All Alone, January 2008

2 Gartner: “Hype Cycle for Enterprise Communication Applications,” July 2008

Martin Bailey study³ of 244 U.S. businesses, 46% of companies adopting telepresence reported travel savings of more than five days per employee, per year. 68% reported productivity improvements between geographically dispersed groups (this grows to 75% when you add voice conferencing in to the mix). Given the financial and environmental pressures forcing companies to be increasingly distributed while cutting travel, the appeal of enhanced conferencing would appear to be growing. There are challenges to be overcome, including bandwidth management and quality of service (QoS), and defining appropriate service level agreements (SLAs) for network performance, particularly with regards to packet delivery, latency and jitter. Gartner⁴ warns that many service providers employ caveats to SLAs when network utilization reaches a particular threshold. While this is an acceptable approach, the threshold is often set far too low (50%) rather than at a reasonable target level (70-75%).

- **unified communications (UC)**

UC is an increasingly broad and ill-defined term with each vendor (and analyst firm) specifying its own taxonomy. Whatever the applications included, the goals for UC remain the same: reduce the complexity of enterprise communications and increase productivity. These are noble goals and a welcome suggestion for many enterprise employees who now report an average of 5.4 different communication devices (e.g., desk phone, mobile handset) and 4.7 different communications applications (e.g., enterprise IM, email, etc.). Managing these different media on an inbound basis is a sufficiently large challenge, let alone the time lost trying to track down a colleague by finding the right means to reach them wherever they may be at any given time. 49% of UC-using organizations report savings of up to 20 minutes per employee, per day just by being able to reach a co-worker on the first attempt³. Further significant savings come from unifying messaging systems and enabling a seamless transition between email, IM and voice calls and conferences.

support the global business

All of the technology enhancements outlined above serve to bring the employees of a geographically distributed enterprise closer together, whether they operate permanently from different offices or are just working on the road. Of course they can only provide value when they are operating properly, and this can often present its own challenge in a large organization. Each of these technologies suffers from a number of possible points of failure, which in a distributed enterprise may be distributed across different countries and time zones. Getting the maximum value from mobile data, enhanced conferencing or unified communications requires a unified approach to both deploying and maintaining the application from a service provider that operates in all of the target territories.

3 Chadwick Martin Bailey: "Unified Communications Applications: Uses and Benefits," March 2008

4 Gartner: "The Biggest Network SLA Traps and How to Avoid Them," July 2008

offsetting investment

Making a business case for new investment is particularly hard in the current economic climate. To make a complete case, we need to answer the two questions laid out at the start of this article:

- Does your network keep staff from working as they want to work?
- Will your network allow your staff to work as they want to tomorrow?

Plus one more:

- Is the network operating efficiently today?

This final question can be very helpful in freeing up resources for new investment and in demonstrating a willingness to examine the status quo before looking for improvements elsewhere. Even if the ROI argument is compelling, before the case can be made for new investment, it will most certainly help to look at areas where savings may be possible. There are four key areas to examine for savings.

- **network optimization**

Examining and modifying the flow of traffic over the wide area network (WAN) can reduce bandwidth costs and increase application performance.

A huge range of tweaks can be made, from simple steps such as changing the location of a server or network file store, to the deployment of dedicated optimization appliances. Properly calculating the potential ROI of these various steps requires fairly extensive analysis and dedicated tools, but it is a process that your service provider should be able to help with.

In addition to simple reductions in latency and increased availability, value can be identified and quantified in improved productivity (fewer IT tickets per application; reduced application downtime), enhanced IT resource optimization and reduced time to market for new applications.

- **maintenance**

According to Yankee Group⁵, 50% of the typical IT organization's time is spent on maintenance and upgrades, leaving little time for more strategic initiatives. Not only can outsourcing maintenance save costs, it can also free up resources to focus on business objectives. But outsourcing maintenance does not necessarily remove the headache: managing multiple providers for different forms of hardware can require a huge overhead. Instead look for a single global provider that can handle all of the network maintenance around the world.

5 Yankee Group: "Network-Based Professional Services Can Be the Catalyst for Growth of Some Managed Services," January 2008

- **outsourcing**

Network providers increasingly offer a cost-effective option for the outsourcing of core IT functions, both applications and infrastructure. For example, perimeter security can be more efficiently delivered by a service provider monitoring multiple networks than by an in-house team. With applications increasingly hosted “in the cloud,” it can make more sense for the network service provider to be responsible for delivery than an in-house team that may not have immediate, direct access to the relevant hardware. Standards like ITSM have increased the enterprise’s confidence in outsourcing key functions, while the economic downturn has made the financial and operational benefits of outsourcing all the more attractive. A recent Forrester⁶ report showed around 40% of enterprises are either “somewhat likely” or “very likely” to increase their outsourcing of applications and infrastructure in the next 12 months.

- **service level agreements**

Over time it is easy for SLAs to become disconnected from the real demands placed on your network. Certain metrics may be over-specified for what you currently need, while others may no longer correlate to real-life application performance. Renegotiating your SLAs could improve network performance and also save costs.

Gartner⁷ makes the following recommendations for enterprises negotiating SLAs for network services:

- When developing custom SLAs, establish standards for unused service elements to avoid renegotiation as requirements evolve.
- Don’t allow providers to use network SLAs as a proxy performance of value-added services, such as VoIP, that depend on the underlying network. Seek meaningful SLAs for these services above and beyond those that define network performance.
- Benchmark current SLAs with Gartner best-in-class recommendations on a country-by-country basis in each applicable service class to ensure that you are not subject to regional performance anomalies.
- Avoid “service-level objective” structures that offer only best-effort performance objectives with no implied penalties for shortfall in performance.

In the same report, Gartner advises that: “Regional providers often don’t match global providers’ capabilities for in-region network performance standards, despite a strong local presence and in-region infrastructure.” Even if you are not looking for global reach today, it may be worthwhile to include a global service provider in your assessment process for comparison.

6 Forrester: “New Market Pressures Will Drive Next-Generation IT Services Outsourcing,” October 2008

7 Gartner: “The Biggest Network SLA Traps and How to Avoid Them,” July 2008

summary

With the network now at the heart of most businesses, its smooth operation is vital to the efficiency of the business. This paper has highlighted three areas to examine to ensure that your network is operating with maximum efficiency today and that it will be an appropriate business tool for tomorrow.

is your network operating efficiently today?

This question can only be answered by the IT department, with an honest assessment of the current state of operations. Could improvements and savings be made by outsourcing various functions to a third party? Are the agreements you have in place with third parties today delivering value? Finding savings here could be the key to securing additional investment for projects that could boost productivity through mobility or new communications tools.

does your network prevent employees from working as they want to work?

This is a hard question for the IT department to answer. Though the help desk might have an idea where problems lie, and an analysis of job tickets might back that up, this won't capture the small, everyday frustrations that slip under the radar. Finding these issues requires a direct approach to the workforce through a questionnaire such as the example provided. The compound effect of any delays, outages or other failures of the network is potentially so great that even if user complaints are fairly muted, it is likely that addressing them will provide the greatest return – both in terms of efficiency and the IT function's popularity. Any business case for network developments has to start here. Once the problem areas are identified, requirements can be attached to the behavior and performance of applications across the infrastructure that are based on real user requirements.

will your network allow your staff to work as they want to tomorrow?

Answering this question offers some very attractive possibilities for improvement in productivity and a reduction in costs over the longer term. Making the case for forward-looking investment in the current economic climate may be a challenge. But as the network user survey in the appendix shows, those companies that have invested in applications, such as mobility and unified communications, have seen compelling returns. Perhaps now is exactly the time to be investing to boost productivity and efficiency.

Together, the answers to these three questions should provide you with an honest assessment of the state of your network today and the beginnings of a plan for future improvement that can be justified through cost savings and direct returns on your investment.

appendix
network user survey

1. On which of the following software applications are you most reliant in your day-to-day work?

| | use every hour | use every day | use every week | use rarely | use never |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| email | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| instant messaging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ERP | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CRM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Web | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| office/word processing software | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| function-specific software e.g., HR/accounting package | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. Where do you access these applications?

| | don't access | in a main office | in a branch office | remotely via a laptop | remotely via a home office computer | remotely via mobile device | from partner/supplier/customer location |
|--|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|----------------------------|---|
| email | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| instant messaging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ERP | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CRM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Web | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| office/word processing software | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| function-specific software e.g., HR/accounting package | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3. Do any of these applications suffer from any of the following problems?

| | no problems/ don't know | lose access for up to five minutes | lose access for up to thirty minutes | lose access for more than thirty minutes | documents/databases slow to open/save, taking up to thirty seconds | documents/databases take more than thirty seconds to open/save |
|--|----------------------------|------------------------------------|--------------------------------------|--|--|--|
| email | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| instant messaging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ERP | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CRM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Web | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| office/word processing software | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| function-specific software e.g., HR/accounting package | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4. Do you believe that the performance of the network affects your productivity?

- yes
- no
- don't know

If yes, please explain how your productivity is affected.

5. How often do you work outside of your main office?

| | not at all | once a year | every six months | every two months | every month | every week | every day |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| from home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| from customer/supplier/partner site | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| from another company office in this country | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| from another company office in another country | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| on the road while traveling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| at a hotel/coffee shop | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| other (specify): | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

6. Where are the colleagues with whom you work each day based?

| | 0% | 20% | 40% | 60% | 80% | 100% | don't know |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| in the same office | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| different office, same country | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| different office, same time zone (+/- 1 hr.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| different office, different country, different time zone | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| from home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| on the road | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| don't know | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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