



Becton Dickinson Pioneers Cloud-based SAP Training Environment

If you've ever had your blood drawn, more than likely it was collected with a Becton Dickinson device. From smart injectables to anesthesia and diabetes care to molecular diagnostics and microbiology solutions, BD is one of the largest providers of medical devices and technology. Its 45,000 associates enable medical professionals to help patients in 50 countries worldwide. Faced with company growth and acquisitions, Sheila McBride, Senior Director of Application Services, wondered how the company would adapt its complex on-premises SAP training environment to rapidly share policies and procedures with employees in order to support BD's customers, health care providers around the world. Although the rest of the

healthcare industry remained cautious when it came to the cloud, McBride thought flexibility and scalability might be the answer she needed. To help pioneer changes in her industry, McBride says she naturally turned to the partner she'd relied on for other solutions — Microsoft Services.

"Performance with the Azure Cloud is much better than on-premises. When you hit the enter key, you get a quick response," says Sheila McBride, Senior Director of Application Services at Becton Dickinson.

Situation

Whether it's a single associate or an entire company that needs to be trained, Becton Dickinson's SAP environment allows staff to walk through the procurement process. From order to invoice to delivery, the ERP system ensures that billions of medical devices get to the hospitals and doctors' offices where they're needed.



The training environment simulates the real environment in that it has the CRM, SRM, document management with version control, inventory and customer support ticket tracking and e-signatures that mimic communications with banks. To make training more effective, staff train with real data, so that by the time they go live, they're able to sustain the speed required to keep Becton Dickinson running smoothly.

The training environment is not static. Whether updating an older SAP environment, introducing new releases or system-wide upgrades, the training environment needs to be fluid enough to be reconfigured quickly and appropriately for the key staff to be trained.

Archana Chandra Prakash, Senior Project Manager, likens it to having 30 computers slated to teach one application over the course of a month, but then finding out that 90 people have to be taught many topics simultaneously.

The old training environment with 20TB of data, ran on 85 physical servers, and a legacy Unix platform. It cost millions to maintain and operate. BD had reached the point where tearing down this environment and rebuilding it on-premises was no longer feasible.

“What this project allowed us to do is to effectively have three training environments, as if someone came in and built two other classrooms. But we're doing it all in virtualization, and we're doing it in the cloud. And it's the Azure Cloud that enables us to create these virtual classrooms in a very dynamic way,” says Prakash.

Solution

“Forcing it into the cloud and letting somebody else worry about the infrastructure piece of it, that’s a large responsibility that’s taken away from the customer,” says Sheila McBride, Senior Director of Application Services, Becton Dickinson.

The analogy of three separate classrooms helps people understand the scale and scope of the project, but there’s a good deal more going on behind the scenes. “We moved 25 major SAP systems to the cloud. That includes our app environment, Java in combination with Portal. Then we added CRM, supply relationship management and process integration that included stand-alone engines and add-ons, plus support systems. When I count all the different moving parts, we are talking about probably close to 100,” says McBride.

Although skilled in on-premises SAP, BD’s IT team needed support while configuring the environment in the cloud. “We relied on the Microsoft team to help us make the transition and build the schemas. We wouldn’t have been able to do it without Microsoft’s help,” says Hector Saavedra, Basis Team Lead at BD.

BD moved from the legacy Unix platform to Windows 2012 and SQL 2012. They leveraged Azure automation to drive down provisioning and operation costs.



Security

In addition to the complex SAP environment, as a healthcare provider with personal information that would be stored in the SAP system, BD needed to meet Health Insurance Portability and Accountability Act (HIPAA) requirements for protecting patient privacy as well as data security.

Because they hold all the data within a single instance of SAP, including health records that might have originated in another country, all the data must be encrypted, “just like credit card information,” says McBride. “It can’t just be at rest on the database unencrypted.”

BD was ready to move ahead with the project using Microsoft certified security tools when BD’s global security team voiced a desire to stick with the tools they already knew, rather than learn one more new thing. Rather than push their own solution, Microsoft stopped and listened.

“Microsoft was willing to entertain the tools that we were familiar with,” says McBride. “That was definitely big.”

The team opted to go with familiar tools and soon discovered that their vendor was not cloud-certified. “It was painful,” says McBride. “It took time to engage the vendors, have them agree to use these tools on the cloud that were not certified for the cloud.” Due to HIPAA’s increased level of personal health information security requirements and the Sarbanes-Oxley Act (SOX), which relies on the integrity of financial data for proper disclosure to investors, McBride believes they needed to do more than a lot of other companies to shift to the cloud.

But one of the outcomes of being a pioneer, says McBride, is clearing the path for other businesses. Now the security vendor and other BD vendors have become cloud-certified, making it easier for other healthcare businesses to take advantage of the cloud’s possibilities, supporting BD’s ultimate goal of helping patients.



Benefits

Becoming cloud-ready during an SAP upgrade turned out to be more complex than expected, resulting in 25 terabytes of data across 81 virtual machines with some SAP actions still occurring locally.

End-to-end on-premises refreshes not only took six weeks to implement with up to 16 staff members pretty much “heads-down” for the full six weeks, but also included customer-facing tests before release. The goal is to take that large number of hours down to two to four days. Currently, Prakash says, they can refresh in three weeks with only three people. The disparity between hope and delivery lead to what McBride calls her “aha moment.”

Cloud speed gains spark ‘aha’ moment

What BD has seen is an increase in speed. “Performance was much better than on-premises. When you hit the enter key, you get a quick response,” says McBride, adding that she expected to see gains in replicating environments, but not pure speed. To build on these unexpected gains, she’s made the decision to “take the whole thing and put it in the cloud.”

In hindsight, she wonders if they should have started with a simpler, less-integrated system, but in the end, she thinks the gains will be worth the pain. “I think that it’ll be fast, fun, and you may be able to forget about it a little bit because the ERP systems require a great deal of attention. I think forcing it into the cloud and letting somebody else worry about the infrastructure piece of it, that’s a large responsibility that’s taken away from the customer.”

Increased discipline

McBride says that the ability to pay “only for what we use” was a huge incentive of moving to the cloud. It’s also worked in reverse, encouraging staff to pare solutions down to precisely what is needed. “You get a lot of discipline from putting things in the cloud because if you want it, you’re going to pay for it. It changes habits pretty fast.”

“I think that it’ll be fast, fun, and you may be able to forget about it a little bit because the ERP systems require a great deal of attention,” says Prakash.



Freeing staff up for other tasks

While many people think of the cloud as a means of reducing staff, McBride sees the cloud as freeing up staff to do other things. It may take four people to create your particular cloud template, but after it's created and you have documentation, those people can move on to other things. "You don't have to be a domain expert to do this stuff," she says.

Expanding internal knowledge

Another benefit of shifting to the Azure Cloud is expanding the deep knowledge of your existing staff. Saavedra is an IT team lead with 15 years of on-premises SAP experience. As he says, "I have an SAP-centric mentality, I don't hide that." But he says this project gave him an opportunity to see beyond his expectations. His experience with the Azure Cloud has made him realize that SAP is a tool that doesn't have to be locked into traditional on-premises technologies.

Industry gains

Facing the huge challenge of moving a complex system to the cloud meant pioneering changes that led to at least one vendor becoming cloud certified. Being first means breaking new ground, but it also means making it better for the entire industry. "Now it'll make it a lot easier for not only BD but other companies to be able to spin applications to the cloud," says McBride. "You try to develop it into something that's very useful, not just for you and your company, but for everybody."

"We relied on the Microsoft team to help us make that transition and build the schemas. We wouldn't have been able to do it without Microsoft's help."

Hector Saavedra, Basis Team Lead, Becton Dickinson

