POWER SMART PARTNERS
COMMERCIAL, GOVERNMENT AND INSTITUTIONAL
POWER SMART SUCCESS STORY – ACCENTURE/BC HYDRO DATA CENTRE UPGRADE

SERVER CONSOLIDATION IMPROVES SYSTEM RELIABILITY WHILE SAVING OPERATING COSTS AND ENERGY

The recent consolidation of data servers across BC Hydro’s province-wide network has resulted in the virtualization of 292 servers and saved over $61,000 in energy costs annually, while improving the reliability rating of the system. The project has also freed up space and provided greater flexibility in the management of servers.

“With this consolidation, we have a more compact, efficient and manageable system, and we’ve achieved all of these benefits without compromising reliability,” says Al Nightingale.

THE CHALLENGE: REDUCE SERVER NUMBERS WITHOUT COMPROMISING SYSTEM RELIABILITY

Accenture manages BC Hydro’s data servers in the main data centre as well as servers in regional centres across the province. Collectively, the centres support BC Hydro server workloads, as well as some BC Transmission Corporation and Powerex server workloads.

BC Hydro had about 820 servers in 2003. The Accenture team recognized that manageability was a challenging issue since the servers were located in different regions. Furthermore, server sprawl was becoming a much more immediate concern at the main data centre as the need for data storage and computer usage increased exponentially. Together, these factors impacted the data centre’s benchmarking index. BC Hydro and Accenture had to decide whether to consolidate or continue to increase server sprawl.

An investigation showed that consolidating servers could bring significant improvements in system manageability and reliability, resulting in higher third-party data centre reliability ratings. It could also decrease the need for server hardware purchases, increase available space in data centres, reduce network infrastructure requirements, and reduce operating, cooling and energy costs. Based on positive results elsewhere, the opportunities within BC Hydro’s system and commitment on the part of BC Hydro’s CIO to find a Power Smart solution, BC Hydro and Accenture chose the consolidation option.

“By using server consolidation, new data storage technologies and a redesigned data centre, we reduced our data centre’s energy consumption by 30 per cent and raised our third-party Data Centre Reliability Ranking.”
Al Nightingale,
Data Centre Manager, Accenture
THE SOLUTION

The retrofit involved: making better use of their existing server infrastructure which allowed for the decommissioning of 122 physical servers and the avoided use of 170 new physical servers. In addition to this about 35 servers were decommissioned from BC Hydro regional offices. BC Hydro’s reduced server numbers also produced UPS and transformer power loss offsets.

In addition to the server consolidation, BC Hydro consolidated its dynamic enterprise storage systems. The installation of new Direct Matrix Architecture data storage enabled higher storage capacity using less power.

BC Hydro and Accenture are so pleased with the results of the consolidation project that there are now plans to use even more server virtualization software for the data centre. This will enable higher server work loads with increased reliability, improved manageability and load management as well as cost savings.

THE BENEFITS: IMPROVED RELIABILITY AND MANAGEABILITY, ALONG WITH ENERGY SAVINGS

Improved reliability and manageability

Since the completion of the project, BC Hydro’s main data centre is more robust and allows operators to centrally monitor and manage large infrastructure server environments. Improved reliability has earned the data centre a higher third-party benchmark rating.

Cost savings

Total system operating costs have been reduced by more than 20 percent compared with pre-consolidation. The savings come from significant reductions in server hardware purchases, power, operating and cooling costs, and network infrastructure requirements.

Electricity savings

The data centre retrofit is saving BC Hydro 1.32 Gigawatt hours of electricity annually, worth over $61,000 in energy cost savings each year.

CONTACT US

Find out how BC Hydro’s new Data Centre and Server Initiative can help you realize the benefits of data server consolidation in your organization. Contact your BC Hydro key account representative, or call 604 453-6400 in the Lower Mainland or 1 866 453-6400 elsewhere in B.C.

Conservation is the first and best way to help meet B.C.’s future electricity needs.