US Healthcare Co. Migrates 5,000+ Servers with Velostrata, Projects $2.8M in Labor Savings

Ready to Migrate, but Right Solution Eludes

One of the largest healthcare providers in the United States was looking to build a self-described "cloud migration factory" into Amazon Web Services (AWS). They had thousands of both virtual machines and physical servers to migrate which they'd approach in two phases. The first phase was just under 2,000 (mostly) non-production systems, both virtual and physical. The second phase will include migration of significantly more systems which comprise their staging and production environments.

In the customer's own words, they "needed a platform that could quickly and easily support migration of thousands of applications from an on-premises data center to the AWS cloud." As a result, their goal was to create a migration solution with the least number of manual touchpoints, systems and people in their process. Initially, the customer evaluated other cloud migration tools, but found they had a serious drawback: agents, which introduced the following complications:

- Installing (and eventually uninstalling) the agents created a lot of additional overhead.

- Installing agents on their systems introduced security concerns, namely opening ports for agents in the firewall.

- Deep application knowledge would be required for each system, especially to facilitate proper application quiesce and synchronization before the final cutover.

- Addition of the agents created more potential points of failure, and more issues to troubleshoot when things didn't work properly.

- No automation to include specific AWS configuration options for the cloud workloads, including of tagging, EBS encryption and dedicated instances.

- Troubleshooting the communications between the agents and cloud servers was required since routing the communication isn't always straight forward in a large, complex enterprise environment. In fact, this proved to be a major challenge, as the networking team spent two full days and were still unable to get certain agents connecting properly.

When they took these factors into consideration and ran their total cost of ownership (TCO) analysis based on using these tools, they found the hidden labor costs staggering: roughly 5-7 extra hours per server, translating to roughly 2.8 million dollars' worth of additional labor and troubleshooting costs! They decided they needed a better solution to address their needs and keep their migration project on time and under budget.

Key to Success? Going Agentless

Velostrata met with this customer at AWS re:Invent in 2016, and after some initial conversations they were very intrigued with some of Velostrata's core capabilities. Given the challenges they knew they'd face with solutions that relied on agents, a number of Velostrata's unique capabilities stood out as being very attractive:

- **Agentless** – Eliminated many of their concerns with the tools they had previously evaluated.

- **Test in cloud** – Offers two unique options for pre-migration testing. Velostrata can provision a thin clone of an on-prem workload in the cloud within minutes' time without disrupting the running workload or its data, while keeping data in isolation

> "We needed a platform that could quickly and easily support the migration of thousands of applications from our on-premises data center to the AWS cloud."

Organization's Challenges:
- Had 5,000+ systems that needed to be migrated efficiently

- Mix of virtual and physical servers, but required one migration solution

- Maintain HIPAA compliance during and after

- Any cloud migration solution with agents would be too complex, too slow, too costly

> "We chose Velostrata because of its speed and simplicity, and because their solution will significantly reduce the labor required to support our migration efforts, especially when compared to other tools on the market. For us, Velostrata was basically magic."

(then delete the thin clone when done). Or, alternatively, simply run workloads directly in the cloud as-is and see how they perform. Then return them to on-prem when testing is concluded.

- **Streaming migration** – Because Velostrata decouples compute from storage, the customer can run workloads from on-prem in the cloud within minutes. The migration of all remaining data to native cloud storage occurs in the background. Detaching entirely from on-prem when data migration is completed with just a few clicks. Any data changes made in the cloud (during the data migration) are still synced with on-prem storage in the meantime so there is zero data loss at cutover.

- **Physical servers** – Support for migrating physical servers to the cloud while preserving the agentless and streaming properties of the solution.

- **Safety net** – The ability to rollback to on-premises in the unlikely event that something isn't working in the cloud as planned.

"The Velostrata platform is agentless," explained the customer after some initial discussions, "plus it's easy to manage, highly scalable, and the software allows us to easily test applications in cloud before they are migrated." Due to this initial intrigue, the customer decided it was time to put Velostrata to the test with a small pilot to migrate dozens of servers (virtual and physical) to AWS.

These migration operations were performed using Velostrata's Runbook Automation tool, which creates a VM inventory list by reading vCenter server inventory information, and allows the migration manager to define a phased and prioritized migration of several workloads based on application tiers and dependencies. This assured better control and increased speed for their upcoming large-scale migration and enabled automatic setting of VM configurations such as tags, security groups, etc. It was exactly the kind of thing the customer needed to build their "cloud migration factory" with as much automation as possible.

Cruising with Velostrata's Agentless Technology

The initial pilot was a success: everything went smoothly and was completed within just a few weeks. The customer was pleased by the speed and simplicity of the Velostrata solution.

The customer also ran their own cost analysis of Velostrata against other solutions they had looked into previously. They found that Velostrata's agentless design created significant labor savings and risk reduction when compared to agent-based solutions. In fact, by their own calculations, they estimated labor savings was between 5-7 hours per server. For their entire mass migration project of over 5,000 servers, they projected that Velostrata would reduce the project's labor costs by roughly 2.8 million dollars!

Between the successful pilot and the immense cost savings, the customer selected Velostrata for the rest of their mass migration. "We chose Velostrata because of its speed and simplicity," the customer expressed, "and because their solution will significantly reduce the labor required to support our migration efforts, especially when compared to other tools on the market."

Although this mass migration is still ongoing, phase one (roughly 2,000 virtual machines and physical servers) is proceeding smoothly and living up to both the operational and budgetary promise. The customer remains happy that they evaluated and selected Velostrata for their mass migration, expressing that ultimately the success of their cloud migration project is due in huge part to the solution that Velostrata built.

Velostrata's Solution:

- Unique agentless, streaming technology had workloads running in the cloud within minutes

- Tremendous acceleration of VMs and data to the cloud

- Simple to use, migrations begin with just a few clicks

- Workloads adapt to cloud target automatically

- Fast and easy to perform pre-migration testing in the cloud, and rollback on-prem anytime needed

Benefits:

- Significantly accelerated the pace of the migration project, keeping them on pace and under budget

- Saved an estimated 2.8 million dollars by avoiding hidden labor costs associated with other migration tools

- Kept migration team small, agile

- Did not introduce additional complexities or challenges

- Quickly migrating physical and virtual systems to the cloud

- Near-zero downtime kept crucial 24/7 systems available throughout migration and cutover

VELOSTRATA

Velostrata software enables public cloud migration and workload mobility with speed, scale and simplicity. Unlike replication-based approaches, Velostrata's agentless platform moves applications to the cloud in minutes. The software is easy to deploy and manage, and can significantly reduce the risks associated with migration. Unique capabilities let organizations "test before they migrate" in minutes, without taking production applications offline, and provide ongoing flexibility to move workloads back on-premises or to another cloud if desired.