Overcoming the Challenges of Hybrid IT Management in the Cloud Era

HotLink Cloud Management Express Enables Seamless Control over Public and Private Clouds – all through VMware vCenter
Hybrid IT in the Cloud Era

Hybrid IT is becoming the standard operating model for corporate IT. Traditional on-premises environments that are largely built on VMware virtualization provide the bedrock infrastructure. Public clouds – where Amazon Web Services leads contenders, with Microsoft Azure and vCloud-Air-based providers steadily gaining ground – make up another rapidly growing portion of the compute infrastructure. On-premises private clouds also play a role in hybrid IT, with the OpenStack cloud platform providing many of the benefits found in public clouds.

Cloud computing is a critical part of most enterprises’ hybrid IT roadmap, and its promise is substantial. Cloud environments offer unsurpassed potential with respect to elasticity, scaleability and reduction of capital costs – and adopters often report gains in speed, flexibility and agility. Additionally, the ability to pay for only what is consumed in a public cloud offers net cost savings over traditional IT, particularly for workloads that can be paused when not needed.

Hybrid IT represents a valuable and powerful approach to IT. Yet it also creates some new challenges for those getting started as well as for cloud veterans – some driven by management complexity. For example, the vast majority of public cloud adopters now use more than one public cloud. Many are working to tightly integrate management of their cloud and traditional IT resources, whether for deployment now or in the near future as their cloud-based operations mature for production.

The real issue with hybrid IT is that it can create extreme management challenges and operational inefficiencies if not well-architected and planned. Without the right management tools, hybrid IT in the cloud era is problematic at even moderate scale.

Management Challenges

Hybrid IT and cloud computing are often used by different groups within the broader IT organization – and for a variety of purposes. Software developers may initially experiment with an individual public cloud to gain experience with resource scaling and elasticity. Their focus is on unencumbered access to computing capacity, not performance monitoring and change management. In this case management challenges are relatively minimal and mostly ad hoc.

On the other hand, considering corporate IT holistically, the management requirements are relatively boundless. Production-level applications demand a secure, high quality user experience
and strict adherence to service level agreements (SLAs). In order to support the full portfolio of applications, a broad variety of hypervisors and clouds must be used. At the same time, budgets and staffing levels must be maintained, even when adding new services. This is the setting where hybrid IT management challenges can become extreme.

One of the most dreaded impacts of hybrid management for corporate IT is the proliferation of management consoles. Certain hypervisor functionality – such as live migration, other multi-host actions and advanced features like DRS – are tightly coupled with native administration consoles. This forces administrators to deploy a separate console for each type of platform in their environment.

Sometimes, in hopes of easing hybrid complexity, overlay management products are also used. Unfortunately, these solutions fail to expose the full functionality of native consoles, thereby requiring the addition of their own console without eliminating others. The same dynamic occurs with cloud platforms and their native management consoles.

Unchecked console growth also drives the formation of silos. Since each console has a unique interface, management methodology and skillset, IT organizations end up with separate individuals – and sometimes entire teams – that are only able to manage a single platform. This is cumbersome, costly, inefficient and dramatically complicates cross-platform automation. For example, imagine trying to get several different teams to apply the same policy to different clouds or on-premises hypervisors.

Another regrettable trend for hybrid IT is the emergence of “cloud-only” management tools. Difficulties arise when organizations with hybrid environments acquire cloud-only tools. This not only creates one or more new silos, it promotes an unending cycle of buying, integrating and maintaining new management tools. Administrators also face frustration stemming from additional training requirements and changes in their workflows.

When discussing management challenges with IT leaders and professionals, it becomes painfully obvious that two of the most common tool strategies fall short:

1. **Franken-Tools**: Management systems that are stitched together from many separate products lead to silos, higher costs, lost productivity and job dissatisfaction. While large, hybrid IT organizations may require more than a single toolset in order to manage unique infrastructure, they should carefully avoid duplicating management functionality for the sake of supporting multiple hypervisors or clouds.

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2. **Cloud-Only Tools**: These tools can’t manage hybrid IT without native platform consoles for IT administration, and purchasing them leads to duplicate functionality, management silos and overspending. Further, as early as 2013, research by Neovise found that more than half of cloud adopters were already using more than one cloud, making the case that single-cloud tools are insufficient even for cloud-first organizations.

A far better approach is to seek streamlined, yet comprehensive management specifically designed for hybrid IT.

**HotLink Cloud Management Express**

Having won numerous awards for cloud and virtualization management, HotLink® is well known for its hybrid IT management capabilities. With the release of HotLink Cloud Management Express™, the company further broadens its offerings for the cloud era.

Rather than adding a management console of its own, HotLink natively extends VMware vCenter capabilities beyond vSphere to holistically manage an array of public and private clouds through a single pane of glass that IT already has installed. This not only enables administrators to perform management natively within VMware vCenter, it lets them continue using products integrated with VMware vCenter, such as change management and performance reporting – all while eliminating console and tool proliferation. Please see **Figure 1**.

![Figure 1 - HotLink Cloud Management Express Architecture](image-url)
What makes all this possible, and what makes HotLink unique, is the HotLink Transformation Engine™. It captures fine-grained metadata from each platform, transforms it into an agnostic model and adapts it to VMware vCenter’s schema in real-time. HotLink transformation technology enables VMware vCenter to natively and transparently manage the entire hybrid IT environment as a single pool of virtual resources.

Highlight capabilities for HotLink Cloud Management Express include:

- Public cloud support: Amazon Web Services, Microsoft Azure, vCloud Air, OpenStack
- Private cloud support: OpenStack, Microsoft Hyper-V, RedHat KVM, Citrix XenServer
- Single point of management for hybrid resources
  - Auto-discovery spanning on- and off-premises
  - Fine-grained monitoring and performance data
  - Power operations and console support
  - Edit VM properties and provision from native templates
  - Alarms, alerts and change management
  - Permissions and security management
- Utilize VMware-compatible tools and automation across platforms
  - Orchestration and self-service portals
  - Existing workflows and PowerCLI scripts

Ultimately, HotLink Cloud Management Express makes it easy to incorporate a wide range of cloud-based platforms, both on- and off-premises, without the usual increase in operational complexity.

Neovise Perspective

Hybrid IT is becoming the standard operating model for corporate IT, boosting the scale, elasticity and agility of infrastructure and greatly improving its economics. Yet hybrid IT also creates some new challenges. If not well-architected and planned, management complexity can skyrocket. Without the right management tools, hybrid IT in the cloud era is problematic even at moderate scale.

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Corporate IT requires management solutions designed specifically to support the demands of production-level applications. What they don’t need – and don’t want – is overlay management tools or more management consoles. Those only serve to increase complexity, decrease administrator productivity and escalate costs.

IT organizations have already invested heavily in VMware. Now they can gain huge efficiencies by leveraging their existing VMware management infrastructure, tools and workflows for cloud management. HotLink Cloud Management Express enables this and helps IT avoid the costs and problems that stem from deploying a separate set of cloud-only tools. By using this solution, IT can avoid creating organizational silos, retraining administrators on new management consoles, and reworking their time-tested workflows. This is just what is needed for the cloud era.
About Neovise

Based on independent research and analysis, Neovise delivers essential knowledge and guidance to cloud-related technology vendors, service providers and systems integrators, as well as business and IT organizations that purchase and use cloud-related services and technology. Our offerings include research, advisory and collateral development services that help our customers—and their customers—make optimal decisions and formulate winning strategies. *Research. Analyze. Neovise.*

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