How to build an **open hybrid cloud ecosystem**

A cloud center of excellence and enterprise open source software solutions help agencies achieve their modernization goals

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Cloud technology allows agencies to scale resources up and down as dictated by their missions, their workloads and what they're trying to accomplish. It allows them to create experiments very easily so they can quickly see what works and what doesn't work.

Agencies can't achieve their missions unless users have the right resources available to them. In the past, organizations would design IT systems for peak demand. If they didn't meet that peak, resources were wasted. If the peak was higher than expected, they were constrained in their opportunities, which was also wasteful. When organizations guess at capacity and don't have the ability to scale up or scale down to meet their demands, they discourage opportunity.

To streamline their move to the cloud while complying with government security requirements, agencies should consider building a cloud center of excellence that follows best practices for governance and observability.

Creating a cloud center of excellence

The cloud is fundamentally different from a data center environment. When we move into the cloud, we don't want to bring data center thinking with us, but we do want to bear in mind that some elements — such as password guidelines and encryption keys — do belong in the cloud. Agencies should look for cloud environments that enable the use of cryptographic standards and ensure that cloud providers have some form of remediation and continuous monitoring.

For security and efficiency, it's important to understand a cloud service provider's set of tools, its software bill of materials and its community of practice. In addition, clouds should provide observability into the technology architecture as well as discrete levels of reporting inside that architecture. It's also important to follow community-driven security standards for implementing a particular technology and take advantage of reference architectures issued by

organizations such as the National Institute of Standards and Technology or the Center for Internet Security.

In addition, agencies should have the ability to govern release management across cloud platforms and on-premises systems and the ability to incorporate lessons learned from large-scale events into product cycles and organizational practices.

Finally, agencies should tap into resources that will help them find the best fit in the cloud and then mature their use of the cloud so they can become more cloud-forward while integrating new components that are self-service and metered.

Open source: The heart of innovation

When agencies have a strong cloud environment, they can leverage open source solutions to achieve key modernization goals, such as improving digital services and making better use of data. That's because open source is at the heart of all innovation.

Jason Leung

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For the past 20-plus years, open source has been where leading technologists first experiment with new ideas that often become enterprise products. Companies like Red Hat and cloud providers such as AWS, Microsoft and Google begin new projects by working upstream in the open source community and making broadly shared contributions to the Linux Foundation, the Apache Software Foundation and the Cloud Native Computing Foundation. Red Hat Enterprise Linux, for one, is the world's leading enterprise Linux platform that is fully built on open source software.

The open source community is also contributing to agencies' ability to comply with the Executive Order on Improving the Nation's Cybersecurity and the government's zero trust security initiatives.

All those activities help everyone iterate faster, build a more dependable software infrastructure and advance the cloud industry's pace of innovation. ◾

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