# WebNMS 5.0
## Professional Editions

## Performance Guide

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# 1. Introduction

This document provides a quick insight into the high performance capabilities and scalability aspects of Web NMS 5 platform. This guide requires basic knowledge of the Web NMS server architecture and the basic management functionalities of it. The target audience for this guide is system architects working on Web NMS development.

# 2. Scope

This document presents the performance test results of WebNMS 5.0. The following interpretation about Web NMS system performance could be relevant from this document.

The following are the performance metrics that are taken into consideration.

- Data Collection Rate
- Trap Rate
- Event Rate
- Alert Rate
- Discovery Rate
- Status Polling Rate

The following are the hardware metrics that are taken into consideration.

- CPU utilization
- Memory utilization

# 3. Metrics Definitions

Following are the definitions of the performance and resource metrics that are calculated in the performance tests:

## 3.1 Data collection rate

The data collection rate is the rate at which SNMP data collection is carried out for all the objects with varying data poll interval.

## 3.2. Trap Rate

The Trap rate is the rate at which traps received by WebNMS are getting converted in to events.

## 3.3 Event Rate

The Event rate is the rate at which the incoming events are processed and added to the database.

## 3.4. Alert Rate

The Alert rate is the rate at which the alerts added to the database after it is correlated and processed from its corresponding events.

## 3.5. Discovery rate

The rate at which the nodes in the network are discovered in the SNMP and ICMP discovery modes.

## 3.6. Status polling rate

The status-polling rate is the rate at which managed objects are polled for their current status. The type of the managed object that is polled for status is SnmpNode.

## 3.7. CPU utilization

The average percentage values of CPU utilization of the NMS server and database server under consideration.

## 3.8. Memory utilization

The average memory consumption of NMS server and database server under consideration.

# 4. Test Results

The following tables present the performance data for WebNMS 5.

**Note:** All the tests have been done with 10,000 managed objects.

## 4.1. Windows-Oracle Test Results

**Setup:** OS: Windows XP, Database: Oracle 11g

**Hardware Configuration:** Both WebNMS and Oracle running in Windows machine(4GB RAM,8*2.33GHZ CPU)
**Network Size:** 10,000 ManagedObjects

**Discovery Rate:**

| WebNMS Version | No.of networks | Discovery Rate(nodes/min) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10 | 5214 | 42-67 | 166.4 | 9-45 | 1064.96 |

**Status Polling Rate:**

| WebNMS Version | No.of objects | Status Polling Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10k | 1360 | 55-134 | 133.12 | 91-135 | 1098.24 |

**Data Collection Rate:**

| Web NMS Version | Period (seconds) | No.of Polled Data | Data Collection Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|
| 5.0 | 20 | 100k | 4487 | 109-214 | 260 | 45-329 | 665.6 |

**Trap/Event/Alert Rate**

| Web NMS Version | Traps sent (traps/sec) | Trap Rate (traps/sec) | Event Rate (traps/sec) | Alert Rate (traps/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|---|
| 5.0 | 2100 | 1878 | 1874 | 1873 | 117-218 | 270.32 | 53-250 | 1064.96 |

## 4.2. Windows-MySQL Test Results

**Setup:** OS: Windows XP , Database: MySQL 5.0.44
**Hardware Configuration:** Both WebNMS and MySQL running in Windows machine(4GB RAM,8*2.33GHZ CPU)

**Network Size:** 10,000 ManagedObjects

**Discovery Rate:**

| WebNMS Version | No.of networks | Discovery Rate(nodes/min) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10 | 5320 | 42-55 | 143.36 | 7-41 | 532.48 |

**Status Polling Rate:**

| WebNMS Version | No. of objects | Status Polling Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10k | 1391 | 79-145 | 122.88 | 83-124 | 573.44 |

**Data Collection Rate:**

| WebNMS Version | Period (seconds) | No.of Polled Data | Data Collection Rate(Polls/sec) | Server CPUUtil (%) | Server MemUtil(MB) | DB CPUUtil (%) | DB MemUtil(MB) |
|---|---|---|---|---|---|---|---|
| 5.0 | 20 | 100k | 4263 | 105-184 | 286.72 | 68-349 | 614.4 |

**Trap/Event/Alert Rate**

| Web NMS Version | Traps sent (traps/sec) | Trap Rate (traps/sec) | Event Rate (traps/sec) | Alert Rate (traps/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|---|
| 5.0 | 2000 | 1714 | 1716 | 1782 | 111-198 | 245.76 | 60-210 | 573.44 |

## 4.3. Linux-MySQL Test Results

**Setup:** OS: Linux 2.6.18-53.el5PAE , Database: MySQL 5.0.44
**Hardware Configuration:** Both WebNMS and MySQL running in Linux machine(4GB RAM, 8*2.33GHZ CPU)
**Network Size:** 10,000 ManagedObjects

### Discovery Rate:

| WebNMS Version | No. of networks | Discovery Rate(nodes/min) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10 | 5212 | 70-80 | 170 | 50-60 | 532.48 |

### Status Polling Rate:

| WebNMS Version | No. of objects | Status Polling Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10k | 1397 | 80-110 | 122.88 | 70-120 | 532.48 |

### Data Collection Rate:

| WebNMS Version | Period (seconds) | No.of Polled Data | Data Collection Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|
| 5.0 | 20 | 100k | 4365 | 125 - 143 | 286.72 | 70-330 | 532.48 |

### Trap/Event/Alert Rate

| Web NMS Version | Traps sent (traps/sec) | Trap Rate (traps/sec) | Event Rate (traps/sec) | Alert Rate (traps/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|---|
| 5.0 | 2000 | 1736 | 1726 | 1720 | 110 - 180 | 286.72 | 55-190 | 532.48 |

## 4.4. Solaris-MySQL Test Results

**Setup:** OS: SunOS5.10 , Database: MySQL 5.0.44
**Hardware Configuration:** WebNMS running in solaris machine(8GB RAM, 32*1000MHZ CPU)
MySQL running in linux machine(4GB RAM,4*1.6GHZ CPU)
**Network Size:** 10,000 ManagedObjects

**Discovery Rate:**

| WebNMS Version | No. of networks | Discovery Rate(nodes/min) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10 | 2784 | 2-24 | 163.84 | 10 | 450.56 |

**Status Polling Rate:**

| WebNMS Version | No. of objects | Status Polling Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|
| 5.0 | 10k | 840 | 6 | 163.84 | 1 | 450.56 |

**Data Collection Rate:**

| WebNMS Version | Period (seconds) | No. of PolledData | Data Collection Rate(Polls/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|
| 5.0 | 50 | 100k | 1500 | 5.2 | 286.72 | 43 | 450.56 |

**Trap/Event/Alert Rate**

| Web NMS Version | Traps sent (traps/sec) | Trap Rate (traps/sec) | Event Rate (traps/sec) | Alert Rate (traps/sec) | Server CPU Util (%) | Server Mem Util (MB) | DB CPU Util (%) | DB Mem Util (MB) |
|---|---|---|---|---|---|---|---|---|
| 5.0 | 500 | 466 | 466 | 450 | 6 | 245.76 | 4 | 450.56 |