Private Cloud Automation Requirements & Design

Our client sought assistance creating requirements and designing an "AWS-like" private cloud platform

Introduction

The Cloud Engineering team of a Fortune 500 Communications & Media company, burdened by the high and continually rising costs of public cloud services, engaged DayBlink Consulting for support in developing an innovative solution to manage its infrastructure more efficiently. The company aimed to create a public-cloud-like experience that would provide the flexibility to automatically create, remove and shift workloads seamlessly across its hybrid environment, optimizing both performance and cost.

To achieve this vision, DayBlink Consulting collaborated with the Cloud Engineering team to gather detailed design requirements from diverse stakeholders across the organization. This ensured the solution addressed the varying needs of different business units. The effort focused on developing a user-friendly interface and robust APIs that integrated seamlessly with the company's existing suite of VMware infrastructure, enhancing efficiency while ensuring system compatibility.

Problem

Our client contended with quickly rising public cloud costs and an outdated, oversubscribed cloud environment, while its private cloud options lacked key features.

Our client's public cloud spend was growing at an alarming and unbounded rate. Its multi-cloud environment incurred significant costs driven by the complex billing structures of multiple cloud providers, numerous accounts within each organization, unpredictable usage patterns and a lack of optimized resource management across hundreds of applications. This lack of visibility and control made it difficult to predict and manage expenses, leading to increasing financial strain.

Despite our client's substantial size and robust capabilities, the existing private cloud options were falling short in several critical areas. These systems lacked essential features for non-technical users, were several version releases behind and faced significant over-subscription issues. The private cloud's inability to scale effectively resulted in performance bottlenecks, further exacerbating the challenges in managing their hybrid cloud infrastructure.

Our client faced unique challenges in both its legacy public and private cloud environments:

***Public**: Uncontrolled Spend*

Complex Billing Structures

Intricate pricing models created a lack of transparency and made cost forecasting nearly impossible

Unpredictable Usage Patterns

Usage spikes across accounts and applications introduced high volatility, compounding the difficulty of managing budgets

Inefficient Resource Management

Underutilized and overprovisioned resources led to waste and missed opportunities for cost-saving optimization

***Private**: Archaic Environment*

Limited User Accessibility

Non-technical users faced barriers to adoption due to the absence of user-friendly features and tools

Outdated Infrastructure

Falling several releases behind, the private cloud's functionality and security were at risk, amplifying operational inefficiencies

Resource Over-Subscription

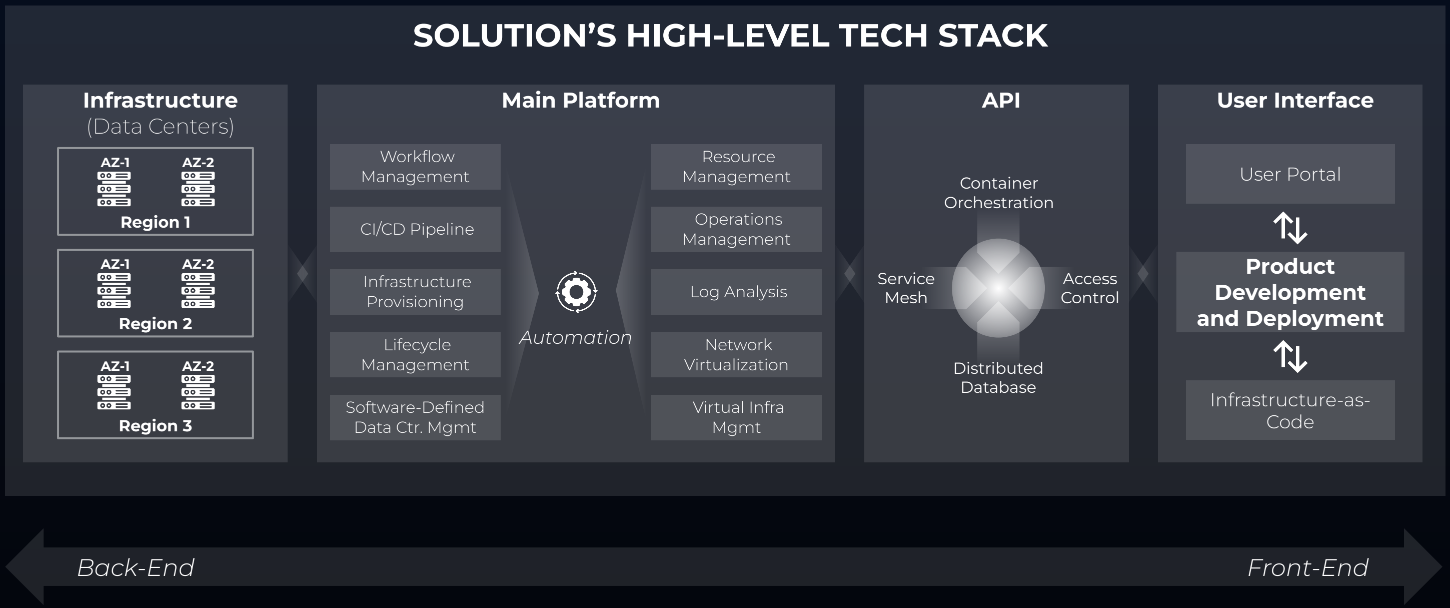
The existing environment couldn't keep up with demand, causing bottlenecks and hampering critical workloads

Solution

DayBlink Consulting led the design of an innovative private cloud solution that combined the best features of both public and private cloud infrastructure to meet our client's unique needs.

To address these challenges, DayBlink Consulting led the effort to design a modern private cloud solution that combined the features, ease of use and efficiency of public cloud environments with the cost benefits of owning private infrastructure. In an essential partnership with a 3rd party technology provider, the client pioneered this first-of-its-kind private cloud solution. To ensure the vendor delivered an acceptable solution, we defined detailed requirements through collaboration with numerous application teams and key stakeholders from the security, engineering and finance organizations.

With those inputs, we worked with the vendor to design a full-stack solution featuring a user-friendly interface, allowing dev and product teams to deploy and manage workloads easily (akin to the simplicity of public cloud platforms). We also designed infrastructure automation to orchestrate workload distribution across physical hardware to ensure the private cloud operated with the flexibility and convenience typically associated with public clouds. Finally, we collaborated with major infrastructure vendors to design supply-chain processes for future expansions.



Outcome

Our client generated significant cost savings, faster capacity expansion and greater flexibility with their one-of-a-kind, scalable private cloud solution.

Our client obtained a 50% reduction in Total Cost of Ownership (TCO) over the next five years, due to improved cost management. This transition minimized reliance on external cloud providers, offering better visibility and control over their long-term expenses (and enabled more effective budgeting).

The new private cloud solution was modular and scalable, enabling teams to customize their resources to meet specific needs. This adaptability allowed for more efficient growth and faster response to changing requirements across departments and teams. Additionally, the optimized supply chain allowed for infrastructure expansion in under 45 days, faster than many private cloud solutions we've seen.

Beyond the technical benefits, the new cloud platform helped foster a "cloud culture," with teams adopting cloud-first practices like using cloud-based collaboration tools and automating workflows, which improved efficiency and responsiveness across the organization.

Through careful planning and execution, DayBlink Consulting delivered a solution that reduced costs, improved scalability and helped the client adapt to changing demands. The shift to a cloud-first mindset positioned the organization for future growth and innovation.

50%

Reduction in Total Cost of Ownership (TCO)

45

Days to Procure, Deliver, and Install New Infrastructure

25+

Gbps network bandwidth available for tenant VMs

Making the Case for Cloud Automation

Automation is the key to unlocking the full potential of your cloud environment. The ability to automate routine tasks like instance deployment, load balancing, and patching reduces human error, cuts operational costs, and ensures consistent performance. With automated monitoring and self-healing capabilities, organizations can quickly identify and address issues, leading to higher uptime and bolstered security. By integrating automation into cloud workflows, businesses can scale faster, optimize resource usage, and accelerate innovation—all while maintaining control over costs and compliance.

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