How to Get More Value Out of Cloud Services

Without taking advantage of native cloud services, performance optimization and automation capabilities for enterprise systems are limited.

For many enterprises, migrating workloads to the public cloud begins and ends with the lift-and-shift process of moving servers, storage and networking hardware from on-premises data centres to an infrastructure-as-a-service (IaaS) provider. It's a popular strategy that eliminates capital investment, relieves IT teams of infrastructure oversight and enables pay-as-you-go pricing and dynamic scaling for variable workloads.

But much more needs to be done to control costs and realize the full benefits of cloud technology.

Without new controls, monthly IaaS fees can balloon far beyond budget because of issues such as poor initial cost and policy planning, cloud provider mark-ups and the inability to leverage the scalability of on-premises infrastructure. Without moving beyond the IaaS model to host operating systems and applications in the cloud, IT remains saddled with traditional licensing and management overhead. Without taking advantage of other native cloud services, performance optimization and automation capabilities are limited.

In this *e-WEEK* Data Points article, Scott Cameron, principal architect at the Cloud + Data Center Division of Fortune 500 technology provider Insight Enterprises, outlines steps that organizations can take to minimize cloud overhead, optimize cloud management and make the most of their cloud journey.

Data Point No. 1: Appoint a cloud innovator

Assigning an internal cloud architect or outside expert to oversee your cloud efforts can help prevent a stall at the lift-and-shift stage. A dedicated cloud champion can be instrumental in overcoming cloud inertia by creating a roadmap for advancing your cloud initiatives, defining the technology and business benefits of each project, and identifying new cloud offerings that can help trim costs and/or streamline operations.

Data Point No. 2: Adjust governance strategies to fit cloud processes

Asset management and change management processes developed to support three- to five-year maintenance cycles don't fit systems where: a) public cloud infrastructure is deployed in hours or days; b) feature updates can be released weekly; c) developers may spin operating systems up and down dozens of times as they test projects; and d) the shift from CapEx to OpEx affects both hardware and software license tracking. Optimizing operations to fully use the cloud requires adjusting governance processes to accommodate these shifts, including establishing procedures to fast-track decisions by your Change Advisory Board (CAB).

Data Point No. 3: Monitor monthly cloud costs

Nearly 70% of IT leaders experience higher-than-expected public cloud costs, according to a recent IDG survey. Cost overruns for roughly half that group range from 51%-100%. While business factors like mergers and acquisitions contribute to those overages, many causes such as unanticipated data egress charges, failure to resize workloads based on performance and usage requirements and failure to advance beyond IaaS to more mature cloud migration strategies are within IT's control. Close monitoring of monthly costs can flag these unexpected bites out of the IT budget and trigger corrective action before they take an undue financial toll.

Data Point No. 4: Reduce unnecessary data movement

As noted above, data egress charges incurred by moving data between clouds or, in some cases, in cross-regional transfers within a provider's cloud can result in budget bloat. Transferring 20TB of data per month may incur data egress fees of $20,000 a year. The right cloud architecture and/or use of the edge (see below) can help keep those charges to a minimum.

Data Point No. 5: Embrace the edge

Some data-heavy workloads may benefit from an edge-compute approach in which data storage is either split between the public cloud and the on-premises data centre or handled entirely on-premises with only the most relevant information sent to the cloud for processing. This hybrid configuration can prevent cloud storage costs from spiraling out of control, particularly for applications such as IOT devices that collect exabytes of data that may not need immediate access over the long term. It can also provide low-latency end user access by removing large data sets from the cloud, thereby saving on computing power and bandwidth requirements.

Data Point No. 6: Retire unused resources

Some enterprises lift-and-shift large portions of their infrastructure without analysing what they use and what they don't, leaving them paying hourly cloud rates for servers and applications that are no longer used. Others go through the exercise of retiring on-premises resources when they lift workloads to the cloud but do it incorrectly, resulting in double payment. Retiring unneeded resources and consolidating computing instances with low CPU utilization can trim both cloud and OS licensing costs.

Data Point No. 7: Climb the cloud migration ladder

While the IaaS model takes hardware management off IT's plate without requiring changes to the application infrastructure, moving farther along on the cloud spectrum can deliver even bigger payoffs. Transitioning to platform-as-a-service (PaaS) eliminates the time and expense of licensing and maintaining the operating system, including associated antivirus, backup and security software, as well as storing O/S files.

Modifying code to optimize applications to run in the cloud reduces internal development responsibilities by leveraging native cloud resources and APIs for services ranging from auto-scaling to logic apps, cognitive services and visual/speech recognition. Rebuilding applications as cloud-native services takes advantage of containers and micro-services to enable easy component reuse, maximize automation, and facilitate continuous improvement.

Finally, discarding your existing application for commercial software delivered as a service (SaaS) eliminates your application overhead entirely. The optimal cloud strategy for each workload depends on the application as well as the business objectives.

Data Point No. 8: Regularly re-evaluate your cloud platform decisions

The major public cloud platforms release new features and functionality weekly and sometimes even daily. Changes and upgrades may offer a better match for your needs, a less expensive way of leveraging a particular service, or other avenues for reducing costs or increasing efficiency. Paying close attention to these updates can help you continuously fine-tune your existing public cloud environment as well as determine when it may be advantageous to use multiple cloud vendors for one or more applications.