

Knowledge Article

Performance Comparison: BMC Remedy ITSM – Incident Management version 7.5.00 Vs. 7.0.03 on Windows



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Performance Comparison: BMC Remedy ITSM – Incident Management version 7.5.00 Vs. 7.0.03 on Windows

This document summarizes end user response-timings comparison data for single user tests conducted at BMC labs for some of the key use cases in Incident Management application using BMC Remedy ITSM 7.5.00 and BMC Remedy ITSM 7.0.03 over LAN and WAN.

The following topics are provided:

- Overview (page 6)
- Performance Test Objectives (page 6)
- Environment (page 7)
- Performance Test Scope I: Response Timing for ITSM/IM 7.0.03 use cases over LAN and WAN (page 8)
- Performance Test Scope II: Response Timing for ITSM/IM 7.5.00 use cases over LAN & WAN (page 9)
- Results (page 10)
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Overview

Most of the optimization work in BMC Remedy ITSM 7.5.00 was focused to improve end user response times for frequently accessed use cases by BMC Remedy ITSM Incident Management user community over WAN.

In order to measure the performance improvements from these various optimization enhancements performed in BMC Remedy ITSM 7.5.00 code base it was planned to record the end user response timings for a single-user environment against BMC Remedy ITSM 7.0.03 and use these recordings as a baseline metrics. Subsequently same set of tests were conducted to collect similar set of data against BMC Remedy ITSM 7.5.00 using similar hardware. Data recorded using BMC Remedy ITSM 7.5.00 environment was then compared against the baseline metrics to quantify the performance improvement.

Incident Management use cases identified for performance comparison for single user manual tests are listed below:

- Open IM Console
- Open Incident Form in New Mode
- Submit/Save Incident (Reopen Display set to – No Action)
- Submit/Save Incident (Reopen Display set to – Redisplay Current)
- Submit/Save Incident (Reopen Display set to – Redisplay New)

The objective of this document is to present BMC Remedy user community with the outlook of how IM application would perform if BMC Remedy ITSM is upgraded from version 7.0.03 to version 7.5.00.

In general significant improvement was observed in response timings over WAN using BMC Remedy ITSM 7.5.00 in most of the single user use cases under consideration.

For LAN, all of the Submit/Save use cases showed significant improvement while other use cases e.g. Open IM Console and Open Incident Form in new mode remained comparable to that of version 7.0.03.

Performance Test Objectives

The objectives of the performance test are outlined in the following points:

- Measure end user response time to compare and validate performance improvement in BMC Remedy ITSM Incident Management version 7.5.00 as opposed to BMC Remedy ITSM Incident Management 7.0.03 for WAN.
- Capture and compare all backchannel API calls and HTTP packets between the two ITSM versions.

Environment

Table 1 describes the environment in which the performance testing was conducted.

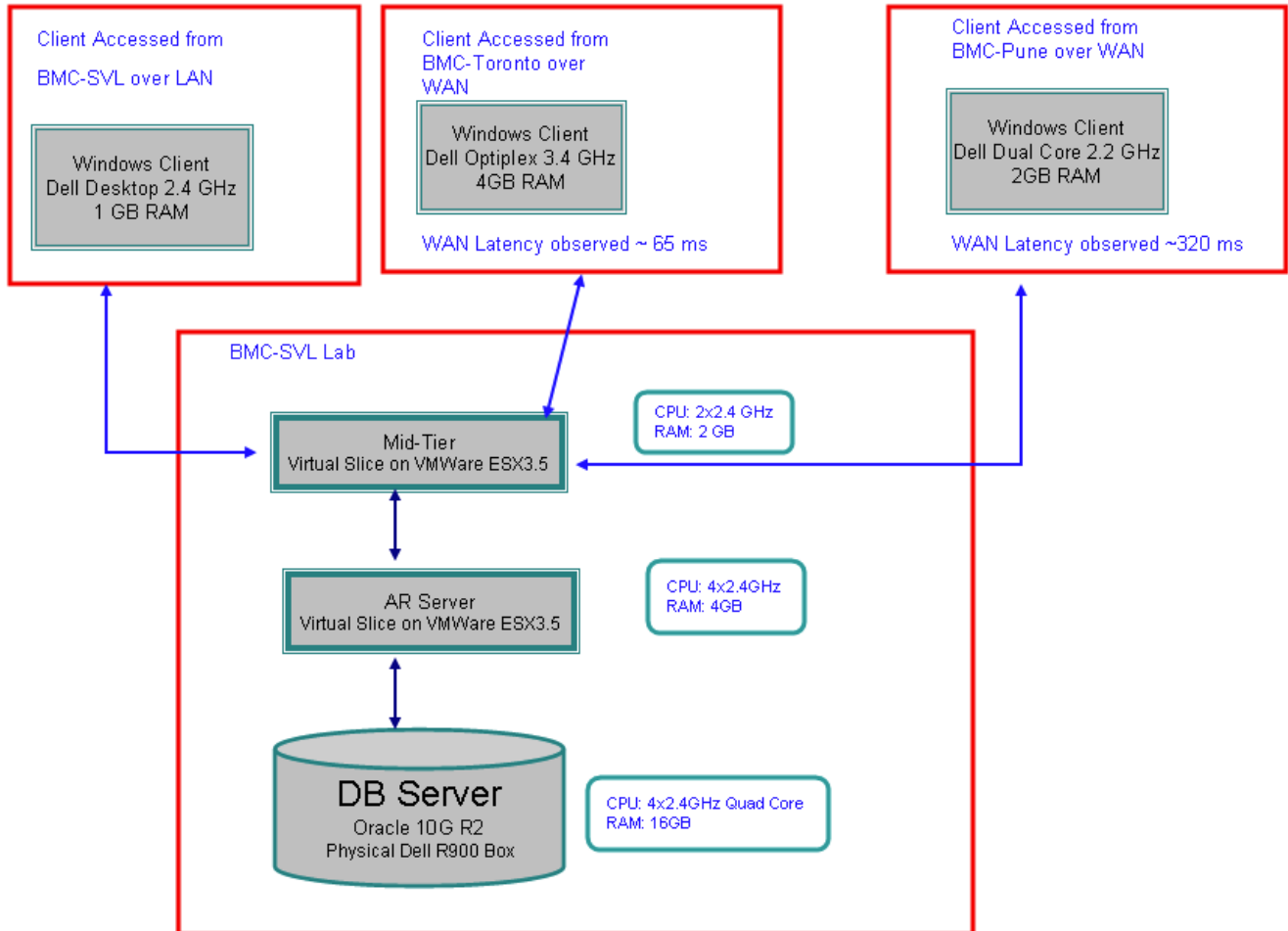
Table 1: Performance testing environment

Environmental element	Specification	Comments
Mid Tier Server	2x2.4 GHz, 2GB Ram	Virtual slice on VMWare ESX 3.5
AR Server	4x2.4 GHz, 4GB Ram	Virtual slice on VMWare ESX 3.5
Database Server	16 GB RAM	Dell R900 Physical box to host Oracle 10G database containing foundation data and volume data
Windows Client [LAN & WAN-Pune]	2X2.2. GHz, 2GB RAM	Dell Laptop D6240 series
Windows Client [WAN-Toronto]	3.4 GHz, 4GB RAM	Dell optiplex620

Figure 1 illustrates the architecture used to conduct the performance comparison.

Figure 1: Performance comparison architecture

ITSM/IM 7.5Vs.7.0.3 Performance Comparison Architecture Diagram



Performance Test Scope I: Response Timing for ITSM/IM 7.0.03 use cases over LAN and WAN

IM Use Cases

IM use cases listed below have been identified to measure the single user response times on BMC Remedy ITSM 7.0.03 environment:

- Open IM Console
- Open Incident Form in New Mode

- Submit/Save Incident (Reopen Display set to – No Action)
- Submit/Save Incident (Reopen Display set to – Redisplay Current)
- Submit/Save Incident (Reopen Display set to – Redisplay New)

Each of the above use cases were measured in different ways to record different data points as discussed below:

- Single user test using Mid-tier in LAN environment to measure response timing using manual stop-watch technique – used to measure performance gain over LAN
- Single user test using Mid-Tier in WAN(Pune, India) environment to measure response timing using manual stop-watch technique
- Single user test using Mid-Tier in WAN (Toronto) environment, where possible, to measure response timing using manual stop-watch technique
- Single user test using Mid-Tier in LAN environment with Fiddler started at the background to capture backchannel API calls, HTTP requests, data bytes sent vs. received details – used to provide feedback on potential optimization possibility to BMC Remedy ITSM dev.

Timings data for each of the above scenarios were recorded in multiple samplings out of which only four samplings were selected and averaged to get to the final time in seconds.

Performance Test Scope II: Response Timing for ITSM/IM 7.5.00 use cases over LAN & WAN

IM Use Cases

IM use cases listed below have been identified to measure the single user response times on BMC Remedy ITSM 7.0.03 environment:

- Open IM Console
- Open Incident Form in New Mode
- Submit/Save Incident (Reopen Display set to – No Action)
- Submit/Save Incident (Reopen Display set to – Redisplay Current)
- Submit/Save Incident (Reopen Display set to – Redisplay New)

Each of the above use cases were measured in different ways to record different data points as discussed below:

- Single user test using Mid-tier in LAN environment to measure response timing using manual stop-watch technique – used to measure performance gain over LAN
- Single user test using Mid-Tier in WAN(Pune, India) environment to measure response timing using manual stop-watch technique

- Single user test using Mid-Tier in WAN (Toronto) environment to measure response timing using manual stop-watch technique
- Single user test using Mid-Tier in LAN environment with Fiddler started at the background to capture backchannel API calls, HTTP requests, data bytes sent vs. received details – used to provide feedback on potential optimization possibility to BMC Remedy ITSM dev.

Timings data for each of the above scenarios were recorded in multiple samplings out of which only four samplings were selected and averaged to get to the final time in seconds.

Results

In general we have observed significant performance improvement in BMC Remedy ITSM 7.5.00 in most of the use cases being considered over WAN.

The better response times observed during the WAN-Toronto test might be explained by the more powerful client machine located in the Toronto office. The response time discrepancy could also come from the inherent network latency between the two geographic locations (Toronto and Pune).

For LAN tests, most of the Submit/Save use cases showed improvement while the other use cases remained comparable to that of version 7.0.03.

Table 2 summarizes the performance improvements observed for WAN-Pune.

Table 2: Pune WAN performance improvements

Use Case	7.0.03 Response Time (seconds)	7.5.00 Response Time (seconds)	Improvement Latency Observed ~ 320 ms
Open IM Console	6.68	5.12	23%
Open New Incident	6.36	6.11	4%
Save (No Action)	3.83	3.6	6%
Save (Redisplay New)	13.33	8.92	33%
Save (Redisplay Current)	11.66	9.36	20%

The comparison chart in Figure 2 illustrates the single user response time data for the Pune WAN.

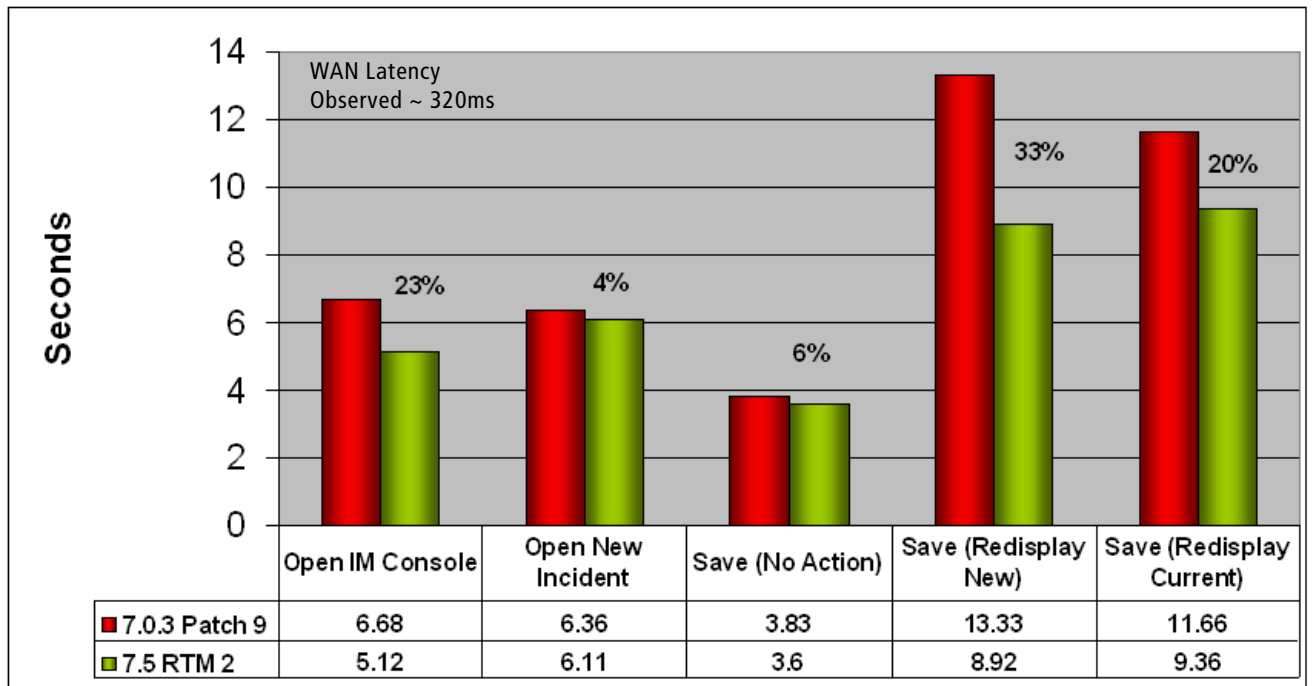
Figure 2: Comparison chart—Pune WAN

Table 3 summarizes the performance improvements observed for WAN-Toronto.

Table 3: Toronto WAN performance improvements

Use Case	7.0.03 Response Time (seconds)	7.5.00 Response Time (seconds)	Improvement Latency Observed ~ 65 ms
Open IM Console	5.1	3.53	31%
Open New Incident	5.48	4.42	19%
Save (No Action)	3.62	2.67	26%
Save (Redisplay New)	10.27	6.28	39%
Save (Redisplay Current)	8.12	6.23	23%

The comparison chart in Figure 3 illustrates the single user response time data for the Toronto WAN

Figure 3: Comparison chart—Toronto WAN

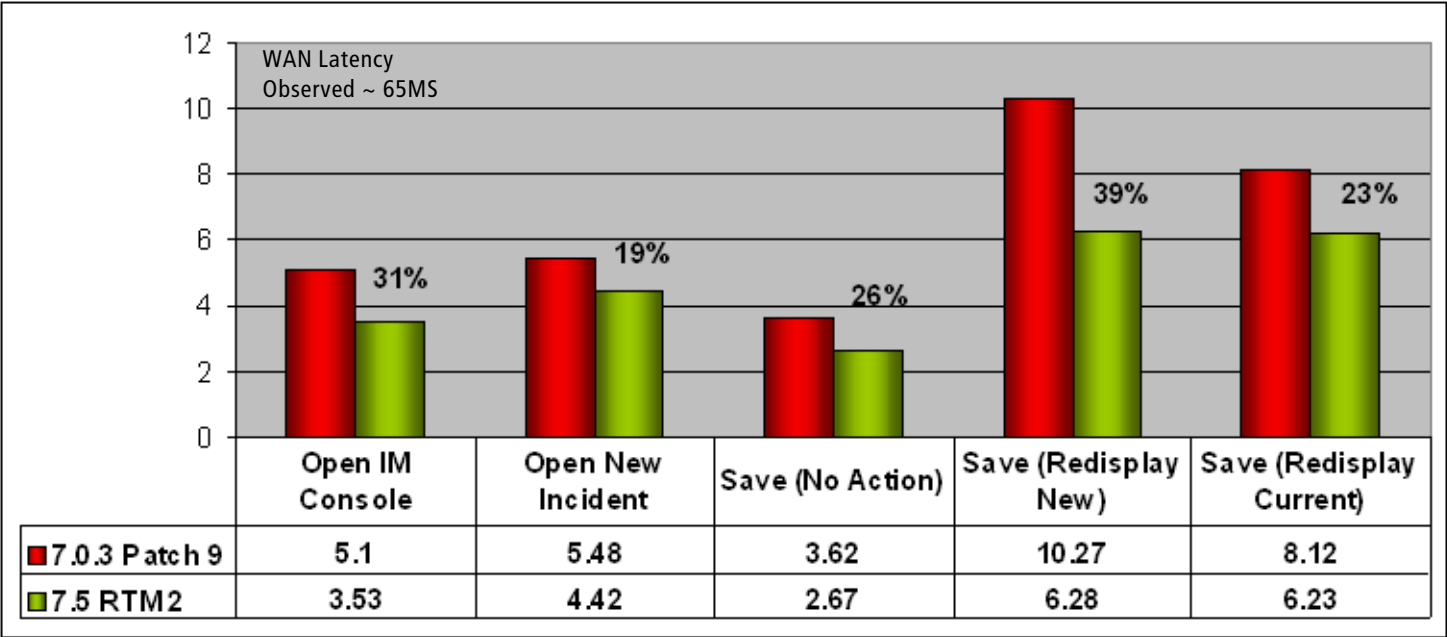


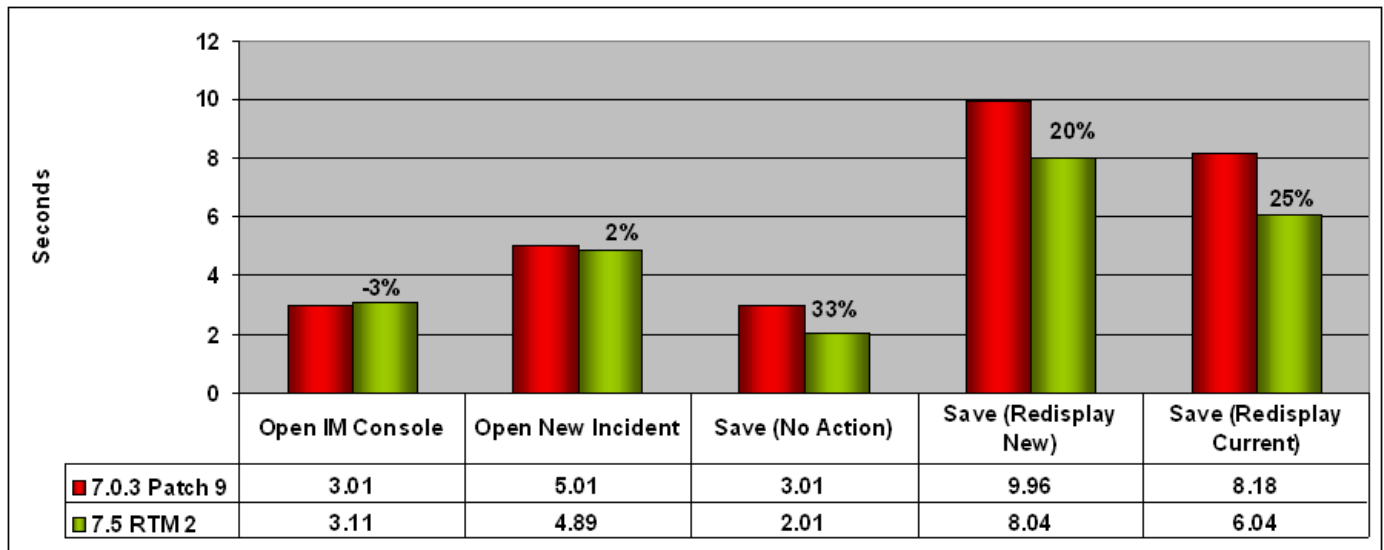
Table 4 summarizes the performance improvements observed for LAN.

Table 4: LAN performance improvements (Continued)

Use Case	7.0.03 Response Time (seconds)	7.5.00 Response Time (seconds)	Improvement LAN
Open IM Console	3.01	3.11	-3%
Open New Incident	5.01	4.89	2%
Save (No Action)	3.01	2.01	33%
Save (Redisplay New)	9.96	8.04	20%
Save (Redisplay Current)	8.18	6.04	25%

The comparison chart in Figure 4 illustrates the single user response time data for the LAN

Figure 4: Comparison chart—LAN



IM Backchannel Calls & HTTP requests Comparison Data

In addition to the single-user response timings, we have also observed significant reduction in Backchannel API calls in BMC Remedy ITSM 7.5.00 as compared to BMC Remedy ITSM 7.0.03 which has direct relevance to the improved response times.

Table 5 summarizes the improvements that were observed in internal API calls and the transport of HTTP requests.

Table 5: Summary of internal API call and HTTP transport request improvements

Use Case	Number of BC Calls in 7.0.03 Patch 9	Number of BC Calls in 7.5.00 RTM2	% Improvement for BC Calls	Number of HTTP Requests in 7.0.03 Patch 9	Number of HTTP Requests in 7.5.00 RTM2	% Improvement for number of HTTP Requests
Open IM Console	17	6	65%	21	9	57%
Open New Incident	7	8	-14%	12	9	25%
Save (No Action)	6	6	0%	6	6	0%
Save (Redisplay New)	23	10	57%	28	11	61%
Save (Redisplay Current)	22	10	55%	25	11	56%

Application Configurations

Table 6 details the configurations used for the AR System server, Mid-tier server, and the Database server.

Table 6: Application configuration details

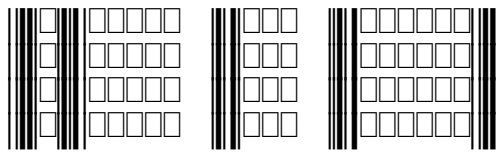
blank	Parameter	Value
Mid-tier	JVM min. heap	1024 MB
	JVM max. heap	1024 MB
	Definition Change Check Interval	86400 Sec.
	Tomcat max. threads	500
	Tomcat accept count	250
AR	Fast min./max. threads	20/20
	List min./max. threads	16/16
	Next ID Block Size	10
DB	Cursor sharing	Similar
	SGA_MAX_SIZE	1036 MB

Software Versions

Table 7 describes the software versions used during the performance testing.

Table 7: Software versions used during the performance testing

BMC Remedy ITSM 7.0.03 Patch 9	BMC Remedy ITSM 7.5.00 FCS Drop + IM Hot fix
AR Server 7.1 Patch 3	AR Server 7.5.00.00 Patch 3
CMDB2.1 Patch 2	CMDB2.1 Patch 2
Oracle 10g R2	Oracle 10g R2



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