



# 6 Ways to Calculate Returns from your Network Monitoring Investment

WHITE PAPER

## EXECUTIVE SUMMARY

All network management teams have two things in common: their budgets are tight and their user communities expect reliable network performance. Financial constraints put all technology investments under a microscope; even technology that ensures network reliability. Depending on an organization's business model, network infrastructure and overall goals, return on investment (ROI) for network monitoring might be realized in five minutes or over five months. This paper outlines the areas in which network monitoring, mapping and alerting solutions deliver ROI. It discusses how to compare those returns to the costs for achieving them.

### ROI FROM NETWORK MONITORING, MAPPING AND ALERTING IS ACHIEVED THROUGH

- Salary/Staff time savings
- Minimizing or avoiding outages
- Reducing support calls
- Reducing time to fix
- Guaranteeing and managing SLAs
- Reducing downtime



### Finding Returns from Network Monitoring, Mapping and Alerting

Given the fear most organizations have of network downtime, it might seem easy to justify the cost of network monitoring, mapping and alerting solutions. Anything that keeps the organizational lifeline up and running 24x7x365 has value. But business unit managers, financial officers and CIOs are responsible for justifying all costs, to understand their true value and determine their ultimate return on investment.

The formulas for network monitoring ROI vary widely and are dependent on the operational role played by the network within a particular organization. Organizations involved in online commerce might tie ROI to revenue generation. Others might focus on reducing the costs of network maintenance and support. Still others might search for downtime reduction as a way to calculate improved end-user productivity.

Determining the ROI from a network monitoring investment starts with an understanding of what problems it solves. Those benefits might be expected or pleasant surprises. For example, a network manager might find that he/she has reduced the time needed to resolve network problems as he/she expected to, but also avoided hiring new staff and increased network uptime.

### Network Monitoring Benefits

Network monitoring returns typically come from one or a combination of areas.

#### Salary/Staff Time Savings

Running a network requires trained staff. Technicians are needed to maintain and upgrade devices and connections, configure new users, answer support calls and plan network expansions and changes. Technology that helps maintain or even reduce headcount offers quick, definite returns. In many cases, network monitoring solutions free network managers to work on more strategic projects that drive top line growth.

Salary savings are fairly easy to notice and calculate. For example, if monitoring technology allows night shift staff to be reduced (or even lets you run “lights out”), the savings would simply be the freed up salaries or minimized over-time costs. If the technology allowed a staff resource to spend time on an e-commerce project that realized \$100,000 in its first month of operations, that amount should be factored into the return on investment.

#### Minimizing or Avoiding Outages

Network monitoring solutions alert the network management team to *potential* problems. Network utilization rates, error percentages, transmit/receive statistics (packets per second or bytes per second), round trip times or percentage availability that vary from documented trends can all signal upcoming trouble.

Setting alerts based on performance thresholds notifies technicians of those red flags. Implementing corrective action before the network slows or servers go down stems



the tide of support calls, eliminates the need for network-wide apologies and fix status reports. Best of all, keeping the network up and running allows the whole organization to be more productive.

Calculating reduced downtime is easier when a pre-network monitoring baseline has been set. For example, if a company had been experiencing 90% uptime that increases to 99% after network monitoring is implemented, the 9% improvement can be used to calculate increased online store availability or improved end-user productivity.

### Reducing Support Calls

Communicating with end-users in order to keep them on-line and productive is a critical network management role. Network technicians staff hotlines, email inquiry or problem report systems. Obviously, when end-users call in a lot of problems, the entire network team becomes focused on problem fixes. In the worst cases, staff has to be added.

In the best cases, a network monitoring solution alerts the network management and support team to *potential* problems. Bandwidth consumption, error percentages, transmit /receive statistics (packets per second or bytes per second), or round trip times that vary from documented trends. These anomalies can all signal imminent trouble. Fixing adverse conditions before end-users are impacted stems the tide of support calls and eliminates the need for network-wide apologies and fix status reports.

Support call volume is typically carefully tracked and costs can be derived by applying per hour staff salaries to the time it typically takes to close a call. For instance, if a network monitoring solution reduces calls per week to an average of 20 from an average of 50 and it takes, on average, 30 minutes to resolve or close a call, then time savings would be 15 hours. If an average, fully loaded hourly salary rate for network support staff is \$30, then the per week savings would be \$450, or \$22,500 per year.

### Reducing Time to Fix

Once network technicians are notified of a network problem, it can be difficult to locate its source. Are performance issues caused by high bandwidth utilization, or is something going on at the ISP's end? The Chicago office can't connect. Is the problem on their email server or is a router off-line?

Looking for problem sources can take time, especially if databases that detail network equipment are out-of-date or incomplete. Furthermore, when a highly distributed network is spread over long distances, fixes can be delayed due to traffic jams or long commutes to the site.

The time it takes to find and fix problems along with the fuel it takes to drive from place to place add real, easy-to-quantify costs. Network monitoring applications that provide real-time diagnostic data and geographic maps that locate devices save hours, if not days, and drastically reduce travel budgets.



## Guaranteeing and Managing SLAs

Whether operating as an internal unit or providing services to external clients, network operations teams are usually held to service level agreements (SLAs) that are set at 99.99% uptime. Meet the SLA and end-users or clients are happy. Fail to meet the SLA and hard questions are asked.

In the same way that monitoring technology can prevent the proliferation of support calls, it can go a long way towards SLA guarantees. Network teams can proactively address potential disruptions before user impact, by receiving early warnings on:

- heavier than normal traffic conditions
- unusually high bandwidth consumption
- underperforming servers
- and more

Quantifying ROI based on SLA is easy when networks actually secure business. If an on-line store is down for an hour, the network team uses the average revenue that would have been gained during that time as a metric. In the case where network operations are generally vital to the organization and SLAs reflect true requirements, consistently met SLAs indicate that network monitoring delivers ROI.


## Reducing Downtime

There's no doubt that network outages or slowdowns reduce employee productivity and commercial activity, but it can be difficult to assign a dollar value to downtime. When a company knows how much a website earns per hour, it can quickly determine how much a two-hour outage would cost. But, companies that don't directly generate revenue from their network have a harder time defining the cost of downtime.

On fully productive days, employees often waste bits of time on personal email, trips to the snack machine, or chats with cubicle neighbors. Does network downtime lead to more snacks or chats? How does downtime factor into a measure of employee productivity? If a company that strives to earn \$125,000/year/employee misses that mark, can it assume that network downtime was the only cause?

Calculating reasonable and agreed upon returns on reduced downtime depends on understanding how much unplanned downtime was typical before monitoring technology was put in place and how productive time can be valued. Assumptions about productivity value (amounts of revenue per hour, data processed per hour, transaction rates, etc.) that are separate from per-employee behavior (snacking, chatting) can then be applied to increased network availability.

For example, if network monitoring eliminates 12 hours of unplanned, business hour downtime per month and 5 catalog order takers process \$100 in revenue per hour, ROI equals \$6,000 per month.



## ENSURING QUICK RETURNS WITH MONITORING TECHNOLOGY

Network monitoring, mapping and alerting solutions with these characteristics offer fast ROI.

### Quick implementation

The faster technology is implemented, the faster it earns returns. Make sure that installation is easy and does not require command line coding or special hardware.

### Ease of use

Look for technology that runs without on-going management. Self-sufficient technology reduces, rather than adds to, headcount.

### Ease of maintenance

Make sure that configuration options are easy to change as needed and that upgrade processes are straightforward.

## Network Monitoring Costs

Once returns have been calculated it's time to compare them to the cost of the investment in network monitoring, mapping and alerting. Certainly, software and hardware purchases are the most visible costs, but other costs that vary organization to organization have to be included.

- **Initial purchase of solution**—the price of network monitoring licenses.
- **Product upgrades and support**—the price of product upgrades and maintenance and support contracts. These costs may be optional.
- **Required hardware or associated software**—the price of hardware that will be dedicated to running the network monitoring solution.
- **Installation/implementation consulting**—the cost for solution set up and testing. This could be as simple as a consulting fee or include any overtime required by staff that is already fully subscribed.
- **Training**—training costs should include travel (either by staff to a class or consultants to your facility) and any on-going instruction that will be needed as staff is added or turned over.
- **Solution administration/management**—salaries for staff dedicated to the solution should be fully applied to overall costs. If new staff has to be hired, factor in costs of recruitment.

Costs vary widely depending on the network monitoring solution that is implemented. Network management systems (like HP OpenView, CiscoWorks, etc.) include network monitoring as a component and are much more expensive than standalone products that focus on monitoring and alerting. Besides coming at a higher purchase price, those systems cost more to configure, maintain and run. Dedicated hardware is often required as is dedicated, highly trained headcount.

Personnel costs associated with solution administration and management cannot be overlooked or taken lightly, especially if the network monitoring technology will require an increase in IT headcount. Since most organizations justify the purchase of network monitoring technology by assuming a lower support call volume and hold on support staff hiring, having to add a six-figure salary to run the technology could undermine the anticipated benefits.

If your network is monitored by a consultant, costs can be fairly easy to derive from contract fees. In addition, your out-of-pocket costs may still include many of the categories listed above: license, support, and hardware pass-through costs along with staff time and administration fees.



Total costs are incurred over time. Calculating accumulated network monitoring costs for a year will ensure that maintenance and administration is fully considered. Understanding how costs play out over time will help you understand if your benefit outpaces, or lags behind, the investment.

### **Conclusion**

With IT budgets under close scrutiny, it's imperative that all technology investments yield positive returns on investment – as fast as possible. The hope for network monitoring, mapping and alerting technology is that it keeps networks reliably up and running while trimming staffing expenses and costs associated with downtime. And, of course, returns depend on the solution delivering a level of benefit that outpaces the costs it imposes. A solution that is easy to implement, use and maintain will yield the fastest positive returns and continuously save more money than it costs.



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#### **ABOUT DARTWARE**

Dartware is a leading developer of network monitoring, mapping and alerting software. Our flagship product, InterMapper® is an easy to configure and fully featured management tool. It is integrated with a reporting package, a Layer 2 discovery module and a robust NetFlow analyzer. Available for major operating systems, these innovative tools earn quick return-on-investment by proactively notifying administrators to potential hardware, software and bandwidth issues that could cause business interruptions. Powered by an extensive library of probes, its color-coded maps and graphical reports provide a real-time view of any device on the network. More than 25,000 IT professionals worldwide use InterMapper as a cost-effective way to maximize network uptime.