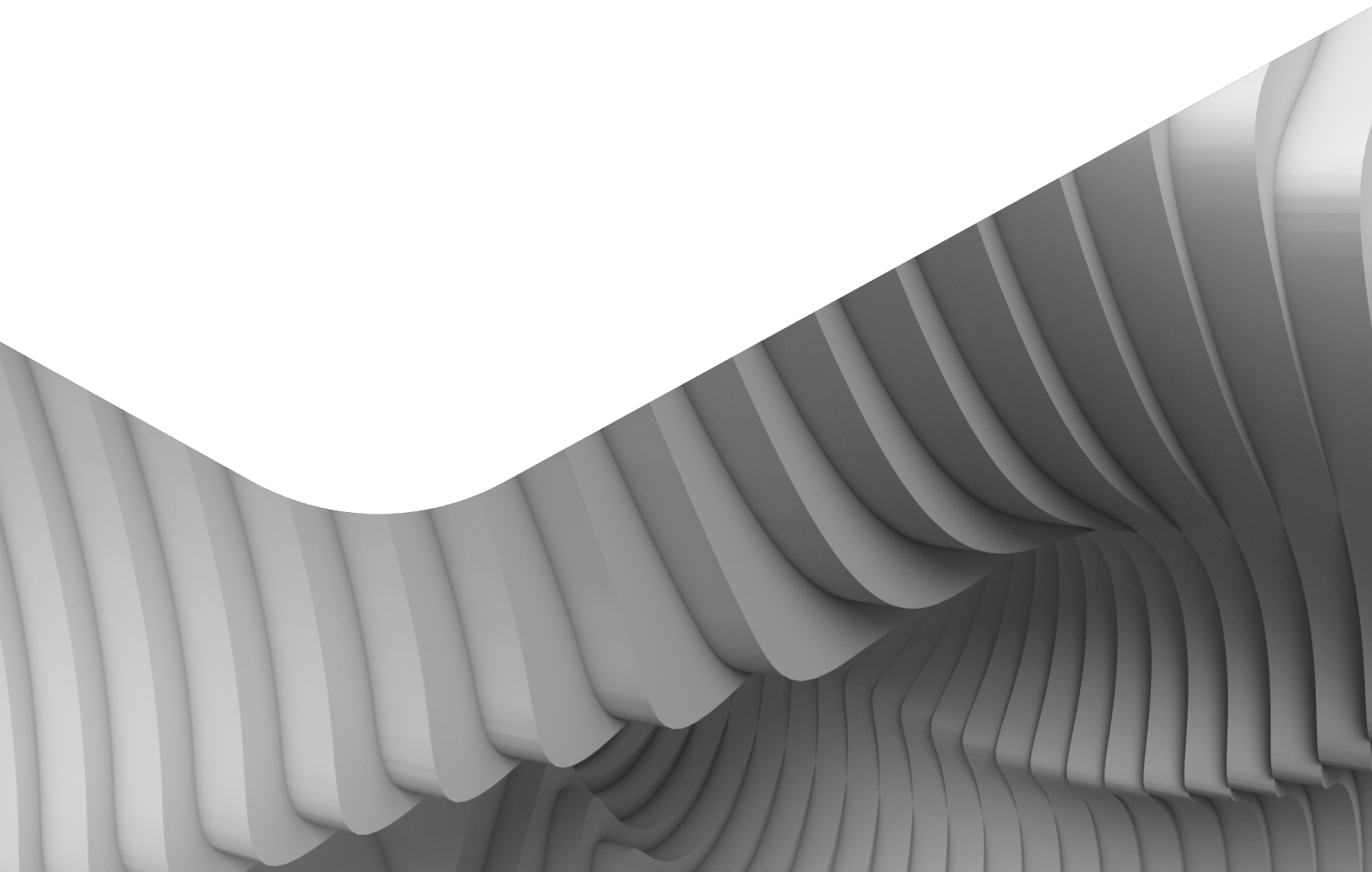
Kemp ECS Connection Manager

Solution Brief

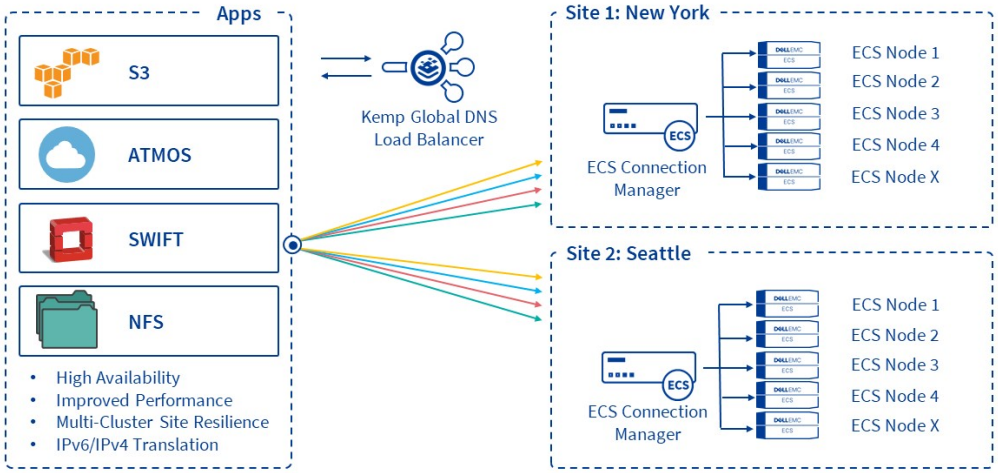


Introduction

Kemp ECS Connection Manager enhances the availability, performance and operation of Dell EMC ECS object storage environments by intelligently load balancing traffic across the ECS infrastructure.

Scalable with Zero Downtime

With modern applications and the ever-increasing amount of data being stored, availability is of the utmost importance. Kemp enhances the availability and performance of Dell EMC ECS next-generation software-defined storage therefore maximizing customers' infrastructure investment. Dell EMC ECS and Kemp ECS Connection Manager to deliver a cloud storage platform that supports the storage, manipulation, and analysis of unstructured data with massive scale. Kemp ECS Connection Manager hardware and virtual appliances are now available from Dell EMC through the Select Partner Program.



Kemp ECS Connection Manager and Dell EMC ECS solution

Dell EMC recommends Kemp ECS Connection Manager to customers to provide enterprise-level high availability and performance expected in today's market. When non-interrupted access to data stored in Dell EMC ECS is required, Kemp ECS Connection Manager provides advanced application-level health checking to ensure the ECS nodes are healthy and ready to accept connections. In the event a node is offline whether unscheduled or during a maintenance window, Kemp ECS Connection Manager will mark that node as down and redirect traffic to the other healthy nodes. Using SSL/TLS offloading will provide greater performance by terminating the secure connection on the Kemp ECS Connection Manager and sending traffic back to ECS unencrypted. This configuration eliminates the encryption processing overhead on the ECS nodes and places it on the Kemp ECS Connection Manager which is optimized to handle this traffic. Organizations that have adopted IPv6 can leverage ECS Connection Manager as a gateway to allow for communication between the end points over IPv6 and Dell EMC ECS over IPv4. This translation simplifies deployments in these mixed environments and still delivers the same high availability and performance.

Kemp ECS Connection Manager Site Resilience

Providing high availability within a single Dell EMC ECS cluster is essential, but it is not uncommon for organizations to distribute data across multiple clusters. These clusters are often in different data centers, deployed in an active/active configuration. Kemp ECS Connection Manager Global Server Load Balancing (GEO) provides intelligent geographic distribution of traffic based on proximity which provides better performance and, in the event of a complete site failure, directs all traffic to a healthy datacenter. Kemp GEO offers scheduling methods for directing traffic to sites hosting ECS clusters, meeting the needs of every organization.

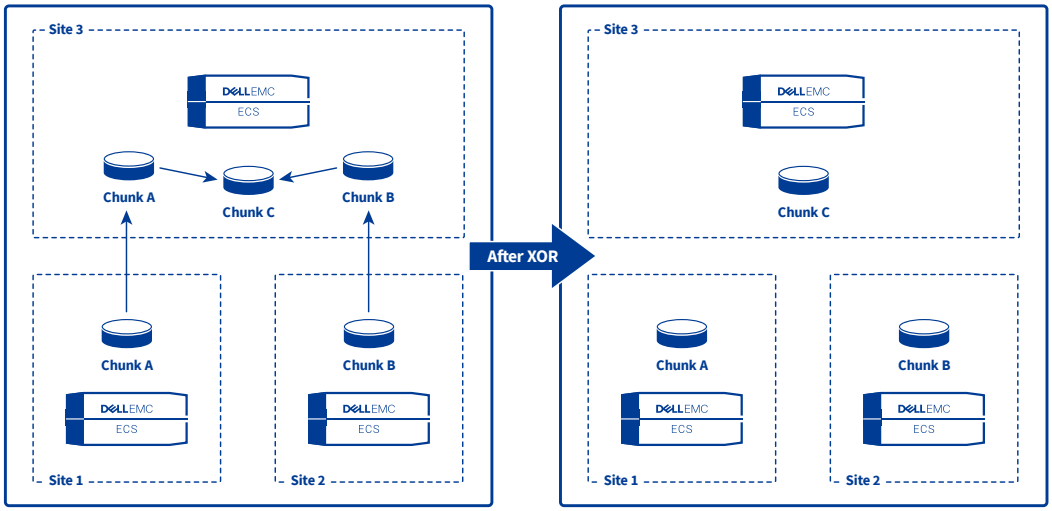
- Round Robin
- Weighted Round Robin
- Fixed Weighting
- Real Server Load
- Proximity
- Location Based

Maintaining Critical Application Performance with QoS

ECS Connection manager implements QoS (Quality of Service) controls to rate limit connections and requests to Dell EMC ECS platforms providing full control over the levels of service provided to applications and users. With QoS, administrators can implement fair and balanced allocation of service across multiple workloads and ensure critical applications are not impacted by excessive requests generated by rogue applications. QoS controls may be applied based on connection rate or request rate with the option of providing graceful throttling of requests with a HTTP 429 response (Too many requests) or with a 503 response (Service unavailable). For maximum flexibility controls can be applied based on the client (source) or on the ECS resource (target) being accessed.

S3 Optimized Scheduling

Dell EMC ECS “XOR” storage efficiency leverages the optimized scheduling component of Kemp ECS Connection Manager. This method utilizes a URL Hash algorithm to distributed writes evenly across multiple sites and sends all reads to the site owning the object. This reduces ECS system overhead and WAN bandwidth providing greater performance and optimization of S3 traffic.



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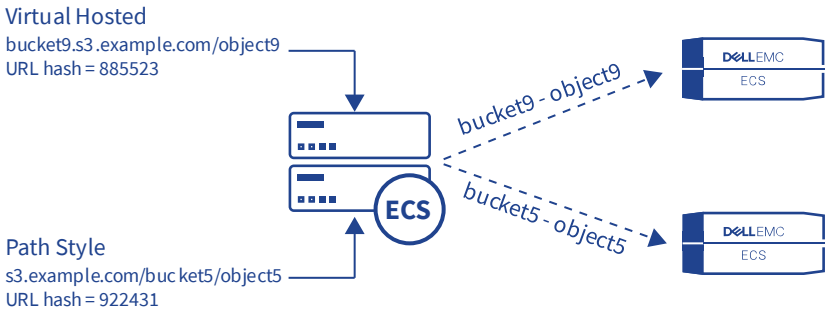
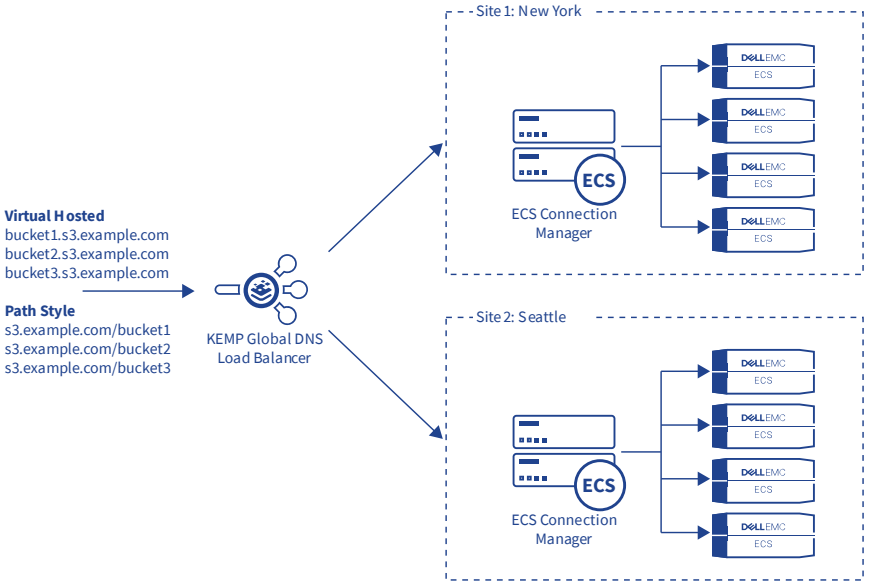
S3 Addressing Auto-Detection

ECS currently supports two addressing methods, Path Style and Virtual Hosted Addressing. In most ECS environments consisting of multiple sites that require the “XOR” storage efficiency and/or geographic distribution, the need to support both methods becomes essential. ECS Connection Manager delivers S3 Addressing Auto-Detection to simplify the configuration while providing the optimized distribution of objects throughout the ECS solution using both addressing methods seamlessly.



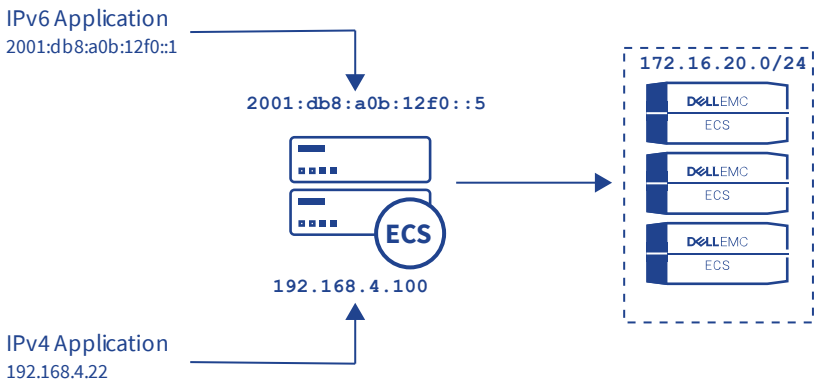
Dynamic Global Host Resolution

Most ECS deployments include multiple geographic locations providing the required site resilience for the object storage solution. ECS Connection Manager’s Global Server Load Balancing (GSLB) feature distributes traffic across these multiple locations with the use of intelligent DNS. The implementation of GSLB will be different contingent on whether the applications accessing the storage leverage Path Style or Virtual Hosted addressing methods. This is due to behavior of Virtual Hosted which now includes the S3 bucket names within the HTTP Host Header requiring DNS to support this dynamic addressing method. ECS Connection Manager takes this requirement and extends it to support Dynamic Global Host Resolution within GSLB to provide the flexible multi-site distribution and availability for ECS deployments leveraging both Path Style and Virtual Hosted addressing.



IPv6 to IPv4 with Network Isolation

ECS Connection manager extends the reach of ECS services to multiple IPv6 and IPv4 networks while preserving network isolation. Enabling access from IPv6 networks to ECS is as simple as adding the ECS Connection manager to the IPv6 network and creating a service that points to the ECS IPv4 infrastructure.



In the example above, the IPv6 and IPv4 applications have concurrent access to ECS with the ECS Connection Manager providing network isolation. Multiple IPv6 and IPv4 networks may be supported with options to isolate using VLANs or with physically different network ports on hardware appliances.

Federal Information Processing Standards and IPv6 (USGv6)

Kemp is fully aware of federal mandates and public laws and has incorporated a FIPS 140-2 certified software encryption module into our core operating system and made it available to all ECS Connection Managers. This has become mandatory across most verticals to deliver the security and compliance for today's modern applications. ECS Connection Manager is also fully certified for IPv6 operation under NIST USGv6 Revision 1 specifications as required under Federal Acquisition Regulations.

Why Kemp ECS Connection Manager

Kemp powers always-on application experience (AX) for enterprises and service providers. Kemp's agile consumption model, predictive analytics, and automated issue resolution, radically simplifies how customers optimize, analyse and secure their applications across private and multi-cloud environments. Enterprise, healthcare, government or service provider customers running Dell EMC ECS benefit from enhanced performance and availability by including Kemp ECS Connection Manager in their environment.