

CONSIDERATIONS OF HYBRID CLOUD DEPLOYMENTS



Hook: Hybrid cloud architectures demand a converged cloud management solution to accommodate their intricacies. Read on to learn three key aspects enterprises must carefully consider when deploying a hybrid cloud platform.

The complex interplay between the public cloud and the private cloud demands special attention. To truly drive cost savings and improved operational efficiencies when deploying and managing myriad cloud environments, enterprises need to closely vet cloud management solutions that can accommodate hybridized architectures.

Today, "hybrid" is more of a school of thought than an established delivery model; every organization implementing hybrid cloud solutions has a stake in advancing industry best practices. The following considerations of opting to deploy a hybrid cloud framework will help shed light on the current challenges of cloud management solutions in the enterprise.





More organizations are using a hybridized cloud infrastructure to leverage the scalability of the public cloud to augment (ideally, automatically and dynamically) private cloud resource pools. As the internal resource pools of private clouds near capacity, the public cloud comes into play to manage this increased demand on computing, storage, and network resources.



The key aspect to determine is which application workloads are best suited for a hybrid cloud deployment. One idea that is gaining acceptance as a best practice is to focus on applications that are the most processor-intensive as candidates for a hybrid deployment. Through managing these applications by leveraging public and private cloud resources accordingly. enterprises can use the "infinite" pool of resources theoretically available in the public cloud to accommodate such processor-intensive applications on demand.

This scenario highlights the tactic of aligning cloud deployments with well-known workload demands. To be able to bring this solution to fruition in the real world, however, enterprises must be able to effectively measure internal demand for cloud computing resources in the first place. Otherwise, companies face the problem of mitigating radical shifts in the usage of available resources to attempt to deliver cost savings from an operational standpoint.

Converged cloud management platforms such as HP Cloud OS (based on OpenStack) can provide this visibility into resource usage from a holistic point of view. Once enterprises are able to test processor-intensive workloads and resource consumption within the public cloud component of a hybrid cloud deployment, migrating these workloads to the private cloud becomes an attractive option to yield further efficiencies. By deploying an OpenStack cloud platform, enterprises gain more flexibility when migrating between cloud providers by leveraging an opensource solution. In the real world of business, cloud providers are just as susceptible to market forces, so planning ahead in the event that a cloud provider goes out of business is absolutely critical. In a worst-case scenario, enterprises may have as little as a couple of weeks to shepherd workloads from a defunct cloud provider. An open-source solution cuts down on migration overhead through interoperability, mitigates licensing costs, and quickens the process of migrating workloads between clouds on the fly.

WORKLOADS



SECURITY AND LATENCY ASPECTS

2)

The next consideration falls along the lines of the security and latency aspects of transitioning to a hybridized cloud infrastructure. Applications that have highly stringent security requirements (like those resulting from heavy-handed regulatory oversight, for instance) step forward as good candidates for a hybrid deployment.

APPS W/ HIGHLY STRINGENT SECURITY REQUIREMENT



Certainly, these securityintensive applications demand a private cloud deployment to deliver the necessary assurance to regulators, but organizations do not necessarily have to manage all components of such applications internally. Database and shared storage components must be managed in the private cloud, but enterprises can place front-end components in the public cloud to leverage the scalability and cost-effectiveness inherent to such a deployment model.

Without the need to accommodate the latency of in-transit data via the public Internet, enterprises can obviously deliver a better end user experience in the private cloud. That said, the use of a hybrid cloud deployment complicates the latency issue further since storage and connectivity mandates may restrict the feasibility of public cloud resources to augment the private cloud.

HP's CloudSystem and Enterprise Security Solutions can provide the tools enterprises need to manage the closely related aspects of security concerns and latency considerations. By pinpointing which infrastructure components demand oversight in a private cloud environment, enterprises can take steps toward deploying the optimal balance between a public/private hybridized cloud infrastructure.



Truly, the converged platform of HP Cloud OS can accommodate the complexities of hybridized cloud deployments. Of the considerations previously outlined, cost is very arguably the most important of all. Hybrid cloud deployments in and of themselves will not deliver cost savings on their own since cloud computing continues to mature faster than many analysts expect.

Interestingly, from an operational perspective, private cloud deployments can yield cost savings in storage and network expenses specifically, in addition to benefiting from economies of scale. One major pitfall to avoid is neglecting to appreciate the cost of data transit within the public cloud components of a hybridized infrastructure. Depending on the scope and breadth of the bandwidth required of cloud-migrated applications, costs can accrue rather quickly, and indeed many cloud providers charge for data egress on a sliding scale.

This scenario highlights the danger of selecting high-bandwidth applications as candidates for the public cloud in a hybrid deployment. Such a mistake can offset the cost savings of leveraging the public cloud to drive efficiencies. If high-bandwidth applications demand migration to the private cloud components of a hybridized infrastructure, costs can rise even further due to the inherent complexities of such a tall task.



To ease the transition from private and public cloud deployments to a unified, hybridized infrastructure, enterprises should carefully vet which cloud management platforms offer the most comprehensive set of governance functions. At the very least, the requisite considerations of deploying a hybrid cloud should fall in line with workload requirements, security concerns, latency aspects, and cost factors. As a key enabler of managing a hybrid cloud, HP Cloud OS, in concert with HP's suite of enterprise cloud solutions, steps forward as a viable option to consider. **R**

COST CONSIDERATIONS ARE STILL KEY

