Discovering new levels of agility with hybrid-cloud self-service and DevOps automation

AstraZeneca is a global, science-led bio-pharmaceutical business that delivers innovative and life-changing medicines used by millions of patients worldwide. Operating in over 100 countries, with hundreds of projects in its pipeline at any given time, the company focuses on the discovery, development and commercialization of prescription medicines primarily for Oncology, Cardiovascular, Renal and Metabolism and Respiratory Therapy.

AstraZeneca

Customer: AstraZeneca
Industry: Bio-pharmaceutical
Country: United States

IT profile

AstraZeneca operates one of the most robust hybrid cloud environments in the bio-pharmaceutical industry. Arguably one of the busiest and brightest in the business, the company's enterprise IT organization oversees more than **16,000 virtual and physical servers** and **2,700 applications** across **15 global locations** spanning on-premises VMware® infrastructure and multiple public cloud providers including AWS, Microsoft Azure, and Google Cloud Platform™.

Challenge

AstraZeneca's Global Infrastructure Services (GIS) division acts as the centralized architecture and engineering team to support the huge volumes of IaaS and PaaS requests coming from seven key business units.

Like most industries today, bio-pharmaceuticals is a segment where time is the enemy. Speed is the currency of competitive differentiation and as such the GIS leadership is under constant pressure to deliver more value in less time. After analyzing processes, the team determined that developer requests for resources took an average of 80 man-hours to fully deliver in a production ready state because of manual handoffs and approvals across systems and teams.

— Requester provides build details

— Network Services team request IP addresses

— IAM Services group creates DNS records

— OS Support team provisions first three stages

— Servers added to patching and monitoring

— Protection adds job, then configure and test

— Completion of qualification and compliance

— QCS team review and final approval

The company was simply growing too quickly to continue with this type of bottleneck. The GIS team knew that unless they introduced additional automation and orchestration to streamline their processes, it could hinder future delivery times to their internal clients.

"Our agility and performance with Morpheus surpassed all expectations. Service delivery used to take 80 hours per server end-to-end, but now we can provision 30 servers at a time in 27 minutes start to finish. We couldn't have realized this level of automation with a traditional CMP."

Solution

2017 deployment

After realizing the legacy approach to VMware automation wasn't cutting it, AstraZeneca decided to look for a more innovative and agnostic approach. The search led them to both traditional players and emerging technology vendors including Morpheus Data (now Hewlett Packard Enterprise).

During the Proof of Concept (PoC) phase, the results were immediate! Less than 24 hours after starting their implementation, the GIS team was able to enable push-button provisioning of new instances to their VMware ESX® cluster using the HPE Morpheus Enterprise Software multi-cloud management platform.

Once selecting HPE Morpheus Enterprise as their enabling technology for cloud automation, the global roll-out went very quickly across 8 data centers with thousands of applications under management. The increase in deployment speed not only enables AstraZeneca to compete more effectively in market, the GIS team has significantly reduced operational costs.

2021 update

Initially, HPE Morpheus Enterprise automatically orchestrated every IaaS and PaaS provisioning request through ServiceNow as the end-user facing interface. This included orchestrating across AstraZeneca's compliance, networking, access, quality and control, operations and capacity management tools and platforms.
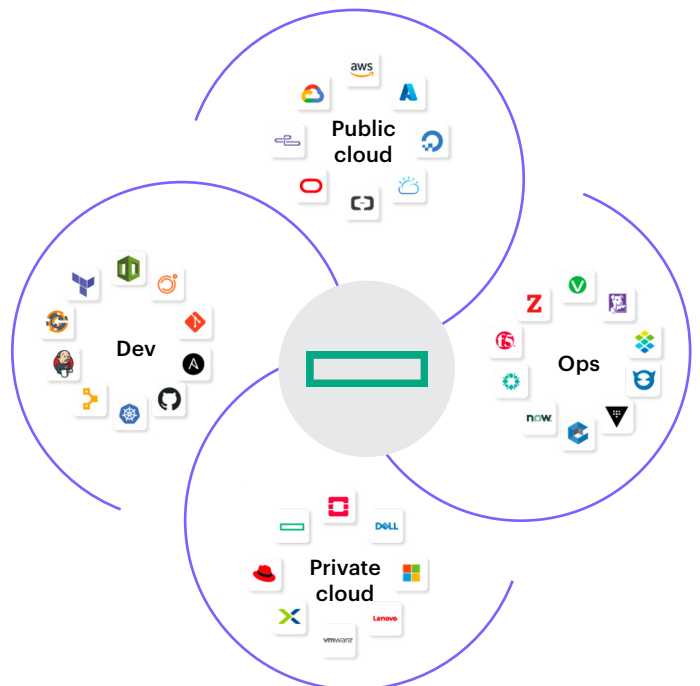
With the agility gains seen through advanced hybrid-cloud automation, AstraZeneca has modernized their approach and is using the native HPE Morpheus Enterprise interface and APIs to move even faster while still assuring ServiceNow CMDB and other updates are happening in the background.

Technologies involved

The HPE Morpheus Enterprise deployment brings together a number of technologies and automates workflow seamlessly.

Key integrations and applications include:
— **Private Cloud:** VMware, Oracle®
— **Public Cloud:** AWS, Azure, Google™
— **ITSM:** ServiceNow
— **Config. Management:** SaltStack
— **Web:** Apache, Tomcat, JBoss
— **DB:** Microsoft SQL, Oracle
— **OS:** Windows, CentOS, RHEL, OEL
— **Identity:** Microsoft Active Directory
— **Networking:** Infoblox and Cisco ACI

Results over the last several years

Server and application builds went from a manual high-touch process to a fully automated and standardized workflow across on-premises and public clouds with the entire process taking less than 20 minutes.
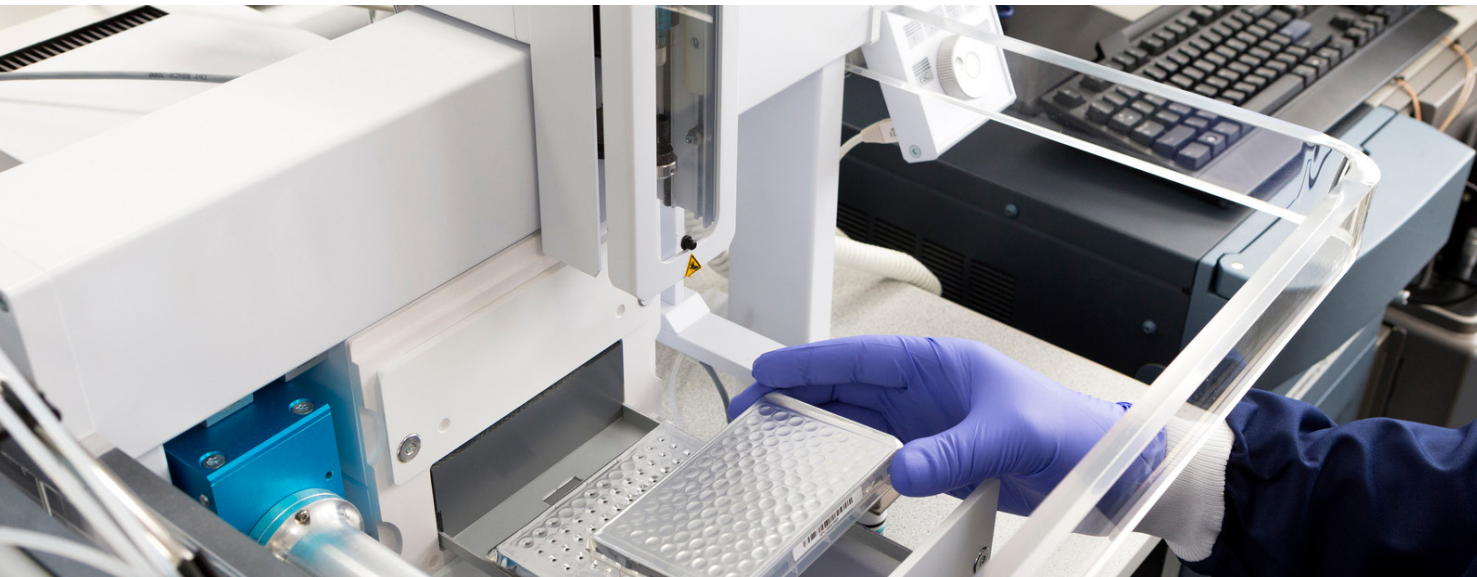
Since implementation in 2017, AstraZeneca has focused on increased automation with the ultimate goal of "automating everything." In an industry used to increasingly heightened regulatory compliance this has included, for example, automating build provisioning to ensure SOX and GxP compliance.

AstraZeneca saw initial savings in excess of $2.4M through reduced labor cost and reduction in delays through automation. The team has expanded use of the HPE Morpheus Enterprise platform and efficiencies have continued to skyrocket while keeping up with constantly changing business demands. **Since deployment, the company has seen provisioning savings alone in excess of $6M**.

The move away from the ServiceNow Service Portal to the native HPE Morpheus Enterprise interface led to significantly decreased wait times, a reduction in shadow IT, and has saved costs through automation. Further adoption of the HPE Morpheus Enterprise persona-based interface will give additional non-technical users simple self-service IT.

Benefit highlights include:

— **Greater developer agility.** End-to-end deployment times improved by 177x with the orchestration automation capabilities of HPE Morpheus Enterprise.

— **Rapid and straightforward deployment.** Started provisioning new machines within 10 minutes of installation and fully deployed in production worldwide in less than 90 days.

— **Unified orchestration from ITSM to CI/CD.** Service request via ServiceNow or API plus SaltStack integration to deploy agents and manage high state.

— **Increased workforce productivity.** Completed deployment phase of a nine-month infrastructure transformation project nearly six months ahead of schedule.

Advice for others

From design to proof of concept and throughout the lifecycle, the team recommends working hand-in-hand with your orchestration vendor especially when challenges arise.

"That's when companies know they are truly partnered," according to one team member. "Morpheus' questions helped us evaluate our issues in a way we were not even aware of. The work benefited both teams, and this type of trusted partnership is critical when you're dealing with something as integral to IT as multi-cloud orchestration."

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