

Manitoba Liquor Control Commission

PROFILE



Industry

Public sector (Provincial Crown Government Agency)

Corporate Headquarters

Winnipeg, Manitoba, Canada

Employees

934

Annual Revenue

CAD \$600 million

Website

<http://www.mlcc.mb.ca/e/home-en>

THE NUMBERS

- Oracle databases 300GB each for development, test and production
- 80 servers, 450 workstations, 55-site WAN
- 600 virtual desktops in future

IN BRIEF

Objective

MLCC needed to upgrade its JD Edwards application and saw this as a good time to replace a minicomputer architecture that was inflexible, had reached end-of-sales and soon would reach end-of-support.

Solution

Having already virtualized its other applications, MLCC extended its existing VMware platform to accommodate the new ERP solution, migrating from UNIX on minicomputers to Linux on blades.

Business Impact

- IT agility supports MLCC's need to respond quickly to changing business conditions.
- Eliminate cost, time loss and complexity of maintaining two different IT environments.
- Eliminate CAD \$500,000 a year in minicomputer maintenance and lease costs.
- Establish foundation for desktop virtualization, automated disaster recovery and streamlined application development.

Manitoba Liquor Control Commission Devises Agile Methodology, Wins Over Stakeholders to Virtualize JD Edwards

“Myth: No one else is doing ERP on VMware. Reality: We found many companies that have successfully virtualized ERP. The performance of our JD Edwards application on VMware vSphere is stellar.”

— Jeff Franz-Lien, Manager, Infrastructure Services, Manitoba Liquor Control Commission

Because critical corporate functions from payroll to purchasing depend on it, JD Edwards EnterpriseOne at the Manitoba Liquor Control Commission (MLCC) simply must not go down. Does that make the application a good candidate to run on VMware® vSphere®? MLCC's answer is a resounding yes. The MLCC had already virtualized the rest of its datacenter when, in 2010, it had to decide whether to virtualize JD Edwards too. A look behind the scenes at this project reveals not only the benefits achieved—including cost savings and a business-ready agile infrastructure—but also how MLCC IT leaders arrived at their decision, orchestrated stakeholder buy-in and created a best-practice methodology for rapid deployment.

“ERP is our mission-critical environment; a project failure would have had a catastrophic impact on the business,” recalls Jeff Franz-Lien, MLCC manager of infrastructure services. “Yet this was the smoothest ERP go-live we've ever had—on time, on budget and great performance. The myth is that VMware technology is okay for non-critical applications but not for your ERP. The fact is that vSphere delivers stellar performance.”

ERP Application Approaches End-of-Life: Next Version Virtual?

MLCC is the principal retailer, distributor and regulator of beverage alcohol in the province of Manitoba, Canada, with annual sales of CAD \$600 million and a workforce of 945. The MLCC operates 50 retail liquor stores and wholesales to 177 privately owned liquor vendors and eight private wine stores.

MLCC started virtualizing in 2008, to gain IT agility enabling quick response to business challenges and opportunities. Within three years, MLCC had virtualized Microsoft Exchange 2003; Microsoft SQL Server; Microsoft Active Directory; Kronos timekeeping; HP Trim records management; a homegrown data-warehousing application; Xstore point-of-sale; domain controllers; Web ordering; file and print servers; and Sybase and MySQL databases.

In August 2009, Franz-Lien started to consider virtualizing JD Edwards in conjunction with MLCC plans to upgrade from JD Edwards EnterpriseOne 8.10 to 9.0. The older ERP system ran on a UNIX minicomputer architecture that was inflexible, had reached end-of-sales and soon would reach end-of-support. The IT infrastructure team considered two alternatives. One, they could procure Itanium servers and build a hybrid architecture. This would allow them to keep running ERP on the familiar UNIX platform and migrate gradually to Linux or Windows. Or, they could retire the minicomputer systems and migrate ERP to their existing virtualized architecture, including Intel blade servers, Linux and VMware vSphere.

“The arguments against virtualizing JD Edwards on vSphere amounted to fear masquerading as logic.”

Jeff Franz-Lien
 Manager of Infrastructure Services
 Manitoba Liquor Control Commission

Platform Selection: MLCC Does Due Diligence, Consults Oracle

Franz-Lien and his team liked the idea of virtualizing ERP. They’d seen how successfully the rest of their environment worked with VMware—and they wanted to eliminate the cost and complexity of managing two separate environments. But, had anyone virtualized JD Edwards successfully? The team read case studies, networked on Internet forums, made reference calls, and learned that, yes, other organizations had virtualized JD Edwards and were happy.

What would Oracle say about it? Although the official support policy does not expressly support non-Oracle virtualization, use of VMware software does not void an Oracle support contract. In fact, Franz-Lien says, Oracle has given MLCC outstanding support: “Oracle’s official stance was, they support only their own virtualization platform. Make no mistake, Oracle fully supports your ERP application, virtualized or not. They just don’t support third-party infrastructure. That’s no surprise, we wouldn’t expect them to. They don’t support our SAN, either, or our printers.”

Would problems be likely? MLCC brought in an Oracle consultant to find out. “We had Oracle around for a week to vet our preliminary discussions on virtualizing with vSphere,” Franz-Lien recalls. “The Oracle consultant who came in didn’t have any grave concerns about our plan. He mentioned some other large customers who had virtualized on VMware as well.”

MLCC’s own CIO, Gerry Sul, had recently arrived from a company that had virtualized extensively on VMware. “He had unwavering confidence throughout the project and was a good project champion, helping us defuse stakeholder fears. Understanding the importance of ERP though, his instructions to me were something like ‘just don’t mess it up,’” Franz-Lien recalls. “In other words making any change to ERP is serious business. Gerry expected us to give our utmost to ensure successful testing and implementation but had fundamental faith given his previous experience both with us and with VMware.”

The preponderance of evidence also won over those who’d held the greatest reservations—which, according to Franz-Lien, was everyone except the virtualization specialists. “I am an ERP analyst here,” says Sanjiv Garg, senior ERP analyst. “We had a lot of fears and concerns. Our biggest challenge turned out to be database performance tuning to optimize the disk I/O on Linux. It wasn’t a problem with VMware software. We consulted Oracle database tuning guides and VMware white papers and resolved the issue.”

PDQ Methodology: Pretty Darn Quick Implementation

When MLCC started to consider virtualizing its ERP in August 2009, the application upgrade was scheduled to begin in April 2010. That left just eight months for Franz-Lien’s IT infrastructure team—a technical project manager, five network analysts, three ERP analysts, a database administrator and four technical operations analysts—to complete a platform migration. Their deliverable was the new ERP application version installed on the new platform, ready to turn over to the IT application team for data conversion and interface configuration. The major project phases to accomplish this included needs analysis, solution selection, design, software and hardware procurement, infrastructure provisioning, ERP upgrade installation, data migration, technical testing, and finally, delivery to the internal customer. Franz-Lien knew the usual linear project-management techniques would fail to deliver on time. So he and his team devised what they call—with some tongue in cheek—PDQ Methodology: Pretty Darn Quick.

PDQ Methodology is Franz-Lien’s answer to the need for agile project-management techniques for building an IT infrastructure. Key elements of the methodology include daily scrum meetings using mind-mapping tools; top-down planning for phases and milestones, followed by progressive elaboration; rapid, empowered decision-making; fixed time constraints for phases and tasks (time boxing); concurrent engineering; dynamic learning; and a kill switch for unproductive tasks.

“Business agility is not possible without first achieving infrastructure agility.”

Jeff Franz-Lien
 Manager of Infrastructure Services
 Manitoba Liquor Control Commission

“We got together every day to talk about what we needed to do and how we were going to do it, what was outstanding, what was causing us fear,” Franz-Lien recalls. “We built a POC (proof of concept) early on. We felt that if we could develop a working model, it would help prove to ourselves and everyone else that this would work.”

MLCC leveraged its existing virtual infrastructure to build a POC. Then, it brought in a JD Edwards consultant for a one-week assessment, “which we passed with flying colors”, says Franz-Lien. Next came the final environment build and hand-off to testers. Unit tests, integration tests, performance tests and stress tests followed. (Because the latter revealed the need for in-depth memory and database tuning, MLCC recommends not leaving stress testing for last.) Go-live preparation included four choreographed dry runs. On January 4, 2011, the real go-live went off without a hitch. “Everybody went home on time,” Franz-Lien says. “I’d never seen that before. All the planning and preparations definitely paid off.”

Features of VMware vSphere important to MLCC include Distributed Resource Scheduler (DRS) for load balancing and High Availability (HA) for a degree of fault tolerance. Throughout the environment, MLCC uses vMotion® extensively to facilitate maintenance and testing.

Since the ERP project, MLCC has upgraded the rest of its virtualized environment to vSphere 4.1. “We plan to take advantage of advanced features in vSphere 4.1, like Paravirtualized SCSI adaptors, Fault Tolerance (FT), and the VMDirectPath I/O,” says Anil Sedha, senior server analyst. “We’ve also tested and hope to deploy Cisco Distributed Computing that’s built into vSphere 4.1. Looking ahead, we have begun researching and planning for vSphere 5.0.”

Advantages: Cost Savings, High Performance, Business Agility

What are the advantages to MLCC of virtualizing on vSphere? One is cost. The virtual infrastructure costs one-fifth the amount it would have taken to build a new UNIX system. It eliminates five racks of minicomputers, and their related power and cooling requirements, saving CAD \$500,000 a year in lease and maintenance costs alone. Adding capacity is a simple matter of deploying more blades as needed. Given the agility and scalability of MLCC’s virtualized environment, the next ERP upgrade, Franz-Lien says, should be a “piece of cake.” Meanwhile, the IT staff no longer maintains two disparate environments. Architecting for one environment rather than two greatly simplified a simultaneous project to establish SAN replication to MLCC’s disaster-recovery site. This reduced disaster-recovery time from several days to about one day. MLCC now plans to deploy VMware vCenter™ Site Recovery Manager (SRM) to automate disaster recovery down to less than three hours.

MLCC also plans to virtualize some 450 desktops with VMware View and to virtualize application deployment using VMware ThinApp. “The prevailing desktop model has been a black hole of wasted administrator time, with the same basic image replicated hundreds of times through the organization, each copy taking on a life of its own and requiring individual attention,” Franz-Lien says. “We look to regain control of the desktop through virtualization.” Further down the road, MLCC is interested in VMware vCenter Lab Manager to speed provisioning of test environments. All of these virtualization endeavors serve a single purpose: to deliver IT agility that in turn enables business agility.

“For all of MLCC’s mission-critical applications—ERP, network, point-of-sale, records management, data warehouse—blades and VMware technology are better, faster, much cheaper, and far more flexible, scalable, available, and resilient,” Franz-Lien says. “Virtualization allows us to deliver more value to our organization.”

IMPLEMENTATION OVERVIEW

VMware Products:

VMware vSphere 4.1
 VMware ESX 3.5
 VMware View

Applications:

Oracle JD Edwards
 EnterpriseOne 9.0;
 Microsoft Exchange, SQL
 Server, Active Directory

Platform:

Dell Blade Servers
 EMC Clarion CX4 disk
 arrays
 Cisco switches
 Linux

