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THE MULTI-TENANT
DATA CENTER
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Multi-tenant data centers are key to managing data without breaking the bank

A facility that's future-ready will offer scalability, flexibility, modularity, and stringent service-level agreements.

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With an increased demand on data centers caused by the massive expansion of the Internet of Things (IoT) and its associated technology requirements, many infrastructures need upgrading in order to keep up. With 20.4 billion connected things expected to be in use worldwide by 2020, the amount of data captured, processed, and stored in the future will be exponential. The costs and resources involved in building a data center—as well as storing and managing that data—are immense. Additionally, keeping a data center fully optimized while eliminating latency, reducing downtime, and maintaining compliance with ever-evolving standards is quite a challenge.

What can your business do to capture immense amounts of data and meet demand for real-time access—all while keeping costs down? What could be an effective data center strategy for your business? For many organizations, the answer lies in the multi-tenant data center.

What is a multi-tenant data center?

A multi-tenant data center (MTDC), also known as a colocation data center, is a facility where organizations can rent space to host their data. MTDCs provide the space and networking equipment to connect an organization to service providers at a minimal cost. Businesses can rent to meet varying needs—from a server rack to

A multi-tenant data center, also known as a colocation data center, is a facility in which organizations can rent space to host their data. Businesses can rent to meet varying needs, from a server rack to a complete purpose-built module.

a complete purpose-built module. The scalability of usage provides the business benefits of a data center without the high price.

Should I outsource my data center operations?

The advantages of outsourcing data operations come down to three key factors: 1) cost, 2) uptime, and 3) security.

You can expect to see drastic improvement to your IT team's capacity and ability to support the business when you begin to outsource your data center operations. Any IT team managing its own data center must constantly be focused on maintaining, upgrading, and ensuring the data center is working at an optimum level at all times. There must also be the capability to expedite work when demand spikes, along with addressing downtime and data loss.

The costs involved with keeping your data center onsite extends to the wider business: building and maintaining data storage in-house, maintaining power, making repairs, ensuring security, and the physical footprint of the data center impact the business beyond these factors alone. This constant focus of managing the data center results in a lack of IT resources dedicated to business strategy. By outsourcing to an MTDC facility, your business will be able to redeploy capital and resources into critical business initiatives for growth.

What are the challenges and benefits involved?

Reliability is critical. The key challenge is to ensure that the MTDC will allow you to access data quickly and at a moment's notice—it is no easy task to deliver seamless bandwidth capacity for every provision.

Examples of overcoming this challenge can be found across the globe. For example, Pier DC is a Tier III certified

MTDC in Western Australia. Tier III certification requires 100-percent uptime and multiple distribution paths to allow for no downtime for maintenance, repair, or replacement of equipment. To meet this, Pier DC deployed an all-optical-fiber cabling infrastructure. The high-density preterminated optical solution supports integrated control systems as well as passive optical cabling for customer crossconnects. This enabled Pier DC to provide their customers with the assurance that they will have access to their entrusted data and services at all times, regardless of demand spikes, capacity requirements, and moves, adds, and changes (MACs) that occur during the lifetime of any data center.

Multi-tenant data centers are focused on enabling rapid connections for their customers and providing offerings to meet a range of business, enterprise, and cloud needs.

A major benefit that makes the investment worthwhile is the longevity of data centers. More and more organizations are looking to outsource their data storage and services. In fact, spend on outsourcing to MTDCs is expected to double by 2022, increasing the current amount of $31.5 billion to $60 billion. As data continues to explode, it continues to be imperative that every data center meets future capacity requirements—and fast.

For many businesses, outsourcing to an MTDC facility is important for even more specific reasons.

- Accessing rapid deployment for low- and high-density applications
- Leveraging the assurance of stringent service-level agreements (SLAs)

- Scaling quickly to meet higher-speed technologies and applications
- Sourcing maximum flexibility to assure future-readiness
- Reducing total cost of ownership (TCO)

MTDCs are focused on enabling rapid connections for their customers and providing offerings to meet a range of business, enterprise, and cloud needs. Because of this focus, operators typically undertake a hardware and technology refresh at least every three years. This refresh, combined with the anticipated 10-year lifespan of a data center, is a major business saver in capital expenditure, time, and resources.

Key considerations when looking for an MTDC

One of the most important factors when it comes to looking for an MTDC is locality. Your business should be close to your facility, because reducing latency and increasing bandwidth are two of the biggest challenges associated with outsourcing. For example, if businesses outsource to MTDCs in another country, connection speeds drop and cause unnecessary latency, which ultimately can cause customer frustration and loss of business.

From an infrastructure perspective, scalability is key. Scalability within the data center will support simple migration to higher-speed technologies and applications—a vital factor for meeting future bandwidth and transmission speeds that the customer demands. As data continues to generate and technological advancements continue to increase, the need for your organization to meet customer demands for zero latency and real-time access to data will as well.

An MTDC facility also provides a range of services and telecommunication carrier options. For example, if your

organization delivers services that require high speeds, you can look to outsource just that part of your business. Alternatively, if you solely need storage, then another MTDC facility might better suit your needs. As most businesses have a range of needs that more than one facility can address, it is important not to restrict your business to choosing one facility when the best solution might involve multiple.

Finally, network and physical security are important factors in choosing an MTDC facility. If your data is outsourced, you will want to be certain it is protected from inappropriate access. For example, facilities with layered security zones would only allow authorized personnel to access certain network areas and physical barriers, like fencing and locks. You'll also want to identify included monitoring systems—such as CCTV or other systems that detect emergencies like fires or flooding. Background on security and monitoring will provide insight into how the MTDC facility will protect your data and support client security. Knowing the importance of these factors, it is common for MTDCs to address security as a business imperative.

You should also consider additional services when choosing an MTDC facility. In addition to the typical hardware and software services, many MTDC providers offer an extensive range of consultative services to ensure the organization complies with mandatory regulations and/or other industry requirements. Even when the customer is educated on and aware of these requirements, the MTDC provider may have dedicated teams of regional, national, and international regulatory compliance personnel whose sole aim is to keep abreast of the latest developments. One example of this service being especially beneficial to customers is when managing personal data.

For business operators both big and small, taking advantage of the capabilities of massive data is no easy task. Migrating computing needs to an MTDC takes the pain out of data management and reduces operational expenditure. A future-ready MTDC should offer scalability, flexibility, modularity, and stringent SLAs to assure maximum uptime, client peace of mind, and rapid deployments to high-density applications when you need it—fast. ◆

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