SolarWinds NPM 12 Delivers Value

SolarWinds Network Performance Monitor 12 Function, Feature and Cost Advantages over HPE Network Node Manager i

Table of Contents

Executive Summary

Network Performance Monitoring is a critical part of an enterprise's infrastructure. It is responsible for maintaining service levels for the business and the customer.

Ideally, network performance monitoring solution should:

- Manage network performance monitoring functions from one central point.

- Monitor multiple levels and degrees within network.

- Base dashboards/alerts on exception reporting.

- Be easy to interpret.

- Be real-time in nature.

- Have tools available from that central monitoring station to quickly analyze and remediate issues as they occur.

- Provide proactive functionality such as capacity and/or performance forecasting.

- Be reasonably priced.

Edison Group was asked to perform a compare-and-contrast study between SolarWinds NPM 12 and HPE NNMi, based on four decision criteria categories:

1. Organizational Viability

2. Functions/Features

3. Technical Requirements

4. Pricing

When conducting a contrast-and-compare between different products and services, there are many factors that may affect the ultimate ratings of each solution. What is presented below is a generic view of each solution, relative to their decision points.

The analysis is broken down into categories and then specific components (decision criteria) within each category. Each category is rated on a scale of 0-10, where zero is equal to no value and 10 is the maximum value. After each category is rated, a weighted average rating that represents the relative importance of each category is computed for the entire solution.

Sensitivity analyses are then performed, in which the category weights are changed to reflect different perspectives.

Presented within are the details of that analysis that makes clear why SolarWinds NPM 12 is rated a better choice than HPE NNMi.

Demographics and Organizational Viability

Service Providers

The following section of the analysis focuses on the technology manufacturer. Organizational stability is critical for mid- to long-term product growth and support.

Demographics		
Name	SolarWinds	HPE
Address	7171 Southwest Parkway Building 400 Austin, Texas 78735	3000 Hanover St. Palo Alto, California 94304
Phone	866.530.8100	650.687.5817
URL	www.solarwinds.com	www.hpe.com

Table 1: Service Provider

Organizational Viability Analysis

Organizational viability is based on a number of factors, like:

- **Organizational Tenure.** How long has the company been in business? When companies first start out, it takes a few years to stabilize. For the purposes of this analysis, five years or more is desirable.

- **Organizational Size.** This is measured by number of employees, global or regional focus, and number of offices. Using number of employees as a guide, greater than 1,000 employees is considered "Enterprise" level, less than 1,000 employees, but greater than 500 is considered "Large".

- **Market Impact.** Measured by revenue, customer count and representative customers. While this is very subjective and varies by industry, some high technology firms define "mid-size" companies as generating $500 million or less[1].

- **Product Commitment.** Although the company itself might be viable, it is critical to determine if this software product's roadmap is aligned with the company's mid to long-term objectives.

Based on this information, a viable, enterprise-sized organization should be in business over five years, have over 1,000 employees and generate over $500 million in annual revenues. The following table presents detailed comparison information of both HPE and SolarWinds.

---

[1] http://smbresearch.net/sizing-up-smb/

Requirement	SolarWinds	HPE
Product Name	**NPM 12**	**Network Node Manager i**
Organizational Viability		
Type (Private/Public)	Private; 2/5/16 - Silver Lake	Public
Year Founded	1999	Split from HP in 2015; HP originated in 1939
Number of Employees	1,500	240,000
Global	Y	Y
Number of Offices	Over 15	2 in US; >50 worldwide
Revenue ($millions)	Over $500M (2015)	$51,830MM (2015)
Number of Customers	150,000	Numerous
Representative Customers	More than 425 of the Fortune 500; Microsoft, Nestle, Oracle, General Dynamics, Sabre, Saks, Subaru, Fed Reserve Bank of KC, US Postal Service	n/a
Product Development/Roadmap	As this is one of their main products, the development of this product is assured. SolarWinds has a 6-month development cycle. It also has a strong user community, Thwack, of over 150,000 registered users.	HPE is in the process of discussions with Microfocus to acquire much of their non-core software, including network-related software. HPE's software development cycle is 12 months. HPE has a limited user community and while Microfocus has many, it does not have one for NNMi.
Rating	**7.00**	**7.00**

Table 2: Organizational Viability

HPE is the stronger of the two organizations, with more than 160 times more employees, over three times the number of offices worldwide, and 100 times the revenue of SolarWinds. However, SolarWinds is quite viable, with over 150,000 customers, $500 million in annual revenue. And it has been in operation for more than 17 years.

The big question has to do with whether HPE is positioned to develop the roadmap for NNMi. HPE is in recent talks with Microfocus, who will most likely acquire HPE NNMi. While Microfocus does not have any competing products, assuming that the acquisition goes through, it will take some time for the product positioning to be reestablished.

Based on the information listed above, Edison assigned a rating of 7.0 to HPE and 7.0 to SolarWinds.

Functional Business Requirements

Network Performance Monitoring

The functions and features of both products being reviewed are subdivided into the following logical, business-oriented network performance monitoring (NPM) components:
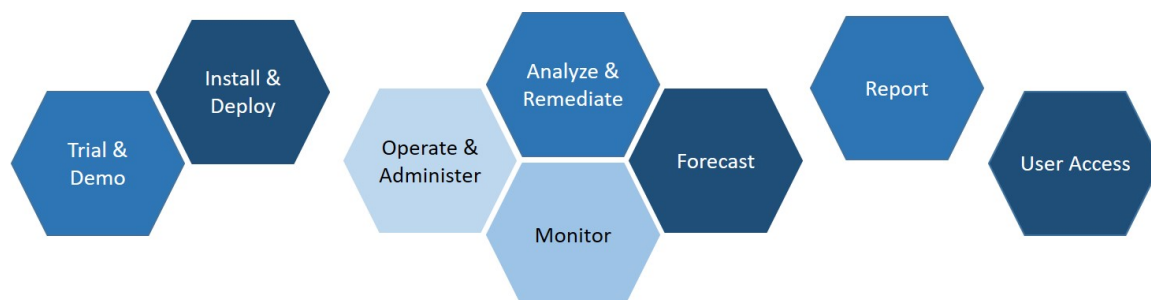
Chart 1 – NPM Components

- **Trial & Demo**. Does the vendor offer software trials and/or demos of the product?

- **Install & Deploy.** How easy is it to install and deploy? Is it automated or do you need to enlist the vendor's service personnel?

- **Operate & Administer.** Can the product be administrated/operated from a single point?

- **Monitor.** How deep and broad are the monitoring functions features?

- **Analyze & Remediate.** Once an issue is discovered, what tools are available to analyze and remediate?

- **Forecast.** Is it possible to forecast capacity and performance trends?

- **Report.** What types of reports are available? Standard? Customizable?

- **User Access**. How many ways can the user access and work with the system?

Trial and Demo

The first NPM component, is trial and demo. From an end-user's perspective, the ability to touch and feel the product before purchasing is a critical feature. While static screen shots are important, they are not a substitute to seeing how an interactive monitoring and remediation tool actually works.

As noted in the table below, SolarWinds offers both a Live Demo environment and a trial, while HPE only offers a trial. In the cases where the potential customer does not have the spare or necessary infrastructure in place to conduct a trial, it is beneficial for the customer to have access to a live demo.

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional (Business) Requirements		
Trial/Demo		
Live Demo Environment	Yes	No
Full Trial Download	Yes	Yes

Table 3: Trial & Demo Functions

Install & Deploy

The second NPM component is installation and deployment. While this is typically the responsibility of the administrator or, if requested/needed, the software manufacturer itself, it is an excellent indication of the complexity, scalability and future-proof nature of the product. The more relative assistance that is needed to install and deploy the software, the more costly, time-consuming and challenging the software suite may be to maintain and grow over time.

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Install & Deploy		
Consultant and service-free deployment	Yes; Install and deploy in generally as little as an hour with out-of-the-box monitors, alerts and reports.	No - typically requires services contract with HP or consultants to install and deploy
Network Discovery and Mapping	Yes. Automatically discover and map devices, performance metrics, link utilization, and wireless coverage.	Yes, automated discovery and mapping, configuration wizards, and continuous discovery
Configuration wizards	Yes	Yes

Continuous Discovery	Scheduled discovery	Yes
Wired	Yes	Yes
Wireless	Yes	No

Table 4: Install & Deploy Capability

SolarWinds out-of-the-box configuration can be installed by the system's administrator without any need for external consultants; customization may require additional training and/or expertise. HPE NNMi always requires HPE service contract or external consultants, as the installation and deployment require training and/or expertise.

SolarWinds supports both wired and wireless devices, while HPE does not.

Both solutions offer automated discovery and mapping, configuration wizards, and continuous discovery.

Operate/Monitor/Analyze & Remediate/Forecast

These four components are closely related as they represent core Network Performance Monitoring Functionality:

Operate

The focus in this section is based on how easy it is to operate. The measures of operational ease are straight-forward, i.e., single view and easily customizable.

Requirement	SolarWinds	HPE
Product Name	**NPM 12**	**Network Node Manager i**
Functional Requirements		
Operate		
Single Pane of Glass	Yes	Yes
Customizable	Yes; Customizable web-based network performance dashboards, views and charts.	Limited
Drag-and-discover network performance charts	Yes; Real-time network performance metrics with interactive charts and graphs from your network devices.	No

Table 5: Operate Functions

Both solutions offer a single-pane-of-glass feature. However, HPE NNMi's customization options are limited in comparison to SolarWinds NPM 12. In addition, while SolarWinds offers drag-and-discover network performance charting, HPE does not.

The following are samples of operational dashboards from both SolarWinds and HPE. Note the different approaches.
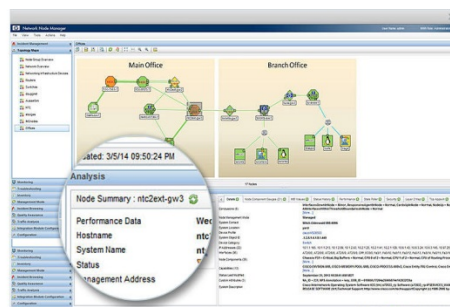

Figure 1 – SolarWinds NPM 12 Dashboard

Figure 2 – HPE NNMi Dashboard

Monitor

Monitoring is one of the most critical functions. Best practices suggest exception reporting and automation are key. Note the details in the table below.

While both solutions offer many of the standard monitoring features, only SolarWinds NPM 12:

- Provides intelligent alerts that respond to multiple condition checks, correlated events and network topology and device dependencies.

- Supports monitoring of wireless devices.

- Monitors hardware health (key device metrics, including temperature, fan speed, and power supply).

- Supports comprehensive monitoring of F5 BIG-IP family of products.

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Monitor		
Intelligent Alerts – Customizable topology and dependency-aware intelligent alerts	Yes; Respond to multiple condition checks, correlated events, network topology, and device dependencies.	No
Types of Notifications	Yes; Email, Pages, Text-to-Speech, SNMP traps, SMS, External application launching, Scripts, Syslog messages	Yes; Email, Pages, Text-to-Speech, SNMP traps, SMS, External application launching, Scripts, Syslog messages
Response Time	Yes	Yes
Availability	Yes	Yes
Performance	Yes	Yes

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Monitor		
Wired	Yes	Yes
Wireless	Yes; Retrieve performance metrics for autonomous and lightweight access points, wireless controllers, and clients.	No
Comprehensive monitoring of F5 BIG-IP family of products	Yes; Visualize and gain insight into the health & performance of your F5 service delivery environment.	No
Hardware Health Monitoring	Yes; Monitor, alert, and report on key device metrics, including temperature, fan speed, and power supply.	No
SNMP Logging	Yes	Yes - NNMi Ultimate Only
Multicast	Yes	Yes - NNMi Ultimate Only
MPLS	No	Yes - NNMi Ultimate Only
IP Telephony	Yes - through the addition of VoIP and Network Quality Manager	Yes - NNMi Ultimate Only
Quality of Network Service Levels	Yes - through the addition of VoIP and Network Quality Manager	Yes - NNMi Ultimate Only
Route Monitoring	Yes	Yes - NNMi Ultimate Only
Syslog	Yes	Yes
Monitoring capabilities	SNMP, ICMP, WMI polling, API	SNMP, WMI, ICMP polling

Table 6: Monitor Functions

Analyze & Remediate

The main reason to monitor the network is to identify and fix issues as they arise. Therefore, the function of being able to quickly analyze and remediate issues is the main driver in this NPM component.

Both solutions offer standard analysis and remediation features.

Only SolarWinds NPM 12:

- Performs a hop-by-hop analysis along the critical path.
- Dynamically calculates baseline thresholds from historical network performance data.
- Measures end user quality of experience with Packet Capture and Analysis.

Only HPE NNMi:

- Automates on-demand diagnostics
- Provides visualization. Note that visualization is becoming a viable diagnostics tool and should be on SolarWinds product development roadmap.

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Analyze & Remediate		
Root Cause Analysis	Yes	Yes
Hop-by-hop analysis along critical paths	Yes; View performance, traffic, and configuration details of devices and applications that are on-premises, in the cloud, or across hybrid environments with NetPath™.	No
Dynamic statistical network performance baselines	Yes; Dynamically calculate baseline thresholds from historical network performance data.	No
On-Premises	Yes	Yes
Cloud	Yes	Yes
Hybrid	Yes	Yes
End user quality of experience with Packet Capture and Analysis	Yes; Determine if changes in end user experience are caused by the application or the network.	No

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Analyze & Remediate		
Visualization and monitoring of virtual environments	Monitoring but no visualization with NPM - can get visualization with the addition of Virtualization Manager	Yes
Exception-based management	Yes	Yes
Automated on-demand diagnostics	No	Yes

Table 7: Analysis & Remediate Functions

Forecast

Forecasting minimizes outages. In the table listed below, the ability to monitor CPU, Memory and Node capacity thresholds will eliminate outages due to capacity overruns.

HPE NNMi does NOT offer any forecasting functionality.

Requirement	SolarWinds	HPE
Product Name	NPM 12	Network Node Manager i
Functional Requirements		
Forecast		
Capacity Forecasting	Yes; Automatically calculate exhaustion dates using customizable thresholds based on peak & avg usage.	No
Automated	Yes	No
Alerts	Yes	No
Reports	Yes	No

Table 8: Forecasting Functions

Presented below is a snapshot of SolarWinds NPM 12 forecasting function screen. Note the capability to forecast CPU, Memory and Node capacity.
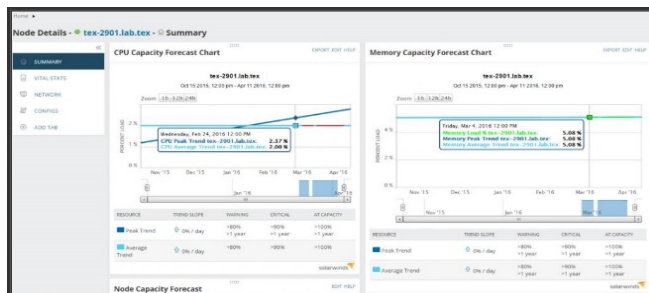
Figure 3 – SolarWinds Forecasting Function

Reporting

The ability to produce online and printed reports that help administrators, operations personnel and management quickly ascertain the health of the network and to focus on abnormalities is central to the reporting component.

Both providers support all of the features within this function. The major differences in presentation and format of the data are subjective. As long as the reports are customizable, any concerns regarding format, filtering and presentation can be overcome in either product.

Requirement	SolarWinds	HPE
Product Name	**NPM 12**	**Network Node Manager i**
Functional Requirements		
Report		
Customizable performance and availability	Yes; Schedule and generate custom network performance reports	Yes;
Out-of-the-box Report Templates	Yes; Over 100 out-of-the-box templates.	Yes;
Dashboards	Yes	Yes;
Performance	Yes;	Yes;
Capacity Planning	Yes;	Yes;
Trend Analysis	Yes;	Yes;
Traffic Engineering	Yes;	Yes;

Table 9: Reporting Functions

User Access

User access is becoming more and more critical due to the global nature of the business which requires around-the-clock support, and the mobile nature of the workforce. The ability to be notified via mobile device and to be able to respond to that alert is a critical feature.

Both providers support all of the functions as outlined below.

Requirement	SolarWinds	HPE
Product Name	**NPM 12**	**Network Node Manager i**
Functional Requirements		
User Access		
Multi-User Support	Yes	Yes
IPV6 Support	Yes	Yes
Smartphone Access	Yes	Yes

Table 10: User Access Functions

Functional Business Requirements Summary and Rating

The weight for this category is 60 percent, based on all of the functions and components identified above. The final ratings for this category are:

- Solar Winds   9.00
- HPE   7.00

Technical Requirements & Scaling

Technical requirements address both what infrastructure (hardware and software) is needed to support the two product suites, and what additional infrastructure is needed to scale NPM.

The following table depicts how HPE defines managed environment sizes based on number of polled interfaces. When comparing this to SolarWinds' elements, Edison will use the number of interfaces as it is the largest of three elements, node and volumes being the others.

Managed Environment Tier	Number of Polled Interfaces
Entry	Up to 2,500
Small	Up to 10K
Medium	Up to 50K
Large	Up to 70K
Very Large	Up to 200K

Table 11 – HPE NPM Managed Environment Sizing

Table 12 reflects what hardware would be needed to support 70,000 polled elements from both SolarWinds and HPE perspectives. This figure was chosen as it reflects what HPE defines as a "Large" environment[2].

Requirement	SolarWinds	HPE
Product Name	**NPM 12**	**Network Node Manager i**
Technical Requirements	**Minimum**	
Hard Drive	2 x 146 GB	60 GB
Memory	24 GB	24 GB
CPU	4 cores	8 cores
OS	Windows Server 2008 R2 SP1, 2012, 2012 R2	Windows, Linux
Database	SQL Server Express, Standard or Enterprise	Embedded Postgres or Oracle
Rating	**8.00**	**7.00**

Table 12: Technical Requirements for "Large" environments, 70K polled elements

---

[2] https://community.hpe.com/hpeb/attachments/hpeb/itrc-165/148882/1/hp_man_nnmi_system_support_matrix_9.20_pdf.pdf

The technical details specified in the table are not significantly different.

It should be noted that each instance (with additional polling engines) of SolarWinds can support up to approximately 150,000 elements. This is equivalent to HPE's "Large" network size classification.

At the present time, SolarWinds has customers that monitor over 400K – 500K elements. This is accomplished using multiple instances and their Enterprise Operations Console to consolidate operational views.

The weight for this category is 10 percent, based on all of the functions and components identified above.

The final ratings for this category are:

- Solar Winds   7.00
- HPE   7.00

Pricing Comments and Rating

Pricing is another critical decision point. One of the challenges when comparing prices is to make sure that you doing so on an apples-to-apples basis, i.e., in network terms - what you are describing as monitored instances is identical for both vendors.

SolarWinds defines elements as being the greater of number of interfaces, nodes or volumes.

HPE has two versions of their software. NNM1 Premium and NNMi Ultimate. HPE NNM1 Ultimate includes multicast, MPLS, IP Telephony, and Quality of Network Service levels. HPE's NNMi licensing is based on Network nodes while SolarWinds NPM 12 is based on elements.

The table below accurately reflects pricing at the different levels. The element levels depicted below are aligned with HPE's description of "entry" and "small" managed environments as defined in table 11.

At these levels, the list pricing for HPE NNMi is significantly greater than SolarWinds NPM 12.

Requirement	SolarWinds	HPE	SolarWinds / HPE Premium (%)	SolarWinds / HPE Ultimate (%)
Product Name	NPM 12	Network Node Manager i		
Pricing				
Up to 100 Elements; 20 nodes	$2,895	Premium = $6,875; Ultimate = $13,750	42%	21%
Up to 250 Elements; 50 nodes	$6,495	Premium = $6,875; Ultimate = $13,750	94%	47%
Up to 500 Elements; 100 nodes	$9,995	Premium = $13,750; Ultimate = $27,500	72%	36%
Up to 2,000 Elements; 400 nodes	$18,295	Premium = $38,750; Ultimate = $77,500	47%	24%
Up to 10,000 Elements; 2000 nodes	$30,395	Premium = $116,785; Ultimate = $233,570	26%	13%
Rating	9.00	5.00		

Table 13: Pricing

However, while SolarWinds NPM 12 can scale to approximately 500k elements, the cost advantage that is provided by SolarWinds becomes less significant as you get to those

higher levels. This is due to the need to add additional servers to host the polling engines that are required to scale to that number.

The weight for this category is 25 percent. Based on all of the functions and components identified above, the final ratings for this category are:

- Solar Winds   8.00
- HPE   5.00

Conclusion

Edison Group was commissioned by SolarWinds to objectively evaluate SolarWinds NPM 12 against HPE NNMi.

An outline of decision criterion categories was identified, and details from both products were collected, evaluated, and rated:

- Organizational Viability
- Functions and Features
- Technical Requirements
- Pricing

While both solutions address high-level network performance monitoring requirements, SolarWinds NPM 12 has some unique features when compared to HPE NNMi:

- Wireless devices can be monitored
- Network infrastructure CPU, Memory and node use can be forecasted, thus preventing outages before they occur
- End user quality of experience with Packet Capture and Analysis
- For the "entry" to "large" managed system environments, SolarWinds has a significant price advantage

HPE NNMi has the following advantages over SolarWinds NPM 12:

- It is priced more competitively in the larger managed environments, i.e., greater than 200K elements
- Data analysis visualization feature
- It has a multi-tenancy feature which allows users to more securely manage multiple customers or sites. This is more beneficial to MSPs or very large enterprises with a large number of remote sites that each need to have their own monitoring capabilities

Based on the cumulative ratings and weights the final weighted average ratings are as follows:

- Solar Winds   8.45
- HPE   6.50

It is clear, based on the decision criteria defined above, and the weighted findings, that SolarWinds NPM 12 is a better choice than HPE NNMI for "entry" to "large" managed environments.