How Univar USA uses DB2 for z/OS to build a Smarter Planet

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Executive overview

You have probably seen the IBM advertisements about building a Smarter Planet™. Have these ads made you wonder how an entire company or large organization can collectively work smarter? One way for a large organization to work smarter is to take advantage of available technology solutions that augment the organization's ability to creatively solve existing problems and challenges. These same technology solutions can help organizations avoid future problems and take advantage of new opportunities that can result in significant competitive advantages. Many IBM products provide these technology solutions, and IBM® DB2® for z/OS® is a great example, as Univar USA has demonstrated.

Univar USA faced a turning-point decision when faced with increased growth and a computing environment that could not meet growing information technology demands. With the help of an integrated IBM System z® solution, Univar USA achieved its goal of building a smarter computing environment.

Background

As the largest North American wholesale distributor of chemicals, Univar USA is a wholly owned subsidiary of the global chemical giant Univar N.V. The company buys, sells, and distributes hundreds of chemicals, serving almost 200,000 U.S. and Canadian customers. These customers include manufacturers and distributors of a diverse set of products, such as chemicals, pharmaceuticals, foods, pulp and paper, oil and gas, inks, and adhesives.

As a distributor of chemicals throughout North America, Univar USA provides procurement, storage, and transport services from its base of 160 warehouse locations across the U.S. and Canada. With annual revenues of U.S. $3.2 billion, Univar USA employs more than 5,000 U.S. and Canadian workers.

The challenge

Several years ago, Univar USA faced a major challenge. The company was growing dramatically, both organically and as a result of the acquisition of ChemCentral, the fourth largest chemical distributor in North America. Additional workload from Univar Canada compounded this challenge. Univar USA realized that its IBM eServer™ zSeries® 890 mainframe would not have sufficient memory or storage capacity to meet the company's growing workload demands in the future.

Univar USA had been running its business applications on IBM mainframes for decades. Since 1989, it relied on the Arthur Anderson UVX/Distribution Control System, which had been highly customized to fit the business needs of Univar USA. Univar USA was also running multiple Java™ and Linux® applications. Therefore the company wanted a platform that could host all of these applications and offer sufficient capacity to support future business growth.

After initially considering a switch to a non-IBM enterprise resource planning (ERP) solution, the Univar USA management team eventually realized that it could extend its existing environment for a fraction of the cost.

How IBM technology helped Univar USA achieve its goals

Univar USA now runs 14 DB2 9 subsystems on three LPARs in an IBM System z9® EC mainframe environment with Integrated Facility for Linux (IFL) and zIIP and zAAP Specialty Engines. IBM DB2 9 for z/OS technology provided many benefits, including:

- *A smooth migration to DB2 9. As a result, Univar USA could take advantage of the many functional enhancements in Version 9 more quickly, thereby reducing the total cost of ownership.*
- *Many DB2 9 improvements to the company's application development environment, including:*
  - Use of partition-by-growth table spaces. *Univar USA reaped great benefits, especially for its packaged software. Table spaces can now grow dynamically over time, maintaining availability and minimizing out-of-space problems, while eliminating the need to define excessively large table spaces.*
  - Use of native SQL procedures. *Univar USA can modify, develop, debug, and deploy SQL procedures. Native SQL procedures provide a richer language and better portability from other platforms, according to Univar USA. In addition, these procedures can perform significantly faster by using the zIIP specialty engine. Univar USA cites a 30-40 percent performance improvement and reduction in CPU time in these procedures, compared to their original procedures, especially for those with complex business logic.*

– Use of Data Studio development tools. *The Univar USA team says that the availability of Data Studio tools opens up the z/OS development environment to a whole new group of application developers. Kevin Campbell, Univar USA Application Architect, says, "IBM Data Studio enables us to bridge the gap between object-oriented design and relational database technology. By doing so, we can speed the development of high-quality applications and improve developer productivity by 25 to 50 percent."*

– Use of OmniFind® Text Search Server. *This no-charge feature can do very sophisticated full-text searches with a minimal amount of z/OS platform overhead. These searches, which run orders of magnitude faster than traditional searches, can support Boolean operations and other sophisticated text searches. As a result, decision makers can collect data that they need much more efficiently, thereby speeding the time they take to make good decisions.*

– Use of pureXML®. *Univar USA application processes generate between 10,000 and 20,000 XML messages, both internally and with trading partners. To facilitate problem resolution, auditing, and tracking of communication with trading partners, Univar USA built a warehousing solution for these messages. As a result, decision makers can easily search the contents of these XML documents.*

– Use of index on expression. *By creating an index on a general expression, you can enhance query performance if DB2 chooses to use that index. As a result of using index on expression, Univar USA queries against mixed-case data return results more quickly, which also decreases the time spent making decisions.*

- *Many DB2 9 improvements to the company's system programming environment, including:*
  – Improved synergy with Univar USA's zSeries mainframe
  – Improved price/performance ratios as a result of DB2 support for zIIP and zAAP specialty engines
  – Improved efficiencies and cost savings through optimization
  – Improved efficiencies and cost savings through streamlined security and regulatory compliance
  – Reduced CPU time and cost, resulting in decreased energy costs

This integrated IBM System z solution satisfies the overall goals of a Smarter Planet for Univar USA:

- New intelligence. *Decision makers have access to more data much more quickly than ever before.*

- Dynamic infrastructure. *The underlying infrastructure at Univar USA is now in a far better position to accommodate dynamic growth than ever before, as a result of the power of the z/OS operating system and the many functions and features of DB2.*

- Green and beyond. *As a result of more efficient use of CPU processing power, energy costs are reduced.*

- Smart work. *The overall cost of ownership and of operating their IT environment is lower than before, even though Univar USA is handling more data than in the past.*

With the help of IBM technology solutions, Univar USA achieved its goals so well that technology planners in other parts of the company have taken notice. Dean Schultz, Manager of Technical Services, Univar USA, says, "They're now looking at what we did in the U.S. and saying, 'They have a cost effective, scalable distribution control system and we are a global distribution control company. So why don't we look at what we could do there?'" Thanks to the success of this effort, discussions are now taking place regarding ways to extend the solution within Univar USA as well as to other sectors of the company. "The z9 was the perfect solution for what we needed," Schultz concludes. "No matter what the business does in the future, we have a footprint that we can grow in."

For more information
ibm.com/software/data/db2/zos/family/

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