Network Instruments®
State of the Network Global Study 2008

Key Statistics

Application Performance Troubleshooting
- 73 percent of respondents cited identifying the source of a problem as their primary troubleshooting concern
- 71 percent of organizations spent at least 25 days annually determining the cause of performance problems

VoIP
- 66 percent of organizations had or will implement VoIP in the next year
- 62 percent did not have visibility into VoIP traffic on their network
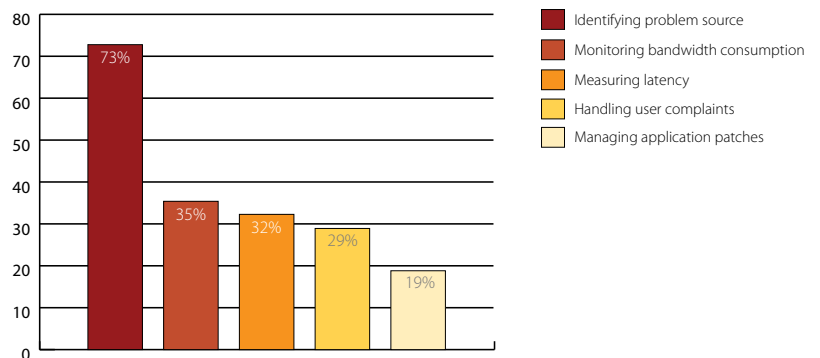
10 Gb and MPLS Adoption
- 35 percent of organizations had or will migrate to MPLS in the next year
- 24 percent of organizations had implemented or will implement 10 Gb in the next year
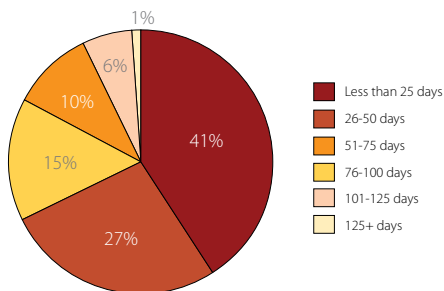
Time-Consuming Troubleshooting

With new applications and technologies being implemented on the network, the *State of the Network Global Study 2008* by Network Instruments sought to determine the biggest challenges organizations faced in troubleshooting application performance as well as the amount of time spent at various points in the process.

As shown in the graph titled **Primary Application Performance Problems**, 73 percent of respondents cited "identifying the source of a problem" as their primary troubleshooting concern. Managing bandwidth consumption was the second most common problem identified, followed closely by measuring latency and delay issues.
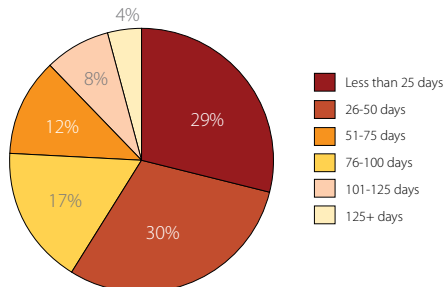
Primary Application Performance Problems

Legend:
- Identifying problem source
- Monitoring bandwidth consumption
- Measuring latency
- Handling user complaints
- Managing application patches

(73%, 35%, 32%, 29%, 19%)

Days Per Year Replicating Problems

- Less than 25 days — 41%
- 26-50 days — 27%
- 51-75 days — 15%
- 76-100 days — 10%
- 101-125 days — 6%
- 125+ days — 1%

Days Per Year Identifying Problem Source

- Less than 25 days — 29%
- 26-50 days — 30%
- 51-75 days — 17%
- 76-100 days — 12%
- 101-125 days — 8%
- 125+ days — 4%

Going beyond quantifying how network professionals spent their time troubleshooting, the survey attempted to gauge the time spent in specific aspects of troubleshooting. First, respondents were asked to identify the amount of time they spent replicating problems as a means of diagnosis. Displayed in the **Days Per Year Replicating Problems** chart, 41 percent of respondents spent less than 25 days per year replicating network problems. Twenty-seven percent estimated spending between 26-50 days annually replicating issues. The remaining 32 percent said they spent at least 50 days annually recreating network issues.

Another key step in the troubleshooting process is isolating the source of the problem to the network, application, or system. As noted in the **Days Per Year Identifying Problem Source** chart, 29 percent indicated spending less than 25 days per year isolating the source of a problem. Thirty percent indicated spending 26-50 days annually determining the source of a network issue, while 41 percent of IT staffs spend more than 50 days annually isolating the problem's cause.

Two trends of interest when comparing the results from 2008 with those of 2007:

1) The number of respondents stating "identifying the source of a problem" as their primary application performance challenge rose by nearly 25 percent.

2) Most organizations spent at least 25 days each year determining the cause of performance problems. The number of companies remained steady from 2007 to 2008.

A partial explanation for the large amount of hours spent troubleshooting may be found in the relatively low number of respondents that used tools and technologies to monitor application performance and health.

Deploying and Managing VoIP

The global adoption of VoIP continued through 2008 with 66 percent of organizations having implemented or looking to implement VoIP within the next twelve months. As shown in the chart titled **Global VoIP Implementations**, 55 percent of respondents worldwide have implemented VoIP, while 11 percent will implement VoIP in 2008.
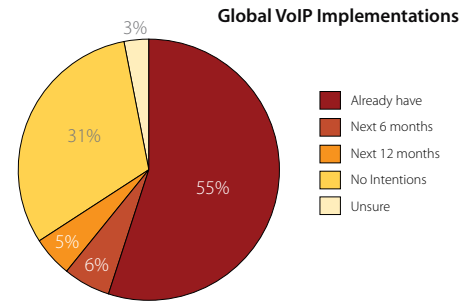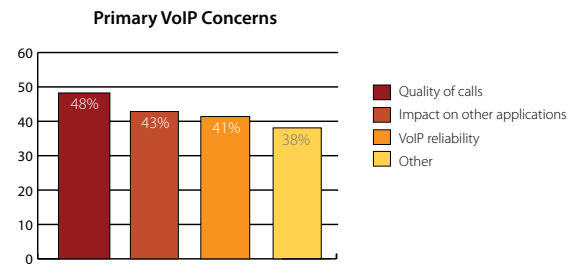
Looking at the **Primary VoIP Concerns** of organizations, most respondents were concerned about quality of VoIP service. Almost half were concerned with the application's impact on other network applications, and an almost equal number were worried about the general reliability of VoIP within a business environment.

Global VoIP Implementations

- Already have — 55%
- Next 6 months — 6%
- Next 12 months — 5%
- No Intentions — 31%
- Unsure — 3%

While many organizations had concerns over aspects of VoIP performance like call quality and the application's impact on the network, many did not have the visibility necessary to monitor VoIP. Sixty-three percent indicated they did not have hardware or software in place to monitor the quality of VoIP service.

In comparing the results of the 2008 Global Study with 2007, three VoIP trends emerged.

1) More organizations are concerned with the call quality of VoIP rather than the application's reliability.

2) The number of companies expressing confidence in their VoIP application rose significantly.

3) The percentage of organizations relying on VoIP monitoring tools remained the same even as adoption rates increased.

Primary VoIP Concerns

- Quality of calls — 48%
- Impact on other applications — 43%
- VoIP reliability — 41%
- Other — 38%

MPLS and 10 Gb Implementations

Migration to MPLS networks at least on a global basis appears to be steady, with most organizations still in the early stages of adoption. Twenty-seven percent of organizations have implemented MPLS networks with an additional 8 percent of organizations migrating to MPLS in 2008. Despite the immense media coverage of MPLS, 60 percent of firms have no plans to implement MPLS in the next 12 months.

The study also took a look at 10 Gigabit (10 Gb) implementations, which have remained slow. Thirteen percent of global organizations have deployed 10 Gb networks, while another 11 percent expect to roll out 10 Gb in the next 12 months. Seventy-one percent had no intention of investing in 10 Gb this year.
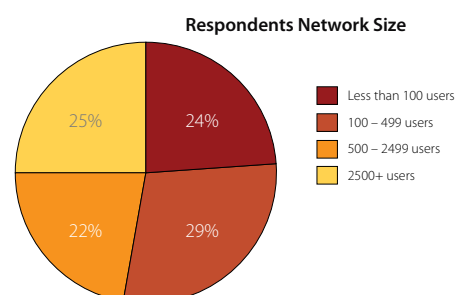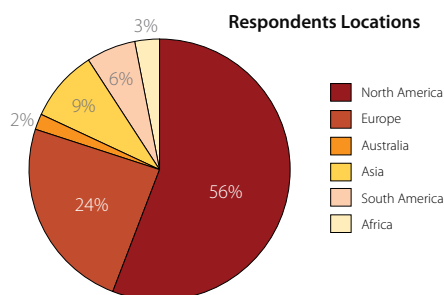
Research Background

This study, conducted by Network Instruments, gauges the attitudes and concerns of network professionals, calculates the average time spent by an IT staff troubleshooting network problems, and determines the adoption rates of new technologies and topologies. Participants answered 15 questions on subjects ranging from managing application performance to VoIP and MPLS implementation.

The results were compiled from the insights of 592 network engineers, IT directors, and CIOs in North America, Asia, Europe, Africa, and South America.

In addition to being geographically diverse, the population was evenly distributed among different sized networks.

Responses were collected from January 21 – February 25, 2008, through network technology seminars, interviews, and online surveys.

Respondents Locations

- North America — 56%
- Europe — 24%
- Australia — 2%
- Asia — 9%
- South America — 6%
- Africa — 3%

Respondents Network Size

- Less than 100 users — 24%
- 100 – 499 users — 29%
- 500 – 2499 users — 22%
- 2500+ users — 25%

About Network Instruments

Network Instruments, a leading provider of innovative analysis solutions helps organizations and enterprises – including 70 of the Global Fortune 100 companies – ensure the delivery of business-critical applications on their networks. The company's monitoring and reporting products provide comprehensive visibility into networks and applications to optimize network performance, speed troubleshooting, and assist long-term capacity planning. Network Instruments solutions provide integrated enterprise-wide reporting and in-depth back-in-time packet-level investigation capabilities for troubleshooting networks. The company is headquartered in Minneapolis with sales offices worldwide and distributors in over 50 countries. For more information about the company, products, and technology, please visit www.networkinstruments.com.

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