

Summary of the capability and features of three well-known NMSs

Name

Institution

## **Abstract**

This project compares the capabilities and features of network monitoring service offered by three popular tools, and these are Solar winds, PRTG and Open NMS. The services are examined for the consistency and steadiness based on their internal developed features.

## **Introduction**

Network Monitoring is a term used for a system that constantly monitors a computer network for discrepancies (KUNDU, 2013). These flaws may result from slow or failing system components. The system detects these kinds of defects and notifies the network administrator through different means like emails, SMS or alarms. A reliable NMS will regularly give updates on the network by sending update messages. Network monitoring watches hardware like servers routers etc. while giving status every minute or hour depending on the configuration or request. This project, therefore, aims at establishing the capabilities and feature of the three well-known NMSs.

## **Type of network to manage**

### **SolarWinds**

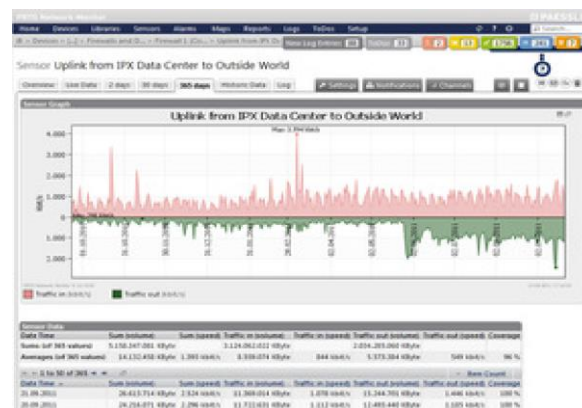
Is an NMS that is pretty useful, it is used to monitor from single devices in the network using SMNP. It monitors any SNMP variable such as bandwidth on the router, WAN, LAN, disk

space on servers and even VoIP. The tools allow for an in-built feature like the Universal Device Poller. The UDP can be configured to obtain information from MIBs (SolarWinds, 2011).



### PRTG

PRTG is an NMS that runs on window devices and is useful especially for monitoring bandwidth utilization via SNMP, VMI, sFLOW, packet sniffing and Netflow. The software can also monitor uptime and has close to 200 sensor type covering all aspects of network monitoring.

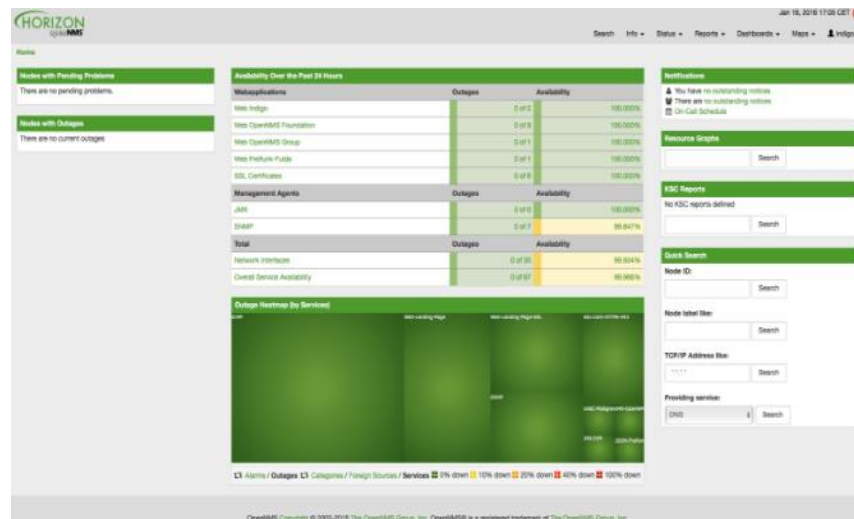


### Open NMS

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Is a carrier-grade open-source platform build for network monitoring. It is cross platform and does event management and notification through bandwidth control, hyper-V monitoring and device monitoring



## Remote control features

### SolarWinds

Has the DameWare remote control for multi-platform that allows remote access for single administration console. It allows for anywhere anytime connection from within the LAN or outside the firewall. It has leverage built-in remote management features that enable administrators to troubleshoot computers without launching the full remote access control.

### PRTG

It has remote probes feature that is usable to monitor networks in different locations. It allows monitoring subsidiaries from headquarters and different networks within the company networks. Has an MSP to monitor client's network from your network.

### **Open NMS**

Has remote polling service that discovers, schedule monitors and correlates service reporting any new entity in the network. The monitoring aspect is allowed when poll status are reported back, and distributed pollers permit the monitoring from multiple perspectives.

### **Network scalability support**

SolarWinds support devices from different manufactures hence can be scaled up for any network requirement. But it has built-in features that can allow for scaling. By adding polling engines, SolarWinds APM can be mounted transparently to any installation environment.

PRTG uses the remote probes to support scalability as it can support increased number of devices whether on LAN or WAN. But the probes only support Short offline time to the PRTG Servers.

Open NMS is highly scalable as it supports tens of thousands of devices from a single server and also can manage unlimited devices using a cluster of servers. With the discovery engine, Open NMS can automatically add devices without operation interruption (The OpenNMS Group, 2011).

### **Data collection and statistics**

Solarwinds has four ways in which it achieves data collection. Ping which is an admin tool that allows for a test of reachability of a given device. SNMP allows for the management of all devices in the network using the management information base. Syslog which is a message logging system where a device sends event notifications over the IP network. Finally, administrators can use scripts in case NMS tools are not supported.

PRTG achieves data collection using SNMP monitoring, where the PRTG queries the device for traffic counters of each port. This method creates the least CPU load and network load. For bandwidth usage calculation PRTG inspects all network data packets through network cards or a monitoring port in the switches. The last method is the NetFlow is supported by Cisco devices where bandwidth usage is internally monitored.

Open NMS collect network data using two methods i.e. polling and through data collectors. The polling work in such a way a monitor is connected to the network resources, and then they perform simple tests to see if the resource is responding, if not events are created. Open NMS uses the following collectors SNMP, NSClient, JMX, and HTTP.

### **Technical support**

All the NMS tools have robust and well-developed client support on their websites. With communities that have suggestions to technical problems.

### **Conclusion**

Finally, it is fair to conclude that the three services have very well advanced features that support different needs in the network environment. The first two (Solarwinds, PRTG) are

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proprietary while the Open NMS is open source hence free in accordance to the openGL licensing.

### References

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