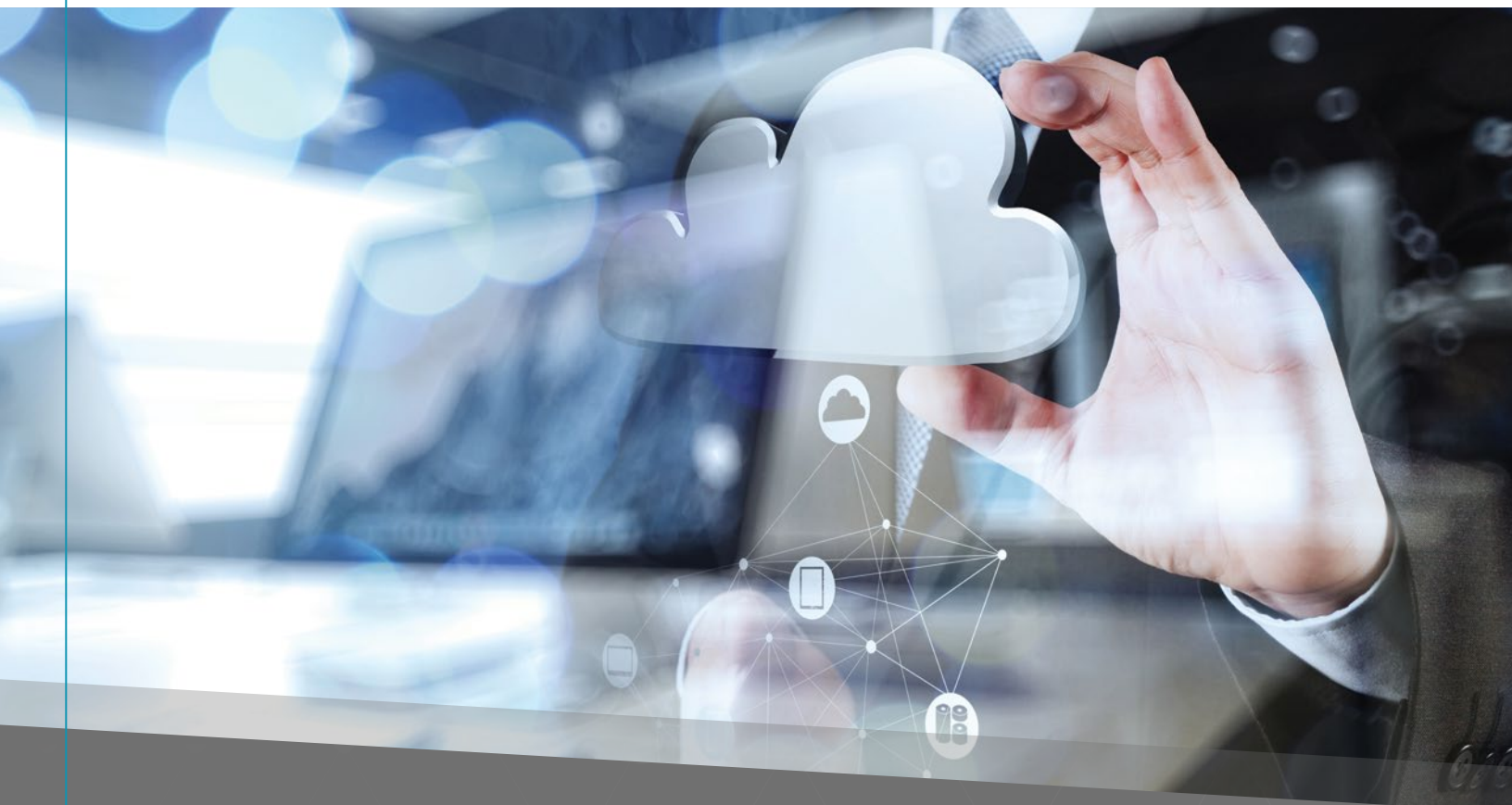
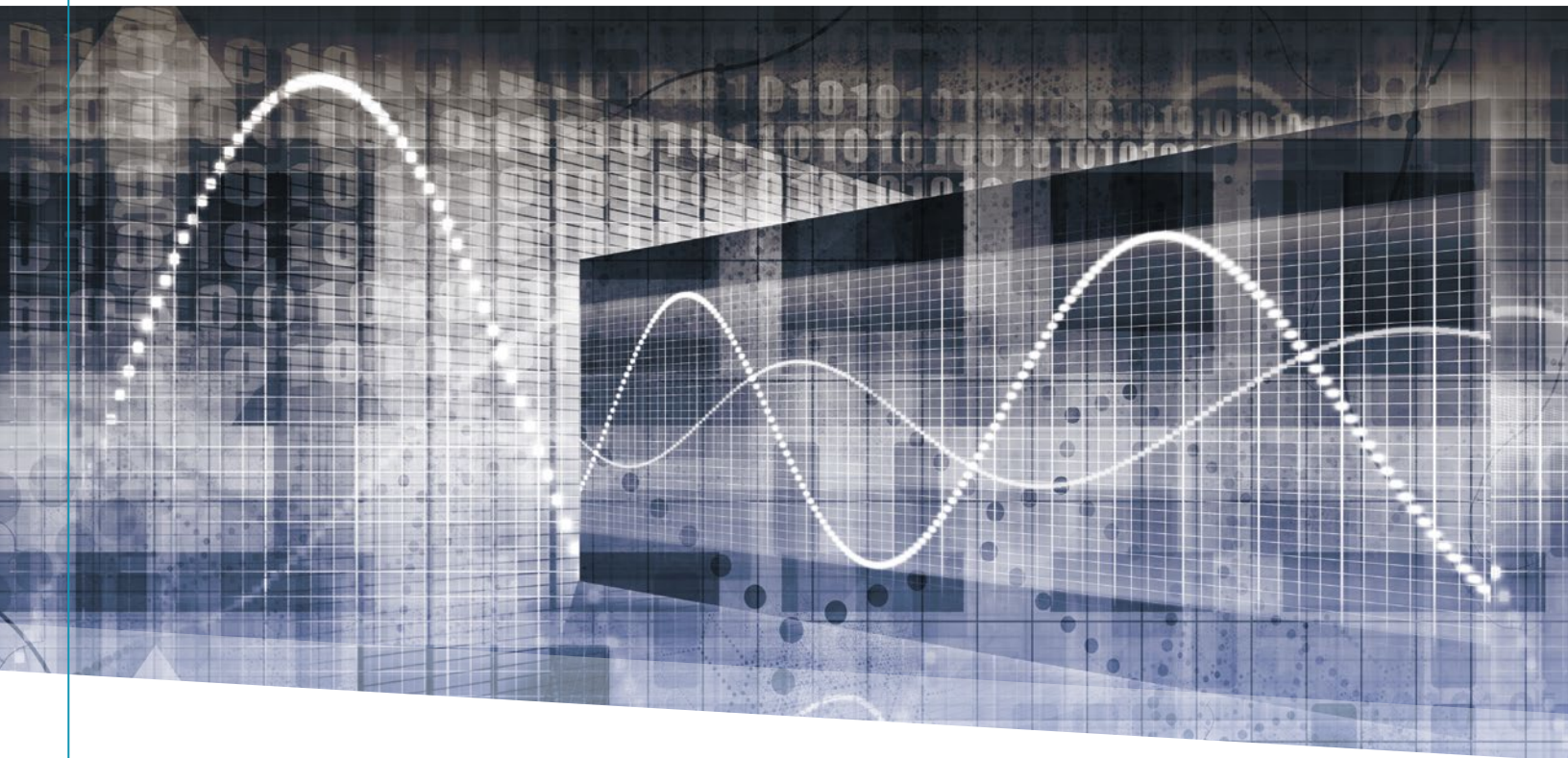

Optimize Infrastructure For Hybrid Data Center Strategies

Gaining Maximum Value From
Both Hosted And On-Premises
Data Centers Requires A Sharp
Focus On Physical Infrastructure



Information Technology (IT) has never been more strategic to businesses of all kinds. The cloud, big data, social media and mobile technologies are creating new opportunities to serve customers, enable workforce collaboration, and keep costs under control. IT's high strategic profile, thanks to these new business initiatives, is placing new pressures on servers, storage, and networks – as well as the data center infrastructure on which they rely.

IT executives must respond in several ways. This white paper, the second in a series of three, addresses the use of both on-premises and hosted data centers.



Change happens quickly in business today. Opportunities develop suddenly and just as quickly they are gone. Companies must respond by rapidly launching new business initiatives and marshaling IT infrastructure to support them. Many IT and business leaders have learned a simple lesson: To compete successfully, there's no substitute for agility.

To capitalize on unexpected opportunities and serve customers with agility, businesses must quickly launch systems of engagement such as websites and mobile applications. At the same time, businesses must keep core IT systems such as inventory and customer databases, also known as systems of record, up and running with greater efficiency than ever in the face of tight budgets.

Hosted Data Centers Enable Agility

Many organizations are pursuing an agile approach to business and IT that encompasses not only a company's on-premises data center but also hosted IT facilities such as those of a colocation service. Using a colocation enables a company to choose the optimal space to run an application, typically on-premises for a system of record and at the colocation facility for a system of engagement.

Because a system of engagement benefits from the ability to add resources quickly as customer needs change, a colocation is an excellent choice. At a hosted facility, additional server and storage resources can be quickly added or subtracted on a pay-as-you-go basis. There are a number of additional benefits to be gained by using colocations:



Space reduction. Reducing the space needed in the on-premises data center for IT equipment enables IT operations to run lean, an important requirement for systems of record.



Real estate cost avoidance. A hosted facility can eliminate the costs – potentially millions of dollars – of building or adding on to a data center.



Staff savings. Using a hosted facility means less on-premises IT equipment is needed, therefore there is less need to recruit, train, and compensate skilled experts to manage it.



Distributing accountability. A service level agreement (SLA) with a hosting provider means sharing responsibility between the IT organization and the colocation.



Technology innovation. Because colocations often implement new technology on a more rapid schedule than businesses, businesses gain the benefits of the latest advances while avoiding IT lifecycle expenses. They are also freed to focus on their core business.

Hybrid Data Center Best Practices

When a company signs a contract with a colocation, the success of the initiative depends on the ability of the company's IT leaders to retain a firm grip on the colocation's contractual responsibilities as well as data center performance and physical infrastructure.

“When companies take the colocation journey, they may focus on the shiny object – virtual servers and applications – and overlook the infrastructure, including cabinets, electrical power, network cabling, thermal risk management and containment systems,” says Tom Kelly, business development director, Panduit. Kelly asserts that all aspects of physical infrastructure are just as important at the remote facility as they are in an on-premises data center.

It's also important to remember that when a colocation is used, there is no reduction in ultimate responsibility on the part of the IT executive. Uptime is just as important at a remote facility as it is in an on-premises facility, because a company's reputation will suffer equally from downtime, regardless of where it occurs. If the colocation facility is hosting systems of engagement, downtime or poor response time might alienate current and potential customers – a result that could be particularly damaging. Another important consideration is your own professional success.

Planning for Hybrid Infrastructure

When implementing a hybrid data center strategy, it is important to implement physical data center infrastructure of the highest caliber in both the on-premises as well as the hosted facility. The solutions should be geared to deliver maximum data center efficiency regardless of location, and should include:

- 1 Advisory and design services.** There are many issues to consider in a hybrid strategy, ranging from correct duct and conduit location to the lease and warranty status of equipment. Specialists with experience in what works best can deliver valuable assistance in all phases of the hybrid initiative.
- 2 Converged infrastructure.** The solution should be part of a full line of data center infrastructure equipment so there is no need to deal with multiple suppliers, to purchase standard aftermarket equipment, or to mix and match infrastructure components, which could lead to compatibility issues.
- 3 Strategic alliances.** Working closely with leading IT equipment providers such as Cisco, VCE, Dell/EMC, and many others. Panduit provides a wide range of intelligence, server, storage, and networking systems. This enables Panduit to engineer infrastructure solutions to maximize the efficiency and performance of each piece of equipment.
- 4 The right fit.** Equipment should be designed to work together so it can be deployed without delay and enable businesses to meet their agility goals. Prompt deployment also avoids wasted rental fees due to lags in uptime.
- 5 Intelligent monitoring solutions.** A full-featured intelligence solution gives managers complete visibility of both the on-premises as well as the remote facility, encompassing electrical power, space utilization, thermal risk management, asset tracking, and cabling.

The colocation may provide a lot or a little infrastructure, ranging from a complete managed service to a minimalist approach. Some arrangements are tailored to the unique requirements of each customer, notes Kelly. “The provider may acquire the infrastructure of a customer, then run and manage it in the hosted facility. However, a company with lots of data center experience may just ask for electrical power and install its own standard infrastructure for things like cabinets and cabling,” he explains.

It is the IT leader’s job to pay close attention to the physical infrastructure – whether provided by the company or the colocation. It is a task that can be greatly assisted by the right tools. A full-featured data center intelligent monitoring solution will go far toward enabling a successful engagement with the hosting provider by helping to manage:



Electrical power. Since the hosting provider will typically pass along electrical power to the customer, it is smart to minimize power use to keep electrical costs as low as possible. A complete monitoring system will give visibility into whether power is being used economically or not.



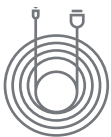
Space. The space used within the hosting provider’s facility should also be conserved, since rent typically depends on the amount of space occupied. If expansion is desired, it will be easier to accomplish if space is already being used efficiently. A robust monitoring system presents an accurate map of the data center and the equipment within it.



Thermal risk management. Although a colocation may provide ambient temperature readings, it may not supply readings for individual pieces of equipment. Hot spots and the equipment failures they cause may remain the customer’s responsibility. A full-featured monitoring system will provide complete thermal information to help avert problems before they occur.



Assets. Intelligent monitoring systems track IT equipment and provide information on relevant attributes. This ensures the business knows what equipment is at the hosted facility, including lease and warranty status.



Cabling. When data center servers, storage equipment, and networking devices are changed or moved, cabling adjustments must be made. Monitoring systems will provide information as to where in the hosted environment connections are located and alert an administrator to where a port might need to be programmed to receive a connection. The system can provide the information needed for administrators to instruct a remote worker where to patch. This is an excellent way to avoid human error, which is the source of most downtime.



Physical security. In a hosted facility, the ability to prevent unauthorized access to IT assets – as well as to permit access by authorized administrators – is critical. Cabinet doors should have locks that can be operated locally or remotely. A monitoring system should document each time a cabinet is accessed and should trigger alarms for unauthorized access. A security camera to monitor the assets is also desirable.



Compliance. Responsibility for regulatory compliance continues even when IT equipment and the data they contain are housed at a remote facility. Those assets may be audited for compliance with security standards such as Health Insurance Portability and Accountability Act (HIPAA) for health care providers and Payment Card Industry Data Security Standard (PCI DSS) for retail and financial services companies.



By providing visibility into the data center infrastructure at the remote facility and into the on-premises data center with architectural diagrams heat maps, a full-featured monitoring system gives you the ability to manage a hybrid IT environment efficiently and consistently.

Conclusion

Because opportunities appear and disappear quickly, businesses must be agile. An effective strategy to enable business agility, particularly for systems of engagement, is to augment an on-premises data center with the remote facilities of a colocation. In this way, computing, storage, and network capacity can be added quickly to meet opportunities as they emerge.

Although the hosted data center may be out of sight, it should never be out of mind. IT leaders remain accountable for IT service levels, regardless of the location of the data center. There are many factors that contribute to high service levels. Not to be overlooked is physical infrastructure, which is as important in a colocation facility as it is in an on-premises data center.

A proper regard for data center physical infrastructure means demanding high-quality equipment both on-premises and at the remote facility. With this approach, organizations can gain maximum efficiency and consistency. In addition, a full-featured monitoring solution gives IT leaders integrated visibility and control over both on-premises and remote data centers. Combined with automation, such a monitoring solution helps maximize efficiency at both local and remote data centers.

The result: A business is able to achieve its mission with greater agility and at lower cost, thus reaping the full benefits of a hybrid data center strategy.

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