Securant ClearTrust Version 4.2 AuthMark LoginPerformance

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Disclosure

Securant Technologies Inc. sponsored the testing in this report. Mindcraft, Inc. conducted the performance tests described in this report at Sun's Enterprise Technology Center in Menlo Park, California.

Acknowledgement

We thank Sun for providing the systems used for the tests and the support staff who helped configure the servers.

Executive Summary

ClearTrust Version 4.2 Delivers 45,767 Logins per Minute for 1,000,000 Users and Easily Scales to 5,000,000 Users

ClearTrust provides the highest login performance of any product we have tested to date. Its performance scales exceptionally well as more CPUs and Authorizer systems are added to support ClearTrust. In addition, ClearTrust delivered nearly the identical performance with a single CPU Authorizer system when we increased the number of users in the ClearTrust database from 1,000,000 to 5,000,000.

Mindcraft® tested the performance of Securant's ClearTrust™ Version 4.2 running on Sun Enterprise 450 servers. For these tests we used Mindcraft's iLOAD MVP™ test tool running the AuthMark™ Benchmark Login Scenario. This tool simulated users logging into Web servers. A login is the combination of one user authentication and one authorization for access to a resource (a file in our case). The tests were done using two different user database sizes: one with 1,000,000 users and the other with 5,000,000 users. All tests were done without caching in the ClearTrust Web server plug-in to show its worst-case login performance for 10% of the users in the database getting one file each. The Result Analysis section in the second part of this white paper explains the benchmark results.

In ClearTrust, the Authorizer is the central control point for all authentication and authorization. Our tests were structured to push the Authorizer system(s) as close as possible to 100% CPU utilization. Table 1 summarizes, for a 1,000,000 user database, the number of logins measured per minute and per second as a function of the ClearTrust Authorizer system(s) configuration. The Scaling Factor in Table 1 shows how much faster a configuration is compared to a single authorizer system having one CPU.

Table 1: ClearTrust Login Performance Scalability - 1,000,000 User Database

Authorizer Configuration	Logins per Second	Logins per Minute	Scaling Factor
1 system, 1 CPU	391	23,445	-
1 system, 2 CPUs	630	37,783	1.61
2 systems, 1 CPU	763	45,767	1.95

Figure 1 shows ClearTrust's performance from Table 1.

Figure 1: ClearTrust Login Scalability for a 1,000,000 User Database

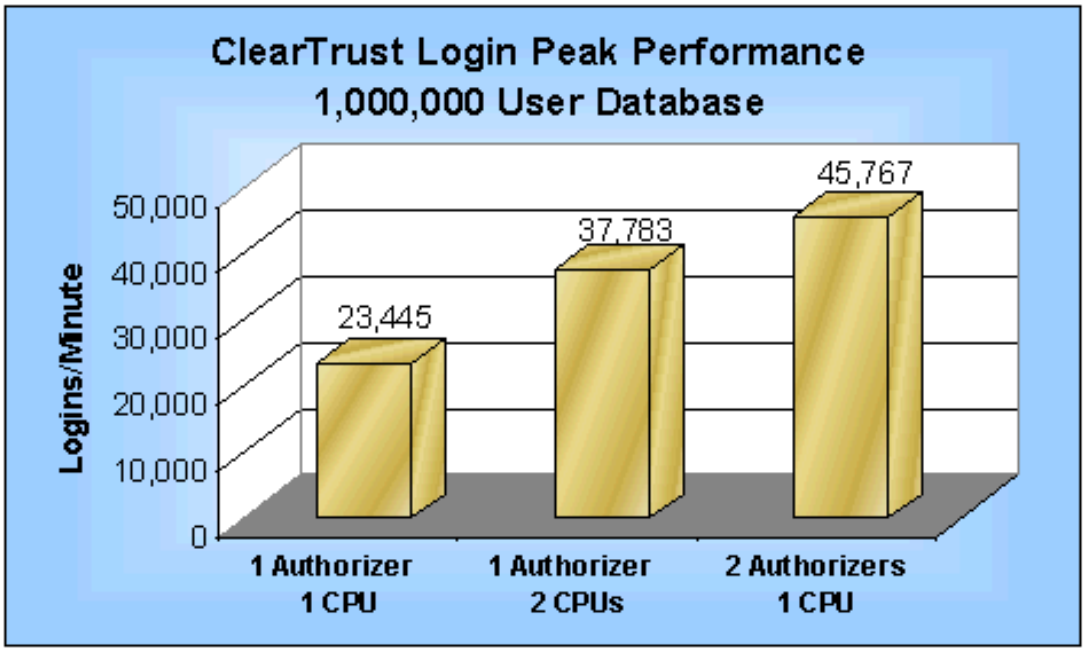


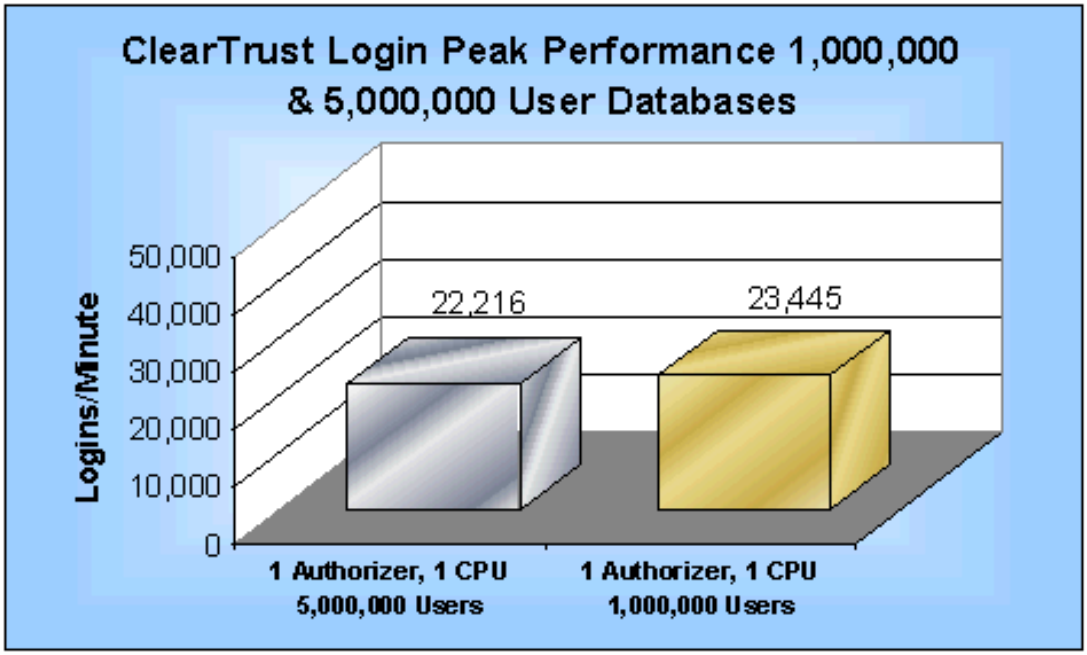
Table 2 compares the performance of ClearTrust with a 5,000,000 user database to that with a 1,000,000 user database. The test results show that ClearTrust's performance is nearly independent of the number of users in its database for at least 5,000,000 users. The Scaling Factor in Table 2 shows performance relative to the test with a 1,000,000 user database.

Table 2: ClearTrust Login Performance Scalability
1,000,000 and 5,000,000 User Database

Authorizer Configuration	Logins per Second	Logins per Minute	Scaling Factor
1,000,000 users 1 system, 1 CPU	391	23,445	-
5,000,000 users 1 system, 1 CPU	370	22,216	0.95

Figure 2 shows ClearTrust's performance from Table 2.

Figure 2: ClearTrust Login Scalability for a 1,000,000 and 5,000,000 User Database



Conclusions

The benchmark results lead us to conclude that:

- ClearTrust performance almost doubled when we doubled the number of Authorizer systems.
- When another CPU is added to a ClearTrust Authorizer system, performance scales exceedingly well.
- ClearTrust delivers high login performance that is nearly independent of the number of users in its database through at least 5,000,000 users.

Mindcraft Certification

Mindcraft certifies that the results reported accurately represent the performance of ClearTrust running on Sun Enterprise servers configured as specified herein and as measured by AuthMark benchmark.

Our test results should be reproducible by others using the same test lab configuration, the same Sun server configurations, and the same software configurations documented in this white paper.

Analysis and Test Details

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