Title- Mosaic uses Microsoft Azure to help the world grow the food it needs

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Doug Mills, Vice President and Chief Information Officer, Mosaic

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When most of us think about who feeds the world, we probably think of farmers. And that makes sense—after all, farmers grow food. So how can a business like The Mosaic Company, one of the world's largest producers and marketers of concentrated phosphate and potash crop nutrients, talk about helping the world grow the food it needs? Because without fertilizers, farmers would grow much less food—as much as 30 percent to 50 percent less by conservative estimates.

Microsoft

If producing and supplying phosphate and potash fertilizer are central to what The Mosaic Company does, then why would it have recently spent so much time and effort on improving its entire SAP system? After all, SAP is enterprise application software, focused on helping companies operate their business processes, and seemingly unrelated to mining and manufacturing.

The answer is simple, says Doug Mills, Vice President and Chief Information Officer for Mosaic. "I believe we could not operate our business without SAP, even though SAP is not involved in any of the mining and production processes. As finished product is produced at our mines and plants, SAP is necessary to ship the product and execute business with our customers.. So it really is the lifeblood in terms of the transaction processing for Mosaic."

All of Mosaic's global financial, commercial, and supply-chain systems are on SAP. "Everything from our customer contracts, orders, shipments, invoices, and accounts receivable, as well as our purchase orders, receipts of inventory, and payables to our vendors, are processed on SAP," says Mills. "We have significant treasury operations within SAP, and we are in the midst of implementing business planning in SAP, which is the largest platform for Mosaic. We have over 2,000 users of SAP in a single global instance serving our businesses in six countries."

The cloud was key, Azure was the choice

With so much of the business riding on SAP, it became very important for Mosaic to be able to get the most it could out of the application. There were four key improvements Mosaic wanted: lower costs, increased agility, ability to scale, and higher availability. Moving to the cloud addressed all four of those.

Mosaic considered several cloud providers and eventually it became clear that moving to Microsoft Azure was the best bet. "We had an existing relationship with Microsoft and adding Azure to our services portfolio allowed us to strengthen our relationship and realize synergies across the entire Microsoft portfolio."

Mills puts it this way: "Our plan to move SAP to Azure has allowed us to be more cost competitive while at the same time has improved our ability to be more responsive to new business requirements."

Capgemini handled the migration, ongoing operations

Mosaic turned to Capgemini, a global leader in consulting, technology, and outsourcing services, for the Azure design, implementation, and migration, and for ongoing operations and maintenance. The Azure migration program consisted of two parallel work streams, the SAP application

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Customer Name: The Mosaic Company
Industry: Mining
Country or Region: U.S.
Customer Website: www.mosaicco.com
Employee Size: 9,000
Partner Name: Capgemini
Partner Website: www.capgemini.com
Campaign: Azure Platform

Customer Profile:
The Mosaic Company is one of the world's largest producers and marketers of concentrated phosphate and potash crop nutrients. Its mission is to help the world grow the food it needs. Mosaic is a publicly traded company that is headquartered in Plymouth, Minnesota.

Partner Profile:
With more than 190,000 employees, Capgemini is present in more than 40 countries and celebrates its 50th Anniversary in 2017. A global leader in consulting, technology, and outsourcing services, the Group reported 2016 global revenues of €2.5 billion ($2.68 billion).

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migrations and the Line of Business (non-SAP) application migrations. The SAP migrations required moving SAP from an Oracle-based database system hosted on IBM AIX hardware onto Microsoft SQL Server running on the Windows operating system. In addition, Capgemini implemented a highly available (HA) server and database architecture for the business-critical SAP systems. The Line of Business application migrations consisted of a combination of lift and shift using Microsoft Azure Site Recovery (ASR), application reinstalls and traditional database migrations. A final piece of Mosaic's cloud strategy was to move to Office 365 and eliminate its on-premises Exchange and Skype environments.

"Mosaic achieved many cost benefits by moving to the Microsoft Azure Cloud," says James Kocsi, Delivery Executive for Capgemini. "Besides the financial benefits of the program, they were also looking at increased scalability and capacity management. In Microsoft Azure, you have virtually unlimited capacity. So if there's a need for an additional project or environment the infrastructure capacity is readily available. This accelerates the infrastructure delivery process compared to traditional on-premises datacenters, which is a key benefit for Mosaic."

For the SAP migration—one of the biggest done anywhere at the time it went live—Capgemini deployed new servers in Azure, using predefined templates certified for running SAP applications with Azure Premium Storage. Capgemini used the SAP heterogeneous migration methodology to perform an export on the source system, upload it, and import it into the target Azure servers over ExpressRoute. SAP systems were migrated in parallel to reduce the amount of system downtime.

The key products were Microsoft Azure infrastructure-as-a-service (IaaS) virtual machines, which are being used to run both a Windows Platform and a SUSE Linux platform. Azure ExpressRoute connects the Mosaic Multiprotocol Label Switching (MPLS) network through Microsoft Azure to provide connectivity to the Mosaic corporate network.

Other services were Azure Virtual Hard Discs (VHDs), Azure Storage for the VHDs, and Azure Premium Storage for the

SAP Systems and some of the non-SAP database servers. In addition, Capgemini used Azure Backup Service, with the Azure Vault capability, for the backups of all the systems, both SAP and non-SAP.

The project took about 15 months, starting in March of 2015 and finishing in August of the following year. As workloads were migrated over this period, Capgemini enabled its managed services to support Mosaic's environment in Azure, on the Capgemini Orchestration Management Platform End to End (COMPLETE). The COMPLETE platform is Capgemini's answer to running enterprise applications in the Public Cloud. The platform allows Capgemini clients to run in Azure with the "look and feel" that a client expects when running in their own datacenter, supplying Cloud "abstraction" to simplify the ongoing management and operations.

Mosaic delighted with the results

"We are highly pleased with the results," says Stephen Murray, Senior Director of IT Technology Services for Mosaic. The migrations not only went smoothly, but we were also able to realize our goal of a transition that had little impact to our end users."

Some features in SAP ran much faster under Azure than they did on premise: a 20 percent to 30 percent increase in performance. And Mosaic realized its goal of agility. "We acquired a supply-chain modeling solution, and we were able to spin up the necessary compute in Azure in literally hours," Mills said. "In our traditional datacenter model, that would have taken us weeks, since we would have needed to acquire and install a new server." Another benefit Murray points out is the ability to patch SAP environments and manage the patching process without affecting the production environment.

It's still too early to have exact numbers, but it appears Mosaic will realize a cost savings year over year of about 20 percent. Murray sums up the benefits this way: "From a technical services standpoint, migrating to Azure allows us to shift our focus from ownership and management of the infrastructure hardware and software toward leveraging cloud services to deliver an improved experience for our customers. So we're out of the business of owning and operating the hardware, and we are focusing more on optimizing and aggregating services in the cloud, and then delivering those to create more value around the entire solution."

Explore and learn more about SAP on Azure.

Software

- Microsoft Azure
  - Azure Backup
  - Azure ExpressRoute
  - Azure IaaS
  - Azure Key Vault
  - Azure Managed Disks
  - Azure Premium Storage
  - Azure Site Recovery
  - Azure key
- Microsoft Office 365

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