IBM Tivoli Access Manager for e-business v3.8 AuthMark Performance

By Bruce Weiner
(PDF version, 60 KB)
April 9, 2002
Update to the February 15, 2002 version

Contents

Disclosure

Tivoli sponsored the testing in this report. Mindcraft, Inc. conducted the performance tests described in this report at Tivoli's test lab in Santa Cruz, California.

Executive Summary

IBM Tivoli Access Manager for e-business v3.8 sets new Extranet performance records: 553,245 operations/minute, 52% faster than any other product, and 19,732 operations/minute/CPU, 67% faster than we've ever measured on a Sun server.
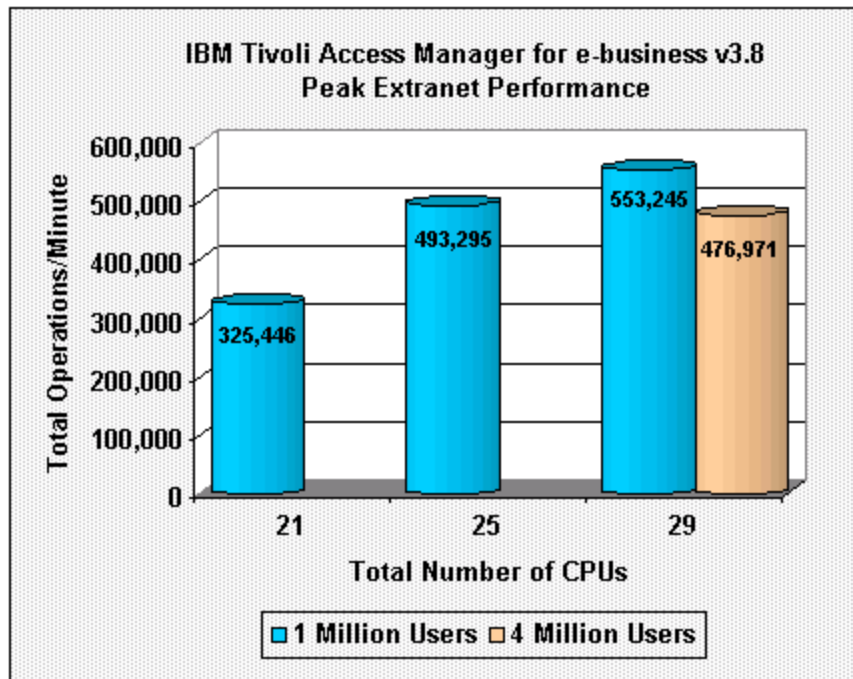
IBM Tivoli Access Manager for e-business v3.8 delivers record shattering authentication and authorization performance that scales to support millions of users. This conclusion is based on tests Mindcraft® did on Sun Enterprise servers using our AuthMark™ Benchmark Extranet Scenario.

Extranet Scenario Results

The Extranet Scenario simulates customers or suppliers logging into a private Web site and obtaining information they are authorized to get. It measures the combination of one user authentication and 10 authorizations for access to resources (these 11 operations constitute one *Extranet sequence*). We report the total operations per minute, which is 11 times the number of Extranet sequences. The Extranet Scenario, because it uses a realistic mix of operations, provides a basis for comparing access control and identity management solutions. You can find a more complete description of the Extranet Scenario in the detailed part of this white paper.

Figure 1 shows the Extranet Scenario performance of Tivoli Access Manager v3.8 for tests with 1,000,000-user and 4,000,000-user directories. The X-axis shows the total number of CPUs used in all of the servers, including the directory server. We only tested the 4,000,000-user directory using 29 CPUs. See the Server Hardware and Software Set Up section in the detailed part of this white paper for more information about the configurations tested.

Figure 1: Tivoli Access Manager v3.8 Extranet Performance

IBM Tivoli Access Manager for e-business v3.8 Peak Extranet Performance

Total Operations/Minute vs Total Number of CPUs

- 21 CPUs (1 Million Users): 325,446
- 25 CPUs (1 Million Users): 493,295
- 29 CPUs (1 Million Users): 553,245
- 29 CPUs (4 Million Users): 476,971

Legend: ■ 1 Million Users ■ 4 Million Users

Table 1 shows the Extranet Scenario performance metrics and Tivoli Access Manager CPU utilization for the four tests we ran. We used a single directory server with one CPU for all of these tests. The directory server CPU was essentially idle during the tests because most user data was cached on the Tivoli Access Manager servers.

Table 1: Tivoli Access Manager v3.8 Extranet Performance Metrics
(Larger metrics are better)

Test #	# Users in Directory	# CPUs	Total Operations per Minute	Total Operations per Minute per CPU
1	1,000,000	21	325,446	15,497
2	1,000,000	25	493,295	19,732
3	1,000,000	29	553,245	19,077
4	4,000,000	29	476,971	16,447

For the test with 4,000,000-user directory, we configured the Extranet Scenario to use 1,500,000 users. This is 37.5% of the total users and substantially more than the typical configuration using 10% of the users in a directory. Because the LDAP directory server was idle during all of the Extranet tests, the number of users in the directory was not a factor in the performance measurements. So, the 4,000,000-user test performance is comparable to our typical Extranet test with 15,000,000 users in a directory.

Conclusions

The benchmark results lead us to conclude that:

- IBM Tivoli Access Manager for e-business v3.8 outperforms all products we've tested to date by at least 52% in any full-cache Extranet environment.

- In a full-cache Extranet environment, IBM Tivoli Access Manager for e-business v3.8 delivers over 67% better per-CPU performance on Sun servers than any other product we've tested.

- IBM Tivoli Access Manager for e-business continues to deliver outstanding performance as the user directory grows to 4,000,000 or more entries.

Mindcraft Certification

Mindcraft certifies that the results reported accurately represent the performance of IBM Tivoli Access Manager for e-business v3.8 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.

Test Details and Analysis ▶

Changes

- Only changed the product name to IBM Tivoli Access Manager for e-business from Tivoli Policy Director to correspond to the renaming.

NOTICE:

The information in this publication is subject to change without notice.

MINDCRAFT, INC. SHALL NOT BE LIABLE FOR ERRORS OR OMISSIONS CONTAINED HEREIN, NOR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FURNISHING, PERFORMANCE, OR USE OF THIS MATERIAL.

This publication does not constitute an endorsement of the product or products that were tested. This test is not a determination of product quality or correctness, nor does it ensure compliance with any federal, state or local requirements.

Mindcraft is a registered trademark of Mindcraft, Inc.

Product and corporate names mentioned herein are trademarks and/or registered trademarks of their respective companies.

Mindcraft

Services Benchmarks Reports Price/Performance Company

Search   Contact Us