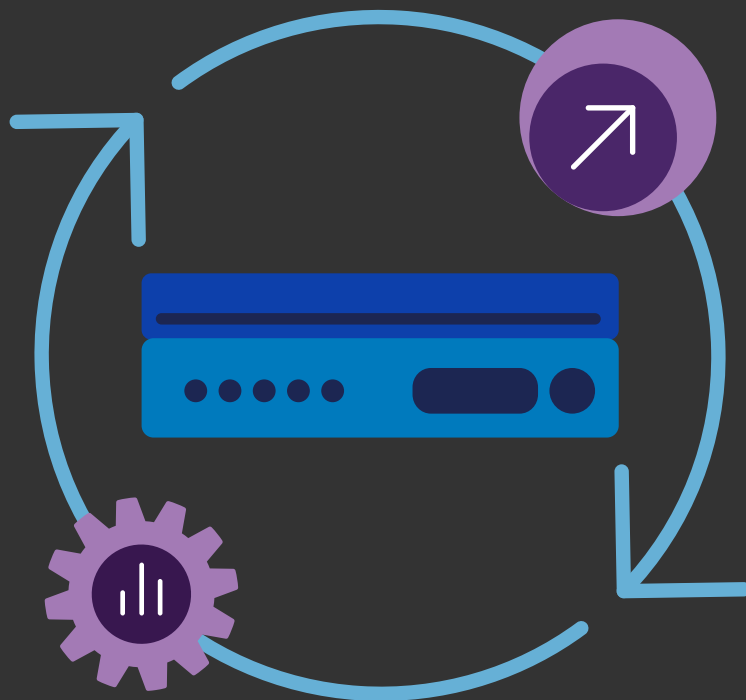


# Optimize AI Data Processing Costs and Enhance Security with F5 rSeries, VELOS, and BIG-IP LTM

Revolutionize your AI network traffic management with F5 rSeries and VELOS, alongside the powerful capabilities of BIG-IP LTM, designed to reduce costs, boost performance, and enhance security protection.



## Key Benefits

### Reduce network traffic costs

Process data on-premises to cut network traffic costs and minimize dependency on expensive, unpredictable cloud bandwidth.

### Boost data processing performance

Utilize F5's advanced traffic management capabilities to accelerate data processing speeds crucial for efficient AI model training. Achieve up to 800Gbps of traffic on a fully-loaded VELOS platform with Fast L4.

### Enhanced data security

Retain sensitive training data within the organizational perimeter, enhancing security and compliance with regulatory standards.

**77% of organizations do not feel confident in their IT environment's capacity to meet impending AI data management needs.**

ESG Research - Navigating the Evolving AI Infrastructure Landscape. December, 2023

**The rapid evolution of AI technologies necessitates extensive training datasets, especially rich media content**, which significantly escalates network traffic and associated costs when processed through cloud providers. Enterprises grappling with these rising costs face a dual challenge: maintaining the high-speed data throughput required for efficient AI learning models while managing escalating expenditures tied to data transit and processing in the cloud.

Relying on cloud infrastructures for processing large-scale AI training data not only inflates operational costs but also introduces latency, potential data sovereignty, and security concerns. As AI models become increasingly complex, the volume and frequency of data ingestion between on-site systems and cloud environments cause substantial network load, leading to increased costs and potential bottlenecks in data pipelines.

In response, organizations are seeking efficient, cost-effective alternatives to cloud-based processing. The need for solutions that can consolidate data processing in regional points of presence (PoPs) and on-premises while ensuring scalability, performance, and security is more critical than ever. The F5® rSeries and F5 VELOS® platforms with F5 BIG-IP® Local Traffic Manager™ (LTM) offer a promising pathway to address these challenges.

## A Comprehensive Solution

The F5 rSeries and VELOS platforms provide a robust colocation or on-premises solution that mitigates the high costs and limitations associated with cloud-based AI training data. By leveraging the powerful capabilities of BIG-IP LTM, these platforms optimize data routes, effectively reducing unnecessary data transfers and associated costs. This not only minimizes the bandwidth used but also substantially enhances the speed and efficiency of data processing, which is crucial for training accurate and effective AI models.

The colocation or on-premises approach of rSeries and VELOS offers significant cost savings by eliminating reliance on cloud bandwidth. It also improves data security and compliance with regulatory requirements. With data processed locally, enterprises gain full control over their sensitive training data sets, complying with data sovereignty requirements, and mitigating risks related to data breaches and unauthorized access that are more prevalent in cloud environments.

## Key Features

### Streamline data routing

Optimize routing of rich media and other AI training data to enhance processing efficiency and reduce latency with BIG-IP Local Traffic Manager.

### Fortify network security

Integrated firewall protections in rSeries and VELOS safeguard against external threats and unauthorized data access.

### Expand capacity effortlessly

Scale seamlessly by integrating additional VELOS blades and rSeries flexible consumption licensing as demands increase, without service interruptions.

### Automate with an API-first approach

F5 rSeries and VELOS platforms provide a fully automatable system to deliver the agility that large AI data sets demand.

### Enable high speed parallel data ingestion

Enables scalable and available PoP infrastructure for large data object storage before transit to data lake storage.

Additionally, the scalability of F5 solutions ensures that as the demand for data processing grows, enterprises can expand their capacity seamlessly. Additional blades can be integrated into the VELOS chassis without disrupting existing operations, providing a scalable and flexible infrastructure that adapts to evolving business needs. This scalability, coupled with enhanced control and security, makes F5's rSeries and VELOS ideal for enterprises looking to future-proof their network infrastructure in anticipation of the growth of advanced AI applications.

## Future-Proof Your Network Infrastructure

By adopting F5 rSeries and VELOS with BIG-IP LTM, enterprises are empowered to efficiently address not only current but future AI data processing challenges. The colocation and on-premises approach offers a significant reduction in operational costs associated with cloud services by keeping data traffic within the enterprise perimeter, thus avoiding the premium prices charged for high-volume cloud processing. This strategic shift not only reduces operational expenditures but also fortifies the infrastructure against potential disruptions or slowdowns that often accompany cloud dependency, especially as data demands scale.

Furthermore, the integration of advanced F5 technologies like BIG-IP LTM enhances overall system resilience and operational agility. F5 rSeries and VELOS with BIG-IP LTM allow enterprises to maintain high availability and consistent performance even as network demands evolve. The scalability of the rSeries and VELOS systems ensures that additional capacity can be added seamlessly without requiring extensive downtime more reconfiguration, enabling businesses to adapt quickly to AI data set growth and the changing technological landscapes and market demands.

The strategic foresight in adopting such robust solutions places enterprises in an advantageous position to leverage technological advancements, ensuring they remain competitive and well-prepared for the demands of modern digital ecosystems.

Engage with our team to explore the F5 rSeries and VELOS with BIG-IP LTM solutions. [Contact F5.](#)

