**THE NEED FOR SCALE AND INNOVATION**

**The pace of innovation is increasing, and businesses of every size are adopting cloud computing technologies to improve agility, lower cost and compete effectively.** Companies are changing they way they think about using technology to drive and scale their businesses— opting to use more virtualized servers, web-based applications and on-demand storage in place of traditional IT infrastructure. In many ways, IT is transitioning to being a “service provider” rather than an IT provider.

**As enterprises continue to modernize their applications and infrastructure, they are expanding their use of subscription-based pricing models in place of more traditional perpetual software license models.** Rather than paying upfront for the use of software or hardware, subscription models allow customers to pay for the software or hardware they use based on the number of users and how long they use the technology. This cloud model extends to both internal private cloud and dev/test environments, as well as third-party public cloud IaaS and SaaS resources.

**HYBRID CLOUD: TOUGH TO DO WELL**

Gartner estimates that the percentage of business users using office system capabilities from the cloud will grow from 15% in 2015 to 60% in 2020. **The reality is that businesses will implement a hybrid cloud approach whereby they use cloud technologies like virtualization software, software defined networking (SDN) across both public and managed private cloud environments.**

**Managing and maintaining a hybrid cloud environment is difficult.** While SaaS and IaaS platforms are easy to use, enabling those same orchestration, billing and management features across private infrastructure in a way that is seamless is difficult. Careful consideration needs to be given across development, testing and QA, production hosting and security and compliance.

**Development**

Developing new features and fixing bugs is a constant race, especially if you are transitioning to be more like a cloud service provider. Cloud service providers continuously innovate with new features that automate the orchestration, networking and security of CPU, memory and storage infrastructure.

**Because of the software-driven nature of cloud providers, IT and Development and Operations (DevOps) teams must focus on constantly improving processes, systems and infrastructure to enable faster development.** Using application lifecycle management techniques as well as agile development and SCRUM, developers and operations engineers work together to optimize delivery.

**Testing and Quality Assurance**

**New features and bug fixes must be tested on every relevant platform. This oftentimes requires testing across a variety of combinations of hardware and operating systems (OS) and versions of code**. Making changes to code and upgrading and patching hardware and software must be tested before being rolled out into a production environment.

**Having convenient access to these physical environments is important to the ops team at any cloud provider to enable testing and QA**. Additionally, having a flexible test environment that can scale with load testing or new and temporary initiatives is critical to quality assurance and maintaining a fast pace of innovation. Being able to quickly respond to the needs of the business or operational issues impacts uptime, performance, user experience and revenue.

**Production Hosting**

The production hosting environment is oftentimes separate from the development and testing/QA environments. **The production systems must be up 24 hours a day, every day of the year**. These systems must also scale to the demands of subscribers. Application uptime and performance depend on a variety of factors, including:

* System and application architecture
* Hardware reliability
* Power availability
* Scalability

**Security and Compliance**

Serving enterprise customers requires that a cloud service provider maintain high security of their systems and applications. Customers in highly regulated markets may require a higher level of security based on industry-specific compliance requirements.

**PCI DSS**

The Payment Card Industry Data Security Standard (PCI DSS) is a proprietary information security standard for organizations that handle credit card information. The PCI standard was created to increase controls around cardholder data to reduce credit card fraud. PCI certification is critical for web-based businesses to safely process online payments in business-to-consumer and business-to-business.

**HIPAA**

The Health Insurance Portability and Accountability Act (HIPAA) addresses the security and privacy of health-related data. The Privacy and Security Rules of HIPAA work together to protect all paper and Properties electronic Protected Health Information (ePHI).

Since data centers typically store, transmit or process ePHI, they must comply with HITECH Breach standards to meet HIPAA compliance.

**SSAE 16**

The Statement on Standards of Attestation Engagements No. 16 (SSAE 16) audit measures the controls relevant to financial reporting. A service provider that is SSAE 16 compliant is showing that they have been through a thorough audit examination and that control objectives and control activities— which typically include controls over information technology and corresponding processes—as well as safeguards, have all been demonstrated to be adequate and effective.

**EDGE DATA CENTER APPROACH**

Edge data centers offer a way for businesses to colocate critical development, testing and production systems in close proximity to the systems and administrators and DevOps teams responsible for management and maintenance. The facilities offer redundant power and cooling as well as data center connectivity to regional and national carriers.

Highly connected colocation facilities in both tier 1 and tier 2 cities offer an easy way for businesses to gain control of their IT environment while improving uptime and performance and lowering cost across the software development lifecycle.

The benefits of edge data centers include faster development, scalable testing and QA, improved uptime and improved security and compliance.

**Faster Development**

Edge data centers enable faster innovation by enabling businesses to colocate their core development and backup systems in a secure and reliable data center. 365’s 10 U.S. data centers are conveniently located in in easyto-access downtown areas in tier 1 and tier 2 cities. DevOps engineers and infrastructure managers can easily reach our facilities or use our Remote Hands services to quickly respond to operational requirements.

**Improve Uptime**

Edge data centers include N+1 UPS, onsite backup power generators and automatic transfer switches. 365 has maintained 100% uptime since its founding by using a combination of sophisticated systems, state-of-the art infrastructure, processes and experienced technicians. Some of the largest cloud, content and carriers in the world rely on 365 Data Centers.

**Scalable Testing and QA**

Edge data centers offer flexible colocation options that include custom cages, standard cabinets and compact cabinets. 365 is able to structure solutions that allow expandability of space based on the needs for hosting development and testing servers as well as expandable space for growth or temporary projects. Our data centers are easy to access and managed by seasoned technicians.

**Improve Security and Compliance**

All of an edge data center’s facilities should be certified to the highest industry standards and compliance requirements. 365 maintains certificatios with HIPAA, PCI DSS, SSAE 16, SOC 2 and ISAE 3402.

**SUMMARY**

Maintaining the pace of innovation required to compete in today’s market is difficult. Adopting cloud services and cloud computing technologies is not enough. To realize the full benefits of the cloud, businesses must be able to access and manage their infrastructure to speed development, testing and QA to enable changes to applications that drive value.

Edge data centers provide enterprise-class colocation services, access to carriers and the security and compliance required to ensure uptime and security. Furthermore, edge data centers are located in both tier 1 and tier 2 cities making them easily accessible by IT and DevOps teams.

**ABOUT 365 DATA CENTERS**

365 Data Centers is the leading data center solutions provider for enterprise, content and cloud providers, as well as carriers in tier 2 markets. We operate 10 U.S. data centers and help cloud service providers to speed development, improve uptime, reduce data center costs and improve security and compliance.

**For more information,**[**visit 365datacenters.com**](https://web.archive.org/web/20210413103929/https%3A/www.365datacenters.com/)