University of British Columbia

University of British Columbia Relies on Sun Microsystems' Open Systems for Comprehensive Access to Critical Education Information and Reduced IT Costs

Organization
University of British Columbia
http://www.ubc.ca/

Vertical Market
Education

Key Challenges
- Reduce high cost of mainframe operations
- Meet new demands for information access
- Upgrade to new technology for future needs

Solution
- Sun Mainframe Rehosting software preserves investment in University's legacy application
- Sun Fire™ hardware furnishes reliable, affordable open systems environment
- Easy integration of Sun environment with third party software packages meets varying needs of multiple university departments

Business Results
- Significantly reduced IT costs
- Reduced IT maintenance staff needs
- Improved access to information for students, faculty, staff
- Established open systems environment to grow with future University needs

"With Sun's hardware and software, we have established a very affordable, reliable IT system that will grow with the University. During the successful rehosting of our applications from the high-cost mainframe, there were no major disruptions to the people who relied on the IT system for important information. Today, thanks to Sun, we have a modern system that is very cost effective."
– Audrey Lindsay, Associate Registrar, Director Student Systems, University of British Columbia

Near the heart of downtown Vancouver, the University of British Columbia holds an international reputation for excellence in advanced research and learning. For the 38,000 students and 10,000 faculty and staff, easy access to up-to-the-minute information on admissions, registration, class schedules, grades, financial services, and other university data is essential. When the University's mainframe system became too expensive and could not meet the needs of a modern university, a new solution was needed. The University turned to Sun Microsystems to create an online environment to provide timely information to all users and, in doing so, significantly reduced the cost of IT operations.

Goal: Reduce Cost of Access to Critical Education Information

When the University of British Columbia (UBC) began looking for a mainframe alternative, several IT groups at the institution maintained enrollment, financial services, and human resources records on an IBM mainframe system.

The need for IT support at the University continues year 'round and is quite intensive, with stringent information access demands. The annual cycle begins in the fall with the preparation of the course catalog and class schedules for the following summer and winter sessions. Registration begins two to three months before the start of each session. Once the academic year begins, there are ongoing IT support needs for students, faculty, and staff: for exam scheduling, grade collection and posting, recruitment, and more.

With more than half a million student records maintained since 1967, and with the number growing each year, UBC realized that its current mainframe infrastructure would not be able to affordably and efficiently address future demands. UBC's mainframe was nearly obsolete; an upgrade of the IT system was required in order to accommodate mounting requests to make additional student and faculty information readily available. Therefore, the University sought to create an updated IT environment that would offer students, faculty, and staff easier access to essential information at a lower cost.

With the high cost of operating the mainframe, the IT staff knew they could realize significant operating cost reductions with a smaller, more powerful open systems environment.

"Other universities were spending $80 to $100 million to upgrade their student information systems. Ours may have taken a little more time, but it was substantially less expensive. And the results we have achieved are significant."
– Audrey Lindsay, Associate Registrar, Director Student Systems, University of British Columbia

The University's options were to upgrade the existing mainframe or replace it with an open systems environment. Because technology was changing rapidly and progressing away from large, expensive mainframes, UBC preferred an open systems infrastructure that could easily accommodate future software and hardware additions. In addition, with the high cost of operating the mainframe, the IT staff knew they could realize significant operating cost reductions with a smaller, more powerful open systems environment.

UBC Finds Hardware and Software Solution from Sun

Once UBC decided to retire the mainframe and move to open systems, the University faced another decision. What was the best choice for open systems hardware and how would they move the existing applications from the mainframe? Since UBC already operated several servers from Sun Microsystems, and these offered a reliable, high performance computing platform, it made sense to expand the existing Sun environment.

New packaged software was selected and implemented for the Human Resources, Financial, and Alumni-development systems. However, for the UBC student information system (SIS), there was no packaged software available at the time that would duplicate the functionality delivered by the legacy mainframe application. UBC first considered custom development of a totally new student information system, but after weighing risks and benefits, decided that the safest way to move off the mainframe was a two-step process. The first step would be to rehost their existing ADS/O applications to the Sun environment with the assistance of Forecross, who would convert the ADS/O code to Microfocus COBOL so it would run on a UNIX® platform. When this step was complete and UBC had a stable SIS, the University would move on to the second step: to custom redevelop the SIS application in the Java™ programming language in order to deliver all information services over the Web.

Sun Open Systems Environment Takes Shape at UBC

With these decisions made, the UBC and Sun team set about migrating from the mainframe to the new Sun systems environment, relying on Sun Mainframe Rehosting software to run UBC's code. The new student information system environment was comprised of two Sun Fire V880 servers, a 12-CPU Sun Enterprise™ 4000 server and a Sun Enterprise 450 server, all running on scalable UltraSPARC® Processors. Also included in the expanded Sun environment were several software packages from vendors such as Oracle, BEA, VERITAS, and PeopleSoft.

It was necessary for UBC to maintain full IT support, even during the rehosting effort. The SIS migration unfolded as UBC replaced individual modules on the mainframe. Because these new modules were integrated into the University's existing Sun environment, there was little need for special training. As the migration progressed, UBC maintained 3,270 'green screen' interfaces, so that there was no abrupt change for end users. Once rehosting was fully completed, UBC began replacing those 'green screens' with GUI and Web interfaces that were easier and more intuitive for

new users. UBC's vision of providing all information resources over the Web began here, with development of various parts of the new system in the Java application environment.

The migration off the mainframe was completed in less than a year and a half; first Human Resources, then Finance, Alumni Development, and Student Systems. For the cutover phase of the student information system, UBC created a two-week window at the end of May between graduation and fall registration to go live. Before final conversion, the system was fully tested to help insure that it would be stable and reliable once in the new environment.

The real test began when students started registering for the fall semester. This occurred just a few days after the system was moved from the mainframe to the Sun system. In all, 30,000 students were successfully registered on the new Sun system for that semester.

UBC Gains Cost and Operations Benefits

Today, UBC operates its IT system at a lower cost than the mainframe and accomplished its IT renewal at a fraction of the cost that other universities spent on similar projects at the time.

"We took a little different approach. While other universities may have had 80 to 100 people working on the SIS implementation project, we had a staff of 15. Other universities were spending $80 to $100 million to upgrade their student information systems," noted Audrey Lindsay, associate registrar and director of Student Systems. "Ours may have taken a little more time, but it was substantially less expensive. And the results we have achieved are significant."

Since the rehosting and redevelopment took place, the system has been very stable, and because it is so easy to use, there was little need for training for faculty, staff, or students.

While the major gain for UBC has been a significant reduction in IT operating budget, it is also much easier now for students and faculty to have immediate access to information across the University. The new Sun environment was well-planned; because of the new system, UBC has been able to quickly develop and deliver a broad range of IT services to users, without the need to alter the IT structure. When new information demands arise, it is easy to incrementally add resources to the Sun environment, an advantage that was not possible with the previous mainframe infrastructure.

Sun Technology

- Sun™ Mainframe Transaction Processing tool
- Sun Mainframe Batch Manager software
- Sun Fire V880 Servers (2)
- Sun Enterprise 4000 server
- Sun Enterprise 450 server
- Sun Solaris™ Operating System

Sun Services

- SunSpectrum Gold℠ Support Service

Get the details.

For more information on University of British Columbia, visit http://www.ubc.ca/.

For more information about Sun Mainframe Migration solutions, please visit http://sun.com/datacenter/mainframe/

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02/04