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workload placement to-do list

It's good to have choices. And there are plenty of options when it comes to workload placement: on-premise deployments, third-party colocation, hosted private cloud, public cloud, and hybrid (a combination of any of the preceding options.)

In general, a hybrid IT strategy typically serves most companies best because it allows you to place apps where they'll perform best. So how do you determine which application goes where?

The following are some of the key considerations for determining appropriate workload placement — and whether any refactoring or other action may be required to make the app perform optimally in a specific environment. Some will clearly seem more important than others. Some may seem equal. A lot will depend on your organization's business needs and other factors, so use these factors only as a starting point for determining optimal workload placement.

hardward requirements

Does the app require specific hardware such as a specialized server or processing unit or legacy equipment? In these cases, on-premise or colocation environments may be the better options

legacy status

Is it a legacy app that was written in-house or that's no longer supported and can't be replaced? (If the answer is yes to either, it may need to stay on-premises.) While legacy hardware can be migrated into a more efficient colocation environment, it's worth considering whether dependent apps could be rearchitected to operate within a hybrid environment to ensure future flexibility.

architecture

What is the app's architecture? Does it employ monolithic or microservices architecture? Is it cloud-ready or a desktop-only version? Is it cloud-native?

portability

Is the app configured to be portable? It may be necessary to shift from one cloud platform to another. Workloads running on physical servers also may need to move to another location as part of a hardware refresh. Ideally, workloads should be configured for portability. This could be through the use of containerization or by using Infrastructure as a Code (IaC).

migration requirements

If you're considering moving an app to the cloud, have you assessed whether the app would need to be refactored, replatformed, repurchased, rehosted, relocated, retained or retired?

security

All apps require security but some need a lot more than others if they process sensitive data and/or require data encryption and authentication? Apps with high-level security needs are usually best handled by private clouds or some on-premise environments. In addition, start-ups, smaller companies and any company that lacks a strong internal IT security teams may find it more effective to go with a colocation or cloud provider that has proven systems in place for risk management, monitoring, and incident response.

compliance

Is the app (and/or the data it handles) subject to regulatory requirements, industry standards or other compliance issues? An IT environment that has been audited to meet the specific compliance requirements may be necessary. Colocation and cloud providers frequently have entire compliance departments dedicated to ensuring that they maintain secure infrastructure for their customers.

availability

What level of availability is required for the app to work properly? For example, emails and customer service apps usually need to run all the time. Colocation facilities and cloud services frequently offer high availability SLAs as well as extensive backup redundancies to maintain data availability as much as possible.

resource requirements

What quantity of CPU, memory, network, and storage is needed for optimal performance? Are these requirements constant or are they likely to fluctuate? A cloud environment is better suited to high resource requirements and allows for scaling up or down as needed.

latency

Is latency an issue? Placing workloads closer to end users (via colocation or cloud) as part of an edge computing strategy is a good way to ensure that latency doesn't hold an application back.

transparency and control

An on-premises environment may seem ideal for retaining visibility and control, but only if there are tools available to accurately monitor performance — something companies may lack. While colocation and cloud services may take direct, day-to-day responsibility for managing assets and applications, they usually have the advanced for workload monitoring and can react quickly when changes are necessary.

cost

Optimal workload environment is not just about upfront and ongoing expenses or ROI. It's also about balance. Deploying workloads across multiple environments as part of a hybrid IT strategy can help organizations take advantage of cost benefits associated with optimal workload placement, which includes avoiding taking on costs that could inhibit growth and agility in the future.

next steps for optimization

To get started on optimizing your workload placement, inventory your apps. Assess them using the criteria listed in this document (along with anything else that may be relevant, such as how they're used and who uses them.)

Work with an IT infrastructure provider (like US Signal) to evaluate the various IT environments available and how moving your various apps to these environments will meet or otherwise impact your business needs and IT strategy. At this point, there may be other issues associated with the specific environments and their underlying infrastructure to consider such as sustainability and technical support. Make sure to take into consideration changing needs and future requirements.

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