

Case study

British Columbia Assessment Authority switches from Sun to HP servers



Agency reduces costs by 80% while doubling batch-processing speed for millions of property assessment records

Industry

Government

Objective

Improve performance and cost efficiency of Oracle database environment

Approach

Replaced Oracle SPARC servers with HP ProLiant DL380p Gen8 Servers running Red Hat Enterprise Linux

IT matters

- Doubled batch-processing speed for millions of records
- Lowered IT overhead
- Reduced data center space and power consumption 10x, further reducing costs

Business matters

- Alleviated budget pressures
- Improved citizen services by providing swifter response to inquiries regarding property assessments and taxation
- Saved 80% in annual operating expenses on servers and software licensing combined

BC Assessment

“We tested the HP ProLiant Gen8 running Red Hat Linux solution comprehensively. I’ve worked in technology for many years and never seen benefits of this magnitude in terms of reducing costs and increasing performance.”

– Brent Chan, A/Director, Services Delivery, British Columbia Assessment Authority

The British Columbia Assessment Authority (BCA) must maintain two Oracle® databases containing millions of property assessments to accurately tax province residents. Technology partner MYRA Systems conducted a proof of concept demonstrating that switching from Oracle SPARC to HP ProLiant Gen8 Servers running Red Hat® Enterprise Linux® would provide 100% performance improvement, while reducing operating expenditures by 80% annually—resulting in a return on investment in less than six weeks.

The core mission of British Columbia Assessment Authority (BCA) is to ensure accurate assessment of properties for taxation within the province, yet property assessment and taxation are complex. Values constantly fluctuate. Economic factors dramatically affect the housing market. People renovate or expand to add value, or perhaps incur damage that causes the property's worth to decline. All of these factors have a major impact on property taxes.

Because the BCA covers 158 municipalities and counties, it must update and batch-process more than two million records nightly. The IT environment for property assessment comprises two Oracle databases: one with property information and "point-in-time" valuations over a number of years, and the other used to replicate the information in a data warehouse nightly. Unfortunately, the incumbent environment for processing of updated assessments was subpar and costly.

Outdated server environment slows productivity while costs escalate

Back-ups to the secondary database were initiated at the end of the workday, yet they were taking so much time that replication was often not complete when employees arrived in the morning. Operational jobs that had to be completed the next day based on updated information were delayed because IT resources were still tied up with back-ups. Property owners trying to search for information online experienced delays or saw outdated information. The environment was also difficult and manually intensive to manage.

Nearly every one of the organization's 650 employees relies on having both databases up to date in order to respond to citizen inquiries or calculate the necessary taxes. All of these crucial services were being held up due to outdated server and management technologies.

Another concern was cost: the Oracle SPARC servers, with a total of 72 processor cores, were consuming 16 kilowatts of power and substantial data center space. Because BCA was using per-core licensing for its two Oracle databases, the licensing costs had escalated to many hundreds of thousands of dollars annually.

A complex decision driven by cost and performance

Faced with the need to accelerate back-ups and reduce costs, BCA began evaluating other options. The decision-makers at BCA wanted to retain the existing Oracle databases and Oracle storage, yet run them in a streamlined, fast, and far less expensive data center environment. The assessment and taxation system is so critical to BCA's function that everyone was apprehensive of change.

It came down to upgrading outdated Oracle SPARC-based servers or transitioning to HP ProLiant DL380p Gen8 Servers with Intel® Xeon® processor E5-2667 running Red Hat Enterprise Linux. As the incumbent servers, Oracle had the advantage in terms of staff experience with the systems and natural resistance to change. But for years BCA employees had used HP desktop computers with Microsoft® Windows® to access the Oracle databases using Citrix technologies, and appreciated the HP systems' reliability and performance. Another agency in British Columbia uses HP ProLiant Servers, and has found them dependable and high-performance.

The dramatic advantages of moving to HP and Intel

MYRA Systems, a longtime technology partner for BCA, conducted an extensive proof of concept (POC) and developed a business case, providing project management, design, planning, and implementation of the recommended solution based on BCA's IT requirements.

The POC, based on HP ProLiant DL380p Gen8 Servers, confirmed that batch-processing performance would double, while licensing costs alone could result in operating expenditure savings of roughly 80%. The HP ProLiant Servers and HP BladeSystem c7000 Platinum Enclosure with blade servers would also provide ample space to increase capacity by adding more server blades.

The move to HP servers has increased performance while data center space has decreased dramatically. The result: the sum of the capacity between the Sun Enterprise M5000, E6900, and M4000 servers has been replicated with two HP ProLiant Gen8 Servers, each using a single Intel Xeon processor and running Red Hat Enterprise Linux. A third identical server has also been purchased as a 'cold spare' for Disaster Recovery.

"The HP ProLiant Gen8 Servers exceeded our expectations. They are fast, small, affordable, and easily maintained," says Brent Chan, A/Director, Services Delivery, British Columbia Assessment Authority.

The new IT infrastructure has also eased IT management overhead, and simplified BCA's support arrangements, with all servers in the infrastructure provided by HP.

"This is our most mission-critical system, so we were understandably wary of change," says Brent Chan, A/Director, Services Delivery for BCA. "We tested the HP ProLiant Gen8 running Red Hat Linux solution comprehensively. I've worked in technology for many years and never seen benefits of this magnitude in terms of reducing costs and increasing performance."

BCA is now fully-migrated, having worked with MYRA to build out an entirely new data center based on the new technologies, which went live in June 2013. The agency's Oracle production servers have moved from a total of 32 processor cores to six, dramatically reducing licensing costs. The agency has reduced its data center space and power usage tenfold, from 15 kilowatts to 1.5 kilowatts, reducing costs even further.

Says Chan, "All of the partners—HP, MYRA, and Red Hat—worked like a united and cohesive team to make this happen."

Enhancing citizen services while lowering costs

The faster, enhanced systems are an important facet in assisting BCA with providing even better constituent care. Information is now updated overnight and available to municipalities the very next day. The cash saved in licensing, personnel time, and data center space and power will be invested in other areas that add value to citizens of the province.

"This is a period of dramatic change for us," says Chan. "But we've conducted such a comprehensive proof of concept and business case that we are confident in this positive shift. We'll be able to serve citizens much more quickly and efficiently now, and save money in a resource-strapped economy. Our users are already commenting about the system's improved responsiveness and the resulting ability to get more work done."

About British Columbia Assessment Authority

The British Columbia Assessment Authority (BCA) is responsible for processing millions of property assessments in order to determine accurate taxation for residents of the province. BCA operates as an independent corporation accountable to the government of British Columbia. BCA's head office is in Victoria, British Columbia. Its 16 area offices, located in ten regions, are in various geographic locations throughout the province.

Customer at a glance:

Applications

Oracle 11g databases

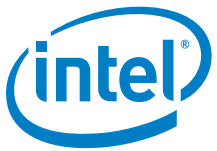
Hardware

- Three HP ProLiant DL380p Gen8 Servers with Intel Xeon processor E5-2667 database servers
- Two HP BladeSystem c7000 Platinum Enclosures
- Twenty-three HP BladeSystem BL460c application servers

Software

- Custom Oracle-based system for processing property assessments
- Citrix XenApp
- Red Hat Enterprise Linux 6.2

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