



INNOVATE FASTER COMPETING FOR THE IT WORKLOAD BUSINESS

Hosted Cloud, Managed Service Providers &
Colocation Data Centers

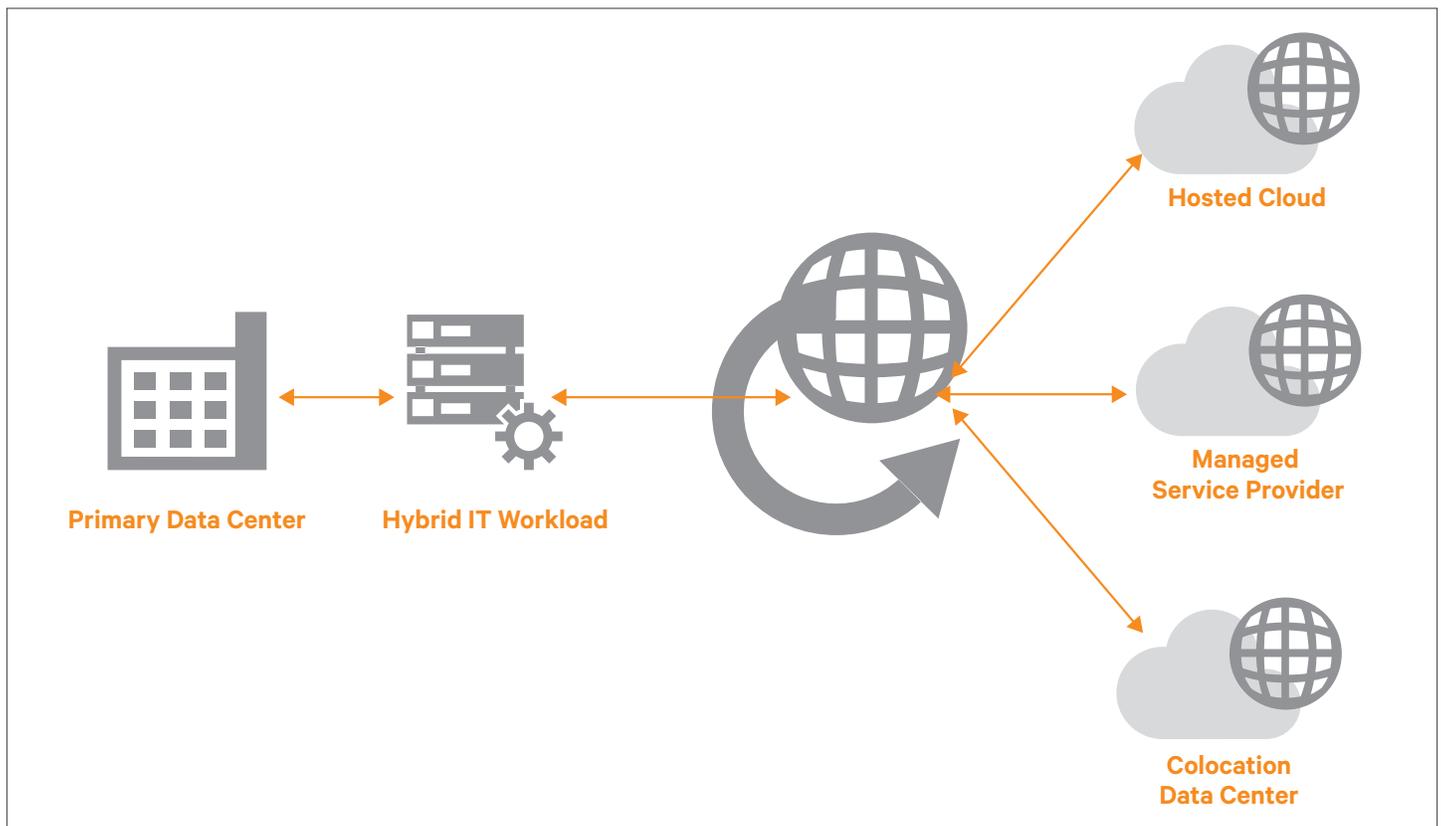
New Opportunity, New Challenges

Data center integration is making it possible for Hybrid IT Workloads to deliver business outcomes – and providers increasingly are taking note. Whether hosted cloud, managed service providers or colocation data centers, IT as a Service (ITaaS) providers are shifting burden away from the primary data center onto Hybrid IT Workload solutions to deliver their unique services and value propositions. Their ability to align and integrate with the primary data center enables service-delivered IT workloads as valued business outcomes.

Hybrid IT Workload enablement comes from the synergy of technology and the provider's business model. Leveraging cloud technology components such as advanced security, virtualized machines/networks, low latency partner/ tenant networks and open source technologies; helps achieve flexible and standardized workload management. Hybrid IT Workload enablement arises from the provider's respective category and business model to accelerate tenant provisioning, improve service level, lower risk and flexibly respond to market opportunity.

As Hybrid IT Workloads take on increasing burden, the complexity and physical limitations of their respective data center ecosystem can produce new operational challenges. These challenges impact the tenant experience and the provider's ROI and bottom line. The operational challenges of the dynamic data center ecosystem can include:

- Provisioning of critical components to optimize capacity (space, power, cooling), scheduled to customer/tenant or business needs
- Achieving local intelligent infrastructure automation while comprehensively managing business service levels and global ecosystems automation
- Tracking resource allocation to power the ecosystem in support of tenant business
- Collaborative cross-team activity using a single, unified operations and project system
- Enabling Hybrid IT workload control, consistent with customer/tenant business SLAs



Hybrid IT and Operational Agility

Operational agility is an organization's ability to rapidly adapt to changes in the business or market. Proficiency in organizational agility can help organizations respond to the emergence of new competitors, leverage new game-changing technologies or navigate sudden shifts in market conditions.

For Hybrid IT Workload solution providers, operational agility across all business models and services is dependent upon organizing and empowering IT, data center and facility management cross-functional teams. When those providers also can secure collaboration from partners, including infrastructure and utility providers, a unified team of domain experts begins to emerge. Working collaboratively this team can apply the resources required to address the variable operational challenges of business growth.

Operational agility helps the Hybrid IT Workload solution provider optimize and monetize core site components. In turn, this agility improves tenant service, site revenue and competitive position in global and regional markets. By leveraging intelligent infrastructure and data center infrastructure management (DCIM), the core operational agility benefits can be significant, focused in three areas:

- Improved inventory tracking and resource and capacity utilization
- Optimized power & cooling performance
- Accelerated tenant provisioning and service delivery

This helps organizations streamline response to workload changes and challenges; making service calls more efficient and effective, and ultimately reducing or eliminating downtime. Workload availability and efficiency are the differentiators in these businesses, and Hybrid IT Workload.

This level of operational agility also generates a healthy return on investment (ROI). It reduces power and cooling costs without compromising workload availability. It monitors and collects data that delivers value by

- Informing operational decisions and capacity planning
- Capturing and tracking tenant resource costs and SLA rack level data
- Finding infrastructure and bandwidth gaps in real-time
- Reducing capital expenses related to inventory by linking infrastructure deployments to business needs

In short, operational agility can be expressed in the following equation:

Operational Agility = Flexible Response + Rapid Quality Service + Business Continuity

Thus, through the transitive properties of the solution provider's business model, operational agility translates directly into competitive advantage.

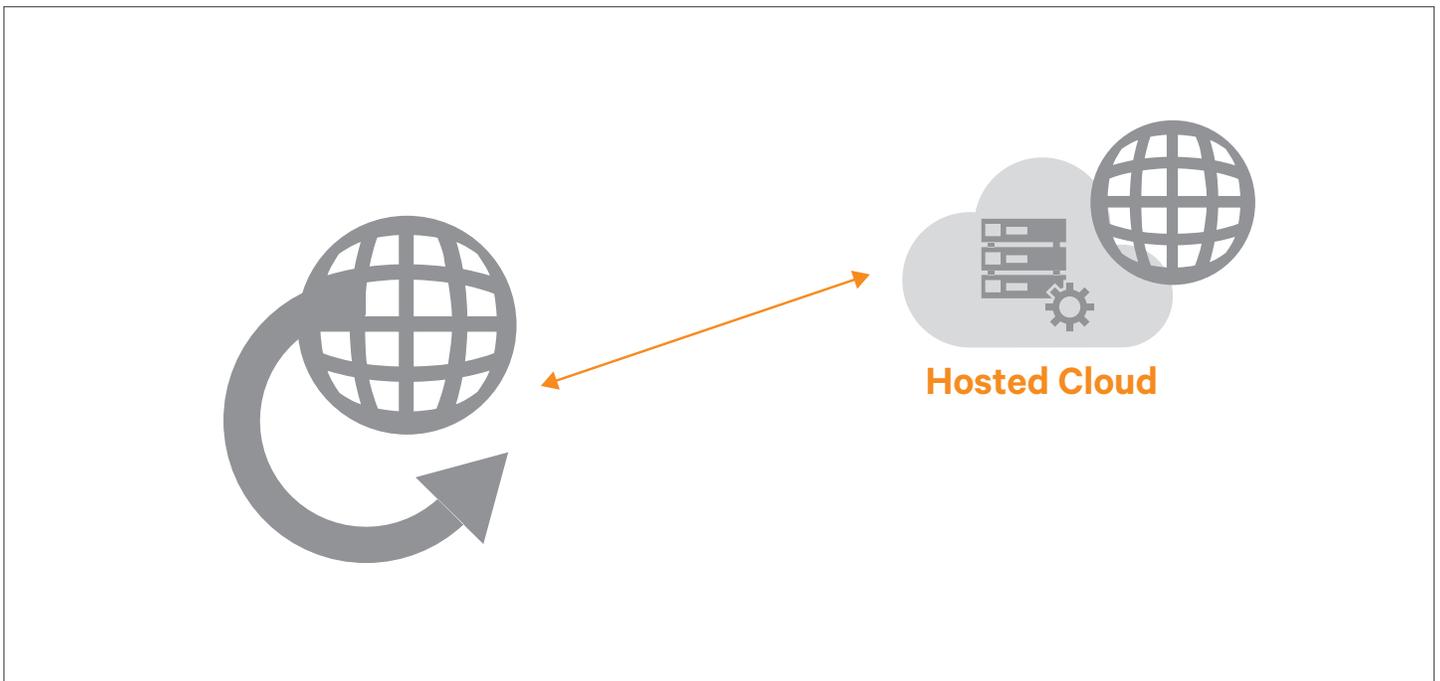
Considerations by Business Model

Hosted Cloud: The Hosted Cloud model typically is a tightly configured, highly automated ecosystem leveraging intelligent infrastructure across data center and facility assets, power and telco sources, and security. In standard physical deployment, the Hosted Cloud model enables fluid and predictable service of Hybrid IT Workloads. By directly architecting, managing and minimizing variation, the Hosted Cloud model significantly increases efficiency while reducing downtime risk.

With the increased operational agility, Hosted Cloud providers can improve ecosystem performance by collaborating with intelligent infrastructure providers on DCIM to proactively monitor power and cooling resources for:

- Real-time root cause analysis
- Recording historical point-of-use
- Aggregated capacity/power/cooling utilization

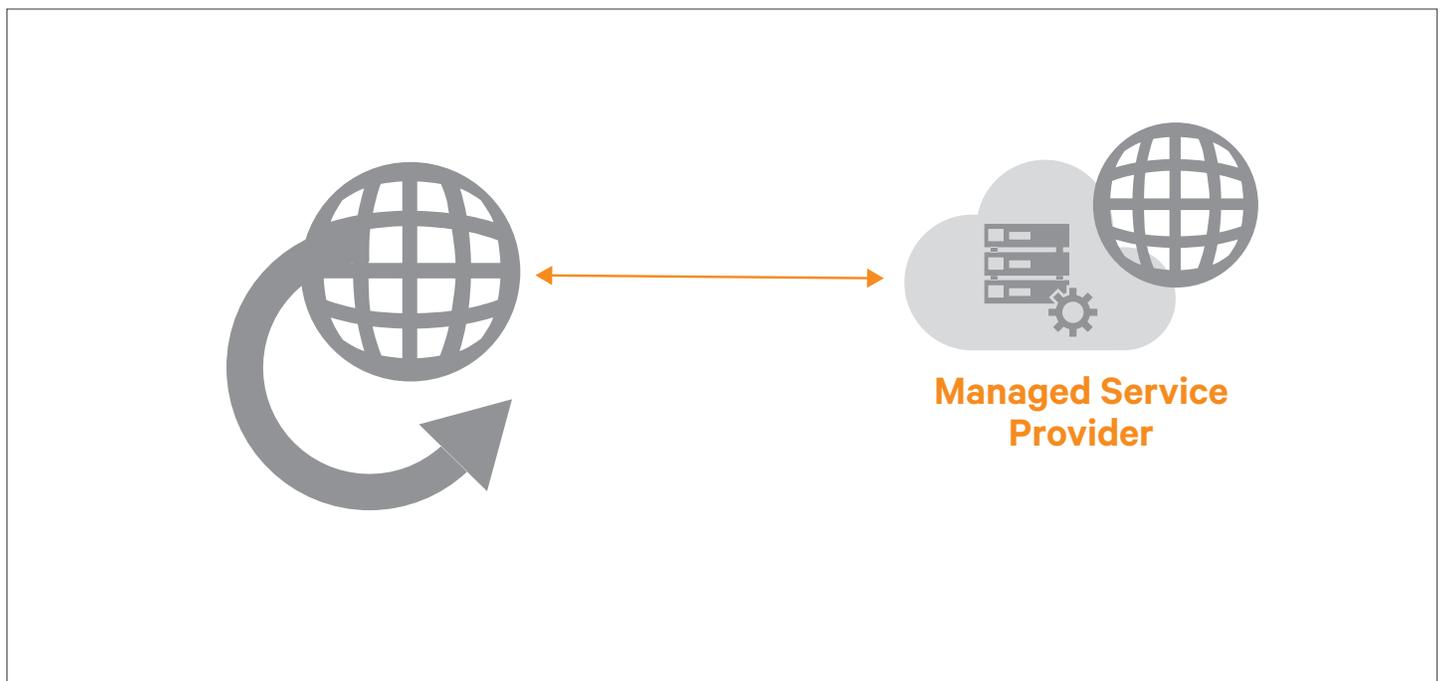
... enabling improved site governance and throughput analysis. Increased operational agility can accelerate event analysis by mapping infrastructure interdependency and enterprise project management systems to increase project efficiency and improve the quality of delivered service.



Managed Service Providers: The Managed Service Providers model is a custom-defined ecosystem that has been customized over time, with evolving tenant needs. Hybrid IT Workloads are likely to be nonstandard and unique. The Managed Service Provider may leverage intelligent infrastructure, however their DCIM or monitoring solution is likely to be tactically targeted as opposed to a strategic solution. By focusing on the tenant-driven “Managed Services” deliverables, there may be systemic ecosystem issues that would benefit from a collaborative operational agility review.

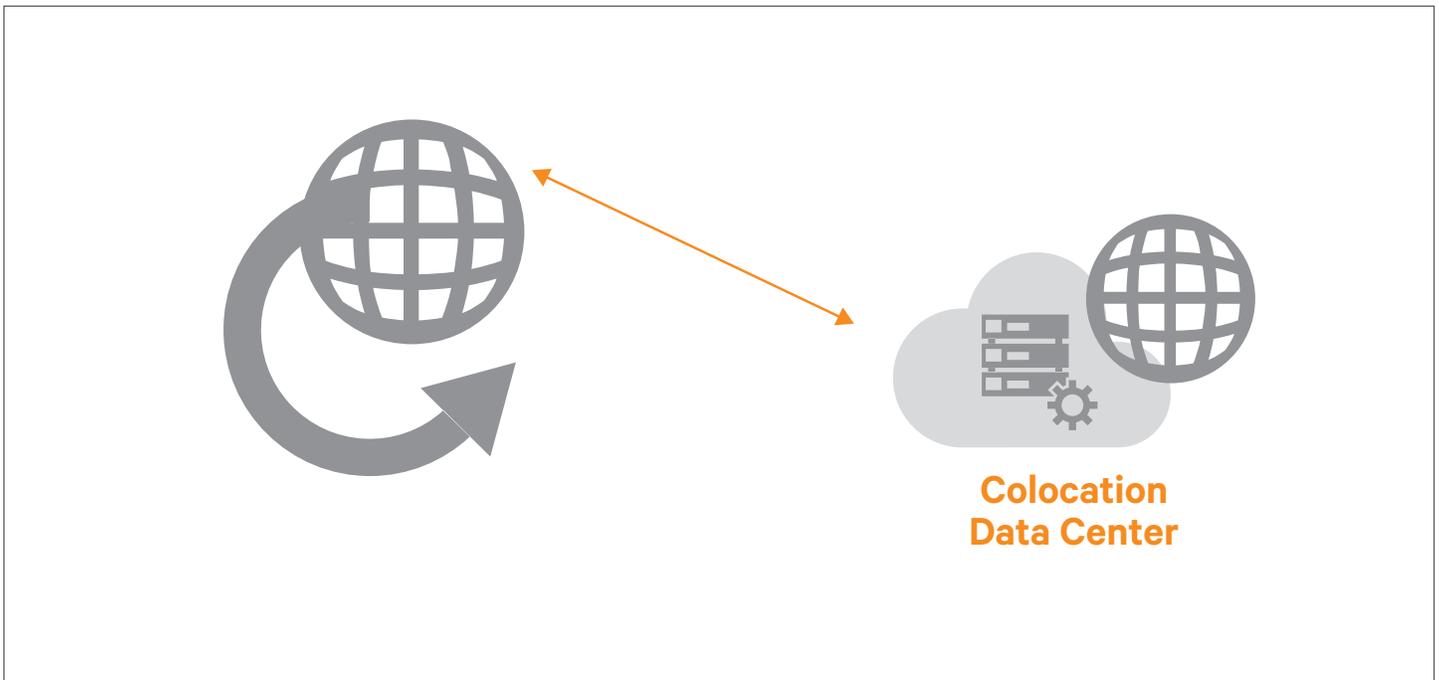
Through operational agility, Managed Service Providers can improve ecosystem performance by collaborating with intelligent infrastructure providers on standardized site configuration, technology refresh and DCIM-driven intelligence. This can lead to more standardized and preconfigured equipment deployments – such as rack

assembly and shelf mounts, to PDUs and rack UPS systems; from serial, KVM and service processors to thermal management systems. These intelligent infrastructure improvements can expedite growth, reduce the time needed to provision services, improve efficiency and availability. It also delivers more effective proactive monitoring, producing actionable data and more accurate resource tracking.



Colocation Data Center: The Colocation Data Center model closely resembles the commercial space lease business. It is focused on provisioning white space leases with the required data center mechanical, electrical, security, and safety equipment. In this model, the tenant provides the data center assets, including the racks and rack content (servers, network, SANs, rack PDUs, UPS and cooling). The Hybrid IT Workloads are totally nonstandard and unique, as they represent a data center configuration architected outside of the provider's control. The Colocation Data Center provider may leverage intelligent infrastructure up to the point of the leased white space, but traditionally this has been the boundary of their responsibility. Recently the Colocation Data Center provider has found value in extending DCIM monitoring and management into the tenant lease space, as a granular, chargeable DCIM service. In this instance, the Colocation Data Center needs to leverage its intelligent infrastructure investment within the tenants' data center configuration (usually rack PDUs) to provide the comprehensive insights required for a chargeable DCIM solution.

Colocation Data Center providers can leverage operational agility to improve ecosystem performance (and increasingly the tenant sub-ecosystem performance) by collaborating with intelligent infrastructure providers on standardized site configuration, technology refresh and DCIM-driven intelligence. This provides the same benefits of standardized and preconfigured assembly as seen in the Managed Service Provider model – streamlining expansion and service while increasing efficiency and improving availability and visibility across systems and tenant assets.



Summary

Hosted Cloud, Managed Service Providers and Colocation Data Centers are competing for the growing Hybrid IT Workload business. Due to their unique business models and value propositions, the workload business competition occurs mostly within the respective categories; however, over time as prospective customers are better educated, those categorical boundaries to competition will erode. While business and technology innovation will continue, innovation in operational agility must be considered a critical component to achieving a competitive position in the service-delivered Hybrid IT Workload business.

For more information, please visit the Vertiv™ Colocation Exchange at www.vertivco.com/colocation-exchange.

by Maurice Donegan

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