THE HYBRID CLOUD LANDSCAPE

Perspectives from the 2018 Frost & Sullivan Cloud User Survey
EXECUTIVE SUMMARY

Hybrid clouds are becoming a standard configuration in enterprise IT, with the majority of US businesses in 2018 having already deployed, or planning to deploy, a hybrid environment. In building their hybrid clouds, enterprises seek to create a seamless pool of resources across the business’s premises and the cloud. They also expect to centrally manage all resources from a single management platform.

The Frost & Sullivan Cloud User Survey, which has been conducted annually since 2010, tracks perceptions and business behaviors related to cloud and IT decisions. By comparing recent years’ results to those returned in 2018, we can examine trends in hybrid cloud decisions and deployments.

Top findings from the 2018 survey include the following:

- Adoption of hybrid cloud continues to increase, with more businesses deploying hybrid clouds in 2018 than in previous years.
- 75% of businesses are satisfied or very satisfied with their hybrid cloud platform provider.
- Businesses are increasing investment in all infrastructure types, even traditional options such as physical servers.
- Businesses are also rethinking their earlier cloud decisions. 43% of businesses have repatriated at least one cloud workload; an additional 35% are considering doing so.
ABOUT THE FROST & SULLIVAN 2018 CLOUD USER SURVEY

The current survey was conducted via web in June 2018, garnering responses from 401 US-based IT decision-makers responsible for purchases of IT infrastructure, software, or services for their firms.

Company Size

- 1,000+ employees: 25%
- 1–99 employees: 25%
- 500–999 employees: 25%
- 100–499 employees: 25%

Industry

- Financial services: 25%
- Healthcare: 25%
- Manufacturing/distribution: 9%
- Professional services: 9%
- Retail/consumer: 6%
- Other: 11%
- Education: 5%

Respondent Title

- President/CEO/Owner: 16%
- VP/Director: 21%
- IT Manager/Supervisor: 36%
- Developer/Other: 6%
- CIO/CTO/C-Level: 21%

2018 Cloud Budget

- Less than $25,000: 11%
- $25,000–$100,000: 20%
- $101,000–$300,000: 26%
- $301,000–$600,000: 23%
- $601,000–$1 Million: 12%
- Over $1 Million: 8%
HYBRID CLOUD SUPPORTS BUSINESS GOALS

In the hypercompetitive digital era, businesses are embracing goals such as agility, innovation, and market responsiveness. To support escalating technology needs, IT organizations are adopting flexible hybrid and multi-cloud environments.

**Hybrid clouds** integrate any combination of private data center resources, Infrastructure-as-a-Service (IaaS), Software-as-a-Service (SaaS), and Platform-as-a-Service (PaaS) under a common management and orchestration platform.

**Multi-cloud deployments** combine cloud services from multiple providers.

81% of businesses say the cloud supports business agility and market responsiveness.

67% of businesses say the cloud positions their company to take advantage of new technologies.

FOR MORE INFORMATION
Need to know more about hybrid cloud deployment? See Evolving the Enterprise Hybrid Cloud.
GROWTH ACROSS ALL INFRASTRUCTURE TYPES

Even as they adopt modern cloud services, businesses continue to invest in the premises data center. As such, growth continues across traditional and new infrastructure options, both premises-based and cloud.

Businesses will increase infrastructure investment by 2020

- IaaS: Public Cloud: 79%
- Bare Metal Cloud Servers: 70%
- On-Premises Private Cloud: 66%
- Hyperconverged Infrastructure: 60%
- On-Premises Physical Servers: 50%

FOR MORE INFORMATION
Looking for ways to modernize your corporate data center? See Optimizing the On-Premises Data Center: Three Ways to Drive Transformation.
INTEGRATING INFRASTRUCTURES INTO HYBRID AND MULTI-CLOUD

As the number and type of infrastructure options grows, so does the management burden. Each cloud service provider has a unique, often proprietary, management platform, which may not integrate with tools currently used to manage existing data center infrastructure. Furthermore, the disparate infrastructures do not easily integrate, making it hard to migrate applications, execute backups or disaster fail-overs, or scale to support greater application usage.

This is why businesses are increasingly adopting hybrid cloud platforms, which allow them to group disparate infrastructure, and manage them centrally as one single pool of resources; or in the case of multi-cloud, allowing them to orchestrate workloads across disparate commercial clouds.

FOR MORE INFORMATION
Are you using the right mix of cloud service providers? See Beyond the Big Three: Cloud Service Providers that Should be Part of Your Multi-Cloud Strategy.
ENTERPRISES USE HYBRID CONFIGURATIONS FOR SOME WORKLOADS

Workloads are no longer standalone entities; developers integrate micro-services, application programming interfaces (APIs), and third-party applications into their own workloads to enhance or extend functionality. From security applications that scan data as it is ingested into an application, to analytics that improve an application’s results, workloads are integrating data and services from numerous sources. Hybrid workloads are those that utilize two or more deployment options.

In 2018, top workloads deployed in a hybrid configuration include:

- Business productivity
- Collaboration applications
- Security
- Object Storage
- Artificial intelligence
- Disaster Recovery

Common Hybrid Workload Scenarios

- Cloud-based app accesses premises database (54%)
- Cloud-based app leverages multiple data sources (47%)
- Legacy app integrates with cloud-based functionality (45%)
- Prem-based storage is replicated or archived in a cloud (38%)
- Edge-based workload does analysis; then transmits data to the cloud (20%)

FOR MORE INFORMATION

Want to know more about where and how businesses are deploying their apps? See Survey Shows Shifts in Business App Placement: Managed Services, SaaS, and Co-Lo Steal Share from IaaS.
The Hybrid Cloud Landscape

SOME WORKLOADS RETURN TO THE PRIVATE DATA CENTER

In the early days of cloud, many businesses deployed workloads into the public cloud without sufficient due diligence. In the intervening years, they have come to learn that the public cloud is not ideal for all workloads. Higher-than-expected costs, application performance issues, or security concerns sometimes make a workload unsuitable for the public cloud. As a result, some businesses are beginning to bring workloads back to the premises. This is called “repatriation.”

Top Reasons for Repatriating Workloads

- Challenges Migrating Workloads → 63%
- Security Incidents in the Cloud → 63%
- Challenges with Cloud Backup and Recovery → 61%
- Poor or Inconsistent App Performance → 58%
- Challenges Optimizing Cloud Workloads → 57%
- Challenges Managing Costs to Run Cloud Workloads → 47%

46% of businesses say that choosing the right infrastructure to best support each workload is a challenge.

43% of businesses have repatriated at least one cloud workload.

An additional 35% are considering doing so.

FOR MORE INFORMATION

Want to know more about workload placement in the cloud? See Assessing Workloads in a Hybrid Cloud.
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WHAT CUSTOMERS WANT FROM A HYBRID CLOUD PLATFORM

With business expectations for technology increasing, IT needs a robust platform to help implement a cohesive hybrid solution. Creating cross-platform visibility and reporting, enabling comprehensive security and disaster recovery, and easing migration between platforms are all areas that IT looks to streamline through a hybrid orchestration and management platform.

### Criteria Important to U.S. Businesses When Selecting a Hybrid Cloud Provider, 2018

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for Multiple Clouds</td>
<td>75%</td>
</tr>
<tr>
<td>Cross-Platform Visibility: By Dept. or Project</td>
<td>73%</td>
</tr>
<tr>
<td>Integrated Network</td>
<td>68%</td>
</tr>
<tr>
<td>Application Performance Metrics</td>
<td>67%</td>
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<tr>
<td>Automated Failover Capability</td>
<td>66%</td>
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<tr>
<td>Easy Cross-Platform Migration</td>
<td>66%</td>
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<tr>
<td>Open Source Platform</td>
<td>66%</td>
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<tr>
<td>Compliance Assurance</td>
<td>65%</td>
</tr>
<tr>
<td>Cross-Platform Visibility: Usage</td>
<td>64%</td>
</tr>
<tr>
<td>Single “Pane of Glass” Management</td>
<td>64%</td>
</tr>
<tr>
<td>Common Access Management</td>
<td>63%</td>
</tr>
<tr>
<td>Cross-Platform Visibility: Costs</td>
<td>56%</td>
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</tbody>
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FOR MORE INFORMATION

To learn more about the hybrid management platforms available on the market today, see Cloud Management Platform Buyers Guide, 2017: Enabling Hybrid Clouds with Robust Management Solutions.
BUSINESS CHALLENGES IN INTEGRATING A HYBRID CLOUD

Businesses continue to experience challenges implementing their hybrid clouds. Different infrastructure types support different operating systems, middleware, APIs, and protocols. Applications written for one deployment model may not work if moved to another. Even with a strong hybrid platform, management tools typically work at a “least common denominator” level, depriving IT from leveraging infrastructure to the fullest extent.

74% of businesses need tighter application integration

49% of businesses have trouble managing multiple clouds

48% of businesses struggle to integrate cloud and data center resources

FOR MORE INFORMATION
Are you looking to centralize management of disparate cloud workloads? See Effectively Managing the Hybrid Cloud.
HYBRID CHALLENGES: MIGRATION

Migrating applications and data among different infrastructures remains challenging for the enterprise. Businesses struggle to move a premises-based application to the cloud, thanks to network bandwidth constraints, the need to remap domains, and the risk of business disruption. However, in a hybrid environment, migration across environments is not a one-time initiative. To ensure application availability and data integrity, businesses must constantly back up critical, changing data, often across diverse environments. While newer technologies, like containers, may make it easier to port applications across infrastructures, migration challenges remain.

86% of businesses seek hybrid platforms that offer the ability to easily migrate workloads among different environments.

72% said that migration challenges would restrain them from deploying cloud workloads.

50% are concerned over migration of applications or data.

47% are increasingly concerned about backup and recovery.

In 2010 only 32% were concerned about backup and recovery.

In 2010 just 5% shared this migration concern.

FOR MORE INFORMATION

Want to learn more about data migration? See Solving the Cloud Migration Challenge: Enterprise Pain Point Offers Opportunity for Providers.
HYBRID CHALLENGES: SECURITY

In hybrid environments, security remains a top concern, with 80% of businesses citing it as a challenge. Concerns over compliance assurance are also an issue, cited by 54% of businesses. Providers have automated many security functions through their management platforms, with a goal of applying security policies consistently across every infrastructure within the environment.

- 75% fear a loss of control over their workloads.
- 51% have trouble ensuring that appropriate security profiles are maintained.
- 48% struggle with inflexible or inadequate processes and governance of cloud workloads.

FOR MORE INFORMATION
To learn more about cloud security, see Developments in Cloud Security: Taking on a Full Court Press.
THE LAST WORD

In 2018, businesses recognize that a diverse IT environment, comprised of many types of infrastructures, is the best way to support business flexibility, agility, and speed-to-market. While public cloud offers many benefits, businesses realize it cannot meet every IT need.

HYBRID CLOUDS ENABLE BUSINESSES TO CENTRALIZE MANAGEMENT AND ORCHESTRATION OF WORKLOADS ACROSS A RANGE OF INFRASTRUCTURES.

This allows them to choose the best infrastructure to support each particular workload based on criteria such as performance, cost, security and compliance; while managing all infrastructures within the hybrid environment using a single platform. This allows for cohesive security and governance, as well as visibility into usage and costs across the entire environment.

But, enterprises still struggle with hybrid cloud deployments.

APPLICATION INTEGRATION, SECURITY, AND MIGRATION ARE PAIN POINTS THAT BUSINESSES LOOK TO SOLVE WITH THEIR HYBRID CLOUD PLATFORM.

Providers that address these concerns within their hybrid platforms will be poised for ongoing success as hybrid cloud deployments grow through 2020.

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For more information about the 2018 Frost & Sullivan Cloud User survey, contact your account executive or inquiries@stratecast.com.
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