SNMP IMPLEMENTATON ON HP ROUTERS WITH OVPI (OpenView Performance Insight) AND OTHER NETWORK MANAGEMENT SOLUTIONS

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Introducti on

✓ This study is a practical application of the infomatic labratory applied and gives us the score about how the SNMP protocol is brought together with OVPI (OpenView Performance Insight) in traffic protocol packets within a virtual network.

✓ SNMP is an application-layer protocol of the OSI model that realizes information exchange network management between the NMS (Network Management System), managed agents and equipment.

✓ SNMP managed network consists of three main components that are provided: Managed devices, Agents, NMS.



HP OpenView

• That is fundamentally a software manufactured by Helwett Packard company that controls all the nodes of a network that however great. It consists of two main parts provided:

1. NNM (Network Node Manager) that detects all points of the network through a process called Network Discovery Polling and controls the state of the traffic network nodes that runs on them.

2. OVPI (Open View Performance Insight) to collect data from NNM and creates some reports that monitors network administrator and others responsible for managing the network.



Implementation

OVPI (OpenView Performance Insight):

OVPI is a network management system that performs the following functions:



Examples of packages reports 1. Cisco ping report pack

- The above report shows which nodes in the network have been the most problematic in terms of communication with each other.
- RTT see what he is and what is the ratio of shipments at any time of day and draw a conclusion on the effectiveness of the joints.



Worst Performing Node Pairs, Ranked by Round Trip Time

Customers All	Node Pair	RTT	Delivery Ratio
sanjose desktalk.com -> sydney desktalk.com	19.00	92.55	
sanjose.desktalk.com -> iondon.desktalk.com	18.00	92.81	
sanjose desktalk.com -> chicago desktalk.com	18.00	02.71	
sanjose.desktalk.oom 🕗 newyork.desktalk.com	17.00	92.95	
sanjose.desktalk.com -> lasvegas.desktalk.com	15.00	92.19	



2. Package reports of device

resources

- This report shows the use of all resources of the network devices such as CPU, memory etc. In this example shown 10 users who use more resources and equipment.
- a. For instance we see greater use of CPU has NetRadix firm that has average daily CPU utilization around 60%.
- b. While use in load hours amounts to about 75%.
- c. We see that the use of higher memory has this firm, which reaches 81.5% in the hours under load.
- d. While use of the buffer amounts to 97.5% in the hours under load.
- e. While below we see that the average data are provided for the equipment and not to users.
- f. As the charts below show the CPU or memory usage by the user during a full day. From this report we draw what are the peak traffic hours, in order to take measures to prevent any possible failure due to overload of device resources.





Average Buffer Util

96.12

96.53

Average Memory Util

44.37

52.38



***** Other network management solutions

Nagios^{*} Right now the most generally actualized Open Source Network Management Solution. Taking into account Linux, Nagios surpasses the standard IP and SNMP offering so as to test a broad arrangement of authority modules, that permits to accumulate execution and accessibility information from a wide scope of working frameworks including Windows and Netware.

•Pros: Free Open Source Solution, very powerful agents

•Cons: Ugly Web GUI, steep learning curve, devices and tests need to be managed via config files.

NetXMS

S This is an intriguing new Open Source venture with the center server running on Windows or Linux and the broadest database determination that we have seen so far in any NMS server, including MS SQL, IngreSQL, MySQL, Oracle and SQLite inserted. It utilizes SNMP and in addition its own Windows or Linux specialists and is intended to find network nodes automatically.

• **Pros:** Multi Platform, dedicated agents, broad Database support, Auto Discovery, Magic Packet Wakeup.

•Cons: Needs dedicated client software for configuration, not yet widely deployed.

opennms[®]

This is the most seasoned Open Source Network Management venture around. This Linux bundle is worked around Java, Tomcat, PostgreSQL and RRD Tool and was planned unequivocally to oversee extensive undertaking systems and to go up against HP OpenView and Tivoli.

•**Pros:** Free Open Source Solution, usable for a large number of IP hosts, basic monitoring is very easy, offers ICMP response time monitoring.

•Cons: Web GUI would need complete overhaul, linear device list, only IP based monitoring (no shared websites for example), Java code is difficult to debug and flaky.

ZEROSS Presumably the most inventive and exquisite Open Source arrangement accessible. Has still some harsh edges, yet it truly sparkles in style and ease of use and even guarantees to bolster medium to expansive IT situations. Unless you should utilize a Windows based arrangement, you should assess this one.

• **Pros:** Open Source, very interesting and powerful concept, very good user interface, agent-less monitoring via SNMP, SSH, WMI.

•Cons: Debugging and modifications that go beyond what can be done via web interface is not trivial and requires python, zope and TALES skills.

Tips to create a roadmap for network management tools for next 3-5 years

✓ Progressed Systematic Reporting

- Capacity to settle on business choices in light of the latest information accessible.
- Capacity to have information accessible whenever, anyplace for the business power.

✓ Development of new products or processes

- Ability to take the information presented through the IT systems and make business decisions that will result in new products or services.
- Capacity to take the data that is accessible in the IT frameworks and distinguish unsurprising, repeatable issues that can be recognized for determination.

✓ Consolidation & Efficiency

- Reduce complexity of workflows for speed of delivery & increased throughput.
- Reduce infrastructure footprint (power, cooling, space).
- Replacement of legacy IT systems with strategic investiments.

✓ Business Coherence

- Development of Business Continuity/Disaster Recovery capabilities for IT systems.
- Increased Business Continuity/Disaster Recovery capability for the Supply Chain.

✓ Speed

- Adopt new technologies faster than the competitors.
- New consumer technologies must be available to the staff.
- New business initiatives should take precedence over IT projects.

✓ Network

• Internet redundancy resulting in the elimination of downtime. Eliminates the possibility of orders not being placed in your system.

Benefits of tight performance control, coupled with available measurements from HPOV, or similar tools



Conclusions

✓ To stay competitive, organizations of every type and industry need to make large-scale changes in a minimal amount of time. For example: to meet the demands of its market and emerging inventory problems, a retailer requires real-time supply chain insights.

✓ IT environments are more challenging to manage than ever before, as traditional infrastructures have given way to heterogeneous, distributed and rapidly changing architectures.

 \checkmark It's no longer sufficient to manage a single operating system platform and the applications that run on it.

✓ Today, there is much to manage—including remote data centers, desktops, laptops, handhelds, shared printers, storage devices and Internet-enabled cell phones. This proliferation of devices is creating new requirements every day and management of these devices becomes increasingly critical and complex.

✓ Management is the key to success in meeting today's demands head on, as we build an Adaptive Enterprise that helps us achieve a tight coupling between business and IT—so we can quickly and easily respond to change.

THANK YOU

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