

SOLUTION WHITE PAPER:

THE VALUE OF CONNECTED DATA CENTERS IN SOUTHEAST EDGE MARKETS



DC BLOX

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CORE INFRASTRUCTURE FOR EDGE MARKETS

Overview

Colocation data centers have served an important role historically in housing IT infrastructure where company-owned facilities are not available, not reliable, too costly or do not have enough capacity. However, today's network-enabled data centers provide much greater value than simply space, power, and Internet, especially in edge cities. IT infrastructure is becoming increasingly distributed driving the need for resilient, flexible, high-performance networks to connect to the providers, platforms and partners that make up your business's evolving IT ecosystem. It is time to stop trying to bring the network to your IT infrastructure, take your infrastructure to the network!

The new connected data center is core infrastructure that can help your business to break away from the legacy systems that are holding you

back, provide the agility needed to rapidly deploy new services, and enable a new set of capabilities that help you achieve your digital transformation goals. For businesses in growing Southeastern markets like Birmingham AL, Chattanooga TN, Huntsville AL, and Greenville SC, DC BLOX is your data's on-ramp to reach any global destination.

DC BLOX's Southeastern regional data centers, private network and connectivity partner ecosystem provide the core infrastructure that can meet a myriad of business needs. A few of the most popular uses of DC BLOX's connected data centers include Hybrid IT, Disaster Recovery, and Local Large-Scale Data Storage.

Hybrid IT

Challenges

On-demand resources, infinite scalability, and capital avoidance are driving more workloads to the cloud. But there are good reasons why the cloud is not effective for all applications including:

- ▲ Application conversion time and cost
- ▲ Security and privacy concerns
- ▲ Cost management and containment
- ▲ Application performance
- ▲ Compliance requirements

According to a 451 Research survey in 2019 entitled “Voice of the Enterprise: Cloud, Hosting and Managed Services, Workloads and Projects,” 58 percent of respondents have, or plan to implement, a hybrid cloud environment, far outpacing the alternatives. What is more interesting is that businesses expect these environments to be integrated. In other words, they need to be connected to share processing loads and data.

Due to the costs and complexity of getting a private network connection to their preferred

public cloud provider, many businesses have settled for a public Internet connection. Most organizations find that an unacceptable long-term solution. Security and performance requirements will only increase as more critical applications move to the cloud. In addition, the expectation that different applications warrant the benefits of different public cloud providers creates an additional layer of complexity.

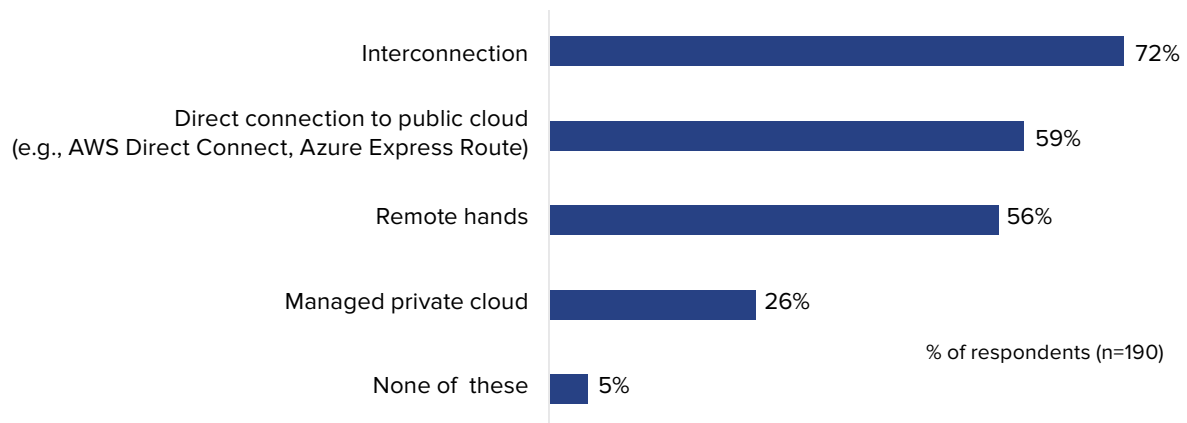
Solution

By placing private cloud or legacy IT infrastructure in a DC BLOX data center, you immediately gain the ability to connect to the cloud providers of your choice, including Amazon Web Services, Microsoft Azure, Oracle Cloud, Google Cloud and more. Virtual cross connects are software provisioned and even multi-cloud environments can be established on demand.

With a private connection to DC BLOX’s private network, it may also be possible to connect infrastructure on your business’s premises to public cloud providers.

Important services for colocation provider to offer

Rents space in colocation center(s)



Source: 451 Research's Voice of the Enterprise: Datacenters, Annual Survey 2019

Business Continuity and Disaster Recovery

Challenges

Company applications, data and IT infrastructure are essential to running today's business. However, many organizations are not properly prepared to keep critical systems operational during unforeseen events, risking significant business losses. A major reason for the gap is the cost and complexity of designing and implementing business continuity or disaster recovery plans. The plan may require power redundancy in case of utility power loss, secondary data center locations to house redundant systems, off-site data storage to protect critical company data, public cloud environments to spin up backup applications, and network connections to ensure the data is feeding each redundant system.

It is often not practical for a company to own all the infrastructure needed to build these solutions, so a local data center provider with robust connectivity can be a critical partner.

Solution

There are many ways to protect data from loss and to keep systems running in the event of an unplanned outage or disastrous event. DC BLOX provides infrastructure building blocks that can be used to create a variety of business continuity and disaster recovery solutions. Following are a few examples.

Redundant Power

No matter what redundant or high-availability solution you design with your IT systems, if the building it is housed in does not have reliable power, the system is vulnerable. DC BLOX data centers are designed to Uptime Institute's Tier III standard. A Tier III data center is designed to be "concurrently maintainable." That means, in addition to utility power, there is at least one

back-up power source available to each piece of equipment in each cabinet, typically with a UPS and diesel generator. If utility power is lost, then you have peace of mind in knowing that an alternative power source is available.

Data Backup and Recovery

A basic form of disaster recovery is ensuring that data is stored in an off-site location in the event of data loss. These days there are numerous causes for data loss including fire, flood, theft, system outages, ransomware and so many more.

Backup and Recovery systems are generally a good approach, but if the backup data is stored at the same location on the same network as the primary copy, then there are still risks of loss. Many businesses have moved away from archaic tape backup systems to leverage the public cloud to save their important data off-premises. However, there are compliance issues regarding where the data resides, and security concerns about how that data is protected. Finally, private connections to public cloud providers can be costly and complex, so many businesses have no choice but to trust the public Internet to transport their valuable data.

DC BLOX Cloud Storage provides an effective means to save critical company data off-site in a secure regional data center. It is large-scale object storage platform that supports the popular AWS S3 and Swift APIs and allows data replication across all DC BLOX data centers over DC BLOX's private network.

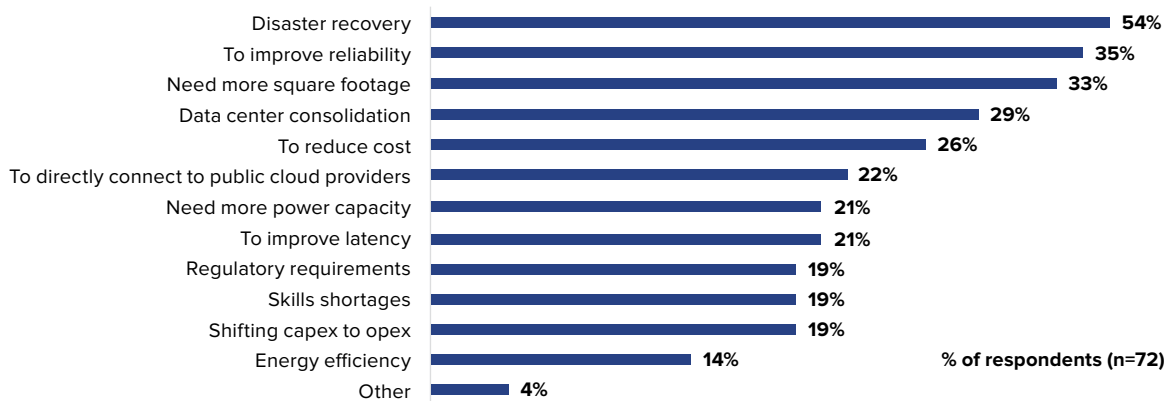
In addition, the ability to establish a private connection between your business premises and one or more local DC BLOX data centers enables the optimal balance of performance, cost, and security.

Dual Data Center Deployments

To provide a more robust disaster recovery solution, businesses can deploy primary systems in a company-owned facility with a secondary system located in a DC BLOX data center. A private network connection can typically be set up between the company's data center or server room and the secondary DC BLOX data center to transfer data synchronously or asynchronously to the secondary site for potential failover.

Alternatively, a company can deploy the primary system in one DC BLOX data center, with a secondary configuration in another DC BLOX data center. DC BLOX's private network between all data centers serve as the transport for data between systems. DC BLOX offers a 5ms latency SLA guarantee from any two points on its network enabling a VLAN to be stretched across data center locations for a true continuously available solution.

Colocation Priorities



Source: 451 Research, Voice of the Enterprise: Datacenters, Annual Survey 2019



Local Large-Scale Data Storage

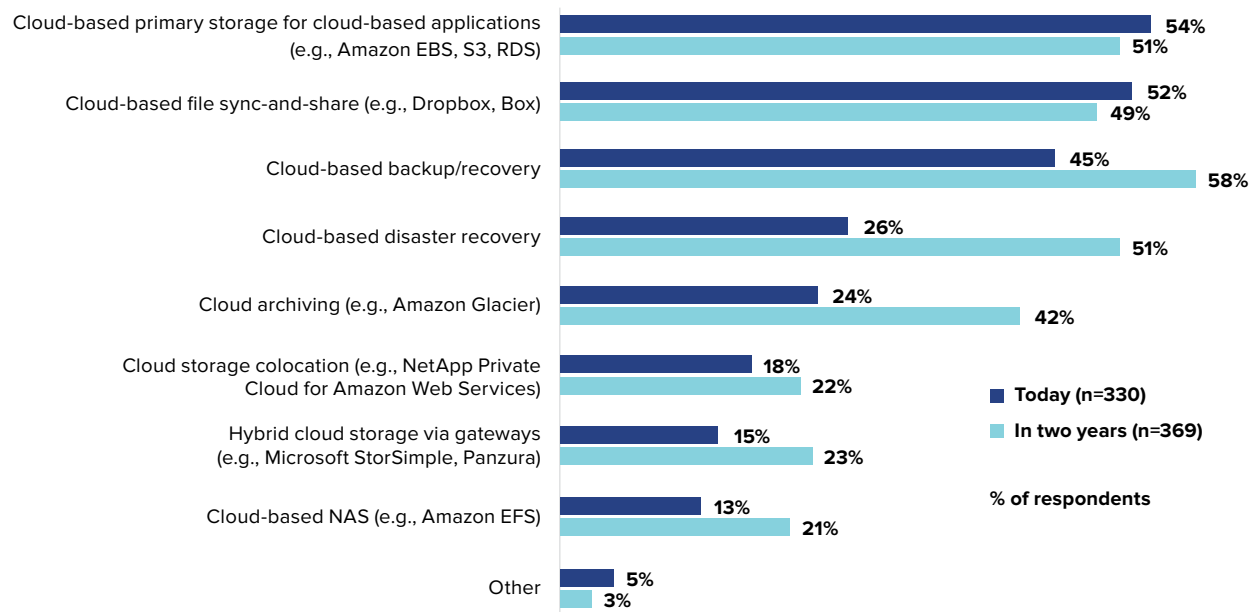
Challenges

With the exponential growth of data and its increasing value to businesses, IT organizations are rethinking their storage strategies to determine the most efficient and effective approaches. Data is generated by applications, aggregated into databases or data lakes, analyzed and manipulated, retrieved by various users, and backed up for safety.

However, for companies generating petabytes of data, it gets more costly to store and harder to move. Data gravity implies that you will need the storage infrastructure to be nearby the applications, users, and analytics engines and it needs to efficiently scale. For businesses in the Southeast, moving data to a public cloud region in Virginia or Dallas is just too far away.

Public cloud storage services in use today and in two years

Respondents with public cloud in use, in pilot/proof-of-concept, or planned use within next 24 months



Source: 451 Research's Voice of the Enterprise: Storage, Organizational Dynamics 2019

Solution

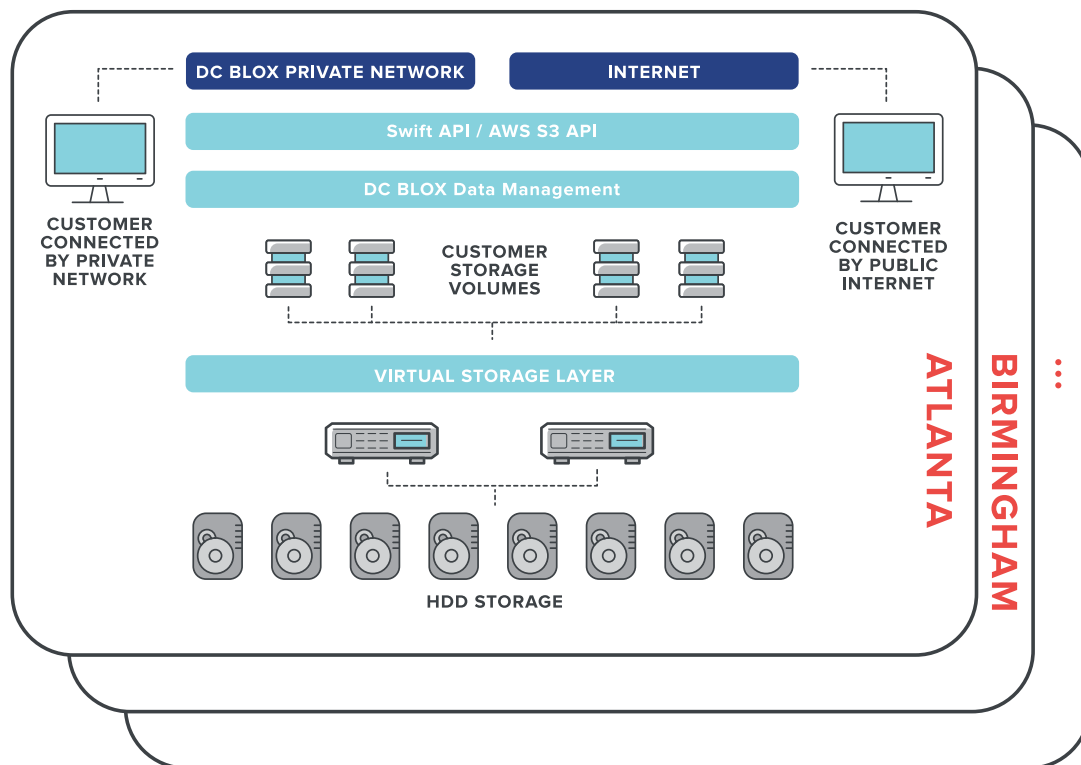
DC BLOX Cloud Storage is a large-scale object storage and data management platform regionally located in the Southeast. The platform enables seamless access to data across private infrastructure, DC BLOX data centers, and the public cloud. Each DC BLOX data center includes an instance of the object storage platform.

The DC BLOX Cloud Storage Solution components include DC BLOX Object Storage, DC BLOX Data Management and DC BLOX Connectivity Services. DC BLOX Object Storage is a petabyte-scale platform that is accessed by standard AWS S3 and Swift APIs.

DC BLOX Data Management provides a single common namespace simplifying data access across a variety of storage platforms from premises-based systems to the cloud. Data placement and lifecycle management policies enable automated data movement across storage systems.

DC BLOX Connectivity Services supports public and private connections to DC BLOX Cloud Storage. Its diverse, high-speed, low-latency paths between DC BLOX Data Centers enable data replication across locations. Public cloud provider access is also supported for a true hybrid storage solution across business premises, DC BLOX data centers and public cloud.

DC BLOX Cloud Storage Platform



Network Connectivity is the Key

All the use cases previously described are powered by the secure, high-speed, low-latency, private network that is the foundation for DC BLOX Connectivity Services. DC BLOX Connectivity Services facilitate local last-mile private access to DC BLOX data centers (options vary by location), regional transit services across the Southeast, private connections to public cloud providers, and global connectivity through built-in carriers and regional Internet Exchanges.

It's one thing to be a part of a well-connected network ecosystem that provides so many connectivity options. It's something else for that connectivity to be provisioned on-demand. DC BLOX's software-define network enables provisioning of dedicated Internet access, Ethernet private lines, virtual cross-connects to public cloud and more, in minutes or hours, rather than days, weeks or even months.

Last-Mile Private Access

Point-to-point private connections

The simplest solution, if available, is to order an Ethernet Private Line from your local carrier from your business location to a point on the DC BLOX network. DC BLOX strives to interconnect with all local communications providers in our markets. Once on the network, data can be moved to any of our regional data centers, the DC BLOX Cloud Storage platform, through built-in carrier networks, and to Internet Exchanges.

Metro Fiber Network Access

DC BLOX operates metro fiber networks in some of our markets that can enable resilient, low-latency, high-capacity, last-mile access from many business locations to the DC BLOX Southeast regional

network. Imagine the opportunity to leverage up to 100Gbps capacity to facilitate connectivity to multiple public cloud providers, a massive distributed object storage platform, or synchronous redundant infrastructure for business continuity.

Regional Connectivity

The DC BLOX Southeast regional network interconnects all the DC BLOX data centers, carriers who are built-in to the data centers, local access providers, cloud storage instances, Internet Exchanges, public cloud providers, and more. The DC BLOX private network, along with local access partners, enable many of the use cases that add significant incremental value to core colocation services.

Connecting Globally

Many businesses have the need to distribute data beyond their local region to national or International endpoints. DC BLOX provides Cross Connects to connect local IT infrastructure to carriers within the same DC BLOX data centers. Virtual Cross Connects are also supplied (at the same cost as a local cross connect) giving access to any carrier in the DC BLOX data center footprint, enabling a broad set of communications services nationally or globally.

DC BLOX also supports connectivity to the Digital Realty Internet Exchange at 56 Marietta in Atlanta Georgia, the Montgomery Internet Exchange in Montgomery Alabama, and more to come. These Internet Exchanges enable connections to a multitude of carriers, transit providers and service providers to meet the broadest connectivity requirements.



DC BLOX NETWORK MAP

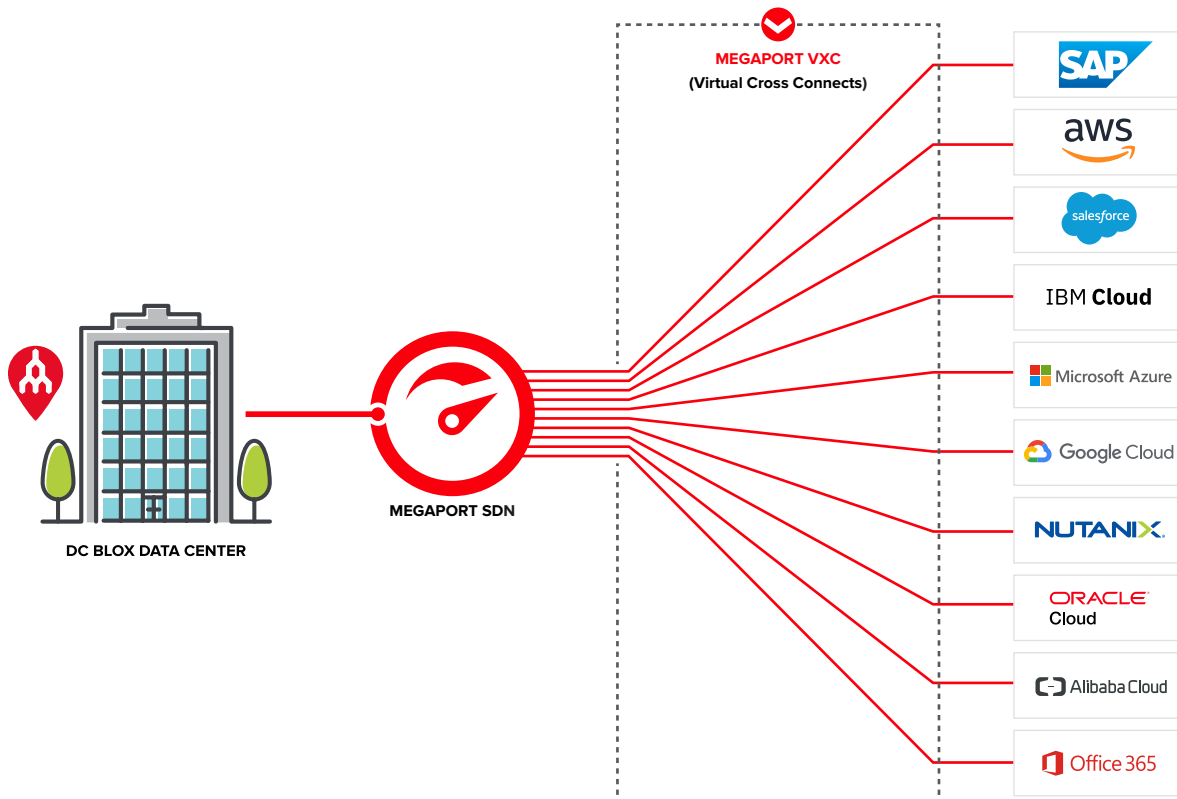


Private Connections to Public Cloud

The DC BLOX Cloud Ramp service enables virtual private connections from every DC BLOX data center to all major public cloud providers. This connectivity service enables hybrid IT and multi-cloud environments while avoiding the performance and security risks of public Internet connections. Single Virtual Cross Connects (VXCs) or redundant VXCs can be deployed for cost and reliability considerations.



Private Connections to Public Cloud





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