



A Guide to Enterprise Network Monitoring

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Enterprise Network Monitoring – Know What Goes Into Your Spend!

Organizations of all sizes—large, medium, and small—are coming to realize the hefty costs that they are paying for network management tools. No doubt there is good functionality in the tools used but is it justifiable to spend so much on them? Traditional enterprise solutions such as those from the Big 4 (HP®, IBM®, Cisco®, CA®) are typically packaged and priced so ambiguously that you often don't realize the big money you're shelling out to purchase these products. In times when IT budgets are becoming more difficult to secure and network administration teams are looking for smarter and wiser ways to spend, it's definitely not resourceful to purchase so-called "enterprise solutions" that charge you for more than what you really need.

The smart choice is to spend your budget on securing [network management systems](#) (NMS) that provide high return on investment (ROI) and result in low total cost of ownership (TCO). When you look closely at the Big 4 products you begin to see the white elephant in the room: that is that Big 4 products package many features that you'll never end up using, but that you spend a significant amount of budget on

ROI and TCO are tricky factors in estimating the net worthiness of an NMS. Organizations need to not just look at the features and functionality of a tool, but also assess whether they're getting the right value for the money they're spending. Do you know how to comprise TCO at your organization? Some of the factors to identify include:

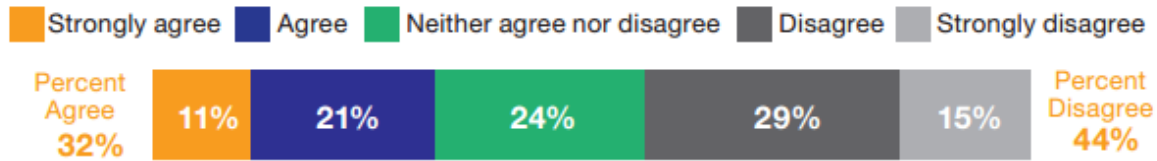
- Initial cost of purchase
- Cost of consultants or professional services to install, integrate, and optimize the deployment
- Overhead cost of product management – dedicated IT staff and time spent on managing the NMS
- Training cost of learning and getting ramped up on using the product
- Cost of yearly support and maintenance
- Weeks and months of extended delivery times (from product demonstration, requirement signoff, and budgetary approvals until actual deployment) which leave your network unmonitored

According to [results of the IDG Research Services survey](#), among customers of the Big 4 enterprise software vendors:

- **34% indicated that management and maintenance fees are a big inhibitor to maximizing ROI**
- **More than 50% claim that they need to pay for staff training in order to maximize the ROI of their Big 4 technology**

The IDG survey findings have found that of more than 100 respondents involved in purchasing network management and/or monitoring solutions, 32% of survey respondents agree that the ROI on their current NMS is not enough to justify TCO.

ROI on current network management or monitoring solution is not enough to justify the TCO



SOURCE: IDG Research Services, July 2013

Do You Know What You're Paying For?

It should come as no surprise that when you purchase a Big 4 NMS you're actually paying for additional modules you'll never need or use. This occurs because, instead of a cross-sell method, Big 4 companies make you opt-in to a product lock-in package. When this happens you buy what appears to be one product, but in reality you get a big bloated enterprise suite with a large amount of product functionality that was never a part of your original requirements or needs. On top of that, you end up paying for not only the purchase, but also the yearly maintenance of this enormous suite.

“66% of the respondents believe that their network monitoring solutions from HP, Cisco, IBM or CA includes features or capabilities they are not using.”

According to the IDG survey findings of more than 100 respondents involved in purchasing network management and/or monitoring solutions,

- **56% of survey respondents said their organization's current network management or monitoring solution includes capabilities and/or features they do not need or use.**
- **To be more specific to the Big 4 solutions, 66% of the respondents believe that their network monitoring solutions from HP, Cisco, IBM or CA includes features or capabilities they're not using.**

This clearly shows that enterprise users are not satisfied with how traditional network monitoring suites package features and sell them at high prices.

Current network management solution includes capabilities not needed/not used



SOURCE: IDG Research Services, July 2013

The Complexity That Comes Along With Cost

Not only is cost a factor, but Big 4 products are typically known to carry higher complexity around installation, deployment, and daily operations. A [white paper](#) published by a leading industry analyst firm, Enterprise Management Associates, presents four industry case studies that indicate that while traditional enterprise solutions are “highly extensible, scalable, and feature-rich, **they can also be highly complex, requiring services to deploy/maintain/extend, special training to operate, and expensive annual maintenance contracts that must be kept current to receive all the latest patches and software updates.**”

This means that in addition to troubleshooting and fixing issues, network administration teams who use Big 4 products must also spend a large part of their time becoming experts at an overly complex solution. As feature-rich as a network monitoring solution could be, it should also be simple and easy to use, not requiring extensive training, expertise, or operational overheads.

Historical Enterprise Network Monitoring Options

Traditionally, enterprises have adopted either a powerful NMS, which is really expensive and hard to use, or an open-source solution that is free but is many times not feature rich or scalable and offers no support or product enhancement. It’s always been a battle between these two options and enterprise customers have never really been able to get the optimum solution – which is the best of both worlds.

WHAT IS AN OPTIMUM NETWORK MONITORING SOLUTION?

“An extremely affordable NMS that is powerful, robust, and scalable to cater to the growing enterprise networks, while being easy to use and manage without having to employ professional services or incur management overheads to use.”

The Search for the Optimum & Effective Enterprise Network Monitoring Solution

The challenge that many network administration teams face in enterprises is to determine how to evaluate the best NMS to fit their network needs. As an enterprise customer, one of your biggest challenges is often proving ROI when selecting an NMS. Here are some tips to help you understand what aspects of usability, performance, and ROI value you should be looking out for in your search for a powerful, yet easy-to-use NMS.

#1 Reduced Total Cost of Ownership (TCO)

In your search for the optimum NMS, it's very important that you find a product that results in the lowest TCO possible. This includes the cost of the initial purchase and the annual maintenance. An ideal NMS will only cost you the initial purchase and periodic maintenance – no other technology cost, service cost, training cost, hardware cost, resource cost, or any other hidden cost, and no compromise on the level of product support and future enhancements. Factor in all these points in your evaluation and work out the TCO for at least a few years of product usage.

#2 Simple & Transparent Licensing

Licensing a network monitoring system is generally not applied uniformly across vendors. Some vendors tend to complicate the licensing with add-ons, extra modules, hidden costs, etc., making it difficult for the network administrator to determine whether the solution will fit the requirement and budget or not. Network monitoring software is best licensed by the number of network nodes and interfaces—which are ultimately the elements that are monitored on the network. Licensing has to be flexible in order to provide enough options for the end-user to choose a convenient level of licensing.

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#3 Speedy Installation & Deployment

Many NMS solutions are hard to procure, factoring in product demonstrations, proof of concepts and budget approvals, etc. Installation further complicates the process, often requiring consultants or services contracts. Look for an extremely simple and easy-to-deploy solution that you can try out yourself—no technician support and engineer assistance. This will give you hands-on experience and a feel for what it's like to continue to use the product.

- **Speedy Installation** – Once you've made your purchase, it should never be difficult to deploy the tool and get it up and running.

- **Quick Network Discovery** – Your NMS should be able to do this job for you. You should simply be able to set it up and let it run, and ideally it will be able to discover your entire network and present you all your devices, ESX hosts, VMs, and servers to monitor.
- **Immediate Network Monitoring** – The moment your network devices and interfaces are discovered, the NMS should be able to start polling SNMP or ICMP data to monitor network performance and availability.

Typically it shouldn't take more than an hour to be up and running with your NMS. This includes installation, discovery, and seeing actual monitoring results.

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#4 Operational Efficiency

Any NMS should improve the operational efficiency of your IT organization and allow you to spend more time on value added IT initiatives as opposed to managing your NMS. Characteristics of an NMS that can help improve efficiency include:

- Customizable and intuitive dashboards that provide the ability to set up your own network monitoring views, giving more agility to operate and manage
- Accessible from a single monitoring window without the need to have multiple tools and consoles open
- Ease-of-use, allowing the hiring of lower cost employees

#5 Modular & Flexible Network Management Architecture

Be aware of the complexity involved in large enterprise suites that include nonessential features. An ideal NMS will allow you to pick and choose the functionality that you need. When solutions are modular, you can extend functionality as your IT needs evolve to include:

- [Traffic analysis and bandwidth monitoring](#)
- [Network configuration management](#)
- [Server & application monitoring](#)
- [VoIP & WAN performance monitoring](#)
- [IP address management](#)

Individual modules should be able to integrate with one another so you can customize and build your own network management system that includes your exact choice of functionality and serves your specific network administration need.

#6 Scalability & Future Proofing

Scalability becomes all the more important when you're evaluating the growth of the network and executing capacity planning. Scaling up from a lesser license level, the NMS should be able to accommodate any number of network elements as possible to support your growing and evolving network. Ask these questions for future proofing your NMS:

- Does your NMS support a failover & high availability plan should the server running the NMS fail?
- Will your NMS scale up to support polling network performance data from an increased device count?

#7 Customer & Community-Driven Solution

Traditional enterprise solutions such as from the Big 4 vendors are typically more focused on providing a bigger and more comprehensive solution than they are on paying much attention to customers' feature requests and needs of network admins. In contrast, the ideal NMS would be purpose-built and focused on the needs of networking and IT professionals. Leveraging knowledge from the IT community helps the product become more user-driven. The community will serve as a place to:

- Share and exchange knowledge and content, discuss technical queries, and share best practices
- Vote on future product enhancements and express desired capabilities to be added to the product
- Create a platform to add value to product users by leveraging the expertise of the IT community

Checklist to Evaluate Your Network Monitoring Solution

Here's a quick reference checklist that can help you easily evaluate your network monitoring solution and understand whether what you are looking for in an NMS meets your network management requirement or not.

S.NO.	NMS FUNCTIONALITY	HOW YOUR REQUIREMENT IS ADDRESSED
1	Agentless Network Monitoring	<ul style="list-style-type: none"> • Simplified and hassle-free network monitoring • No need to deploy individual agents to collect monitoring data • Network monitoring data polled using SNMP and ICMP protocols
2	Multi-Vendor Support	<ul style="list-style-type: none"> • Hardware vendor-agnostic NMS helps you monitor your heterogeneous network environment • Cost savings on purchasing individual monitoring tools for vendor-specific devices
3	Simple & Intuitive Monitoring Interface	<ul style="list-style-type: none"> • Reduced complexity to monitor and analyze network performance data • Customization to view data in various formats for quick, actionable insight
4	Do It Yourself Deployment	<ul style="list-style-type: none"> • No dependency on vendor for deployment • Quicker time to get up and running and monitor the network • No cost of professional services for NMS deployment
5	Integration with Other Network Management Software Modules	<ul style="list-style-type: none"> • Single monitoring interface when integrated with other network management modules • Lesser administration and management overheads

The Right Enterprise Network Monitoring Solution

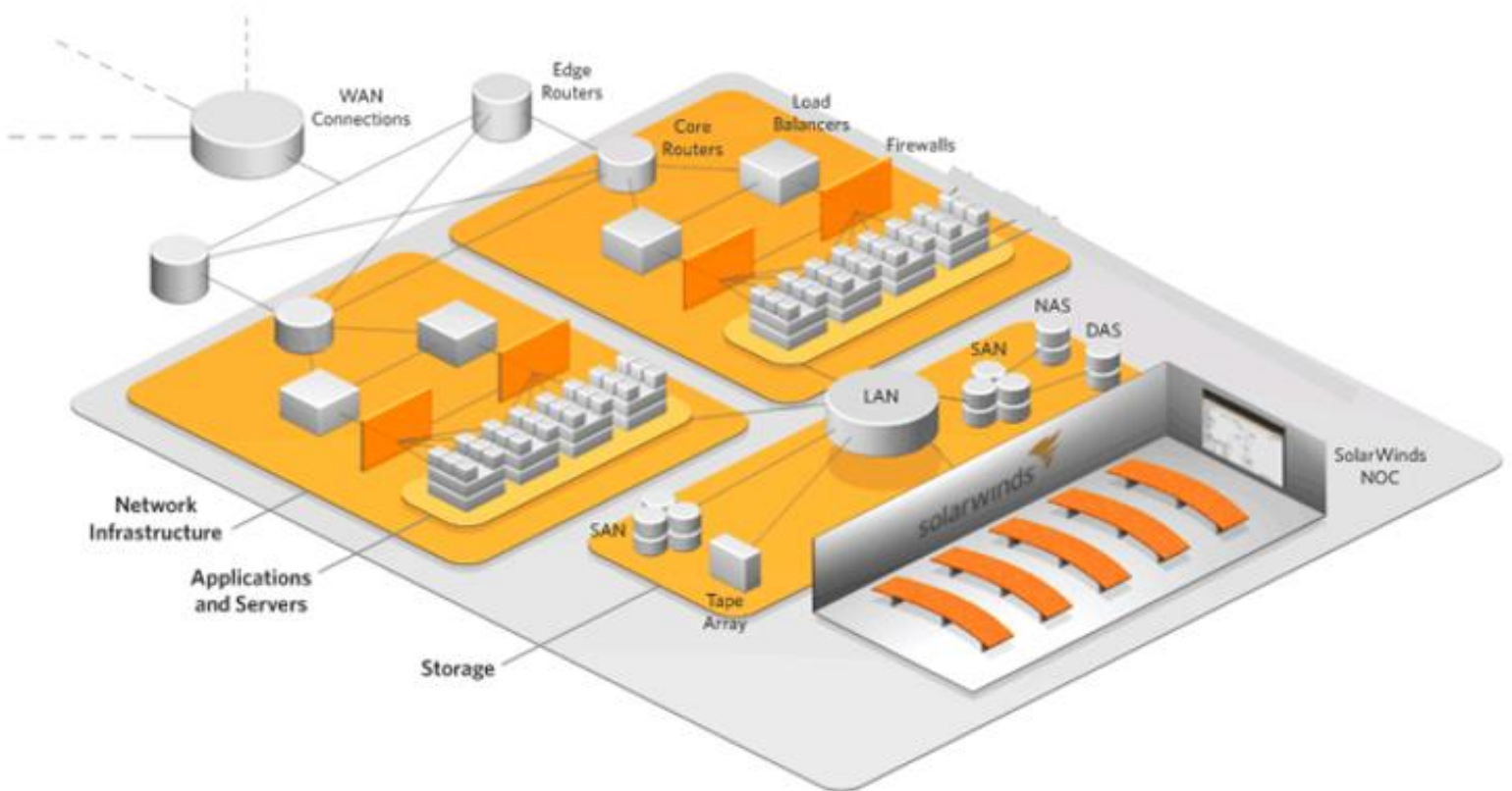
[SolarWinds Network Performance Monitor](#) (NPM) is a highly scalable and simple-to-use NMS that address all network management needs of large enterprises, as well as mid- and small-sized networks. Purpose-built to be extremely user friendly, NPM provides you all the length and breadth of [network availability, fault and performance](#) statistics, and generated advanced, conditional alerts to notify you when there are network issues and faults. NPM addresses all the major concerns of large enterprises in their search for the optimum and affordable NMS.

- **Improved ROI** by saving a huge amount of time and effort through automated alerting and reporting, thus facilitating quicker troubleshooting and other network administration activities
- **Simple & transparent licensing structure**, and no hidden costs
- **Reduced TCO** even as you continue to use the product for many years
- **No additional packages** or extraneous add-ons packaged and priced with NPM. You pay only for network monitoring functionality, which makes the product very affordable with a cost that is merely a fraction of the amount of what the Big 4 charge

- **Highly scalable** to accommodate network monitoring requirements of any-sized network and any number of devices from hundreds of vendors and manufacturers
- **Installs, discovers your network, and starts monitoring in just under an hour** giving you the full value for your money and ready-to-use functionality

SolarWinds NPM extends network monitoring to cover [IP multicast monitoring](#), [network route monitoring](#), [wireless device monitoring](#), [hardware health monitoring](#), [VSAN health monitoring](#), and the extensibility to use a customizable [MIB poller](#) to monitor virtually any SNMP-enabled device.

With SolarWinds NPM, you can monitor your entire enterprise network infrastructure from a single pane of glass on any Web browser interface, enabling you to build your own customizable network operations center (NOC).



SolarWinds NPM, with its wide industry-usage and growing number of enterprise clients ([trusted by over 425 of the Fortune 500 companies](#)) over the years, has shown the sustainability and promise to deliver value to enterprise customers and has contributed towards greater ROI, improved time-to-issue-resolution, and more importantly cost, time, and network administration effort savings for IT professionals across the globe.

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FEATURE HIGHLIGHTS

- Simplifies detection, diagnosis, and resolution of network issues – before outages occur
- Tracks response time, availability, and uptime of routers, switches, and other SNMP-enabled devices
- Shows performance statistics in real time via dynamic, drillable network maps
- Includes out-of-the-box dashboards, alerts, reports, and expert guidance on what to monitor and how
- Automatically discovers SNMP-enabled network devices and typically deploys in less than an hour

 **LEARN MORE »**

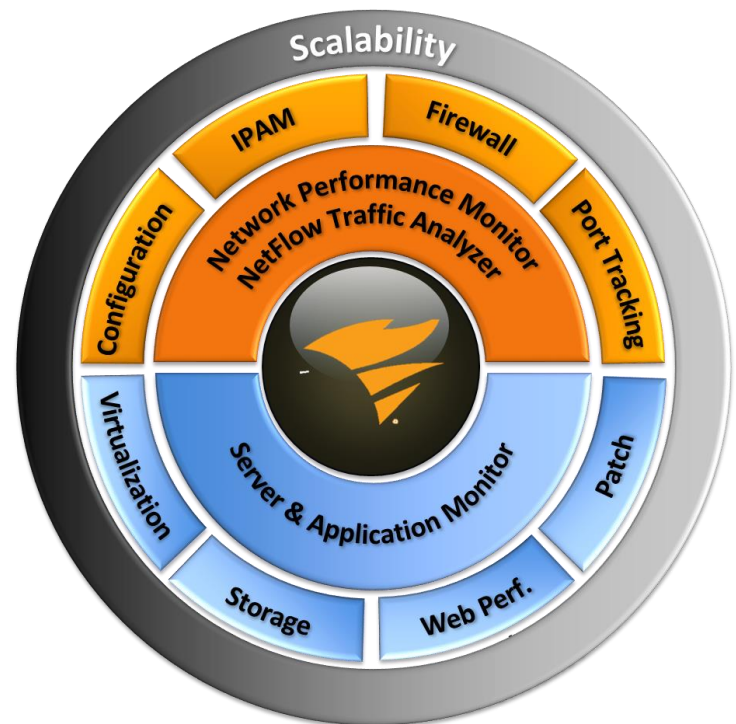
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SolarWinds in the Enterprise

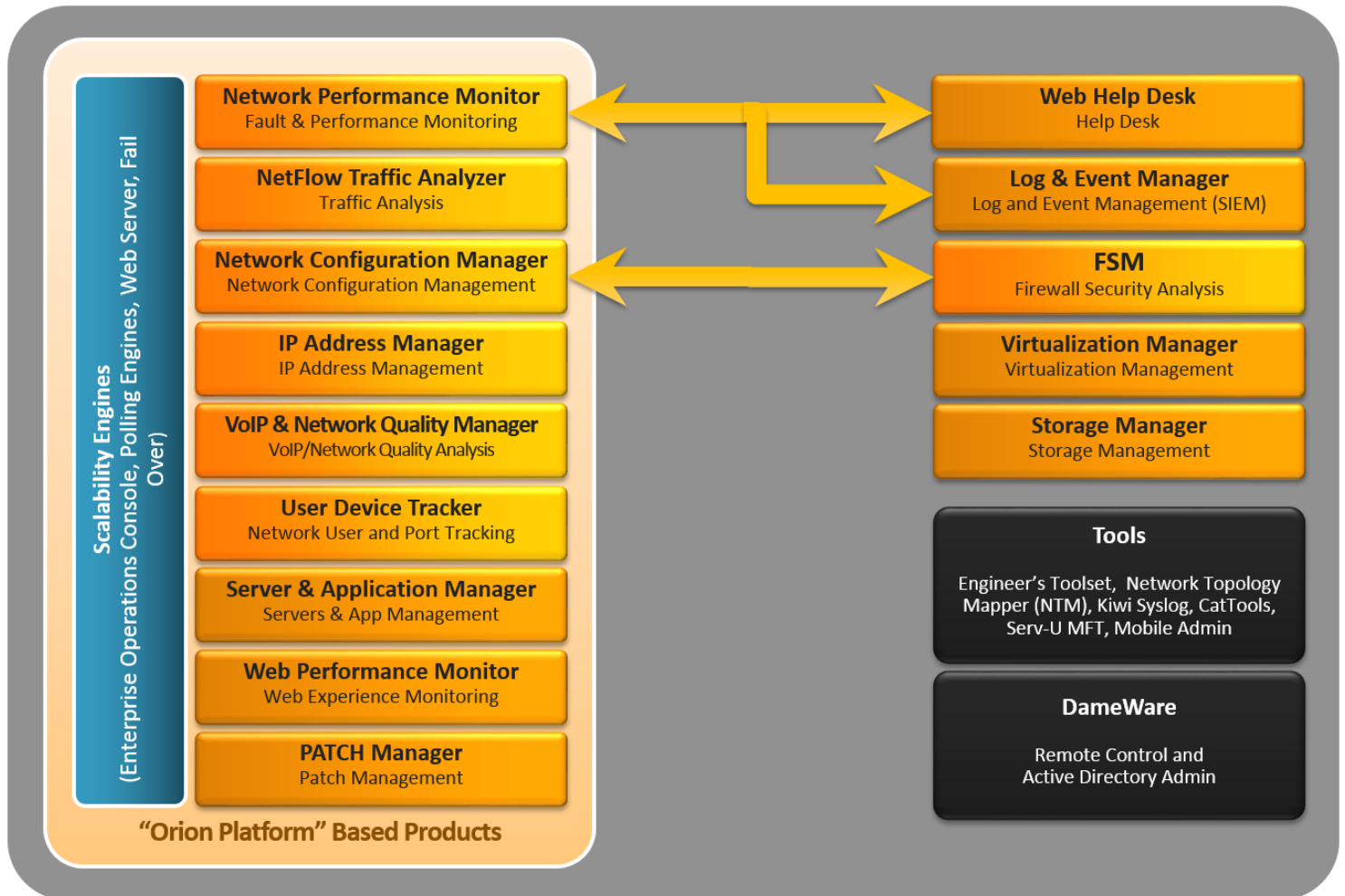
SolarWinds offers a wide portfolio of [IT management products](#) to meet the needs of enterprises. Each one of the SolarWinds products:

- Are purpose-built to make the IT professional's job easier
- Eliminate the complexity found in traditional enterprise software—making it easier to find, buy, deploy, and maintain
- Connect with our community to guide product development
- Deliver increasing value over their lifetime by constantly evolving to users' needs

SolarWinds offers IT management solutions across the [network management](#), systems, application, storage and virtualization management, help desk, remote IT administration, and [network security](#) areas to help enterprises build a scalable architecture that provides high operational efficiency and measurable ROI.



SolarWinds IT Portfolio



About SolarWinds

[SolarWinds](http://www.solarwinds.com) (NYSE: SWI) provides powerful and affordable IT management software to customers worldwide. Focused exclusively on IT Pros, we strive to eliminate the complexity in IT management software that many have been forced to accept from traditional enterprise software vendors. SolarWinds delivers on this commitment with unexpected simplicity through products that are easy to find, buy, use, and maintain, while providing the power to address any IT management problem on any scale. Our solutions are rooted in our deep connection to our user base, which interacts in our online community, [thwack](http://www.thwack.com), to solve problems, share technology and best practices, and directly participate in our product development process. Learn more at <http://www.solarwinds.com>.

Resources for Additional Learning

1. **White Paper:** [The ROI of Network Management & Monitoring](#)
2. **White Paper:** [Rightsizing Your Network Performance Management](#)
3. **IDG Survey Results:** [Network Management Costs Overshoot User Needs](#)
4. **SlideShare:** [Maximizing the ROI of Network Management Solutions](#)
5. **NMS Buyer's Guide:** [2013 Network Management Software Buyer's Guide](#)
6. **Video:** [Licensing for SolarWinds Network Performance Monitor](#)
7. **NPM Installation:** [NPM Installation & Deployment in 1 Hour -- Tutorial](#)