In the early days of the Internet, Nortel Networks, Canada, a telecommunications giant, needed to update their DMS Central Office software and switches. Because the switches are sold globally, Nortel and Smart Communications developed **Nortel Standard English** (NSE), to simplify complex software documentation.

This example shows the original text, the **MAXit Checker** messages in colors and the final NSE version.

Subject:
Optivity Network Management System Subnet Discovery process takes excessive time to complete on a network comprising multiple PP8600s with several VLANs.

Description:
The discovery of a network comprising multiple PP8600s (v3.2.2, v3.2.2.2, v3.2.3 and v3.3), several Vlans and a Forwarding Data Base containing several thousand entries causes Optivity Network Management System (ONMS) Subnet Discovery Process (Topst) to use 100% of the CPU and take an excessive time to complete.

Enhancements to the PP86xx agent beginning with 3.2.2.2 for VLAN management caused ONMS Discovery to exhibit this behavior. Current scope of problem is limited to PP86xx v3.3.3 and subsequent versions.

Discussion:
Prior to PP86xx agent queries would return with just the MAC addresses learnt on each specific VLAN within the community string of the SNMP query. Current ONMS Subnet Discovery and topology mapping is based upon this implementation.

Enhancements were done in the PP86xx 3.2.2.2 agent allowing forwarding (FDB) table to show the forwarding information for all VLANs without the need of hard-coding the VLAN ID. Absence of VLAN tag impacts ONMS Subnet discovery and hence the resulting behavior. Note: v3.2.2.0 of the PP86xx agent loops on a request for a specific mib variable (dot1dTpFdbAddress) which can cause the (ONMS) discovery process to take an excessive time to complete. The behavior was rectified in v3.2.2.2 and above.

Resolution:
Optivity NMS addressed this problem via a Software fix that was made available in early Q 1 2003. This fix is included in ONMS 10.1. Please note that this fix requires PP86xx agent version 3.2.2.2 and later.

Subject: Optivity Network Management System

Slower response time for tasks in the Optivity Network Management System (ONMS) and Subnet Discovery Process (Topst). This problem occurs on networks with many PP8600 processors and VLANs.

Description:
Many PP8600 processors and VLANs can cause a slow response time during Topst tasks.

Refer to versions V3.2.2, V3.2.2.2, V3.2.3 and v3.3. A network with a Forwarding Data Base and more than 2,000 entries has a slow response time.

The ONMS and Topst tasks can use 100% of the CPU cycles to complete a task.

This problem occurs in PP86xx agents that have versions V3.2.2.2, V2.2.2 and higher.

Discussion:
Before the update, SNMP queries to PP86xx agent returned only the MAC addresses for each VLAN group. The ONMS topology maps use this method.

Changes to PP86xx agent, version V3.2.2.2, now show the forwarding table (FDB) for all VLANs.

If there is no VLAN tag, the ONMS Subnet Discovery task has the problem.

NOTE: The PP86xx agent, version V3.2.2.0, can enter a continuous loop condition to get one MIB variable, example (dot1dTpFdbAddress). This condition increases the response time.

Resolution:
The ONMS 10.1 update corrected problems for PP86xx agent, version V3.2.2.2 and higher.

Reference CR: Qxxxxx96

MAXit
The SMARTer Grammar Checker

SIX SIGMA
Quality Documentation