



# Placement Strategies for Enterprise Workloads: Considerations and Examples



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## Importance of Running Workloads in Appropriate IT Environments

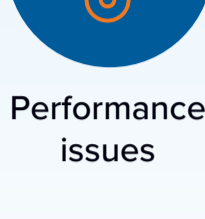
Today, companies have an opportunity to build their IT infrastructure utilizing not only a broad range of system products but also a variety of IT deployment models including their own data centers, public cloud, colocation environment, and edge locations.



Placing workloads in suboptimal environments can be costly for many reasons:



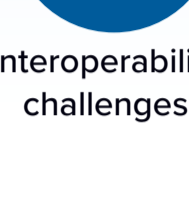
Unexpected costs



Performance issues



Unforeseen security events



Interoperability challenges



Governance concerns



Regulatory compliance violations, etc.

## Pros and Cons of IT Deployment Environments

Most IT decision makers foresee running enterprise workloads in hybrid multicloud environments.

	Pros	Cons
<b>Self-owned/Operated Data centers</b>	<ul style="list-style-type: none"> <li>Infrastructure control</li> <li>Security control</li> <li>Governance control</li> <li>Flex consumption/aaS</li> </ul>	<ul style="list-style-type: none"> <li>Data center costs</li> <li>Infrastructure upgrade cycles</li> <li>Shortage of IT skill set longer cycles for launching new workloads</li> </ul>
<b>Colocation Facilities</b>	<ul style="list-style-type: none"> <li>Data center support/management cost savings</li> <li>Enhanced physical security</li> <li>Control over infrastructure</li> <li>Public cloud adjacency</li> </ul>	<ul style="list-style-type: none"> <li>Lack of on-site IT support</li> <li>Lack of control over data center components</li> </ul>
<b>Public Cloud</b>	<ul style="list-style-type: none"> <li>aaS consumption</li> <li>Service catalog/application ecosystem</li> <li>Distributed access</li> <li>Ease of scaling up/down</li> <li>Agility</li> </ul>	<ul style="list-style-type: none"> <li>Workload scaling costs</li> <li>Data transfer costs</li> <li>Security concerns</li> <li>"Shadow IT"</li> <li>Workload interdependency/interoperability issues</li> </ul>
<b>Edge Locations</b>	<ul style="list-style-type: none"> <li>Close to data creation/action</li> <li>Low latency</li> <li>Real-time processing capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Lack of on-site IT support</li> <li>Cost of maintenance/upgrade</li> <li>Bandwidth dependency</li> </ul>

## Considerations in Workload Placement Decisions

Technical characteristics of the workload: performance, scalability, etc.

Workload design and lifecycle

Workload ecosystem: application interdependency and criticality to operations

Workload migration feasibility

Policy/regulatory requirements

Cost analysis and tracking capabilities

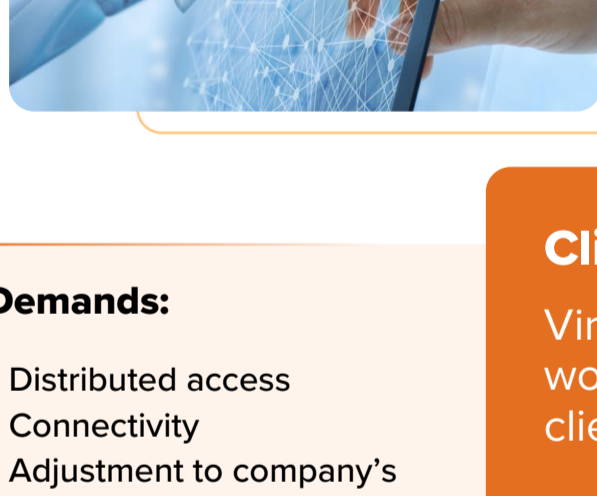
Organizational approach and capabilities to managing IT

Availability of skills needed for IT operations

## Looking at Placing Specific Workloads

### Performance Intensive Workloads (PIC):

data analytics, artificial intelligence and machine learning, modeling and simulation, and some engineering and technical workloads



#### Demands:

- Consistent performance
- Data security
- Predictable costs

#### Placement:

- Fit-for-purpose
- Tiered placement
- Start in public cloud
- Consider self-owned/operated environments for production due to security and costs

#### Demands:

- Distributed access
- Connectivity
- Adjustment to company's working culture

#### Placement:

- Public cloud
- Edge locations
- Considered IT environments in case of prescriptive regulatory requirements or corporate policies

### Client Computing

Virtual desktop, digital workspace solutions, and client applications



### Application Development and Testing



#### Demands:

- Developer-centricity
- Software-driven or as-code access
- Flexibility with accessing compute resources
- Data privacy

#### Placement:

- Public cloud but with stricter protocols related to protecting intellectual property
- Self-owned/operated environments for more IP-sensitive applications

#### Demands:

- Cost efficiency
- Fast data recovery
- Security

#### Placement:

- Cost-optimized public cloud storage services designed for disaster recovery
- Colocation facilities for mitigating public cloud data transfer fees

### Cyber Recovery:

data protection, business continuity and resiliency



## Pursuing a Hybrid Multicloud IT Strategy

A hybrid multicloud IT strategy is the best way to achieve the strategic advantages of optimized workload placement.

To be effective in the long term, a hybrid multicloud IT strategy requires the following:

- A set of management tools** for cloud and non-cloud environments across various locations
- An analysis of the service quality characteristics** of various deployment environments
- A data security, data privacy, data protection and governance framework**
- A total cost of ownership (TCO)**
- A financial analysis** of cloud and IT Ops (FinOps)