

Simplify and save through Kafka Tiered Storage with Confluent Platform and Dell ECS

Dell ECS/Confluent Solution Highlights

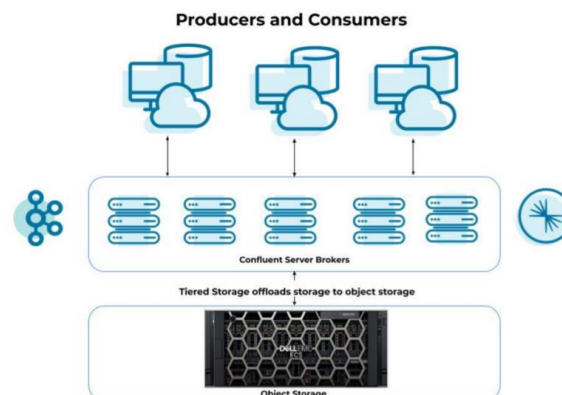
- **Built to help you innovate** – instead of spending time on integrating open-source tools and scale-out storage infrastructure.
- **Confluent Platform** – a complete, self-managed platform for continuously streaming data, augmenting Kafka capabilities and value.
- **Tiered Storage supported on Dell ECS** – starting with Confluent Platform 6.2.0, Tiered Storage on Dell ECS object storage is fully supported.
- **Turnkey engineered solution** – easy to order and deploy with all components engineered and balanced to meet performance specifications.
- **Limitless scale, limitless retention** – by tiering warm data to Dell ECS object storage.
- **Lower TCO** – while maintaining data control with the cost-effective on-premise ECS object store.

Set data in motion at scale – with cost-effective tiered storage

Businesses planning to thrive in today's digital-first world needs a modern platform for data in motion. Apache Kafka has become the industry standard for this infrastructure, leveraged by over 70% of the Fortune 500. However, storing huge volumes of data in Kafka can be costly and hard to manage—a situation resolved by applying the Kafka Tiered Storage architecture.

Dell Technologies and Confluent are ready to help. Dell ECS is a leading, trusted enterprise object storage solution. Confluent Platform augments Kafka by providing a more complete, cloud-native platform to set your data in motion.

Dell Technologies has tested and certified Confluent Platform with Dell ECS as the S3 protocol back end for Kafka Tiered Storage. Through the solution, you separate data storage concerns from data processing concerns, allowing each to scale independently. You can send warm data to cost-effective Dell ECS object storage, and scale Kafka brokers only when you need more compute resources.



How It Works: Kafka Architecture with Tiered Storage and Dell ECS

Confluent Platform: enterprise-grade distribution of Apache Kafka

The Confluent Platform offers a complete, self-managed platform for continuously streaming data from across your organization. The platform completes Kafka with advanced capabilities designed to help accelerate application development and connectivity, enable transformations through stream processing, simplify enterprise operations at scale and meet stringent architectural requirements.

ECS: enterprise-grade object storage

ECS, the leading object storage platform from Dell Technologies, boasts unmatched scalability, performance, resilience and economics. ECS comes in several appliance form factors including HDD and all-flash-based systems ideal for analytics and modern application workflows. ECS also provides rich S3-compatibility on a globally distributed architecture, empowering organizations to support enterprise workloads such as cloud-native, archive, IoT, AI and big data analytics applications at scale.

Tiered Storage architecture overview

The Tiered Storage architecture augments Kafka brokers with a Dell ECS object store, storing data on ECS instead of local storage on brokers. Offloading data to tiered storage means brokers contain less state locally, becoming lightweight and rebalancing hot data much more quickly. This architecture is transparent to producers and consumers, who connect to brokers and allow adoption as always.

Tiered Storage simplifies the operations and scaling of a Kafka cluster enough so that it is easy to scale Kafka clusters to petabytes of data. With the ECS system as the back end, Tiered Storage has the performance to make all Kafka data accessible for both streaming consumers and historical queries.

ECS design principles map well to disaggregated Kafka clusters; both ECS and Kafka use scale-out architectures with linear and predictable scaling of performance and capacity. As an S3 back end for Tiered Storage, ECS provides simple, high-performance, reliable and scalable storage for on-premises data pipelines.

Solution features and benefits

- **Lower Total Cost of Ownership** – Tier your large-scale storage with ECS, so you can review stream history and maintain data control with lower TCO than public cloud.
- **Limitless Retention** – Retain data at any scale for compliance requirements; Dell ECS scales limitlessly to enable this Confluent feature.
- **Right-Sized Confluent Clusters** – Choose from multiple available Dell Validated Designs/Ready Architectures to help you confidently right-size your infrastructure for the Confluent cluster.
- **Integration with Confluent Ecosystem** – Extend capabilities further by tapping into Confluent's broad range of partners—including Elastic, Hadoop, Application, Snowflake, Data Bricks, SAP, AWS RDS, Oracle and Mongo.
- **One Certified Vendor** – Get value faster and with less risk through a complete validated Dell solution for all your infrastructure needs (including servers, networking and storage).
- **Flexible Consumption Options** – Choose from Capex, Opex and Apex models.
- **Unrestricted Developer Productivity** – Democratize Kafka for a wider range of developers and accelerate how fast they build real-time applications that leverage data in motion.
- **Efficient Operations at Scale** – Minimize operational complexity while ensuring high performance and scalability as data in motion grows through your organization.
- **Production-stage Prerequisites** – Architect the platform with the foundational enterprise-level attributes needed to implement data in motion use cases in production.
- **Availability Everywhere** – Deploy as you like on-premises as a cloud-native system on Kubernetes, or on bare metal and virtual machines, or leverage a fully managed cloud service with Confluent Cloud.
- **Committer-driven Expertise** – Leverage the world's foremost Kafka experts, who work directly with Kafka committers to assist you throughout the application development lifecycle.

Take the next step

Please contact your Dell Technologies or Confluent sales representative or authorized reseller to learn more about how the solution can benefit your organization.



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