Benchmark conducted by IBM at the Montpellier Client Center confirmed that the new-age IRIS 5 payment switch hosted on IBM POWER8™ servers can process up to 18,611 transactions per second and IRIS 5 CMS up to 7,121 transactions per second

IRIS 5 Benchmarks with IBM POWER8™

IRIS 5 Benchmarks with IBM POWER8

Summary

This case-study describes TPS IRIS 5 benchmark performance test carried out in the IBM Client Center in Montpellier, France. The performance test comprised of a mix of real life customer transactions with complete business validation intact. The test was performed on simulators representing bank channels connected to IRIS 5 Payment Platform and Switch and IRIS 5 Card Management System (CMS). The results of benchmark performance test far exceeded even the internal targets.

At its peak performance IRIS 5 Switch processed 18,611 transactions per second and IRIS 5 CMS was able to top 7,121 transactions per second. These results prove the high scalability of IRIS 5 Switch and CMS. IRIS 5 running on IBM POWER8™ servers is a very viable solution for banks that seek high performance and reliability.

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IRIS 5

IRIS Release 5 (or IRIS 5) is an enterprise-level payment and transaction processing solution that empowers financial service providers to deliver a wide range of electronic financial transaction processing and switching services. IRIS 5 has been designed to provide a complete framework for transaction switching and alternate delivery channel management under one simplified, consistent and easy to use interface.

IRIS 5 is a completely re-architected software compared to its predecessor. TPS has invested 4 years and a large dedicated team of experienced functional and software experts to develop IRIS 5 payment platform with the objective to offer reliability, performance and extensibility.

IBM POWER8™ Server

IBM Power Systems servers are a result of a $2.4 billion, 3 year research and development program. This program made use of hundreds of IBM patents providing performance improvements that meet the most demanding compute requirements.

These systems have the capability to run various combinations of Linux, IBM AIX or IBM i operating systems. Industry leading RAS (Reliability, Availability, and Serviceability) along with high utilization levels means IBM POWER8™ reduces licensing, floor space, power and cooling costs. IBM POWER8 is designed to operate at very high levels of efficiency guaranteeing a sustained 65 percent or higher utilization.

High Water Benchmark Test

The high water benchmark tests were carried out in a state of the art IBM benchmark facility running IBM POWER8™ servers. IRIS 5 application and database was hosted on the POWER8™ E870 System that has a proven track record of industry

leading performance, flexibility and reliability for mission critical workloads.

The tests were carried out on both IRIS Switch and IRIS CMS first in a single node configuration and subsequently on 2-node active-active cluster. The duration of each test run on average was around 4 hours long.

Data Set

The data set used in the benchmark test included a mix of transaction types over issuing and acquiring

Set	Count
Number of Issuer Channels	90
Number of Acquirer Channels	90
Number of Cards	42 Million
Number of Accounts	42 Million
Types of transactions	Retail Purchase, Withdrawal and Balance Inquiry.
Transaction Mix (Switch Mode)	95% Retail Purchase and 5% Balance Inquiry
Transaction Mix (Host Mode)	95% Cash Withdrawal and 5% Balance Inquiry

channels. All transactions had full business validations

Benchmark Results

In an active-active cluster IRIS 5 Switch achieved the highest peak of 18,611 transactions per second. On average IRIS 5 was able to process 14,319 transactions per second successfully in a four hour test run.

Similar testing performed on IRIS 5 CMS in active-active mode provided remarkable results. IRIS 5 CMS, with all business validation in place at its peak performance, was able to process 7,121 transactions per second. On average IRIS 5 CMS was able to successfully sustain the load of 6,330 transactions per second, during a four hour test run.

Benchmark Results on POWER8™	
Single Node Switch	9,408 TPS
Dual Node Switch	18,611 TPS
Single Node CMS	4,121 TPS
Dual Node CMS	7,121 TPS

This benchmark testing activity demonstrated the high scalability of IRIS in both standalone and in an active-active cluster running on IBM POWER8™ systems.

"IRIS 5 is aimed to reliably deliver higher performance levels with lesser computing power. IRIS superior performance on IBM POWER8™ proves it to be a combination best suited for organizations that provide high scale mission critical financial services."
– Shahzad Shahid (CEO, TPS)

Ability to support cluster adds a lot of capacity to the transaction processing capabilities in IRIS.

The results have shown that the IRIS active-active cluster provides nearly 80% scalability when a new node is added in a cluster.

POWER8™ systems demonstrated stable and predictable performance gains even running on 80% average utilization. The IBM benchmark team observed almost two to three times performance gains over x86 alternatives. There was a 50% reduction in the number of processor cores required to run the projected transaction volume when compared to a x86 system. After factoring in the higher utilisation levels provided by POWER8, these results show that customers will require three times fewer number of cores compared to x86 alternatives.

"TPS IRIS Platform on Power Systems provides customers with a secure, highly performing and reliable choice for payments. This benchmark demonstrates the value of IBM Power Systems in terms of performance required to cater for rapidly growing scale of digital financial services in a disrupted world."
- Ghazanfar Ali (Country General Manager - Pakistan and Afghanistan, IBM)

The IRIS 5 benchmark results demonstrate the superior transaction processing capabilities of POWER8 and highlight why IBM Power Systems is well positioned in the industry as a platform which is synonymous with high performance, scalability and reliability.

About TPS

TPS is a leading provider of cards and payment solutions trusted by over 130 customers spread across 30 countries in Asia Pacific, Middle East, Africa and Europe. Our mobility focused solutions and reliable services empower financial institutions, telecoms, central banks and payment processors in their mission critical digital banking and payment services.

We offer a blend of business consulting and technical expertise in cards management, ATM and POS terminal driving, merchant management, bill aggregation, payment gateway, remittance processing, internet and mobile banking, Omni-channel management and enterprise payment switching services.

For sales and partnership opportunities contact sales@tpsworldwide.com. For product and company details visit www.tpsworldwide.com.

About IBM Middle East and Pakistan

IBM has been operating in the Middle East region since 1947, when it installed the first computer in the region at Saudi Aramco more than 70 years ago. It has been playing a vital role in shaping the region's information technology landscape.

IBM is continuously transforming its business to address the emerging needs of businesses and societies, while helping customers and partners accelerate their digital transformation journeys through its enterprise-strong infrastructure, with data and cognitive at its core.

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