



Business Value of Performance – The NetScout Experience

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Many vendors claim to improve the performance of networked applications—but what does that really mean for your business? NetForecast's mission is to quantify the value of better performance.

To justify a technology purchase, you must be confident that the chosen technology will deliver maximum business benefit. Although vendor-provided data is essential, there is no better information source than actual user experience. For this reason NetForecast interviewed five NetScout customers to learn first-hand how NetScout's solution delivers business value.

Business Value of Performance

The classic "stove pipe" approach to managing IT infrastructure assumes that if you can keep all of the elements working well on their own, you will experience universal wellness of the system, and your applications will perform well enough to support your business. Unfortunately for large, complex, and/or far-flung systems, this approach is more likely to impede application performance and thwart business goals than support them.

For starters, not all business applications are created equal. Some generate revenue or save lives, while others are merely "nice to have" or, at worst, waste resources. Without understanding the application flows and which devices the applications use, managers have no way to focus on the proper subset of devices. This leads to a "fire-drill" approach to problem solving, in which all hands on deck are told to do something—and given human nature, they usually report that it is not their problem, so it keeps recurring.

What is needed is a business-centric approach to monitoring, managing, and optimizing application performance by gathering relevant data and correlating it into clear flows that are matched to business functions. Flow-based management tools are the next step in managing complex and robust systems, and are essential to pinpoint application delivery problems and identify the best solutions. Although this may sound straightforward, it is not because there is a confusing array of approaches, and only a few of them will deliver the best outcome.

Business Value Experienced by NetScout Customers

NetForecast's primary research identified a number of areas of critical business value realized by enterprises using NetScout's performance management solution— including:

- Faster troubleshooting
- Improved reporting
- Higher productivity
- Better planning

The NetScout Solution

NetScout provides a comprehensive method of gathering application and network performance information and integrating it into meaningful reports. The solution offers a suite of instrumentation options, including passive or active measurements, which can operate either at the client desktop or from the *nGenius* Probe appliance.

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An enterprise can start monitoring traffic at a key traffic aggregation point like the WAN edge of the data center, or an enterprise can disperse measurement points to instrument the full user/application data flow as shown in Figure 1. Since all of the instrumentation points gather application-level data, flow-oriented information is gathered with a single probe deployment. Adding instrumentation locations (see Figure 1) increases data granularity and diagnostic ability.

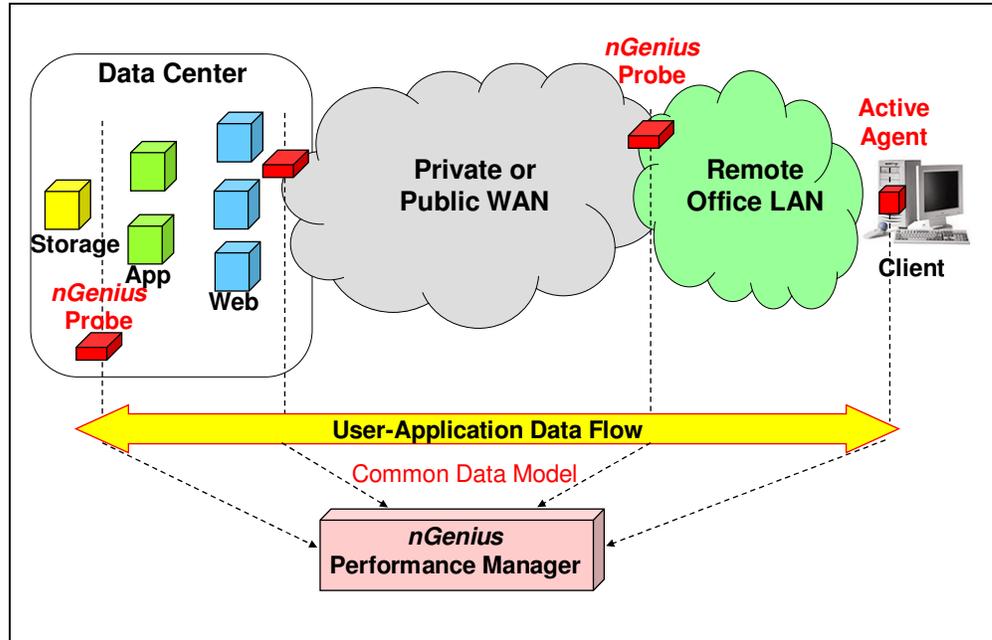


Figure 1 – Wide Range of Instrumentation Options Using nGenius Probes or Agents

All of the instruments (probes or client agents) report measurement data to the nGenius Performance Manager software that operates on Windows or Solaris operating systems. The probes report the full range of RMON and mini-RMON data. Additionally, the nGenius Performance Manager can gather third-party and industry-standard flow data such as Cisco NetFlow, sFlow, NAM, NM-NAM, SPAN, MIB-II, Frame Relay MIB, and CPU/memory utilization.

All of this granular data is transformed by the uniform structure of NetScout's Common Data Model (CDM). nGenius Performance Manager combines the CDM with the ability to recognize any off-the-shelf or custom application, and drill down to the individual application user and conversation details, to create a powerful foundation for measurement, analysis, diagnosis, and reporting.

Large enterprises can deploy the nGenius Performance Manager in a hierarchy of local servers feeding a global repository and view. The system of probes and management servers can interface directly with other enterprise management platforms.

nGenius Performance Manager provides Web-based output, and enterprises can take immediate advantage of the reports that ship with the product, or they can easily generate custom views and reports.

The NetForecast Methodology

NetForecast performed primary research to gather information about the business benefits experienced by enterprises using NetScout's nGenius System. We performed in-depth telephone interviews with employees responsible for network performance in five large

Additional Business Value Observations

Hard cost savings from data center consolidation and reduced customer support are relatively easy to quantify, and often can directly justify the purchase of application performance enhancing technology. Harder to quantify are softer savings in reduced complexity, increased system manageability or reduced staff workload—but they also directly support the purchase of a system. Hardest of all business benefits to quantify are productivity increases and revenue increases attributable to satisfied users—but although most difficult to quantify, these benefits often have the largest positive effect on a business, and should be assessed carefully.

enterprises. All of the enterprises surveyed were using NetScout's technology to examine and optimize the performance of applications over enterprise-wide networks.

We asked a series of questions to identify: the business motivation for the enterprises to choose NetScout's technology; the benefits enterprises actually experienced; and how each enterprise translated the improved performance they experienced into business value.

The Companies We Interviewed

The companies interviewed were using NetScout to provide visibility into and to report on network health, as well as to help identify sources of application performance problems. Most customers were using NetScout to examine the performance of the complete range, rather than a subset of applications running over their corporate networks.

The companies interviewed, which varied in size from \$400M to \$29B in annual revenue, included:

- an insurance company with operations in five states
- a nation-wide retailer with over 1,000 stores in the US, as well as global purchasing operations
- a major credit card company
- a health maintenance organization (HMO) with operations in 10 states
- a teaching hospital with 9000 staff, 600 beds, and 14 satellite clinics

Key Findings

Faster troubleshooting, improved reporting, and higher productivity topped the list of benefits that the NetScout customers interviewed experienced after deploying the *nGenius* Solution. Improved planning capabilities also were highly valued. All of these business benefits are enabled by the insight NetScout provides into what is really happening in customers' networks. As one network architect interviewed described it, "We got complete visibility into applications for the first time. It opened our eyes to the health of the total enterprise as we'd never seen it."

The most tangible returns on investment that NetScout's product delivered were IT staff time savings due to fast NetScout-enabled problem resolution, and improved business productivity from NetScout's contribution to finding and fixing IT problems that impair application performance.

Faster Troubleshooting

Faster troubleshooting ranked highest overall among the benefits experienced by the NetScout customers interviewed. A hospital IT manager explained why faster troubleshooting is critical in his environment. "When something goes wrong here in the hospital where you have life-safety issues and everything is a crisis, the ability to resolve issues very quickly is key." He went on to describe that with NetScout, "what once may have taken hours, days, or even weeks to resolve, we've now shortened that troubleshooting time by a factor of 10 or more," a hefty 90 percent reduction in the time needed to troubleshoot application performance problems.

NetScout's rich, informative performance data helped other enterprises interviewed troubleshoot faster as well. The insurance company interviewed saved between 1 and 1.5 hours of IT staff time per troubleshooting incident using NetScout (compared to the previous method of troubleshooting using Sniffers), and the retailer calculated about 5 hours of IT staff time savings per week due to faster troubleshooting. Although the credit card company wasn't able to quantify NetScout's contribution to its troubleshooting

efforts, a senior network engineer said that: “[NetScout] improved our capability to do troubleshooting, and it improved our MTTR capabilities for application performance.”

At the heart of the faster troubleshooting the customers we interviewed experienced, is the ability of NetScout’s *nGenius* Probes to provide more information, more quickly than customers’ previous alternatives. According to the hospital IT manager, “Whereas before we had to use a Sniffer and run out somewhere and get the traffic, we can use the functionality of probes to look at multiple locations simultaneously. Sure Sniffers do that, there are distributed Sniffers, but that’s all they do. [NetScout] gives us much better visibility into the problem, and the ability to resolve it much more quickly. “

Better Reporting

Interviewees found NetScout’s reporting capabilities valuable for a wide variety of purposes, including: sharing application performance information with executives and other departments; identifying “bandwidth hogs”; and charging user groups for network usage. NetScout’s reporting function was described as easy to use, and according to a network capacity planning manager at the HMO we interviewed, the *nGenius* System allowed him to present information “in a very pretty ‘ducks and bunnies’ way so that people doing analysis after the data is collected can deliver a really good report.”

In many enterprises, application slowness is often wrongly attributed to the network, and without reporting tools, IT managers routinely live with ongoing frustration caused by unresolved performance issues. NetScout helped those interviewed to produce reports that showed the true cause of problems. According to the HMO capacity planning manager, “a goal for us is to prove that it’s not the network that’s the cause of application response time problems. In getting people access to information, it helps give them confidence that the network organization knows what is going on.” In a similar vein, the hospital IT manager interviewed noted that NetScout, “has allowed us to stay out of the doghouse. IT was viewed traditionally as being the bottleneck and the problem. We’ve gotten around a lot of that.”

For the credit card firm interviewed, reports enabling network usage chargeback have helped the company use resources more cost effectively, and saved money that would otherwise be spent on network expansion. “People are more conscious of putting their applications on the network links. They don’t back up their servers across the wide area network links and that sort of thing because they know that if they do, there will be a cost allocation. That has slowed the growth of the wide area network.”

Improved Productivity

Improved productivity was a benefit universally experienced by those we interviewed. In fact, NetScout-enabled faster troubleshooting allowed all of those interviewed to improve the productivity of their IT staff and/or their employees. NetScout users commonly experienced improved application availability, which increased business productivity. In two cases, those interviewed were able to quantify productivity improvement.

The insurance company interviewed, “had horrible problems with a vendor’s application, and [we used NetScout] to show response times and capture data that showed what was wrong with the application and how to change it. When they came back, their response time for a single logon went from 28 seconds to 3, and now they’re down to 2. The savings was 26 hours per person per year across 500 people, or 13,000 hours per year just on the one application. That’s not just a few beans.” This application performance improvement resulted in a 1.25 percent employee productivity improvement, the equivalent of six employees’ time over the course of a single year.

The hospital interviewed was able to solve an intractable problem which compromised nursing staff productivity. For six years nurses had experienced high latency when

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updating medical records. NetScout reports showed the cause for the slowness was that all transactions were routed through a single proxy server. Once this design flaw was corrected, response times fell from six seconds to two. “Effectively we gave every nurse in the hospital an extra hour’s worth of productivity a day,” said the IT manager. This translated into a 2.5 percent productivity improvement. In addition, before the problem was solved, the hospital had agreed to pay the software vendor \$15K to address the problem, but after NetScout helped identify the problem, the vendor corrected it at no charge.

Planning

Most of those interviewed also found benefit in using the *nGenius* Solution as a planning tool. The retailer we interviewed did capacity planning with NetScout, “to show that entering the retail Mecca of the holiday season, we would be choked for bandwidth. So we purchased bandwidth to get ready for Christmas.” This allowed the operation to handle peak demand without adverse business consequences.

The HMO interviewed used the NetScout product to vet the performance of new applications before they were unleashed on the network. “Every time we deploy a new application on the network, we do an analysis of what’s involved to ensure it will run properly in the network. We gather statistical information using NetScout in the lab environment, and use that as part of a model to mock up actual deployment.” This information is then used to analyze performance in a lab environment, and improve it before real-world deployment.

Summary of Benefits

The NetForecast survey results show that for an enterprise that must ensure the availability and performance of applications running over a corporate wide area network, the benefits NetScout delivers are clear, and include the following:

- NetScout can dramatically shorten application performance troubleshooting times by up to 90 percent.
- Application user productivity improvements enabled by NetScout’s troubleshooting capabilities range from 1.25 to 2.5 percent.
- Advanced reporting improves internal communications, helps pinpoint problem sources, and clarifies accountability for application performance.
- NetScout’s current and historical application performance information is useful for capacity planning, and for optimizing performance of networked applications.

The NetForecast survey results indicate that the business productivity for enterprises which need to identify and correct application problems quickly, easily cost justifies deploying NetScout’s solution. The results also show that NetScout is a more powerful alternative than Sniffer technology.

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