

## **WebNMS 4.7 SP3 Vs WebNMS 5.0**

### **Professional Editions**

### **Performance Comparison 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. The information in this guide will assist you in understanding the performance improvement in WebNMS 5 over WebNMS 4.7 SP3. 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 Web NMS 4.7 SP 3 and 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. WebNMS Metrics Comparison

The following tables present the comparison on performance metrics of WebNMS 5 and WebNMS 4.7 SP3.

### 4.1. Windows-Oracle Comparison Results

Metrics	WebNMS4.7 SP3	WebNMS 5.0	Increase in percentage
Status Polling Rate	795	1341	68.7
Data Collection Rate	3200	4487	40.2
Discovery Rate of 10 networks	4337	5214	20.2
Trap Rate	1860	1878	0.96
Event Rate	1857	1874	0.91
Alert Rate	1857	1873	0.86

### 4.2. Windows-MySQL Comparison Results

Metrics	WebNMS4.7 SP3	WebNMS 5.0	Increase in percentage
Discovery Rate of 10 networks	4428	7900	78.4
Status Polling Rate	994	1519	52.8
Trap Rate	1066	1224	14.8
Event Rate	1065	1206	13.2
Alert Rate	1061	1191	12.2
Data Collection Rate	2914	3063	5.1

### 4.3. Linux-MySQL Comparison Results

Metrics	<i>WebNMS4.7 SP3</i>	<i>WebNMS 5.0</i>	<i>Increase in percentage</i>
Status Polling Rate	998.31	1716.97	71.9
Event Rate	1453	1726	18.7
Trap Rate	1466	1736	18.4
Alert Rate	1452	1720	18.4
Data Collection Rate	3737	4365	16.8
Discovery Rate of 10 networks	4531	4830	6.59

### 4.4. Solaris-MySQL Comparison Results

Metrics	<i>WebNMS 4.7 SP3</i>	<i>WebNMS 5.0</i>	<i>Increase in percentage</i>
Status Polling Rate	599	1057	76.4
Data Collection Rate	1131	1500	32.6
Discovery Rate of 10 networks	2160	2784	28.8
Event Rate	441	466	5.6
Alert Rate	435	450	3.4
Trap Rate	452	466	3.09

## 5. Detailed Test Results

The performance tests for both WebNMS 5 and WebNMS 4.7 SP3 has been carried out in a similar environment i.e) same Setup, Hardware Configuration and NetworkSize. The following tables present the performance data for both WebNMS 5 and WebNMS 4.7 SP3.

**Note:** All the tests have been done with 10,000 managed objects. For various sizing, Please refer Sizing Guide.

### 5.1. Windows-Oracle Test Results

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

**Hardware Configuration:** Both WebNMS and Oracle running in Windows machine(3.25GB RAM,8\*2.33GHZ CPU)

**Network Size:** 10,000 ManagedObjects

**Status Polling Rate:**

WebNMS Version	No.of objects	Status Polling Rate	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	10k	1341	55-134	133.12	91-135	1098.24
4.7 SP3	10k	795	95-140	66.56	156-200	1098.24

**Data Collection Rate:**

Web NMS Version	Period (seconds)	No.of Polled Data	Data Collection Rate	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	20	100k	4487	109-214	232.96	45-329	665.6
4.7 SP3	20	100k	3200	97-615	232.96	99-442	1031.68-1131.52

**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
4.7 SP3	10	4337	5-22	123.13	1-25	1164.8

**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	632.32	53-250	1064.96
4.7 SP3	2100	1860	1857	1857	156-266	166.4	56-92	1064.96

## 5.2. 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:**

<i>WebNMS Version</i>	No.of networks	Discovery Rate(nodes/min)	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	10	7900	12-52	143.36	7-41	532.48
4.7 SP3	10	4428	1-32	204.8	4-22	491.52

**Status Polling Rate:**

<i>WebNMS Version</i>	No. of objects	Status Polling Rate	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	10k	1519	79-145	122.88	83-124	573.44
4.7 SP3	10k	994	57-165	245.76	89-301	614.4

**Trap/Event/Alert Rate**

<i>Web NMS Version</i>	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	1600	1224	1206	1191	111-198	245.76	60-99	573.44
4.7 SP3	1600	1066	1065	1061	40-101	122.88	49-120	614.4

**Data Collection Rate:**

<i>WebNMS Version</i>	Period (seconds)	No.of Polled Data	Data Collection Rate	Server CPUUtil (%)	Server MemUtil(MB)	DB CPUUtil (%)	DB MemUtil(MB)
5.0	30	100k	3063	21-184	286.72	68-349	614.4
4.7 SP3	30	100k	2914	9-121	368.64	71-415	573.44



### 5.3. 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

#### Status Polling Rate:

<i>WebNMS Version</i>	No. of objects	Status Polling Rate	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	10k	1716.97	84	122.88	23	532.48
4.7 SP3	10k	998.31	86	122.88	21.5	532.48

#### Trap/Event/Alert Rate

<i>Web NMS Version</i>	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	103 - 135	286.72	24 - 40	450.56
4.7 SP3	2000	1466	1453	1452	42-63	163.84	18	409.6

#### Data Collection Rate:

<i>WebNMS Version</i>	Period (seconds)	No.of Polled Data	Data Collection Rate	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	20	100k	4365	125 - 143	286.72	29 - 64	450.56
4.7 SP3	25	100k	3737	103-245	286.72	21	532.48

#### Discovery Rate:

<i>WebNMS Version</i>	No. of networks	Discovery Rate(nodes/min)	Server CPU Util (%)	Server Mem Util (MB)	DB CPU Util (%)	DB Mem Util (MB)
5.0	10	4830	80-340	204.8	19-340	450.56
4.7 SP3	10	4531	50-190	163.84	13-133	450.56

## 5.4. 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

### Status Polling Rate:

<i>WebNMS Version</i>	<i>No. of objects</i>	<i>Status Polling Rate</i>	<i>Server CPU Util (%)</i>	<i>Server Mem Util (MB)</i>	<i>DB CPU Util (%)</i>	<i>DB Mem Util (MB)</i>
5.0	10k	1057	6	163.84	1	450.56
4.7 SP3	10k	599	8	163.84	4.5	491.52

### Data Collection Rate:

<i>WebNMS Version</i>	<i>Period (seconds)</i>	<i>No. of PolledData</i>	<i>Data Collection Rate</i>	<i>Server CPU Util (%)</i>	<i>Server Mem Util (MB)</i>	<i>DB CPU Util (%)</i>	<i>DB Mem Util (MB)</i>
5.0	50	100k	1500	5.2	286.72	43	614.4
4.7 SP3	50	100k	1131	7.5	245.76	34.4	634.88

### Discovery Rate:

<i>WebNMS Version</i>	<i>No. of networks</i>	<i>Discovery Rate(nodes/min)</i>	<i>Server CPU Util (%)</i>	<i>Server Mem Util (MB)</i>	<i>DB CPU Util (%)</i>	<i>DB Mem Util (MB)</i>
5.0	10	2784	2-24	163.84	10	614.4
4.7 SP3	10	2160	9	163.84	10	614.4

### Trap/Event/Alert Rate

<i>Web NMS Version</i>	<i>Traps sent (traps/sec)</i>	<i>Trap Rate (traps/sec)</i>	<i>Event Rate (traps/sec)</i>	<i>Alert Rate (traps/sec)</i>	<i>Server CPU Util (%)</i>	<i>Server Mem Util (MB)</i>	<i>DB CPU Util (%)</i>	<i>DB Mem Util (MB)</i>
5.0	500	466	466	450	6	245.76	4	184.32
4.7 SP3	500	452	441	435	8	163.84	4.5	471.04