

Siperian Hub™

Delivering the Highest CDI Performance and Scalability

Performance tests conducted at the IBM Innovation Center in San Mateo, CA prove that the Siperian Adaptive Transaction Hub delivers unparalleled performance and scalability for a Customer Data Integration (CDI) solution. Highlights include:

- Siperian Hub delivered an average throughput of 1104 TPS (approximately 4,000,000 transactions per hour) with an average rate of 69 TPS per CPU. This was five times better than any previously published TPS numbers. The average latency ranged from 116 to 214 milliseconds during various tests.
- Siperian Hub demonstrated near linear scalability as processors were added to both the application and database server tiers.
- Siperian Hub accomplished these results against a hub repository of over 150 million customers and 300 million customer accounts.

“These tests established the highest performance benchmarks published to date of any CDI solution on the market.”

Until now, companies were led to believe that they needed to make a choice between adaptability and performance within their CDI solution. This often resulted in organizations selecting suboptimal solutions and making tradeoffs which often proved too painful to implement and maintain. By publishing this performance benchmark study, Siperian has demonstrated that it is possible to achieve breakthrough performance and scalability while taking advantage of the most flexible CDI solution on the market.

Test Summary

All tests were performed against a Siperian Hub store with over 150 million (156,240,400) customers and 300 million (313,895,508) customer accounts.

Two distinct transaction mixes were used in testing, a Typical mix and an Update Intensive mix. The Typical mix represented day-to-day usage of a Siperian Hub leveraged as a backend for operational applications providing results to end-users accessing the information stored in the hub. The Update Intensive mix used a larger proportion of update and insert operations as well as a higher percentage of searches.

Transaction Name	Typical Mix	Update Intensive Mix
Read	80%	45%
Search	10%	25%
Update	7%	20%
Insert	3%	10%

Siperian performed high performance tests using a Typical transaction mix. The environment consisted of 4 application servers (comprising of a total of 16 CPUs), in conjunction with a 16 CPU database server. Figure 3 provides further details of the environment used for all tests. This test yielded the record breaking CDI benchmark of 1104 TPS.

Figure 1: Typical vs. Update Intensive transaction mix.

Siperian further performed a set of scalability tests with both Typical and Update Intensive transaction mixes. These tests were run against the Siperian Hub using different configurations of CPUs on the application and database servers. For each test, average throughput, latency and the total number of transactions were recorded. Figure 2 shows that Siperian Hub demonstrated near linear scalability for both transaction mixes.

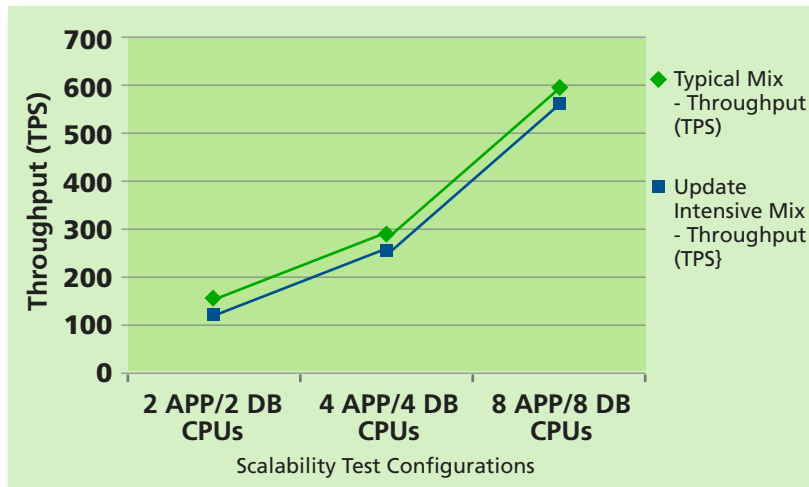


Figure 2: Near linear scaling of throughput as CPUs and load are increased.

Component	Software	Operating System	Number of CPUs	Machine Model	RAM
Application Servers	WebSphere 5.1.1.6	AIX 5.3	4 x 4	IBM P570 1.9 GHZ	16 x 4 GB
Database Server	Oracle 10g 10.1.0.2	AIX 5.3	16	IBM P570 1.9 GHZ	64 GB

Figure 3: Software and hardware configuration for benchmark tests.

The environment for both high performance and scalability tests consisted of two IBM P570 server machines each with 16 CPUs and 64 GB of memory. The application servers were split into four logical partitions while the database server was configured with a single partition. The storage system used was an IBM DS4500 midrange disk system coupled with a DS4000 host bus adapter with 600GB of hard disk space reserved. All machines in the test environment were configured on a single VLAN and connected to a Gigabit Ethernet switch. The Siperian Hub release used was XS, the latest release at the time of testing.

Siperian Hub: The Scalable CDI Architecture

Besides achieving the best performance benchmark, Siperian offers an architecture that is scalable by design. The flexible data model approach ensures the optimal performance and storage of data within the CDI hub. The hybrid treatment of data types and the flexibility to virtually aggregate transaction data to avoid duplicate storage, ensures that Siperian can scale to bigger record volumes compared to solutions that may need to persist all data types in the hub for access. Last but not least, Siperian can be optionally deployed in a distributed hub configuration to meet localized performance and scalability requirements for multiple segments within large organizations.

Conclusion

The performance and scalability tests conducted at IBM Innovation Center proved that Siperian Hub is able to meet the most demanding throughput requirements of organizations seeking a high transaction operational customer hub. Furthermore the results showed that within these tests, Siperian scales with near linear efficiency at both the application server and database server tiers, providing an optimal customer hub deployment that meets requirements today and well into the future. For further details on these tests, please send an email to sales@siperian.com.

About Siperian

Siperian, Inc. is a leading provider of a comprehensive customer data integration (CDI) and management platform. With its adaptive, vendor neutral approach, the company's customer transaction hub, Siperian Hub™, delivers unified, accurate customer views across disparate data sources to all business users and systems; that in turn drive real-time business actions within existing operational processes. Rated as a visionary vendor in the CDI space by Gartner, Siperian has customers across many verticals including Pharmaceutical, High-Tech, Financial Services, Media and Publishing, etc.



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