

NETWORK RELIABILITY ASSESSMENT

From String to Fiber

The impact of technological advancement in networking has had a profound effect on the way we do business. At no time in history have we seen as rapid technological change as in the last decade of the Internet. Network types such as X.25 and low speed private networks have been made obsolete by the acceptance of the low-cost, open standard Internet. Client/server computing environments communicating over TCP/IP have replaced large mainframes with “dumb” terminals connected to Front End Processors. Just ten years before the end of the Millennium, the term “networked office” usually referred to a few workstations attached via a slow-speed “serial” cable. We have seen seemingly great technologies replaced with better technologies. ArcNet, ProNet, Token Ring, and shared Ethernet have been replaced with high speed LAN infrastructures that require low cost shared cable plants. Technology such as this is comparable to tin cans and string, when considering the latest gigabit networks over light-speed fiber-optic cables. Greater reliability, availability, security, and reduced latency have become the standards by which we measure our businesses and our network performance.

Unfortunately, while the cost of networking on a per-databit basis has dropped dramatically, many network managers find themselves wishing for the older, more manageable days. As the environment grew, systems were patched together with a dizzying array of new products—each one sporting newer and better capabilities. Additionally, the rush to the web, ECommerce, and M-Business increased traffic a hundredfold – most of it coming from outsiders such as customers, visitors third-party vendors - without a trust relationship.

Untangling the Knot

The rate of technological change and the rush of new traffic create unimagined network problems. One moment everything is running fine. The next moment someone downloads the latest movie trailer and the whole office slows to a crawl. Most organizations try legislating these problems out of existence—they make rules against such use. This seldom works and does not get to the root of the problem.

Knowing what’s wrong is the first step

Network & Security Technologies network and security experts can help to pinpoint bottlenecks and malfunctions. Our consultants have years of experience building, operating, securing, and analyzing all types of networks—from the office LAN to global, tier-one Internet service providers. This unparalleled level of understanding of your technology and business can help your organization create network efficiencies and help you to concentrate on your core competency while we concentrate on ours – Network and Security Management.

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The Assessment Process

The Network & Security Technologies project teams begin every appraisal by gathering information about existing and expected uses of the network. We interview staff, review documentation, and perform direct traffic measurement to develop a statistical data-flow Network Performance Measures Throughput Latency Security Reliability model. This enables us to understand what your organization needs and what impact a failure or slow-down will have.

The next step is to evaluate the existing design. Relying upon our experiences and knowledge, we consider many possible pitfalls. Does it provide the needed throughput? Are broadcast domains segregated? Is addressing optimized? Is it truly reliable, or just redundant? In short, does it meet the requirements spelled out by the traffic-flow model (business model) and what variances will lead to problems? Variance provides a measure of probability. Knowing probability of a problem and its impact provides a measure of risk to your organization. This is the fundamental analysis that enables a manager to prioritize.

Reducing Risk, Increasing Benefit

The Network & Security Technologies approach is unique in that it is based on a quantitative, objective means of determining what activities will provide the best value. Additionally, the Network & Security Technologies approach to Network Assessment always includes an evaluation of the security measures that exist within your environment. Our team focuses on the mission critical nature of your network by considering the following:

- What is the best way to protect a network from outsiders while granting access to customers?
- Is a major capital outlay needed, or will a more modest redesign permit continued use of existing facilities?
- Are important monitoring and management functions in place and effective?

These questions are best answered by knowing their results in terms of cost and reduction of business risk.

Delivering Value

Network & Security Technologies' staff of field proven network and security consultants has a broad base of experience with multi-vendor environments. We understand how to design and configure from elementary network principals. The final result is a fast, secure, reliable network that is a business enabler, not a burden

WHAT WOULD ONE MINUTE OF DOWNTIME MEAN TO YOU?