

Test Outcome:

Performance Test Cycle 1 – Case Management Login, Query (search), Create Users scripts were run to establish a baseline for these business processes.

Application Background:

This eZ-Audit initiative is designed to provide a paperless, single-point of receipt and access for financial statements and compliance audits for institutions participating in Student Financial Aid Title IV programs. The Electronic Audited Financial Statements (EAFS) & Compliance Reports application will reduce the cycle-time required to collect and process financial statements and compliance audits from more than 8,500 proprietary, non-profit, and public institutions. The application will enhance the ability of Case Teams and the Document Receipt and Control Center (DRCC) to accurately record and report status of school reporting; therefore, addressing concerns listed in a recent GAO audit. The quality of FSA service to institutions will also be improved by this application via the timely acceptance and processing of the audited financial statements and compliance reports. This initiative will focus on both FSA audits and Office of Management and Budget (OMB) Circular A-133 audits (both compliance and financial).

Cycle Background:

eZ-Audit Performance Test Cycle 1 was executed on February 25 2003. The goal of this test cycle was to run 150 users to establish a baseline for the above-mentioned business processes, and test for potential environment and code issues.

Hardware and Configuration:

The configuration for the test was one-web server and one application server architecture. The web server is SU35E6 with 4 CPUs and 2GB Memory. The application server is SU35E11 with 4 CPUs and 2 GB Memory and one clone. The configuration featured two Oracle databases, a default WAS session database and EZPRF database.

Detailed Description:

Several iteration of this scenario were run during Cycle 1.

Initially, the JVM was set to 64 MB with 10 JDBC connections. During the test, a decrease in free memory was observed which resembled the behavior of memory leak. The JDBC connections were maxed out at 10. The test was stopped to increase the JVM to 128 MB and JDBC connections to 15 for further trouble shooting.

During the second test, in order to pin point the cause of the memory leak, session persistence was turned on. It was found that the application had an object in session that was not serializable and caused the session persistence to fail. The problem was a major issue because in order to be scalable, an application's session needed to be persisted. The test was stopped for trouble shooting this issue.

After the code fix, it was observed that the response time on each JSP page was long (as long as 40 seconds). After investigation, it was found that the Action Servlet spent about 3 seconds on processing request.

The long processing time was unusual and seemed to be caused by maxed out servlet threads. Thus, the test was stopped and the max servlet threads was pushed up from 25 to 50.

Response time on Action Servlet dropped down to 1 second after the configuration change. However, the JSP's were still giving high response times. Due to time constraint, both the memory leak issue and the response time issue were not resolved during the test.

Two additional common observations were made in the tests. First, the application log file EZstdout.log grew quickly due to the way Struts logged its messages. The large log size needs to be watched closely and the DASD requirement for the application also needs to be sized properly. Second, the application session size was calculated to be 57K. The recommended session size by ITA is 2K. Large session takes away application's memory and should be avoided.

Case Management Login, Search, Create Users



Analysis Summary

Period: 25/02/2003 14:56:38 - 25/02/2003 15:00:00

Scenario Name: C:\Program Files\Mercury
Interactive\LoadRunner\scenario\ezAudit\0225_S08_S10_S11.lrs
Results in session: M:\ezAudit\0225_s08_s10_s11_trial7\0225_s08_s10_s11_trial7.lrr.
Duration: 1 hour, 15 minutes and 8 seconds.

Statistics Summary

- Maximum Running Vusers: 10
- Total Throughput (bytes): 164,916,744
- Throughput (bytes/second): Average: 36,583
- Total Hits: 33,392
- Hits per Second: Average: 7.407 [View HTTP Responses Summary](#)

Transaction Summary

- [Transactions:](#) Total passed: 2,152 Total failed: 0 Total Stopped: 0

Transaction Name	Minimum	Average	Maximum	90 Percent	Pass	Fail	Sto
S08_1_EnterHomePage	0.344	0.397	0.5	0.431	280	0	0
S08_2_Login	0.984	1.167	4	1.369	280	0	0
S08_3_Logout	0.031	0.055	1.094	0.06	280	0	0
S08_CaseTeamLogin	7.391	7.632	10.5	7.842	280	0	0
S10_01_EnterHomePage	0.141	0.231	3.188	0.23	92	0	0
S10_02_Login	1.016	1.202	5.547	1.339	92	0	0
S10_03_EnterSearchPage	0.125	0.196	2.438	0.23	92	0	0
S10_04_Search	0.797	1.204	5.25	1.745	92	0	0

S10_05_Logout	0.031	0.05	0.188	0.06	92	0	0
S10_Query	14.25	14.909	24.953	15.788	92	0	0
S11_01_EnterHomePage	0.344	0.393	0.484	0.451	16	0	0
S11_02_Login	0.969	1.087	1.375	1.258	16	0	0
S11_03_EnterManageUserPage	1.109	1.376	3.141	1.633	16	0	0
S11_04_EnterAddUserPage	0.234	0.491	3.031	0.541	16	0	0
S11_05_AddUser	2.031	5.019	17.016	10.793	16	0	0
S11_06_EnterDeletionPage	0.453	0.58	1.125	0.743	16	0	0
S11_07_CancelDeletion	0.969	1.038	1.234	1.116	16	0	0
S11_08_GoToNextPage1	0.969	1.195	1.469	1.278	16	0	0
S11_09_GoToNextPage2	0.891	1.082	2.094	1.258	224	0	0
S11_13_SelectUserToDelete	0.516	0.58	0.734	0.682	16	0	0
S11_14_DeleteUser	1.063	1.248	1.609	1.46	16	0	0
S11_15_SelectByName	0.266	0.351	0.531	0.461	16	0	0
S11_16_ReturnToFirstPage	1.156	1.303	1.797	1.46	16	0	0
S11_17_SelectByUserName	0.313	0.44	0.547	0.521	16	0	0
S11_18_UpdateEmail	1.219	1.439	1.969	1.623	16	0	0
S11_19_Logout	0.047	0.057	0.094	0.07	16	0	0
S11_CreateUser	74.922	79.901	98.531	86.39	16	0	0

HTTP Responses Summary

HTTP Responses	Total	Per second
HTTP_200	33,392	7.407