

SM 9.30 Performance Benchmark Comparison Report

Description of the test environment and test results comparison with previous releases (7.11 and 9.20) on Windows and Oracle

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Introduction

Hewlett-Packard is ranked among the top software companies worldwide. HP provides solutions that enable companies to manage infrastructure and simplify employee access to that infrastructure, as well as extend next generation e-Business capabilities inside the enterprise and outside the firewall.

HP software delivers rich functionality with robust performance. To ensure that this performance is maintained at high volumes, HP's development team routinely conducts benchmarks on all HP products. The benchmarks demonstrate HP software's performance characteristics for a range of processing volumes in a specific configuration. Customers and prospects can use this information to determine the software, hardware and network configurations necessary to support their processing volumes.

This document compares the benchmark test results of HP Service Manager 9.30GA with previous releases (7.11GA and 9.20GA) on Windows Server 2008 and Oracle 11g.

Scope

Service Manager 9.30, 9.20 and 7.11 were benchmarked in a horizontally load-balanced configuration with Oracle on Windows via the web client interface. The software used to conduct the benchmark was LoadRunner 11.0. Different user transaction profiles running for a 120-minute timeframe were simulated. The scope of this effort is to compare response time and resource utilization among 3 releases.

All 3 releases were tested in the same hardware and software test bed.

Executive Summary

Service Manager in all 3 releases performed acceptably during testing and demonstrated good scalability. All of the response time goals, up to the maximum tested concurrent user level of 2500 users, were met with a significant margin for increased workload.

Performance improvements were observed in almost every category from release to release, without excessive system resource utilization.

Test Environment

Hardware

All tests were conducted at the HP Rancho Bernardo facility in San Diego, CA using the following physical assets:

ID	Usage		OS
1	SM Load balancer/Server(16 servlets)	Xeon X55702 x 2.93GHz w/72GB	Win 2008 – 64 bit
2	SM Server(22 servlets)	Xeon X5365 2 x 3.00GHz w/32GB	Win 2008 – 64 bit
3	SM Server(22 servlets)	Xeon X5365 2 x 3.00GHz w/32GB	Win 2008 – 64 bit
4	Oracle 11g Database server	AMD 8220 4 x 2.80GHz w/32GB	Win 2003 – 64 bit
5	LoadRunner /VU Controller	VMWare VM 1 x 2.93GHz w/3GB	Win 2003 – 32 bit
6	VU generator	Xeon X5365 2 x 3.00GHz w/32GB	Win 2008 – 64 bit
7	VU generator	Xeon X5365 2 x 3.00GHz w/32GB	Win 2008 – 64 bit
8	Apache HTTP Server SM Web-tier – 10 x Tomcat	Xeon X55702 x 2.93GHz w/72GB	Win 2008 – 64 bit

Software

All tests were conducted with the following software set:

- Oracle 11g 11.1.0.6
- Windows Server 2008 Enterprise 64-bit and Standard 32-bit Editions
- HP LoadRunner 11.0
- Apache HTTP Server 2.0.61
- Apache Tomcat Server 6.0.30
- Java 1.5 for SM 7.11 Web-tier
- Java 1.6 for SM 9.20 and SM9.30 Web-tier

Performance Test Information

Setup and Tuning

Service Manager was configured to utilize a four-tier client/server architecture that allows for maximum flexibility and customization within a given networked environment. All testing was conducted using the Service Manager web client interface supported by Apache HTTP and Tomcat servers.

Testing was conducted with the Windows systems in an *as installed* state. During the course of testing, there was no tuning of the Service Manager or Oracle 11.1 server required beyond basic sizing. Specific Service Manager settings and Oracle parameters used are available in Appendices A and B, respectively.

Minor changes were made to the out of the box Service Manager applications. The first change was to disable Application License Tracking. Due to the very rapid user ramp-up unique to load testing, minor issues were encountered during the login phase. The pace of user logins is not likely to be replicated in a live system and this change should not be necessary. The second change was to disable Problem and Incident Matching in the Incident Management profile for the group encompassing the test users. Due to the limited variability of the data being entered for new incident tickets, an artificial situation was created where a step in the incident creation process would take progressively longer as the test ran. As this is not likely to occur in a live system, incident matching was disabled for testing. It should be noted that in a very large deployment this issue could present itself if a user manually entered an incident for an issue that was reported repeatedly by an automated process.

Test Scripts

The test scripts used for this test were modeled after typical user transactions in an out-of-box system. The scripts covered the areas of Service Desk, Incident Management, Problem Management, Change Management, and Service Catalog. During the test, each virtual user logs in only once, completes one or more iterations of the scripts' actions, and then logs out. A complete description of the user scenarios used to build the scripts is contained in Appendix C of this document.

Performance Benchmarks

The goal of this testing was to compare performance improvement/degradation and system behavior at a specific user level. For this performance benchmarking test effort, each user ran at a rate of approximately 8 transactions per hour.

Success Criteria

The benchmark tests were considered successful when:

- The specified users are simultaneously logged in and able to complete the recorded tests.
- Response times fall within the parameters defined
 - Login- 5 seconds average
 - Submit SD Interaction- 7 seconds average
 - All others- 3.5 seconds average

Reporting Methodology

Reports consist of metrics from the HP LoadRunner generated charts, along with a detailed report of test system resource utilization under load.

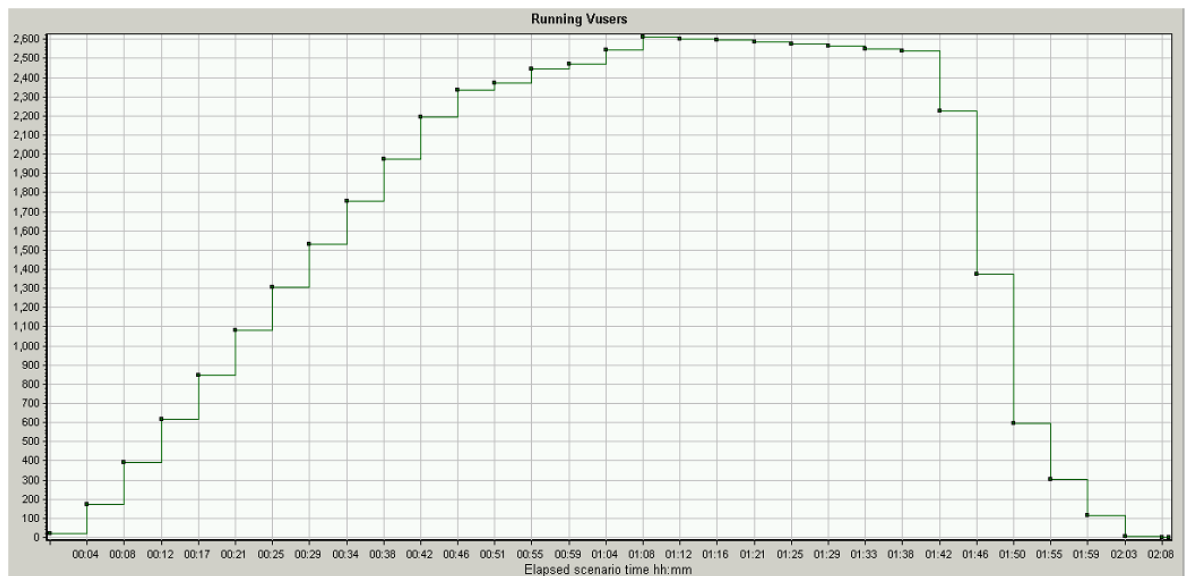
Tools

HP LoadRunner 11.0

This load testing software is produced by Hewlett-Packard. LoadRunner simulates high user loads to gauge hardware limitations of a given system. Data gathered from these tests help to determine if a system can handle a given user load with acceptable response times. The tool launches a predetermined number of users that perform a specific number of transactions in a specified period of time, and records elapsed time, amount of data transferred, total hits, and much more.

LoadRunner Test Scenario Settings

User Scenario	User Count	Start Time	Ramp-up Rate
Change Management	800	+0:00:00	9 users every 30 seconds
Incident Management	800	+0:02:20	9 users every 30 seconds
ESS Interaction	800	+0:05:10	9 users every 30 seconds
Problem Management	130	+0:51:30	10 users every 30 seconds
Service Desk	110	+0:59:30	10 users every 30 seconds
Service Catalog (ESS)	80	+1:06:30	10 users every 30 seconds

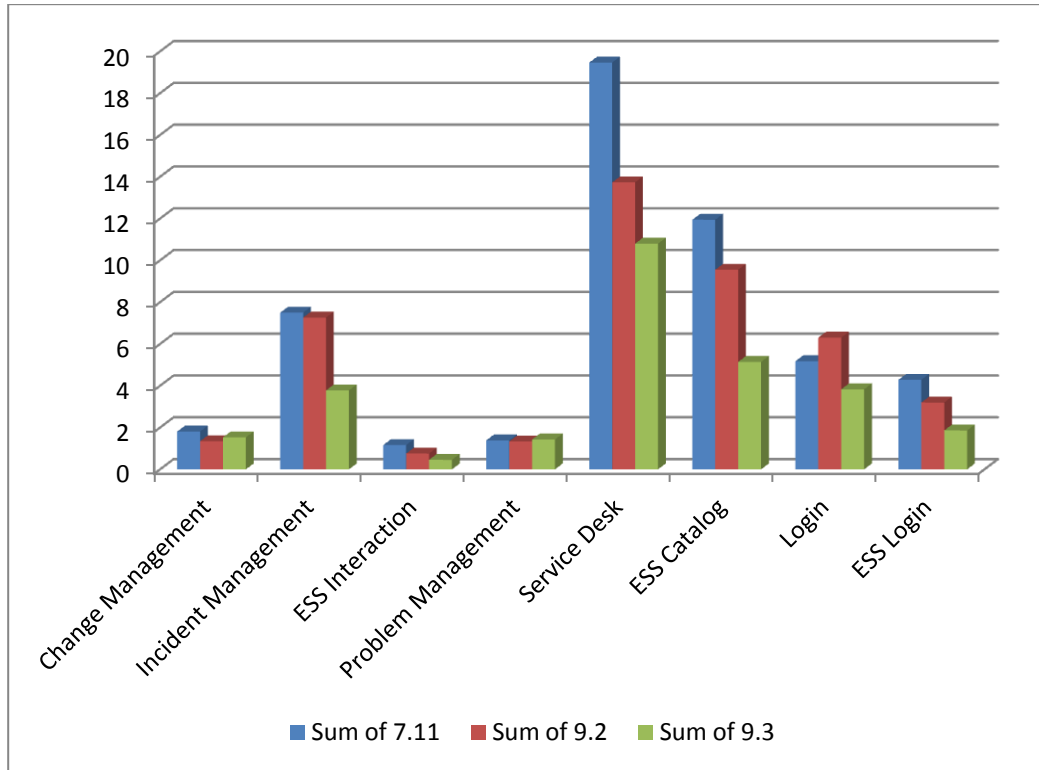


Test Results

The testing conducted during this engagement was on a horizontally load balanced Service Manager configuration. The load balanced environment proved to be quite robust in its ability to handle large user counts at average ticket volumes.

Transaction Response Times

In general, continuous performance improvement is observed in all modules from 7.11 to 9.30.



Aggregated Response Time

Module	Sum of 7.11	Sum of 9.2	Sum of 9.3
Change Management	1.81	1.347	1.533
Incident Management	7.499	7.262	3.778
ESS Interaction	1.163	0.757	0.457
Problem Management	1.389	1.335	1.431
Service Desk	19.468	13.733	10.8
ESS Catalog	11.946	9.551	5.141
Login	5.175	6.305	3.83
ESS Login	4.284	3.199	1.863

Important Transactions

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
Load_Login_Page	1.347	1.636	1.614	1.64	1.545	1.572	1840
ESS_Load_Login_Page	0.497	0.514	0.622	0.649	0.559	0.592	880
Login	3.828	4.153	4.691	5.073	2.285	2.446	1840
Open_New_Change	0.223	0.253	0.149	0.157	0.176	0.188	800
ESS_CatOrder_Submit_Request	0.12	0.14	0.086	0.093	0.082	0.093	240
ESS_CatOrder_T09_Submit	3.298	3.716	1.698	2.446	2.089	2.488	240
Save_New_Incident	1.001	1.118	1.22	1.469	0.496	0.562	3606
Search_Incident	1.126	1.287	1.061	1.234	0.205	0.234	3578
Update_Incident	0.584	0.656	0.232	0.463	0.466	0.516	3578
Open_New_Problem	0.462	0.588	0.261	0.342	0.251	0.331	986
Open_New_Interaction	4.071	4.545	2.907	3.66	1.756	1.99	224
Search_Interaction	1.317	1.507	1.087	1.265	0.303	0.331	224
Update_Interaction	1.413	1.594	0.549	1.08	1.1	1.169	224

By modules

Login Transactions

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
T00_Load_Login_Page	1.347	1.636	1.614	1.64	1.545	1.572	1840
T01_Login	3.828	4.153	4.691	5.073	2.285	2.446	1840

Change Management Breakdown

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
CM_T03_Open_New_Change	0.223	0.253	0.149	0.157	0.176	0.188	9209
CM_T04_Select_Category	0.567	0.698	0.489	0.554	0.557	0.642	9209
CM_T05_Fill_Initiated_By	0.51	0.562	0.406	0.438	0.469	0.5	9209
CM_T06_Save_and_Exit	0.47	0.547	0.267	0.323	0.3	0.337	9209
CM_T08_Logout	0.04	0.068	0.036	0.047	0.031	0.047	800

Incident Management Breakdown

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
IM_T03_Open_New_Incident	0.721	0.982	0.82	0.953	0.114	0.2	3,606
IM_T04_Fill_Area	0.094	0.109	0.159	0.172	0.165	0.18	3,578
IM_T05_Select_Subarea	0.107	0.112	0.086	0.094	0.073	0.08	3,578
IM_T06_Save_New_Incident	1.001	1.118	1.22	1.469	0.496	0.562	3,578
IM_T07_Cancel_From_Open_New_Incident	0.053	0.071	0.03	0.06	0.035	0.071	3,578
IM_T08_Click_Search_Incidents	0.374	0.524	0.328	0.482	0.211	0.371	3,578
IM_T09_Search_Incident_1	1.126	1.287	1.061	1.234	0.205	0.234	3,578
IM_T10_Update_Incident_1	0.584	0.656	0.232	0.463	0.466	0.516	3,578
IM_T11_Search_Incident_2	1.062	1.185	1.063	1.234	0.215	0.25	3,578
IM_T12_Update_Incident_2	0.573	0.634	0.22	0.438	0.448	0.484	3,578
IM_T13_Search_Incident_3	1.065	1.185	1.06	1.234	0.221	0.25	3,578
IM_T14_Fill_Closure_Code	N/A	N/A	0.242	0.259	0.247	0.266	3,552
IM_T15_Select_Cause_Code	N/A	N/A	0.162	0.266	0.193	0.219	3,552
IM_T16_Close_Incident	0.568	0.635	0.342	1.141	0.165	0.178	3,552
IM_T17_Save_and_Exit	0.07	0.078	0.183	0.562	0.472	0.516	3,552
IM_T18_Cancel_From_Search_Incidents	0.018	0.03	0.02	0.031	0.024	0.031	3,552
IM_T20_Logout	0.083	0.09	0.034	0.047	0.028	0.031	800

ESS Interaction Breakdown

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
T00_ESS_Load_Login_Page	0.44	0.514	0.622	0.649	0.559	0.592	800
T01_ESS_Login	2.937	3.173	2.577	2.798	1.304	1.405	800
ESS_Inc_T02_Request_Help	0.516	0.572	0.537	0.6	0.138	0.157	10366
ESS_Inc_T03_Submit_Request	0.571	0.634	0.176	0.326	0.289	0.316	10366
ESS_Inc_T04_Logout	0.076	0.09	0.044	0.054	0.03	0.04	800

Problem Management Breakdown

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
PM_T03_Open_New_Problem	0.015	0.016	0.261	0.342	0.251	0.331	941
PM_T04_Fill_Assignment_Group	0.462	0.588	0.188	0.203	0.196	0.216	936
PM_T05_Select_Network_Group	0.091	0.116	0.195	0.21	0.172	0.186	936
PM_T06_Fill_Area	0.257	0.292	0.183	0.2	0.194	0.216	928
PM_T07_Select_Subarea	0.489	0.554	0.194	0.211	0.172	0.184	928
PM_T08_Save_and_Exit	0.064	0.088	0.268	0.341	0.407	0.464	928
PM_T10_Logout	0.011	0.016	0.046	0.05	0.039	0.075	130

Service Desk Breakdown

Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
SD_T03_Register_New_Interaction	0.592	0.808	0.532	0.667	0.177	0.242	224
SD_T04_Fill_Contact	0.129	0.223	0.17	0.193	0.085	0.095	224
SD_T05_Fill_Recipient	0.237	0.277	0.167	0.2	0.085	0.092	224
SD_T06_Fill_Service	0.427	0.47	0.372	0.394	0.111	0.122	224
SD_T07_Fill_Category	0.114	0.14	0.186	0.208	0.192	0.215	224
SD_T08_Select_Area	0.079	0.08	0.181	0.192	0.197	0.212	224
SD_T09_Select_Subarea	0.17	0.189	0.123	0.127	0.094	0.105	224
SD_T10_Escalate	0.205	0.236	0.167	0.189	0.189	0.206	224
SD_T11_Escalate_Next	4.071	4.545	2.907	3.66	1.756	1.99	224
SD_T12_Save_and_Exit	1.803	2.01	0.841	1.442	1.096	1.206	224
SD_T13_Cancel_From_New_Interaction	0.107	0.116	0.089	0.095	0.095	0.111	224
SD_T14_Click_Search_Interaction_Records	0.293	0.347	0.298	0.406	0.196	0.249	224
SD_T15_Search_Interaction_1	1.317	1.507	1.087	1.265	0.303	0.331	224
SD_T16_Update_Interaction_1	1.413	1.594	0.549	1.08	1.1	1.169	224
SD_T17_Search_Interaction_2	1.324	1.494	1.103	1.254	0.306	0.326	224
SD_T18_Update_Interaction_2	1.266	1.42	0.525	0.993	0.931	1.001	224
SD_T19_Search_Interaction_3	1.345	1.464	1.113	1.257	0.309	0.337	224
SD_T20_Update_Interaction_3	1.253	1.388	0.509	0.967	0.931	0.992	224
SD_T21_Search_Interaction_4	1.394	1.512	1.149	1.322	0.32	0.354	224
SD_T22_Fill_Closure_Code	N/A	N/A	0.257	0.273	0.255	0.278	224
SD_T23_Select_Cause_Code	N/A	N/A	0.377	0.489	0.296	0.33	224
SD_T24_Close_Interaction	N/A	N/A	0.658	1.183	1.03	1.093	224
SD_T25_Save_and_Exit	1.636	1.767	0.302	0.624	0.668	0.713	224
SD_T26_Cancel_From_Interaction_Search_Form	0.057	0.185	0.028	0.034	0.036	0.048	224
SD_T28_Logout	0.236	0.246	0.043	0.049	0.042	0.13	110

ESS Catalog Breakdown

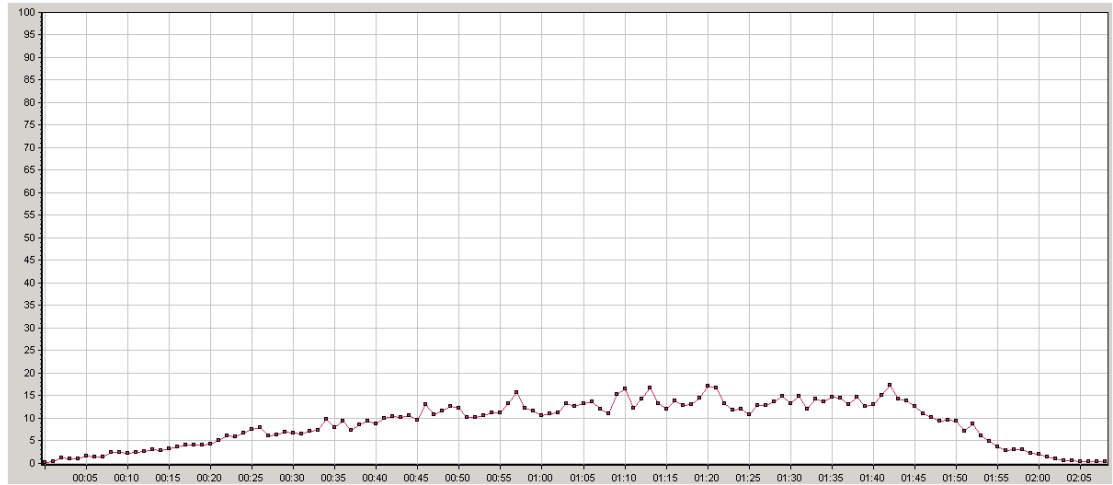
Transaction Name	7.11		9.2		9.3		Transaction count
	Avg	90%	Avg	90%	Avg	90%	
T00_ESS_Load_Login_Page	0.44	0.514	0.622	0.649	0.559	0.592	80
T01_ESS_Login	2.937	3.173	2.577	2.798	1.304	1.405	80
ESS_CatOrder_T02_Order_From_Services_Catalog	2.266	2.531	2.116	2.311	0.919	1.016	240
ESS_CatOrder_T03_Personal_Productivity_Services	2.6	2.818	2.355	2.573	0.911	0.973	240
ESS_CatOrder_T04_Hardware_Bundles	1.834	2.026	1.688	1.828	0.522	0.559	240
ESS_CatOrder_T05_Basic_PC_Package	0.257	0.315	0.23	0.269	0.239	0.277	240
ESS_CatOrder_T06_Add_to_Cart	1.327	1.467	1.202	1.289	0.209	0.216	240
ESS_CatOrder_T07_View_Cart_Checkout	0.12	0.142	0.087	0.095	0.088	0.097	240
ESS_CatOrder_T08_Submit_Request	0.12	0.14	0.086	0.093	0.082	0.093	240
ESS_CatOrder_T09_Submit	3.298	3.716	1.698	2.446	2.089	2.488	240
ESS_CatOrder_T10_Continue	0.049	0.047	0.03	0.035	0.038	0.043	240
ESS_CatOrder_T12_Logout	0.075	0.054	0.059	0.065	0.044	0.051	80

System Resource Utilization

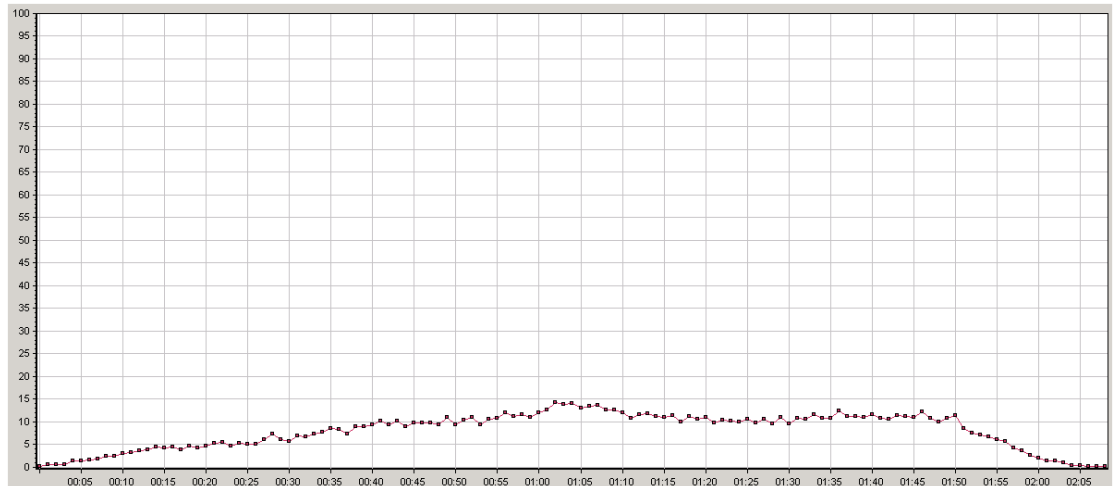
CPU Utilization

Primary Service Manager Server

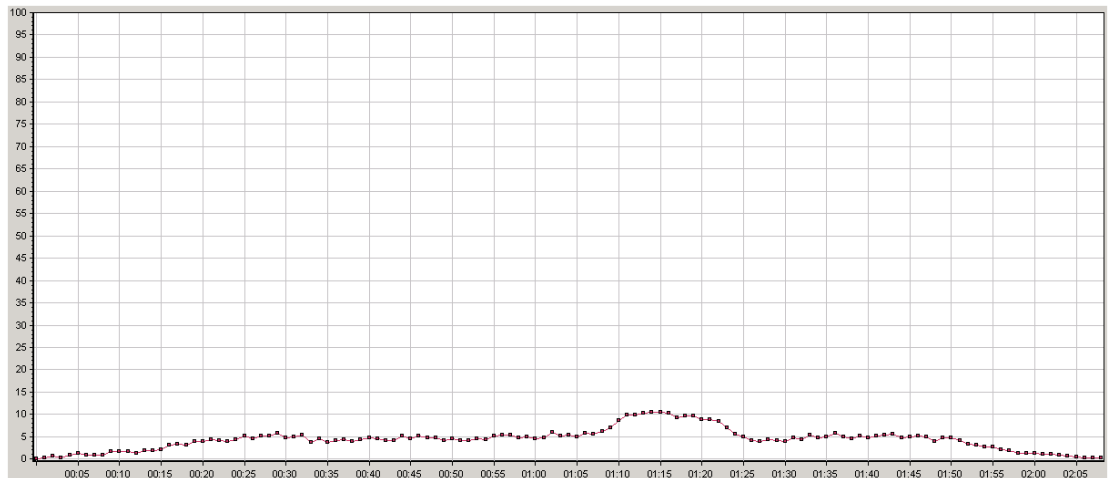
SM 7.11



SM 9.20



SM 9.30

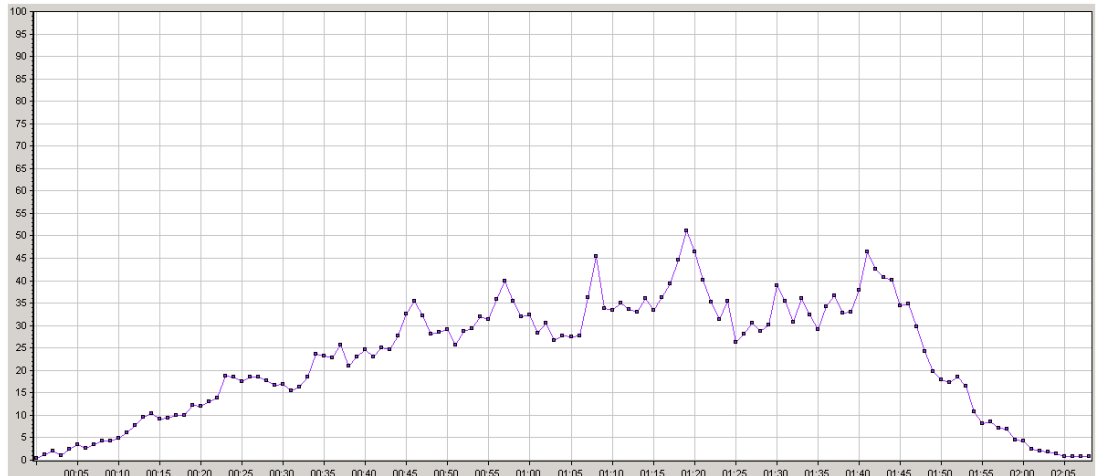


CPU Utilization Comparison Side-By-Side – Primary SM Server

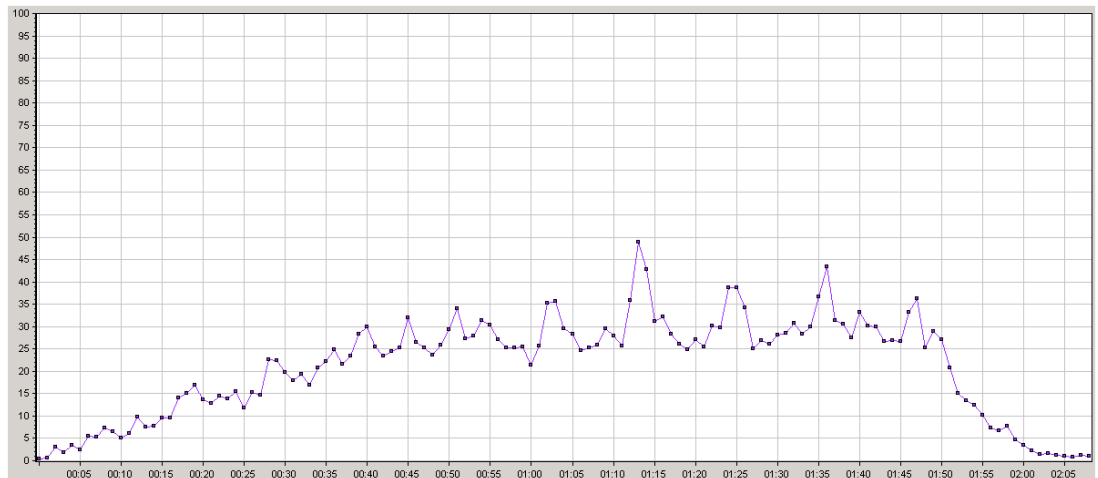
SM Version	average	maximum
7.11	8.836	24.849
9.20	7.965	24.804
9.30	4.368	19.106

Secondary Service Manager Server 1 - CPU Utilization

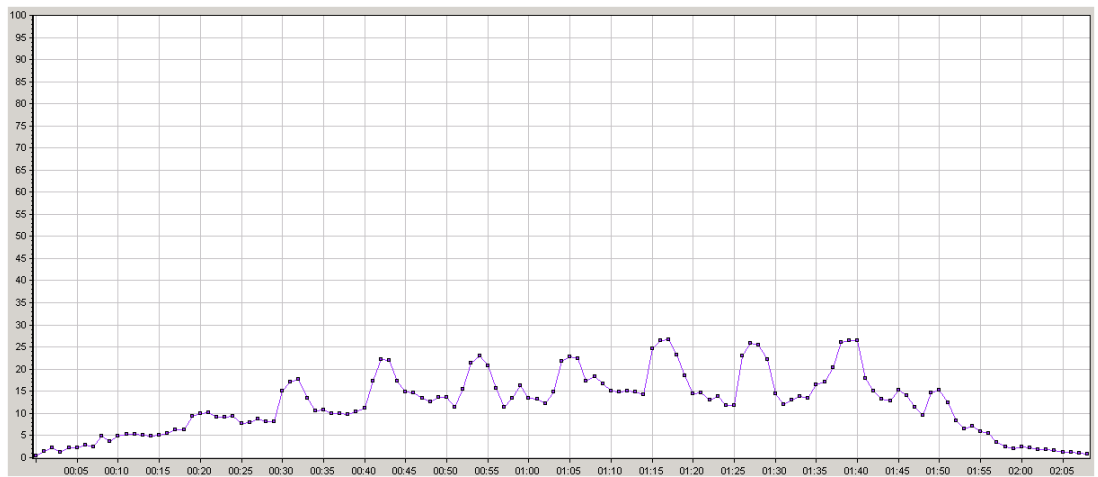
SM 7.11



SM 9.20



SM 9.30

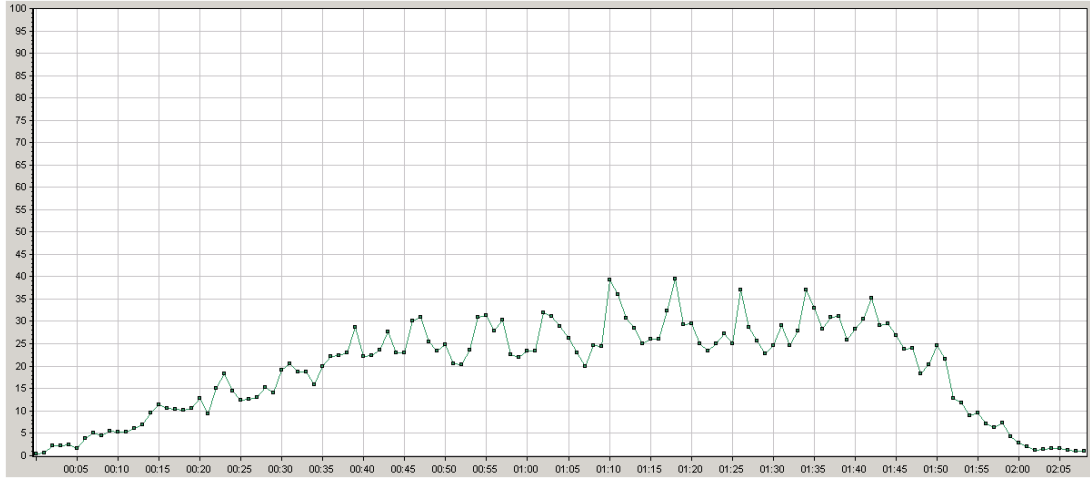


CPU Utilization Comparison Side-By-Side – Secondary SM Server 1

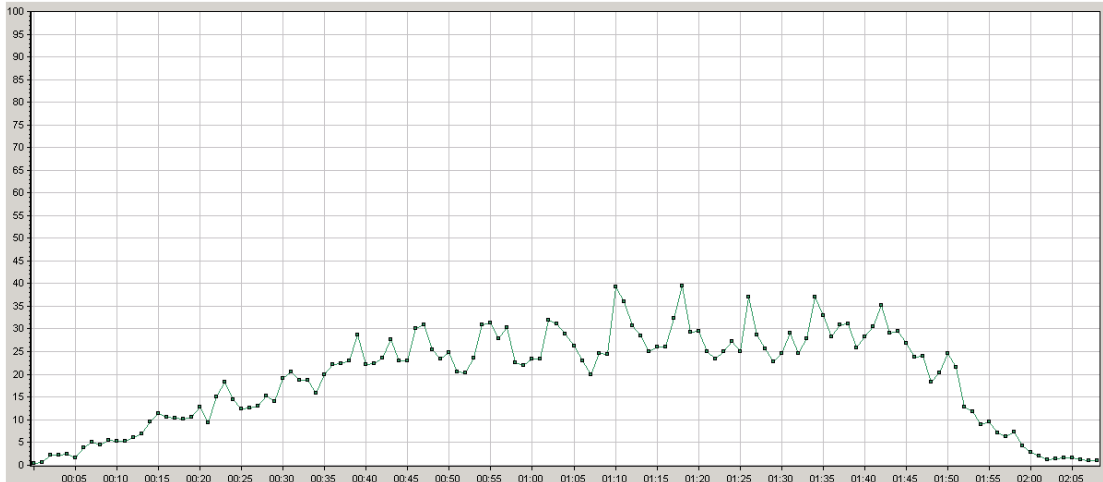
SM Version	average	maximum
7.11	22.844	67.448
9.20	21.09	61.979
9.30	12.13	40.104

Secondary Service Manager Server 2 - CPU Utilization

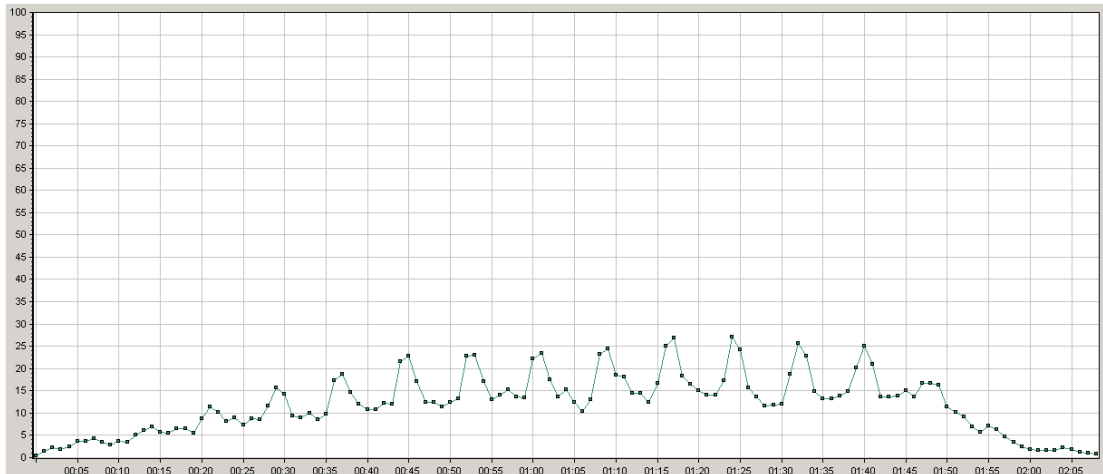
SM 7.11



SM 9.20



SM 9.30

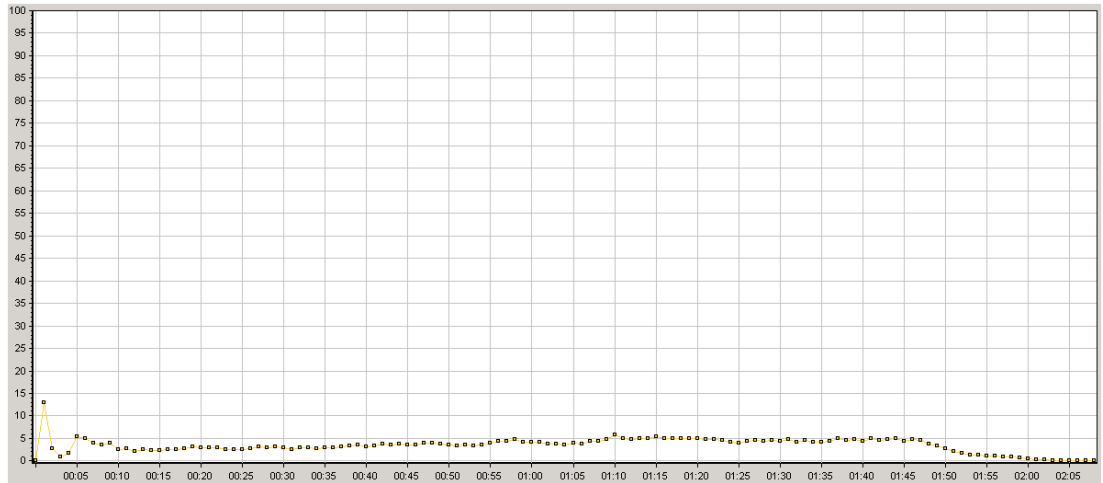


CPU Utilization Comparison Side-By-Side – Secondary SM Server 1

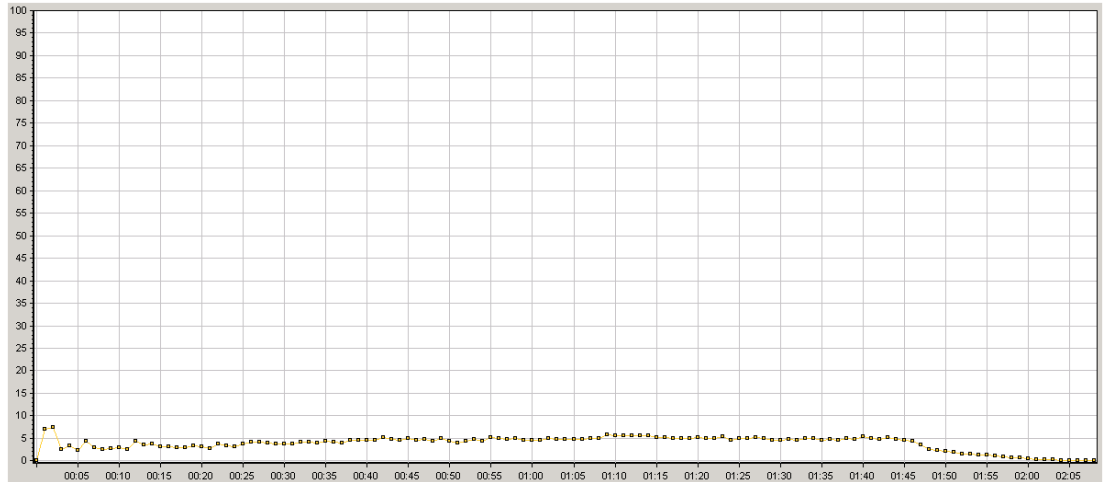
SM Version	average	maximum
7.11	24.262	71.179
9.20	19.323	57.357
9.30	11.929	35.807

Apache HTTP and Tomcat Server - CPU Utilization

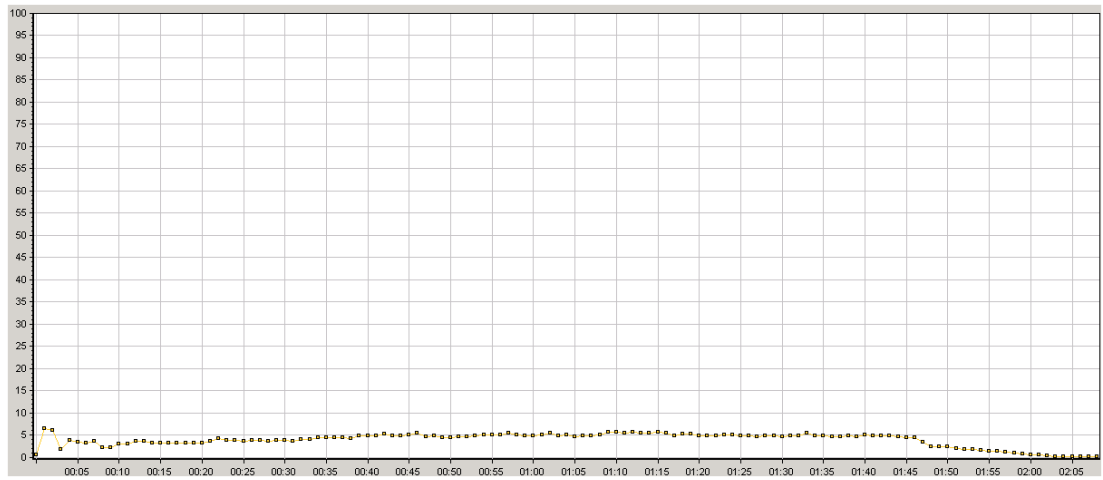
SM 7.17



SM 9.20



SM 9.30



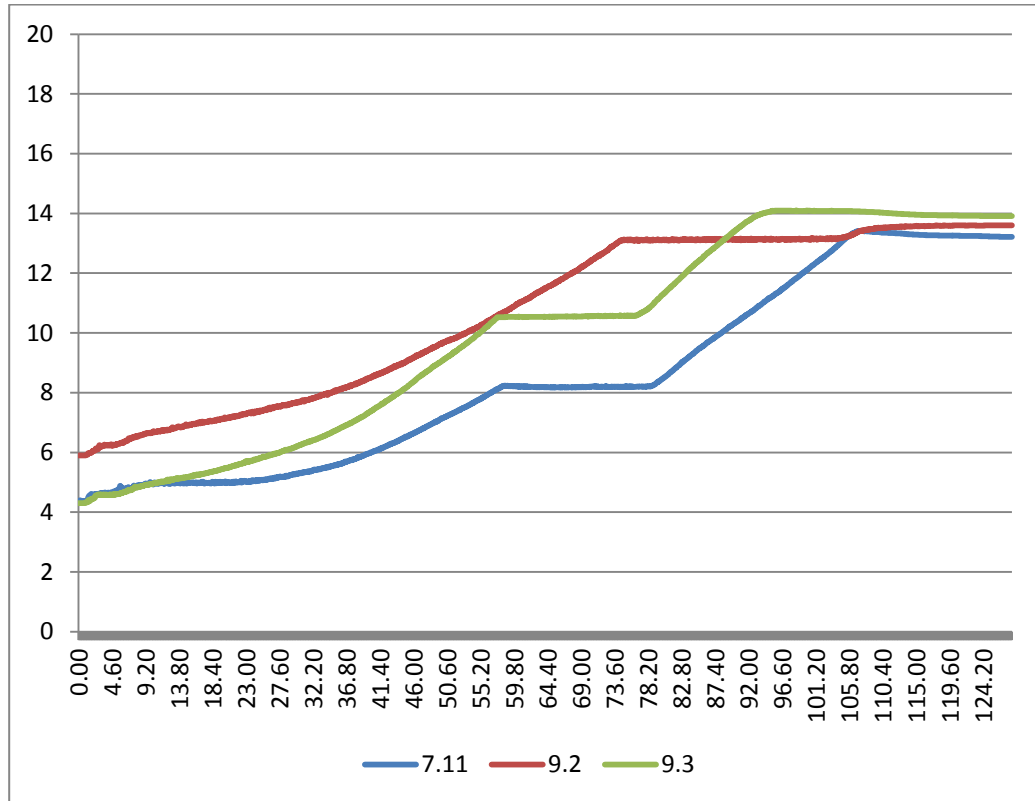
CPU Utilization Comparison Side-By-Side – Apache and Tomcat

SM Version	average	maximum
7.11	3.435	40.95
9.20	3.842	25.615
9.30	3.892	35.254

Memory Consumption

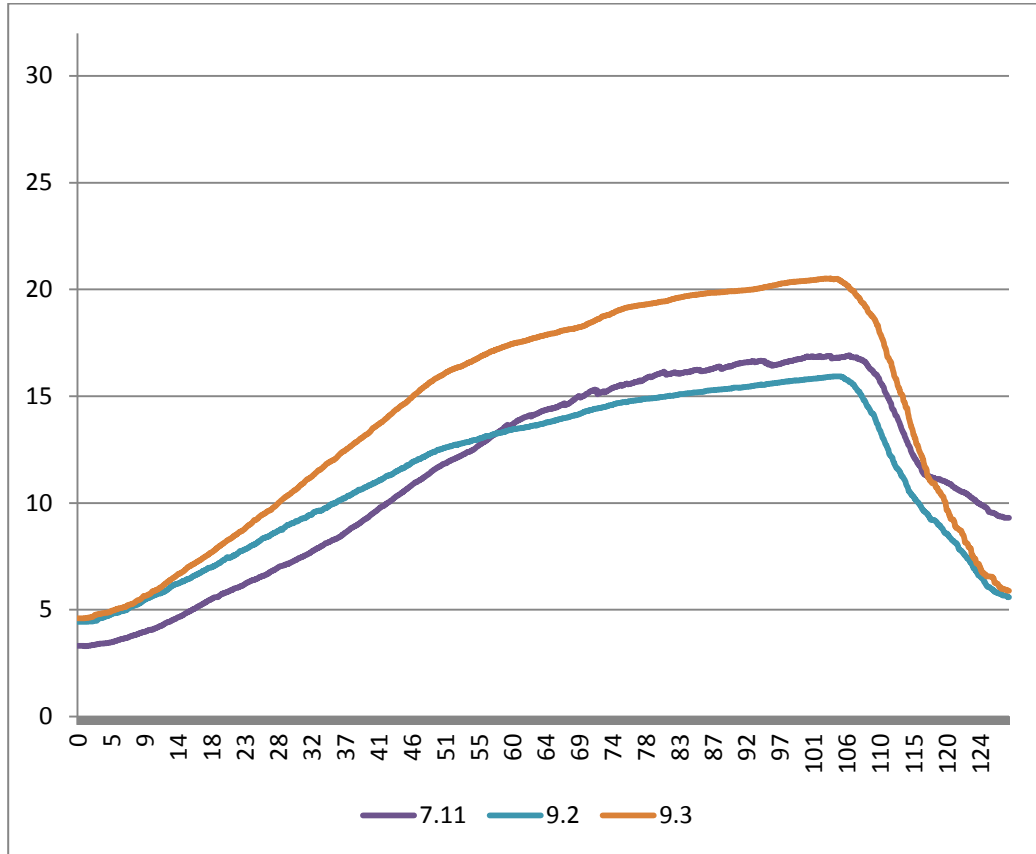
Primary Service Manager Server

Memory Consumption Comparison Side-By-Side – Primary SM Server (GB)



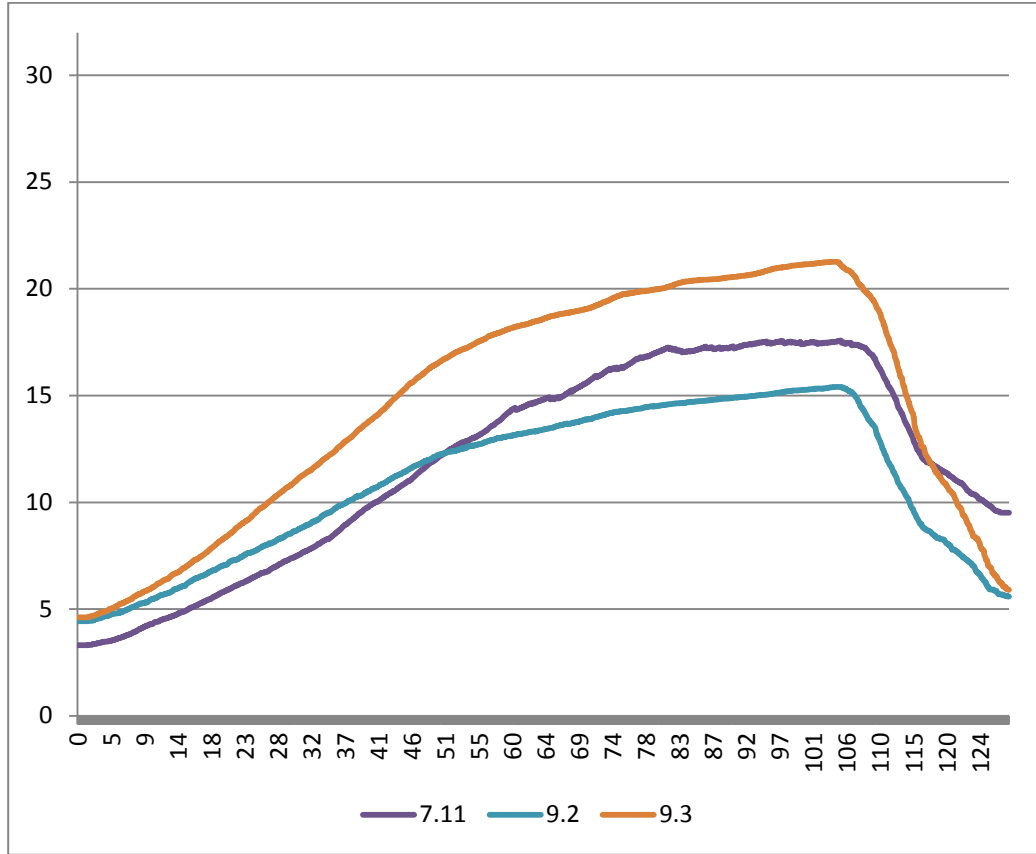
Secondary Service Manager Server 1

Memory Consumption Comparison Side-By-Side (GB)



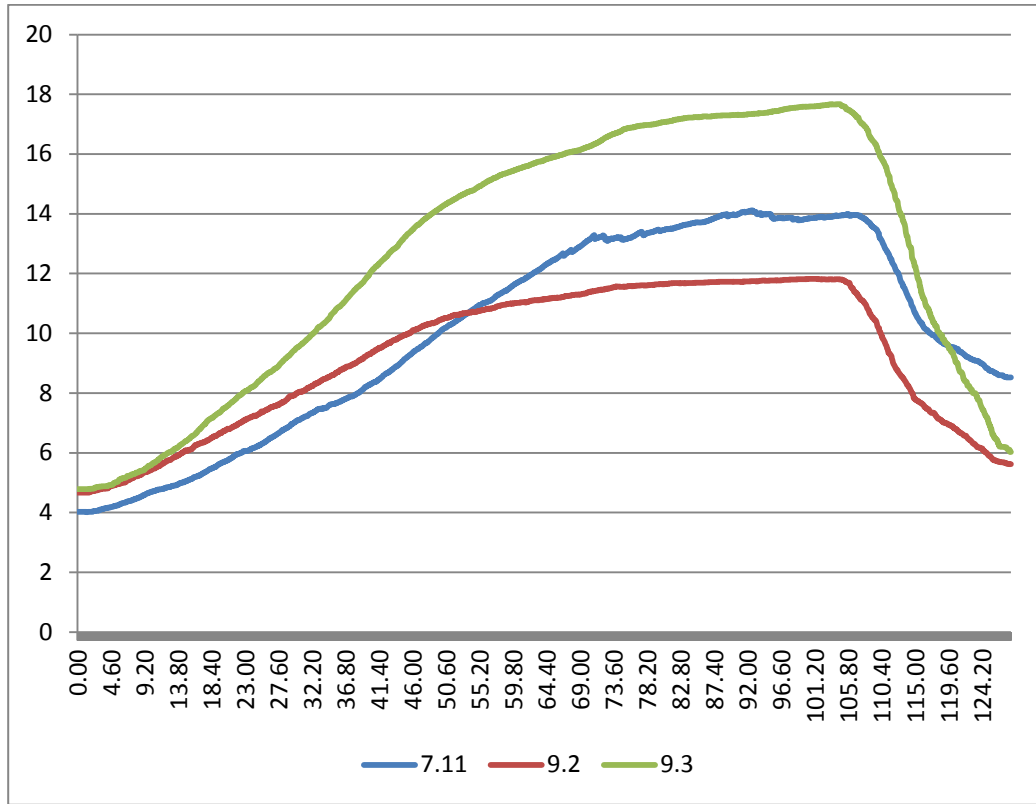
Secondary Service Manager Server 2

Memory Consumption Comparison Side-By-Side



Apache HTTP and Tomcat Server

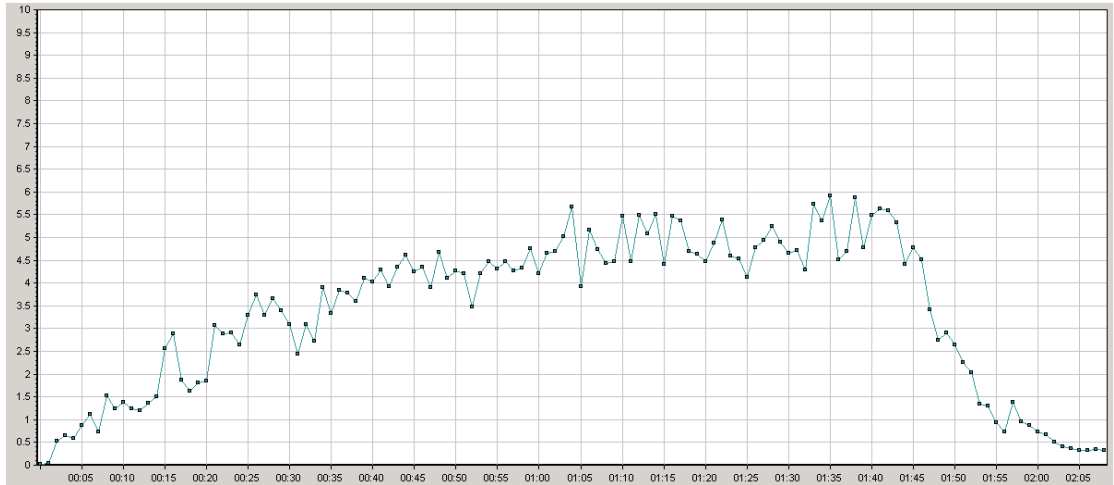
Memory Consumption Comparison Side-By-Side (GB)



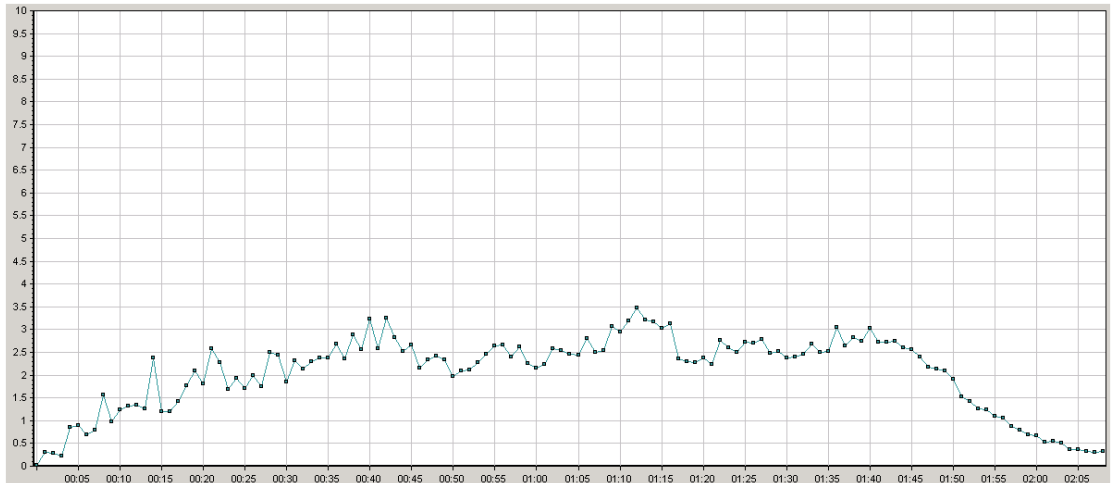
Network

Primary Service Manager Server

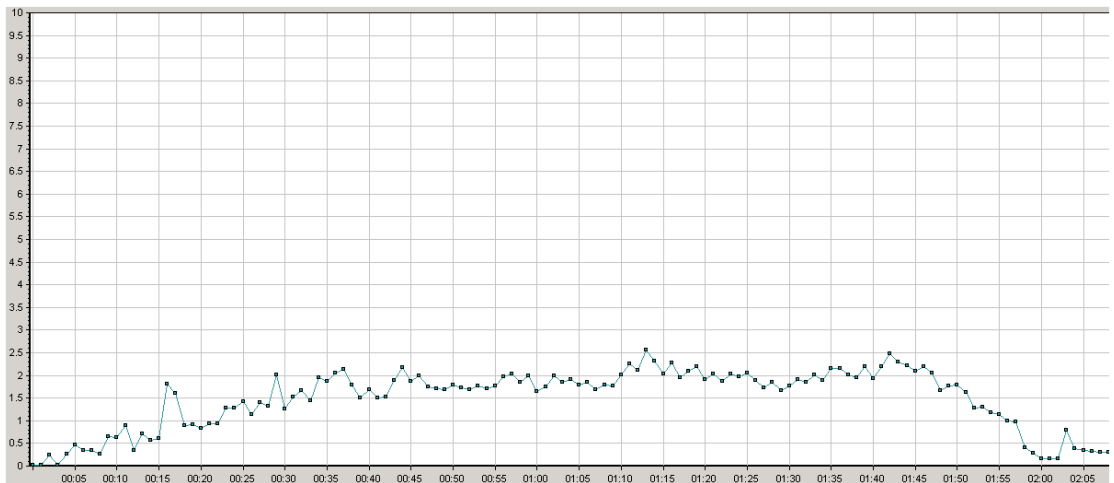
SM 7.11



SM 9.20



SM 9.30

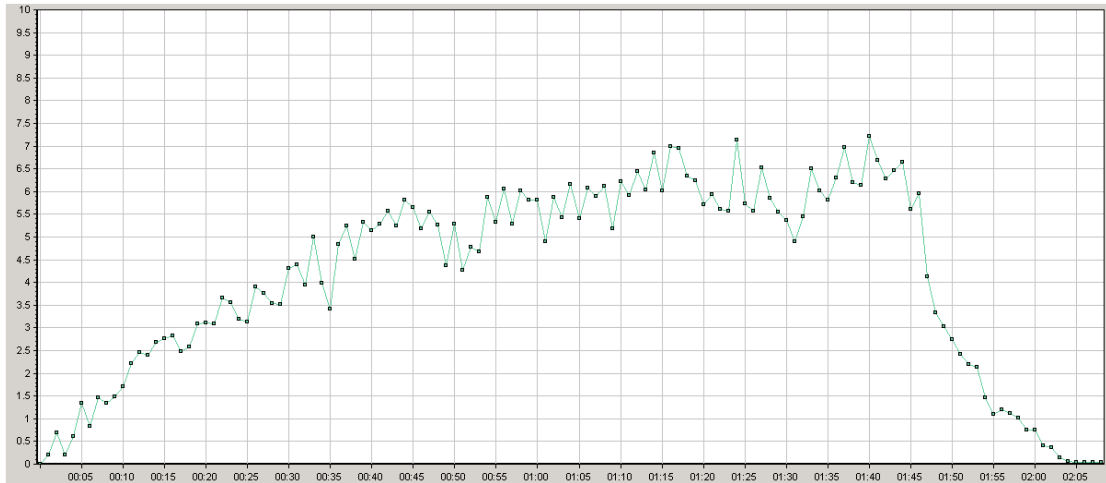


Network Total Bytes Comparison Side-By-Side – Primary SM Server (MB)

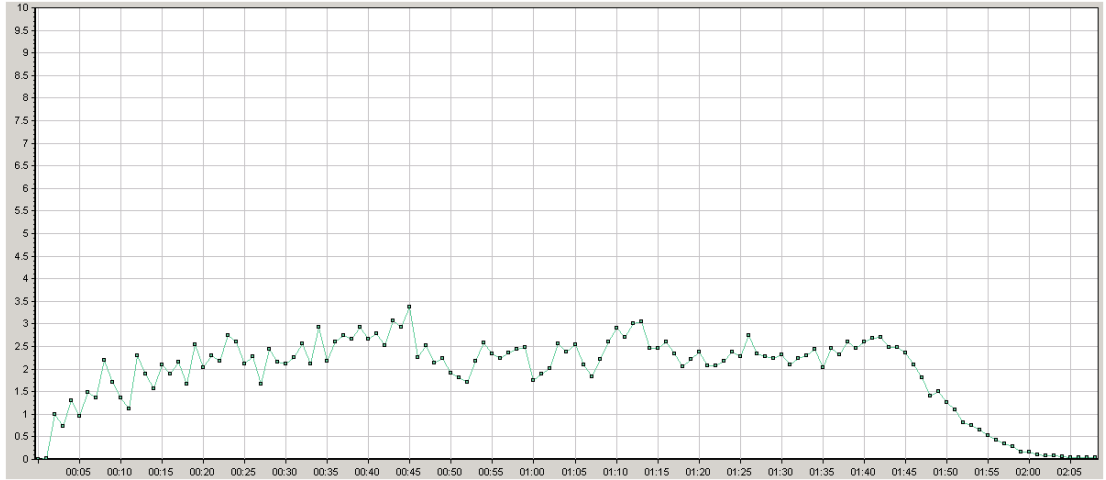
SM Version	average	maximum
7.11	3.381	10.775
9.20	2.046	7.109
9.30	1.482	4.988

Secondary Service Manager Server 1 - Network Total Bytes

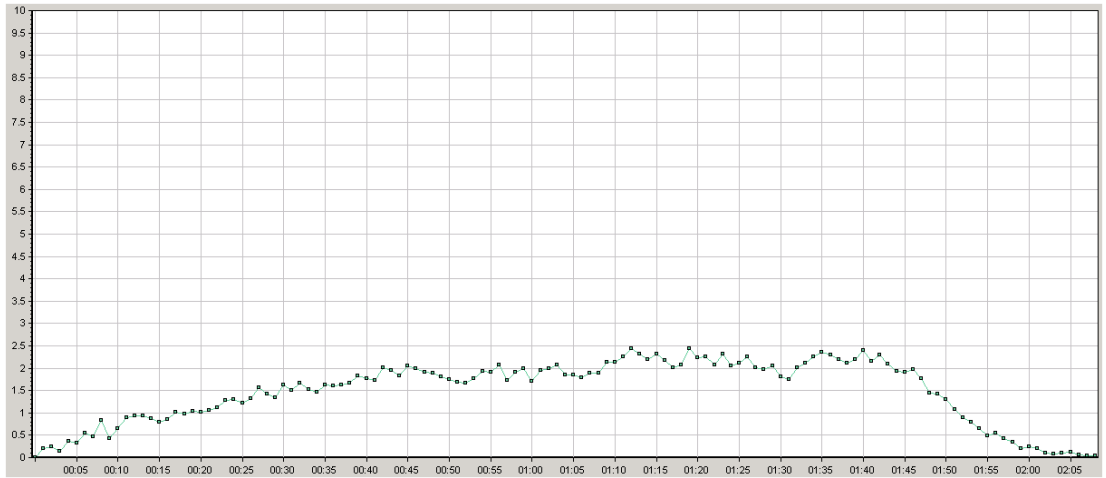
SM 7.11



SM 9.20



SM 9.30

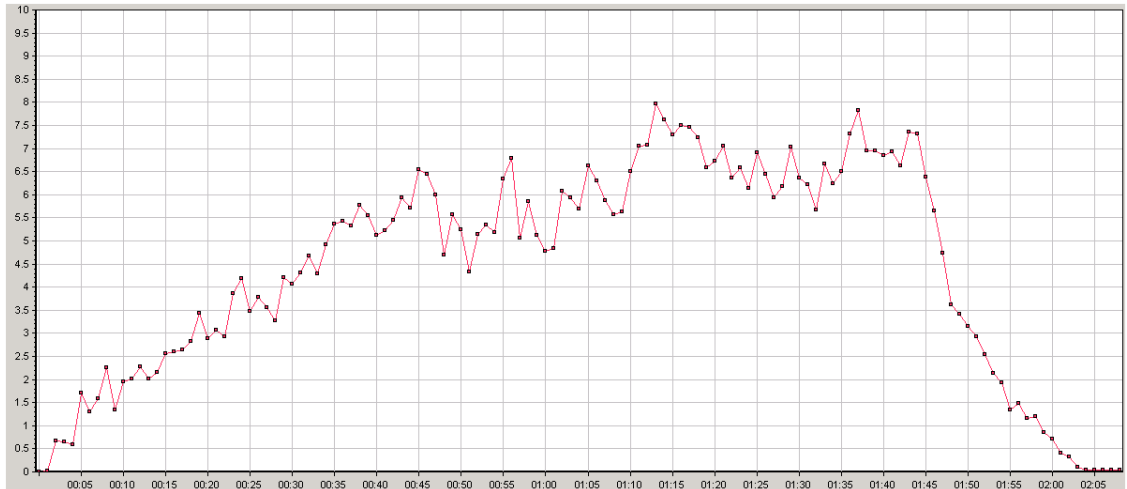


Network Total Bytes Comparison Side-By-Side - Secondary SM Server 1 (MB)

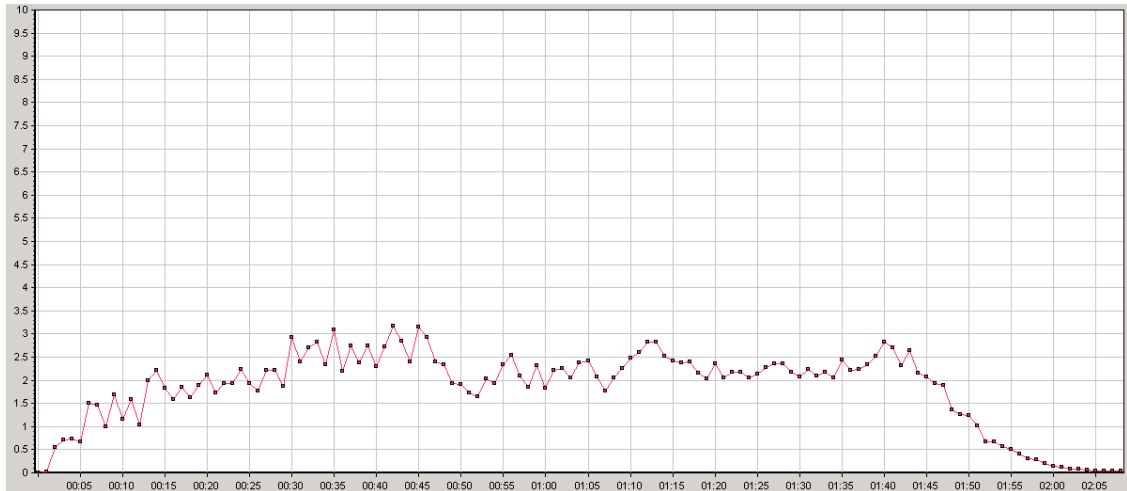
SM Version	average	maximum
7.11	4.368	19.106
9.20	1.93	7.287
9.30	1.472	4.431

Secondary Service Manager Server 2 - Network Total Bytes

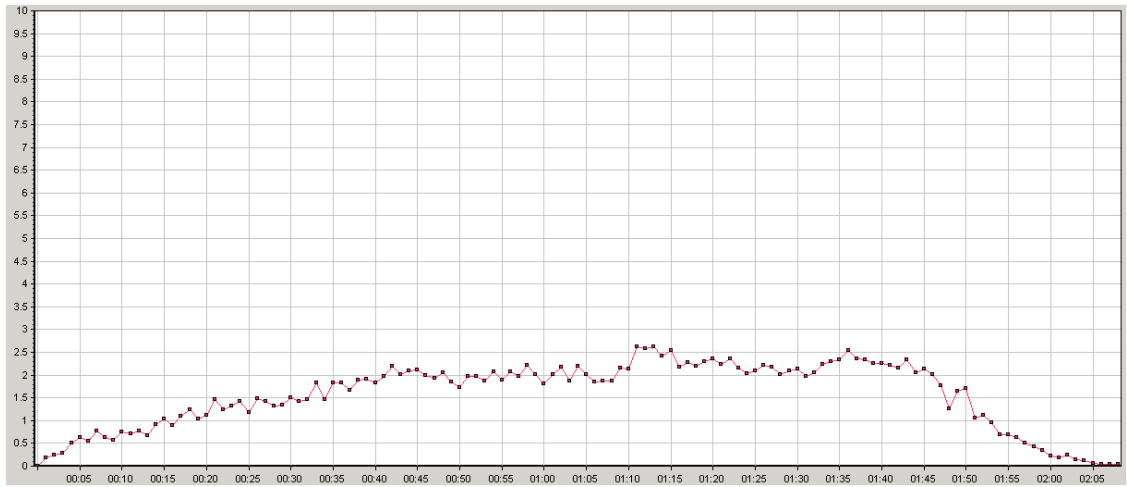
SM 7.11



SM 9.20



SM 9.30

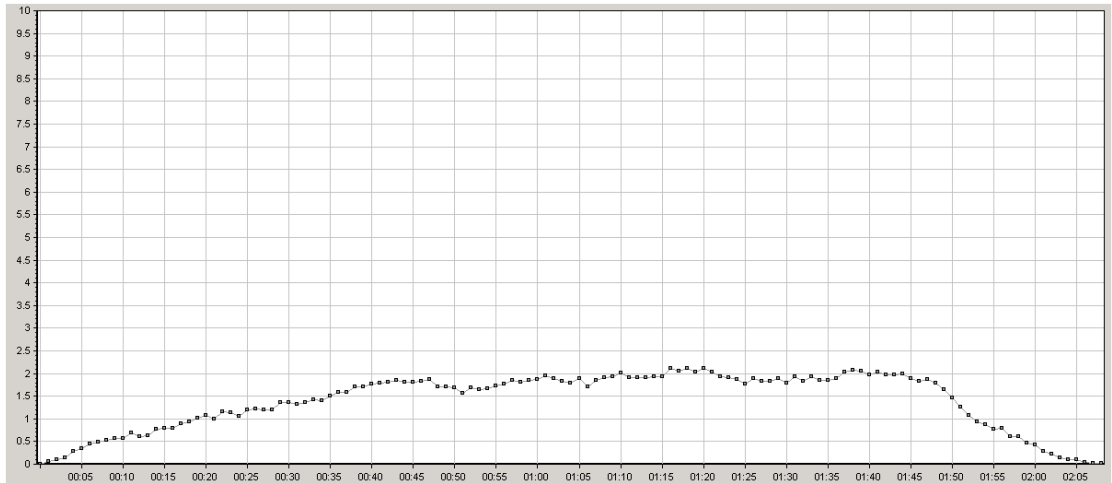


Network Total Bytes Comparison Side-By-Side - Secondary SM Server 2 (MB)

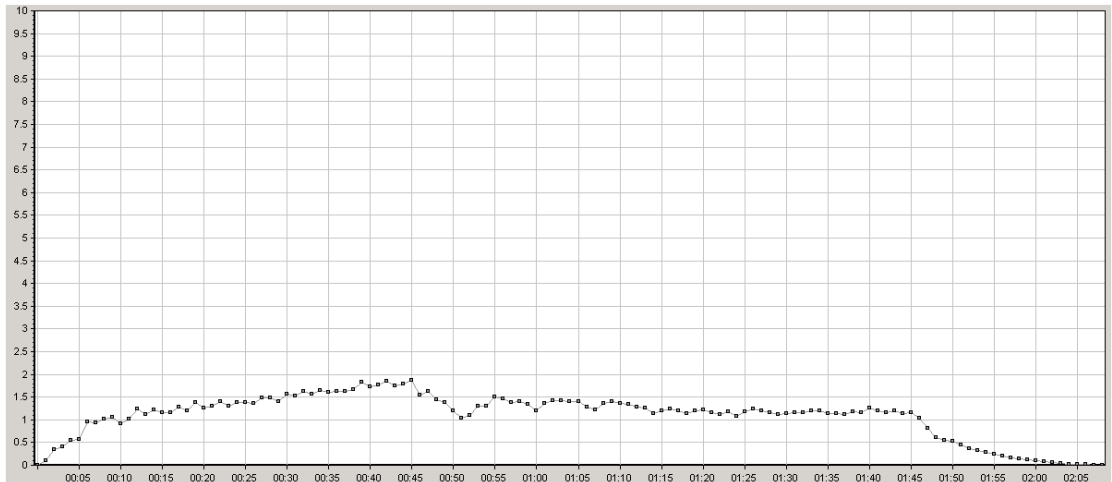
SM Version	average	maximum
7.11	4.459	14.326
9.20	1.834	8.818
9.30	1.556	4.246

Apache HTTP and Tomcat Server - Network Total Bytes

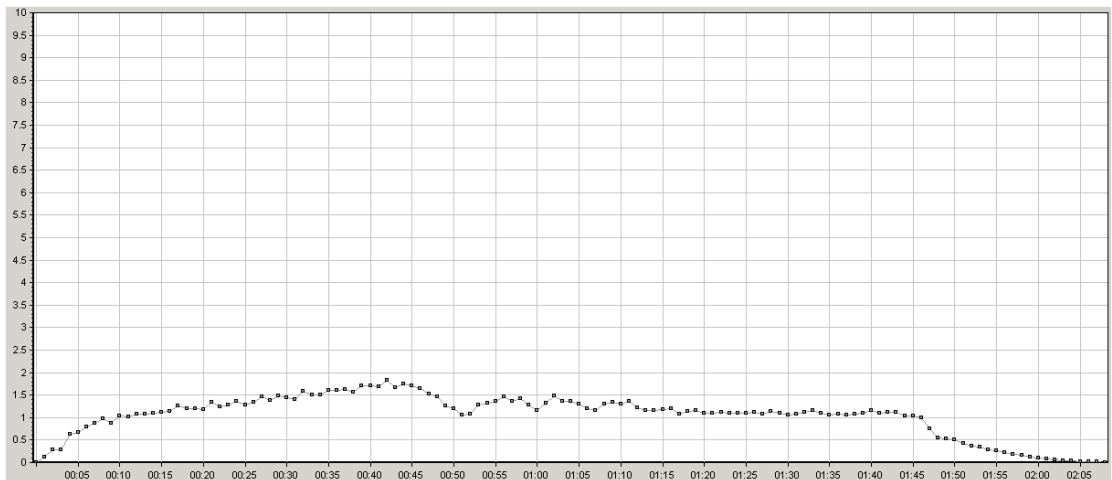
SM 7.11



SM 9.20



SM 9.30



Network Total Bytes Comparison Side-By-Side – Apache and Tomcat Server (MB)

SM Version	average	maximum
7.11	1.392	2.727
9.20	1.087	2.742
9.30	1.556	4.246

Problems and Issues

There were no Service Manager problems or issues encountered during testing.

Conclusions

Service Manager performed acceptably during testing and demonstrated good scalability. All of the response time goals, up to the maximum tested concurrent user level of 2500 users, were met with a significant margin for increased workload.

Performance improvement is observed from release to release in all modules and important transaction without over utilizing system resources.

Appendix A: Service Manager Settings

Sm.ini

```
shared_memory:128000000
log:../logs/sm.log

system:62271
threadsperprocess:100
sslConnector:0
plugin0:kmplugin.dll

groupname:GAperf
groupport:50000
grouplicenseip:99.99.99.99
groupbindaddress:99.99.99.99

sqldictionary:oracle10

language:UTF-8
httpPort:62271
heartbeatinterval:360

[oracle10]
sqldb:GAperf
sqllogin:*****/*****
sqllibrary:sqoracle.oci10.DLL
```

Sm.cfg

Load Balancer and Primary SM machine:

```
#
sm -loadBalancer -httpPort:62271
sm -httpPort:62273 -log:../logs/sm.62273.log
sm -httpPort:62275 -log:../logs/sm.62275.log
sm -httpPort:62277 -log:../logs/sm.62277.log
#
#16 servlets
#
sm -httpPort:62287 -log:../logs/sm.62287.log
sm system.start
sm -que:ir
```

Servlets on Secondary SM servers (see Hardware on page 4)

```
#
sm -httpPort:62273 -log:../logs/sm.62273.log
sm -httpPort:62275 -log:../logs/sm.62275.log
sm -httpPort:62277 -log:../logs/sm.62277.log
sm -httpPort:62279 -log:../logs/sm.62279.log
sm -httpPort:62281 -log:../logs/sm.62281.log
#
#22 servlets
#
sm -httpPort:62293 -log:../logs/sm.62293.log
sm -httpPort:62301 -log:../logs/sm.62301.log
sm -sync
```

Appendix B: Oracle Database Parameters

```
orallwin.__db_cache_size=8589934592
orallwin.__java_pool_size=1073741824
orallwin.__large_pool_size=3221225472
orallwin.__oracle_base='F:\oracle'#ORACLE_BASE set from environment
orallwin.__pga_aggregate_target=10737418240
orallwin.__sga_target=23622320128
orallwin.__shared_io_pool_size=0
orallwin.__shared_pool_size=10468982784
orallwin.__streams_pool_size=0
*.audit_file_dest='F:\ORACLE\ADMIN\ORA11WIN\ADUMP'
*.audit_trail='NONE'
*.compatible='11.1.0.0.0'
*.control_files='F:\ORACLE\ORADATA\ORA11WIN\CONTROL02.CTL',
'F:\ORACLE\ORADATA\ORA11WIN\CONTROL03.CTL',
'F:\ORACLE\ORADATA\ORA11WIN\CONTROL01.CTL'
*.db_block_size=8192
*.db_recovery_file_dest='F:\oracle\flash_recovery_area'
*.db_recovery_file_dest_size=4G
*.db_unique_name='orallwin'
*.diagnostic_dest='F:\ORACLE'
*.dispatchers='(protocol=TCP) (disp=15) (con=1000) '
*.max_dispatchers=20
*.max_shared_servers=500
*.memory_target=32G
*.open_cursors=5000
*.processes=7500
*.remote_login_passwordfile='EXCLUSIVE'
*.session_cached_cursors=100
*.sessions=8255
*.sga_target=22G
*.shared_servers=100
*.undo_tablespace='UNDOTBS1'
```

Appendix C: LoadRunner Script Actions

Service Desk

1. Log in to Service Management
2. Using Menu Navigation tree, Go to Service Desk
3. Click on Register New Interaction
4. Enter Required Interaction information
 - a. Contact
 - i. Type FAL
 - ii. Click Fill
 - b. Service Recipient
 - i. Type FAL
 - ii. Click Fill
 - c. Service
 - i. Type MyD
 - ii. Click Fill
 - d. Title
 - i. Test ticket for performance testing
 - e. Description
 - i. Router
 - f. Category
 - i. Type inc
 - ii. Click Fill
 - g. Area
 - i. Select hardware
 - h. SubArea
 - i. Select hardware failure
 - i. Impact
 - i. 4-User
 - j. Urgency
 - i. 3-Average
5. Escalate Interaction
6. Select "New Incident"
 - a. Location
 - i. Advantage/North America
 - b. Click Next
 - c. Make a note of the number of the Interaction just opened
7. Click OK
8. Cancel out of new interaction screen
 - a. Select No when prompted about unsaved changes
9. Select Search Interaction Records
10. Enter the Interaction number from 5a above
11. Click Search
12. Select the Activities tab
13. Update the Interaction
 - a. Type
 - i. Communication with Customer
 - b. Enter Update text
14. Click OK

15. Enter the Interaction number from 5a above
16. Click Search
17. Select the Activities tab
18. Update the Interaction
 - a. Type
 - i. Update from Customer
 - b. Enter Update text
19. Click OK
20. Enter the Interaction number from 5a above
21. Click Search
22. Update the Interaction
 - a. Urgency – 1-Critical
23. Click OK
24. Enter the Interaction number from 5a above
25. Click Search
26. Update the Interaction
 - a. Select Closure Code
 - i. Type "Solved by User Instruction"
 - ii. Click Fill
 - b. Enter Solution text
27. Click Close
28. Click Back from the Interaction
29. Click Back on the Interaction Search Form
30. Collapse Service Desk Menu
31. Collapse Menu Navigation Tree
32. Log out of Service Management

Incident Management

1. Log in to Service Management
2. Using Menu Navigation tree, Go to Incident Management
3. Click Open New Incident
4. Enter ticket information
 - a. Title
 - i. Test Ticket
 - b. Desc.
 - i. phone
 - c. Area
 - i. hardware
 - ii. Click Fill
 - d. SubArea
 - i. Select hardware failure
 - e. Service
 - i. MyDevices
 - f. Impact
 - i. 4-User
 - g. Urgency
 - i. 3-Normal
 - h. Assignment Group
 - i. Hardware

5. Submit new Incident
 - a. Make a note of the number of the Incident just opened
6. Click Cancel
7. Select Search Incidents
8. Enter the incident number from 5a above
9. Click Search
10. Select the Activities tab
11. Update the Interaction
 - a. Type
 - i. Update from Customer
 - b. Enter Update text
12. Click OK
13. Enter the incident number from 5a above
14. Click Search
15. Select the Activities tab
16. Update the Interaction
 - a. Type
 - i. Communication with Customer
 - b. Enter Update text
17. Click OK
18. Enter the Incident number from 5a above
19. Click Search
20. Enter Closure Code
 - a. Solved By User Instruction
 - b. Enter Update Text
21. Click OK
22. When prompted to close associated Interactions, Click OK
23. Click Back on the Incident Search Form
24. Collapse Incident Management Menu
25. Collapse Menu Navigation Tree
26. Log out of Service Management

Change Management

1. Log in to Service Management
2. Using Menu Navigation tree, Go to Change Management/Changes
3. Click Open New Change
4. Select Category
 - a. Hardware
5. Enter ticket information
 - a. Assignment Group
 - i. Network
 - b. Service
 - i. MyDevices
 - c. Impact
 - i. 4-User
 - d. Urgency
 - i. 3-Average
 - e. Initiated By
 - i. Type FAL
 - ii. Click Fill
 - f. Description
 - g. Title
 - h. Requested End Date

- i. <End of the Current Month>
6. Click OK
7. Collapse Changes Menu
8. Collapse Change Management Menu
9. Collapse Menu Navigation Tree
10. Log out of Service Management

Problem Management

1. Log in to Service Management
2. Using Menu Navigation tree, Go to Problem Management, then Problem Control
3. Click Open New Problem
4. Enter ticket information
 - a. Service
 - i. MyDevices
 - b. Assignment Group
 - i. Network
 - c. Title
 - d. Description
 - e. Area
 - i. hardware
 - ii. Click Fill
 - f. SubArea
 - i. Select hardware Failure
 - g. Impact
 - i. 4-User
 - h. Urgency
 - i. 3-Average
5. Click OK
6. Collapse Problem Control Menu
7. Collapse Problem Management Menu
8. Collapse Menu Navigation Tree
9. Log out of Service Management

ESS User – Submit Problem Request

1. Log in to Service Management
2. Select Request Help
 - a. Set ESS user to have Main Menu as login page
3. Enter ticket information
 - a. Service
 - i. MyDevices
 - b. Notify By
 - i. Email or Telephone
 - c. Title
 - d. Description
 - e. Urgency
 - i. 3-Average
4. Click OK
5. Log out of Service Management

ESS User – Submit Catalog Order

1. Log in to Service Management
2. Select Order from the Product and Services Catalog
 - a. Set ESS user to have Main Menu as login page
3. Select Personal Productivity Services
4. Select Hardware Bundles
5. Select Basic PC Package
6. Select Add to Cart
 - a. Leave default information
7. Select View Cart/Checkout
8. Select Submit Request
9. Enter Required information
 - a. Purpose
 - i. Desktop Replacement. Un-repairable problem.
 - b. Needed By
 - i. Select last day of current month
 - c. Urgency
 - i. 3-Average
 - d. Notify By
 - i. Email or Telephone
10. Click Submit
11. Select Continue
12. Select Main Menu
13. Log out of Service Management

For more information

Please visit the HP Software support Web site at:

www.hp.com/go/hpssoftwaresupport

This Web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online software support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued customer, you can benefit by being able to:

- Search for knowledge documents of interest
- Submit and track progress on support cases
- Submit enhancement requests online
- Download software patches
- Manage a support contract
- Look up HP support contacts
- Review information about available services
- Enter discussions with other software customers
- Research and register for software training

Note: Most of the support areas require that you register as an HP Passport user and sign in. Many also require an active support contract.

To find more information about support access levels, go to the following URL:

www.hp.com/go/hpssoftwaresupport/new_access_levels

To register for an HP Passport ID, go to the following URL:

www.hp.com/go/hpssoftwaresupport/passport-registration

Technology for better business outcomes

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