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Dell APEX Block Storage for Public Cloud and Dell APEX Navigator

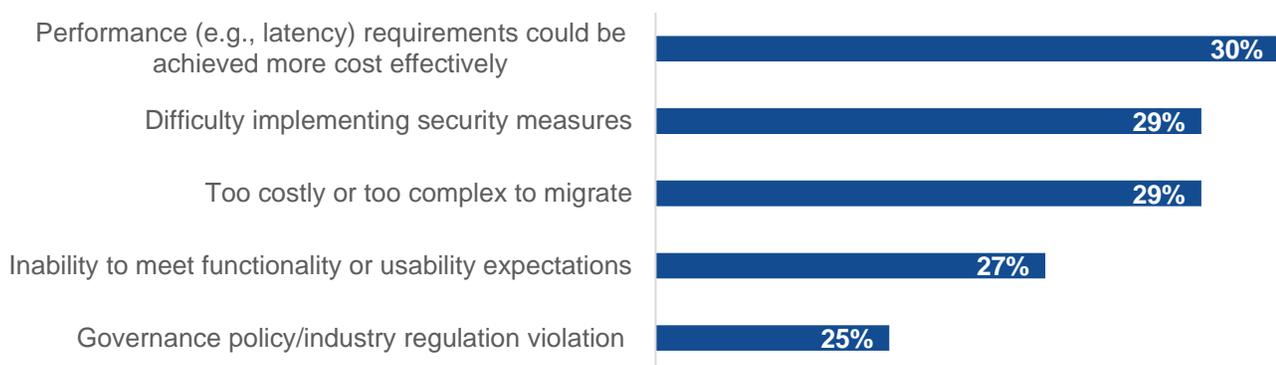Tony Palmer, Principal Analyst, Validation Services

Public Cloud Workload Challenges

This Technical First Look from TechTarget's Enterprise Strategy Group documents our analysis of Dell APEX Block Storage for Public Cloud with Dell APEX Navigator. We evaluated how Dell APEX provides a unified cloud storage solution that helps organizations simplify how they migrate, build, and manage applications and data in the cloud while reducing costs.

The journey to the cloud is often neither simple nor smooth. Applications may require refactoring to be able to move to the cloud, a tedious process that delays cloud deployments. In addition, applications continue to require performance, protection, and security monitoring and management that align with their policies and on-premises workloads. When asked why some existing production business applications were not good candidates for the public cloud, performance (30%), difficulty implementing security (29%), and cost and complexity (29%) were the three most commonly cited responses (see Figure 1).[1]

Figure 1. Top 5 Reasons Applications and Workloads Are Not Considered Candidates for the Public Cloud

You indicated that some of your organization's applications or workloads are not candidates for deployment on public cloud. Why not? (Percent of respondents, N=304, multiple responses accepted)

Performance (e.g., latency) requirements could be achieved more cost effectively	30%
Difficulty implementing security measures	29%
Too costly or too complex to migrate	29%
Inability to meet functionality or usability expectations	27%
Governance policy/industry regulation violation	25%

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Organizations need a solution that can help them run production workloads effectively and reliably across on-premises and public cloud environments while reducing complexity and gaining agility and cost efficiency. This will enable businesses to strategically balance harnessing multiple cloud environments and managing the intricacies of integration, security, and optimization.

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[1] Source: Enterprise Strategy Group Research Report, *Multi-cloud Application Deployment and Delivery Decision Making*, June 2023. All Enterprise Strategy Group research and references in this technical first look are from this report.

Dell APEX Block Storage for Public Cloud

Dell APEX Block Storage for Public Cloud is designed to provide the performance and control of on-premises block storage with simplicity and agility in the public cloud. Dell APEX is built upon three pillars of design philosophy:
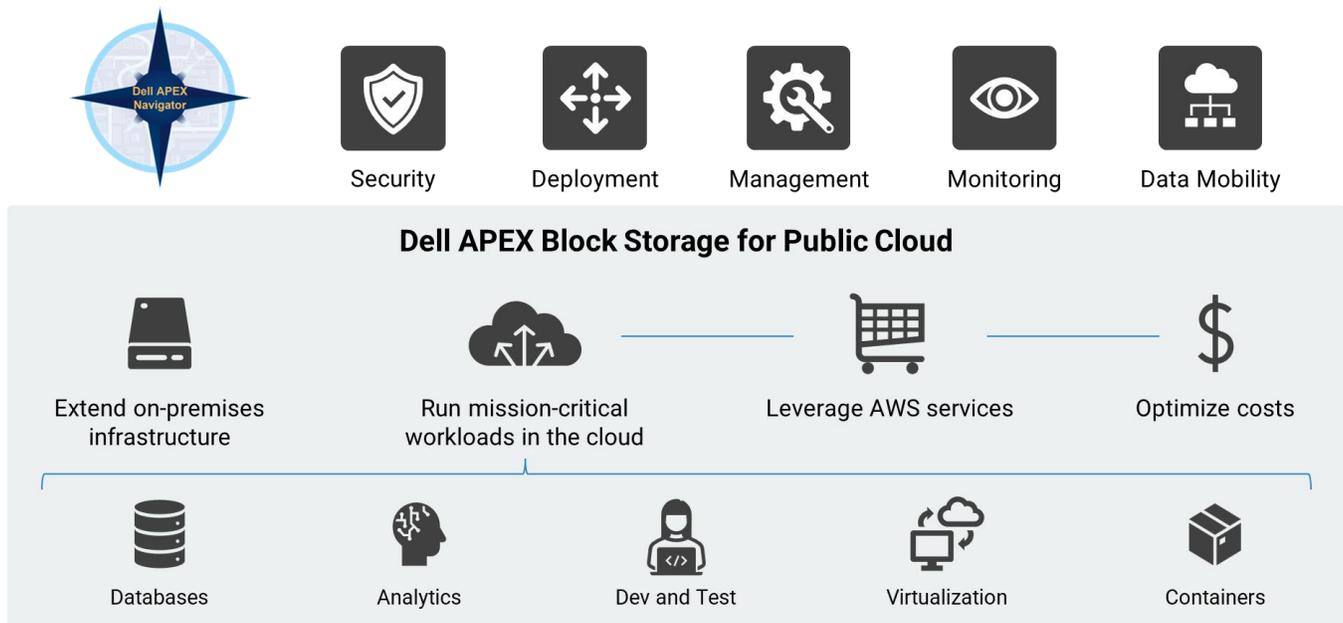
- **Simplicity.** Provide a user experience that enables customers to easily deploy, manage, and monitor block storage in the public cloud.
- **Agility.** Enable customers to adapt to changing business needs and workload requirements quickly and effectively.
- **Control.** Provide customers with enterprise-class capabilities, including advanced data services (thin provisioning, snapshots, and backup/restore), high resiliency with multiple AWS Availability Zone (AZ) support, and broad security (role-based access control, single sign-on, encryption, and federated identity) to support organizations' workloads and help them meet their service-level agreements (SLAs).

Dell APEX Block Storage for Public Cloud is designed to service and optimize numerous workloads that historically have not been considered viable candidates for running in the public cloud.

Dell APEX Navigator

Dell APEX Navigator provides a simplified SaaS experience for enterprise customers to deploy, manage, and monitor their IT environments (see Figure 2).[2]

Figure 2. Dell APEX Navigator and Dell APEX Block Storage for AWS

Security	Deployment	Management	Monitoring	Data Mobility

Dell APEX Block Storage for Public Cloud

Extend on-premises infrastructure	Run mission-critical workloads in the cloud	Leverage AWS services	Optimize costs

Databases	Analytics	Dev and Test	Virtualization	Containers

Source: Dell Technologies and Enterprise Strategy Group, a division of TechTarget, Inc.

Dell engineered Dell APEX Navigator with security in mind and offers federated identity management so organizations can use their own identity provider to enable single sign-on with corporate credentials. This is coupled with role-based access control to ensure that only authenticated users with appropriate authorization can access storage resources.

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[2] Dell APEX Navigator currently supports APEX Block Storage for AWS, with additional offers and public cloud environments to follow.

In the first release, Dell APEX Navigator for Multicloud Storage supports APEX Block Storage for AWS, with support for APEX File Storage coming soon. With Dell APEX Navigator for Multicloud Storage, deployment of Dell storage to the public cloud—which includes provisioning of compute, storage, networking, and installation and configuration of storage software—is automated and requires just four steps in the Navigator UI to get started.

After deployment, Dell APEX Navigator provides access to storage management tools, meaning users click into a storage endpoint manager to handle any day-to-day management tasks directly. Monitoring is built into Dell APEX Navigator and is enabled by Dell CloudIQ, a cloud-based proactive monitoring and predictive analytics application for the Dell infrastructure portfolio. Users can get insights into health, capacity, performance, and license inventory from within Dell APEX Navigator or via APIs.

Finally, Dell APEX Navigator for Multicloud Storage provides data mobility capabilities with the orchestration of bidirectional snapshot shipping between Dell PowerFlex on premises and Dell APEX Block Storage for AWS deployments.

First Look

Enterprise Strategy Group began with a look at how customers would deploy Dell APEX Block Storage for Public Cloud using Dell APEX Navigator. As shown in Figure 3, Dell APEX Navigator is accessed through a customer's Dell Premier Account.

Figure 3. Dell APEX Navigator
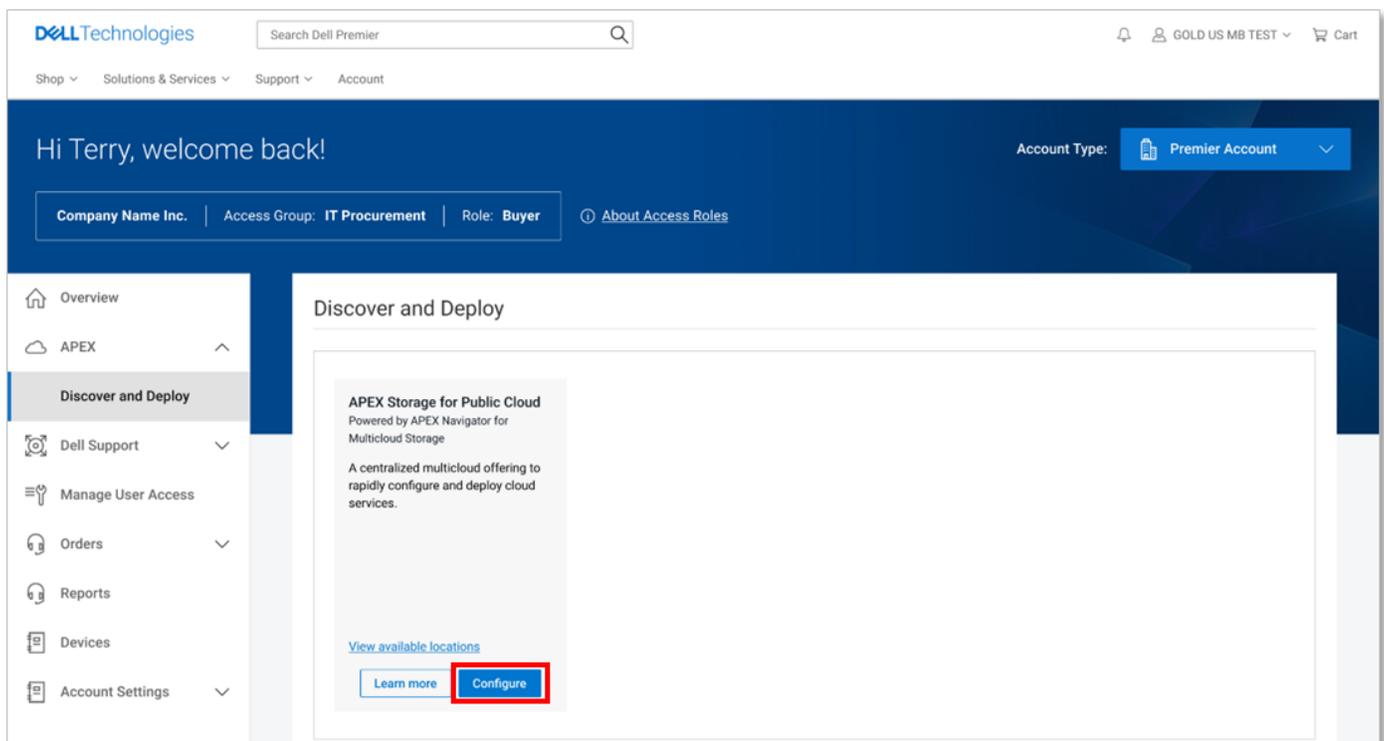
Source: Dell Technologies and Enterprise Strategy Group, a division of TechTarget, Inc.

First, we selected **Configure** under APEX Storage for Public Cloud to open the *Create New Deployment* dialog, shown in Figure 4. We selected **APEX Block Storage for AWS** and the default product version and then scrolled down.
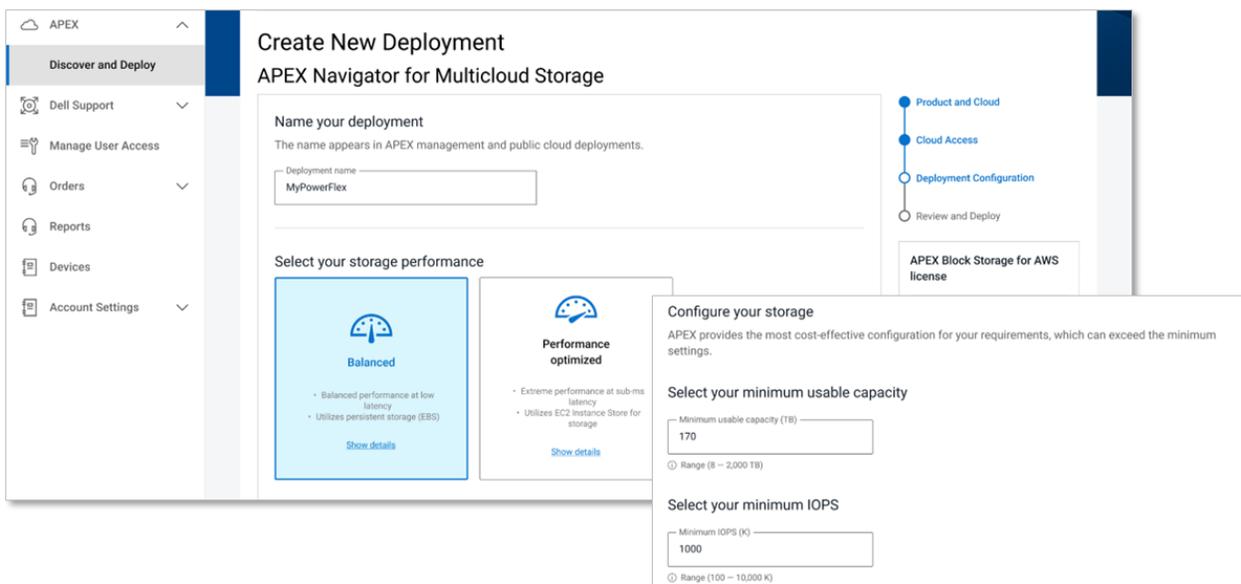
Figure 4. Dell APEX Block Storage for AWS—Creating a New Deployment
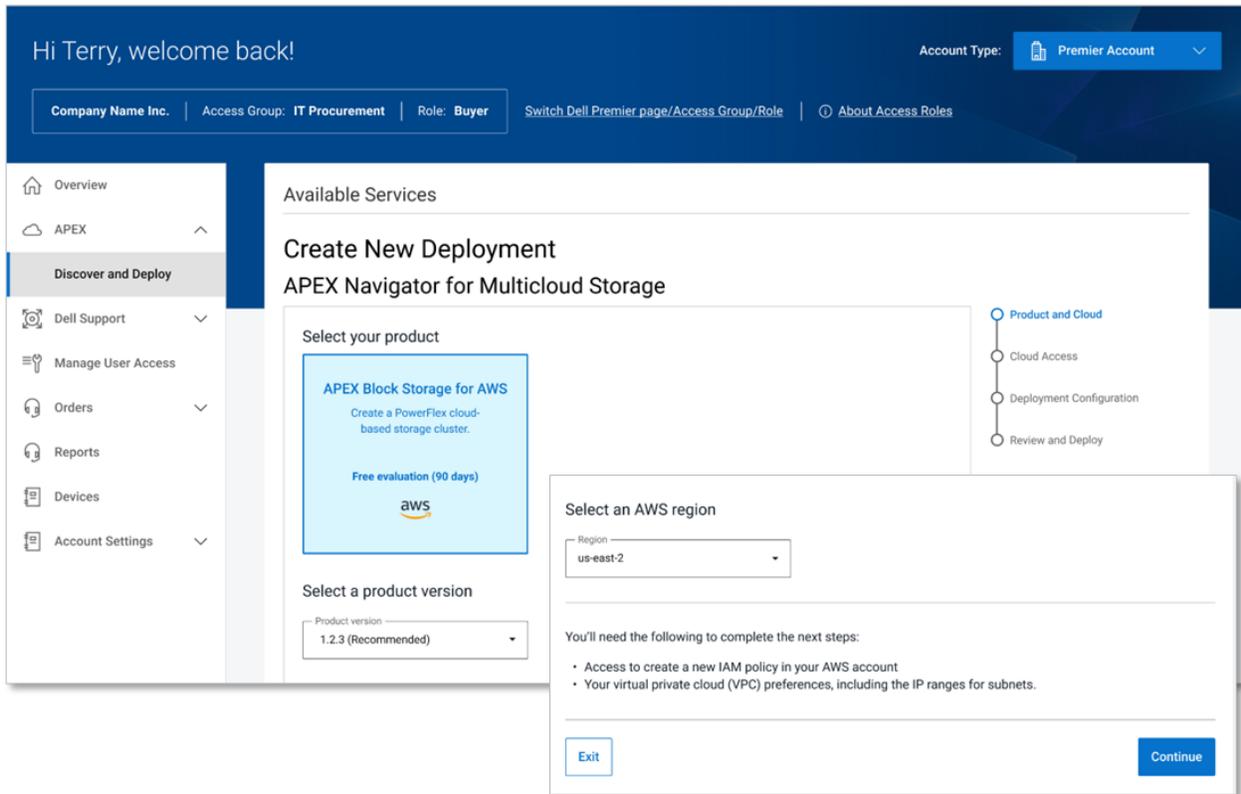
Source: Dell Technologies and Enterprise Strategy Group, a division of TechTarget, Inc.

There are just two options for storage: *Balanced*, which uses Amazon Elastic Block Storage for high performance, and *Performance optimized*, which uses Amazon EC2 instance stores to provide sub-millisecond response time.

Figure 5. Dell APEX Block Storage for AWS—Selecting Options

Source: Dell Technologies and Enterprise Strategy Group, a division of TechTarget, Inc.

Next, we specified the minimum usable capacity, minimum IOPS, and availability level (see Figure 5). It's important to note that Dell APEX Block Storage for AWS supports deploying a single cluster across multiple AZs. Fault sets are resident in each AZ to ensure high availability and resilience. Finally, we selected an existing virtual private cloud and provided a name for the new secure shell key pair that Dell automatically creates. We then clicked **Continue**. Customers can automate this process further via public API to integrate with common tools such as Terraform.

Conclusion

According to Enterprise Strategy Group research, nearly three-quarters (74%) of existing workloads are considered strong or potential candidates to move to the public cloud over the next five years. Even so, applications continue to require performance, protection, security monitoring, and management that align with their policies and on-premises workloads. When Enterprise Strategy Group asked organizations to rate their level of agreement with the following statements related to application deployment decisions, they responded as follows:

- 81% agreed that they face challenges with application and data portability across locations, including data center, public cloud, and edge.
- 82% agreed that they struggle to properly size workloads for the optimal infrastructure (on- or off-premises) environment.
- 86% agreed that they regularly migrate applications and/or data from on-premises locations to the public cloud.

Enterprise Strategy Group found that Dell APEX Block Storage for Public Cloud and Dell APEX Navigator can simplify customers' experiences in deploying, managing, and monitoring block storage in the public cloud. After being onboarded, we kicked off the deployment of a 192TB cluster with about two minutes of keyboard time, answering a handful of simple questions. The automation that Dell APEX Navigator provides reduces the manual work needed by hours, while minimizing the chance of human error. Dell APEX Navigator also provides simple, secure storage software management that spans multiple storage types deployed on AWS and on premises, which are all centrally accessible within the Dell APEX Console.

This enables customers to adapt to changing business needs and workload requirements quickly and effectively and provides customers with advanced data services, high resiliency, and tight security controls to support organizations' workloads and help them meet their SLAs.

If your organization, like so many others, is moving applications and workloads to the public cloud and needs a solution that can offer on-premises levels of performance, availability, and control with the flexibility and agility of the cloud, you'd be smart to consider Dell APEX Block Storage for Public Cloud.

For more information on Dell APEX Block Storage for Public Cloud, visit Dell.com/APEX-Block, and for more information on Dell APEX Navigator, visit Dell.com/Navigator.