Summary Insights: Low-Cost Approaches to In-house Private Clouds

RFG Perspective: In-house private clouds can be just economical as public clouds while providing better assurances to enterprises in terms of compliance, latency, privacy, risk, and security requirements. Some private cloud vendors offer the same scalability promises one gets from the public cloud provders (CSPs) – including an offer to manage the private cloud remotely. This new level of capabilities – especially important for mission-critical workloads that never left the "glass house" – enables IT executives to focus on the best deployment model for each enterprise application or database.

Enterprises are now re-evaluating their cloud postures, with most of them planning to deploy significant amounts of their workloads on in-house private clouds. Two elements of specific focus are cost optimization and security – two areas that were relaxed during the rapid shift from offices to a work-from-home (WFH) environment.

We've seen a number of private cloud services come onto the marketplace this summer – including offerings from IBM, HPE, Oracle, VMware and others. Even public cloud providers are getting into the private-cloud arena, as evidenced by AWS' Outposts service and Microsoft's Azure Hub service, among other examples.

Private clouds – usually managed by the vendors on behalf of the customers – bring peace of mind to IT executives concerned about skills and usage of internal resources and long-term costs for large public-cloud deployments. IT is also looking for more role-based control over workloads, and compliance with geo-based data protection rules (e.g., EU's GDPR and California's CCPA).

Even as private cloud options are expanding, it is important to note that the move to public clouds, via hybrid cloud and multi-cloud deployments – continues apace. *What has changed* is the degree of control that is being made available to CXOs, IT managers and business executives, with respect to private-cloud options. Many business executives are accelerating their companies' move to the public cloud, with its value proposition of pay-as-you-go-computing – and thereby avoiding over-provisioning at customers' data centers.

The RFG100 Panel's Key Takeaways on Private Cloud Options

On Sep. 16, 2020 RFG facilitated a video conference on "Low Cost Approaches to In-house Private Clouds." The panelists on the call were:

- Erik Vogel, VP GreenLake, HPE
- Hunter Dawson, Global Contracting & NA Business Lead, TruScale, Lenovo

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- Warren Gedge, CTO, ScriptString
- Jean Bozman, President, Cloud Architect Advisors

A real-time poll of the RFG100 attendees showed several top takeaways: (See full poll results in the Appendix at the end of this document, below).

- More than 50% said 25 - 50% of their cloud workloads will be in private clouds
- More than 35% said they expected their projected cloud growth rate to exceed 25% per year.
- 85% of respondents said that enterprise applications will be placed inside private clouds now – and in 2021.

We believe that there are a number of new private cloud models that offer enterprises economically priced alternatives while satisfying the flexibility and scalability characteristics that can be found in public cloud solutions.

This report unpacks the content of the RFG100 discussion, which included input from top IT executives from the banking and financial industries.

Why In-House Private Clouds are Gaining Traction

Enterprises are finding that deploying their applications and data on public clouds can be costly. Actual costs for storage, especially exporting of data, may exceed projected costs. This is why some applications and data are being "repatriated" from public clouds to in-house private clouds.

In fact, private cloud adoption is growing faster than expected, which is most likely due to the attractiveness of an "as-a-service" (XaaS) model – such as Platform as a Service (PaaS), Database as a Service (DaaS), Disaster Recovery as a Service (DRaaS) and Business continuity as a Service (BCaaS). These private cloud service models reduce development and deployment time – and IT administrative time – while retaining granular management control and security.

Customers want to use a cloud services business model, but they seek the data security, data-protection, and compliance of their own private cloud, where they can better control availability and reliability. Additionally, they like the vendor-provided management of cloud infrastructure, which makes it easier for them to manage hybrid clouds and multi-cloud deployments. Fortunately, many vendors now offer in-house private cloud management, which can be combined with public cloud management.

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These particular vendor models solve a skills-set issue that exists in many firms these days, as cloud management skillsets are in short supply. One change that is addressing part of that issue is the shift towards applications or microservices moving to containers/Kubernetes as part of their cloud services platform and application modernization efforts.

The software technologies of Kubernetes orchestration software and Red Hat OpenShift containers are often presented as platforms of choice for application modernization. That is especially true for large IT organizations with in-house software skills for in-house DevSecOps efforts. Others look to the public cloud providers themselves – and to system integrators (SIs) -- to support enterprise application cloud migrations – either to public clouds or to their private cloud.

Cloud Considerations

Some customers think they are trading AWS lock-in for lock-in from systems vendors providing private-cloud solutions (vendors such as Dell, HPE, and Lenovo). Even so, there are business reasons for keeping the data and workloads inside private clouds. One such key requirement is the need to satisfy various privacy regulations, which vary from geographic region to geographic region – and from country to country.

The need to comply with these directives forces data to be kept inside specific geographic regions or countries, which in turn leads to even more private cloud deployments.

Following are some examples of private-cloud deployments, as discussed by the RFG100 community:

- One customer leveraged software-defined network (SDN) technology to add a new ecommerce-based customer experience to a longtime transactional application. This approach is central to many digital transformation projects.
- Another customer consolidated multiple stages of data collection by merging applications into a new private-cloud deployment, transforming a manual data-collection process into an automated one.
- A third customer outsourced its industry-specific application, and now has a systems vendor managing it on their behalf. This model allows the customer to consume the application as-a-service, while reducing in-house administration costs for operating that application.
- A fourth customer saw that their preferred public-cloud provider did not have coverage in a specific country where the customer needed to restrict the flow of country-specific data, due to compliance regulations. Private

cloud, provided on-premise at the customer's data center, addressed this customer's requirement for geo-fencing of country-specific data.

Why Adopt Private Cloud Now? The Move from CapEx to OpEx

The first wave of cloud migration started with the 2008-2009 financial crisis, which forced customers to search for CapEx reduction stemming from over-provisioned data centers. This second wave, prompted by the COVID-19 pandemic of 2020, is causing many companies to "Reimagine" their deployment models – with an eye to reducing CapEx, while focusing on OpEx costs for pay-as-you-go computing.

Private clouds address customers' need for retaining control over applications that may have moved to public clouds in the first cloud-migration wave. Certainly, pubic cloud is here to stay – and is moving into hybrid cloud and multi-cloud deployments. But the renewed focus on private cloud is focused on automation, ease of use – and leveraging skillsets that vendors have in managing, controlling and securing sensitive or mission-critical enterprise applications and data.

Some private cloud customers have seen cost savings of 30-40 percent, compared with traditional enterprise data center costs. They have avoided the need to acquire and provision servers, storage and networking gear for private clouds deployed and maintained by systems vendors and cloud providers.

SUMMARY

The latest shift to in-house private clouds signals a new wave of evaluation by senior IT managers and CIOs. While the move to public cloud continues in force, customers are pulling back selected workloads (applications and databases) to a private cloud for specific reasons. There is no single reason for this. Sometimes it is to reduce cost; in others, it is the need to retain datasets within a given geography. Some customers seek greater control for some workloads, while other proceed on to public clouds without incident.

Many customers are moving into multi-cloud environments, tapping public clouds for reasons of specialization and differentiation within specific public cloud offerings. For example, a customer may prefer AI/ML tools from one cloud service provider, or the cloud-specific functionality provided by an AWS, Azure or Google Cloud, among others.

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RFG POV: In what is undeniably an accelerating wave of cloud migrations, the option of hosting selected applications on private clouds is gaining traction. Private-cloud offers enable enterprises to decide on workload placement based upon a wide range of business needs -- and not vendor functionality alone. IT executives can now satisfy requirements for the most sensitive enterprise workloads based on their own criteria -- and need not be limited to the functionality offered by public cloud service providers. Given the growing number and variety of private cloud offers, IT executives need to develop and evaluate selection criteria – with priority weightings – and then select the best options that meet their current and projected future business and IT requirements.

Additional relevant research and consulting services are available. Interested readers should contact Client Services to arrange further discussion or interview with Mr. Cal Braunstein, CEO and Executive Director of Research. Jean S. Bozman, President of Cloud Architects Advisors LLC, co-authored this report.

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APPENDIX 1: RFG100 Survey Results

Questions to the RFG100 attendees, followed by the poll results (shown as percentages of total):

- 1. Do you believe your organization requires no networking or topology changes in order to make the shift to the new WFH/office environment
  - No, a few modifications needed 79%
  - Yes, new same as old 7%
  - Yes, changes made and complete 7%
  - No, no major tasks to do 7%
- Is your organization including some modernization projects in this WFH/office transition effort?
  - Yes 64%
  - No 36%
- Do you believe the compliance, privacy, security risks will increase in the WFH/office environment?
  - Yes 86%
  - No 14%

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