

Accelerate Deployments of Azure Arc-enabled Data Services with APEX Data Storage Services

Hybrid Cloud is here to stay and with APEX Data Storage Services and Microsoft Azure Arc-enabled data services, managing Microsoft SQL Server in a hybrid world just became easier.

Azure Arc-enabled data services + APEX Data Storage Services

Azure Arc-enabled data services brings the benefits of cloud to validated infrastructure from Dell Technologies

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APEX Data Storage Services is an as-a-Service portfolio of scalable and elastic storage resources built on our industry-leading technologies

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Focus on outcomes, not infrastructure. Easily align storage requirements with the needs of your organization and focus on other priorities.

"By 2024, over 50% of newly deployed storage capacity will be sold as-a-Service or on a subscription basis, up from less than 15% in 2020."¹

-Gartner

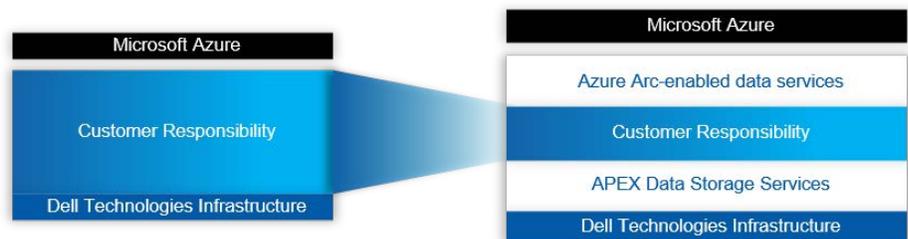
"In 2021, 75% of enterprises will recognize the benefits of as-a-service consumption, driving a 3x increase in demand for private cloud infrastructure delivered via flexible/as-a-service solutions."²

-IDC

Today, data is created, processed, and stored on-premises, in secure colocation facilities, at the edge, and in multiple cloud environments. As organizations seek to leverage data and applications in all these locations, management quickly becomes complicated. To be successful in this hybrid cloud world, organizations are increasingly turning to a cloud native approach, leveraging Kubernetes orchestration software to deploy, manage, and scale containerized applications.

Microsoft SQL Server is embracing Kubernetes clusters in both public and private clouds, and now with Microsoft Azure Arc-enabled data services companies can create a unified Microsoft SQL Server environment all within the same management plane. This is done by extending Azure data services to on-premises, colocation, edge, and public clouds using Kubernetes on the infrastructure of your choice.

In many on-premises SQL Server deployments, databases are spread across multiple versions of SQL and siloed infrastructure, which leads to increased costs, reduced productivity, and missed service levels. Azure Arc-enabled data services allows the DBA(s) to leverage commonly used tools like Azure Data Studio to manage all data assets deployed with Azure Arc. This provides a single view of all databases, regardless of location, and allows Kubernetes APIs to analyze the underlying infrastructure capacity and health to gain operational insights.

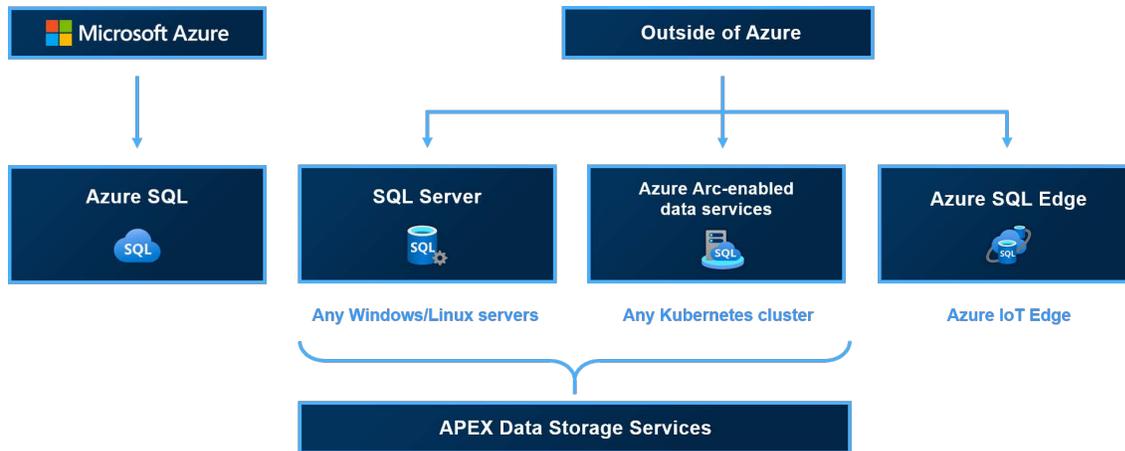


Dell Technologies has validated our Storage as-a-service offering, APEX Data Storage Services, for both Kubernetes as well as data services as defined by Microsoft. Accelerate the adoption of Azure Arc-Enabled Data Services with APEX Data Storage Services; a storage as-a-service model for easily procuring and managing data storage resources in a scalable and elastic model that is designed for OpEx treatment.³

SQL Server Managed Instance: Azure SQL Data Service on Dell Technologies Infrastructure

Azure Arc-enabled data services includes PostgreSQL HyperScale and SQL Server Managed Instance (SQL MI) which provides an on-premises version of SQL that can now be deployed on the validated infrastructure of Dell Technologies. With SQL MI, databases always stay up-to-date with the current version of SQL. Just configure patches and upgrades via policy to ensure these take place without application downtime. No more migrations, no more upgrades, no more end of support, it is always current.

Microsoft brings cloud benefits to the on-premises environment by using Kubernetes for automation at scale, high availability, and elastic scaling. APEX Data Storage Services provides the validated storage foundation required. Storage has always been a critical component of any SQL Server-based application and storage solutions from Dell Technologies have a proven heritage of performance, availability, and agility.



Trying not to create additional technical debt by investing further in already outdated architecture will likely result in over- and/or under-provisioning. Over-provisioning generally is done to avoid risk, but despite best efforts you may still end up exposed to risk associated with under-provisioning. This causes existing IT staff to focus on more tedious tasks rather than more critical corporate objectives that deliver true value to the company. With APEX Data Storage Services you eliminate the costs of overprovisioning, reducing storage costs by as much as 45%.⁴

Rapid Storage as-a-Service Deployment for Faster Time-to-Value

Getting started with APEX Data Storage Services is easy and defined by the following five key service parameters:

- Location — customer data center or Dell-managed colocation facility
- Data Service — block or file storage
- Performance Tier — three levels to choose from based on IOPS/throughput
- Base Capacity — minimum amount of committed capacity, with options starting as low as 50TB
- Term — choose between one or three years

Dell Technologies will work with you to ensure proper prerequisites for the infrastructure are in place and deploy in as few as 14 days.⁵ This shifts the responsibility of installation, configuration, monitoring, and capacity management to Dell Technologies. This also includes software updates, hardware upgrades, and 24X7 proactive support.

Block Services	Capacity Optimized	Balanced	Performance Optimized
Description	Cost-optimized performance at sub-ms latency	Balanced performance at sub-ms latency	Highest performance at sub-ms latency
Read Performance	50 (MB/s per TB)	80 (MB/s per TB)	100 (MB/s per TB)
Write Performance	8 (MB/s per TB)	12 (MB/s per TB)	20 (MB/s per TB)
IOPS	700 (per TB)	1,100 (per TB)	1,800 (per TB)
Min. Capacity	50 TB	50 TB	100 TB

Removing data silos helps reduce complexity of storage provisioning and CapEx spending, while APEX Data Storage Services eliminates this complexity by shifting to a Storage as-a-Service model. This allows IT staff to focus on outcomes, not infrastructure. While there are many benefits to public cloud, not all Microsoft SQL Server workloads are a perfect fit and often the data or application would be housed more cost efficiently on-premises or in a cloud adjacent colocation facility. Predictable pricing is a cornerstone of the APEX Data Storage Services offer, with an easy to understand single rate for both base and on-demand usage.

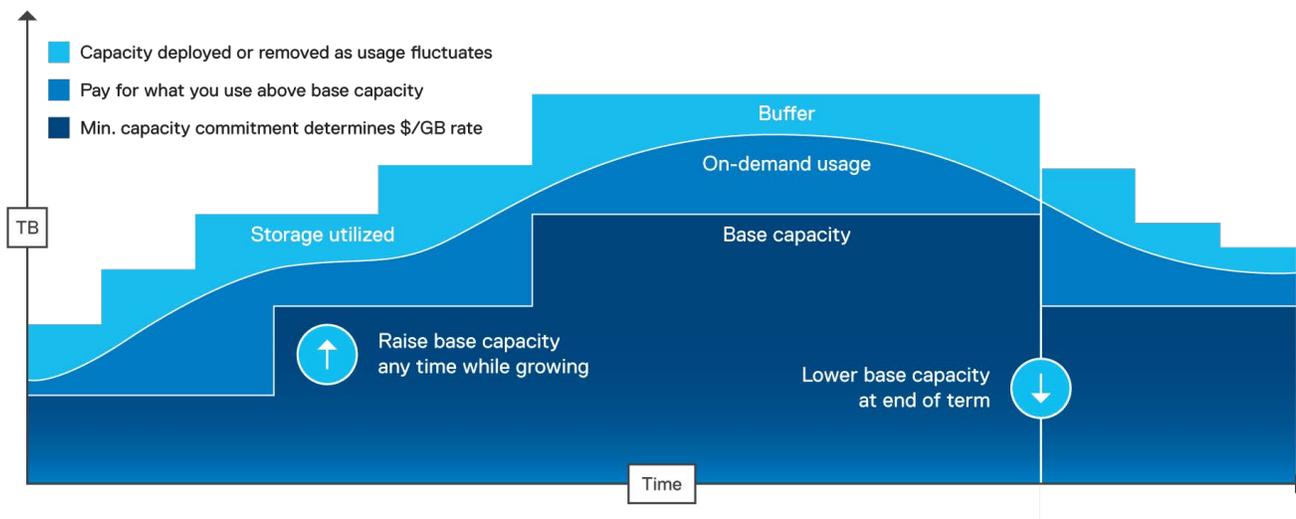
Consolidating SQL Server databases may seem daunting, however, the combination of Azure Arc-enabled data services and APEX Data Storage Services makes this the final time it is necessary. As new databases are created, use of SQL Server Managed Instance ensures the latest features and capabilities of Azure are available in your private cloud. As applications are migrated or retired, the complexity of management for the DBA is incrementally reduced.

Regardless of what is driving your modernization initiative for SQL server, Dell Technologies Consulting Services are here to help you make your strategic vision a reality. From defining your modernization roadmap to migrating, consolidating, or upgrading, Dell Technologies has the right expertise and knowledge to help mitigate risk and provide the value that the business expects from your SQL Server deployment, at the speed and flexibility it demands. When considering APEX Data Storage Services, the simplest, fastest way to move data is with our Data Migration Services, an optional add-on service recommended for organizations that need assistance in moving data from wherever it resides today to their new APEX Data Storage Services environment, saving both time and effort.

The APEX Console: A Unified and Seamless Experience

The APEX Console is a unified and seamless experience to manage your entire APEX journey, enabling agile IT service delivery by reducing complexity. The intuitive APEX Console allows an organization's administrator to on-board stakeholders, control access, and manage individual privileges, so they have self-service access. The APEX Console is the single place to subscribe, provision, operate, and monitor APEX Data Storage Services workloads.

SQL Server-based applications performance capacity requirements can vary significantly and thus APEX Data Storage Services needs may span multiple performance tiers. Regardless of the tier(s) selected, DBAs can rest assured that all three tiers are designed for 99.9999%⁶ availability with a sub-millisecond latency. Dell Technologies owns and maintains the underlying infrastructure, from the initial on-premises installation of the Dell-owned infrastructure to managing it day-to-day. If deploying in a Dell-managed colocation facility, Dell will also manage the data center facilities operations and provide you a single bill. This allows you to focus on managing data access and maintaining protection policies, including snapshots and data replication.



Unlike a CapEx solution where planning for storage scaling is more complex, the APEX Console makes it easy to track utilization and add capacity at any time. The initial deployment will include a buffer so routine on-demand usage above base capacity does not require any lead time. Only large spikes in capacity utilization or increases in base capacity that necessitate additional racks, appliances, and/or drives include a 14-day time-to-value objective.⁵ At the end of the initial term, base capacity can also be lowered if the scaled infrastructure is no longer meeting your needs.

Azure Arc + APEX: Best of Both Worlds

For some organizations, the public cloud was where the company began and the on-premises experience of the monolithic releases of Microsoft SQL Server has never been their reality. These companies may soon find themselves with the need to expand to an on-premises or hosted private cloud environment due to increased edge activity, data gravity issues, disaster recovery, business continuity planning, or more. The good news is that as the SQL Server environment stretches from Azure to include a new private cloud deployment, the same experience from Azure can be had with Managed Instance. However, for companies in this position, there may be a gap in the human IT resources available to run the environment.

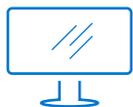
APEX Storage Data Services also plays a role in the ease of the deployment, management, scaling, and possible decommissioning of the on-premises environment. With APEX Data Storage Services, organizations can recognize the benefits of public cloud with the control and enterprise-class features of on-premises infrastructure deployed in an as-a-Service model.

As part of the APEX Storage Data Services experience, a Customer Success Manager (CSM) will serve as a trusted advisor and primary point of contact from day 1 through the offer lifecycle. It's all designed to provide simplicity, agility, and control, while knowing Dell Technologies will take on the tasks of managing and optimizing the infrastructure. The CSM ensures a worry-free experience -- leaving IT resources available to harness the full power of your data. The CSM will collaborate with you on strategic direction and schedule business reviews to discuss goals and progress. With insights that span the organization and a keen understanding of your goals, CSMs will keep you informed, connected, and confident that you have what you need to achieve desired outcomes.

The Future is Clear

Elastic scalability is one of the common threads between Azure Arc-enabled data services and APEX Data Storage Services. Instances of SQL Server can be ramped up or down to meet the requirements of the your workloads. The underlying storage is a key factor in the levels of scale that can be achieved and APEX Data Storage Services allows seamless scaling of capacity up and down, as well as simple pricing with a single rate for base and on-demand capacity. There is no penalty for the flexibility of on-demand, elastic usage, so it's easy to plan ahead and optimize your service for performance, capacity, and cost.

The challenges of Microsoft SQL Server in a hybrid cloud scenario are significantly reduced with the combination of Azure Arc-enabled data services and APEX Data Storage Services. Get up and running in as few as 14 days⁵ and do it confidently with Storage as-a-Service designed for 99.9999% availability⁶ from the #1 enterprise storage provider⁷.



[Learn more](#) about APEX Data Storage Services



[Contact](#) a Dell Technologies Expert

¹ IDC FutureScape: "Worldwide Future of Digital Infrastructure 2021 Predictions," October 2020 DOC #US46470820

² Gartner®, "Market Guide for Consumption-Based Pricing for Data Center Infrastructure," March 2021. GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.

³ OpEx treatment is subject to customer internal accounting review and policies.

⁴ A Forrester New Technology Projected Total Economic Impact Study, commissioned by Dell Technologies, June 2021. Estimates projected over 3 years, based on interviews with four organizations using APEX Data Storage Services, aggregated and combined into a composite organization, and survey responses from an additional 121 IT decision makers. Actual results will vary. Full report.

⁵ Applies in US, UK, France, and Germany. TTV measured between order acceptance and activation. Subject to customer credit approval and site qualification, which must be completed before order placement, and customer participation in pre-deployment planning. Product availability, holidays and other factors may impact deployment time.

⁶ Based on hardware availability on common underlying platform configurations. Actual hardware availability may vary.

⁷ IDC WW Quarterly Enterprise Storage Systems Tracker, 2021 Q2 historical release, September 9, 2021. Ranking by vendor revenue.

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