ionstream.ai

ionstream.ai delivers AI managed services using Juniper's network for AI workloads solution

Discover the next generation of high performance, secure, and automated networks for AI workloads

Learn more →

Industry

Technology

Region

Americas

Overview

> "Juniper provides us with **easy-to-deploy, scalable, and AI-optimized networking** so that we can deliver accessible, first-class GPU-as-a-service and AI transformation for our customers, however they choose to consume it."
>
> **Jeff Hinkle**
> CEO, ionstream

High-performance, 800GbE data centers for AI-as-a-service

AI pioneer ionstream.ai simplifies AI deployments for enterprises, offering cloud-hosted GPU-as-a-Service (GPUaaS) and scalable AI infrastructure for on-demand AI workloads. With demand outpacing its existing infrastructure, ionstream.ai launched an extensive competitive evaluation process, selecting Juniper products and technologies for its next-generation AI data centers.

Challenge

ionstream.ai's on-demand, managed AI services provide flexible scalability, immediate time-to-market, and affordable consumption models for enterprises. But the high and rapidly changing demand for AI infrastructure makes it difficult to accurately forecast infrastructure scale and performance needs.

ionstream.ai's challenge to accommodate changing customer need for inferencing and training necessitated a flexible and reliable high speed architecture. With their offering of both NVIDIA and AMD GPUs, ionstream required an open, multivendor networking fabric with superior availability, high performance and scale, and seamless support for its technical operations team.
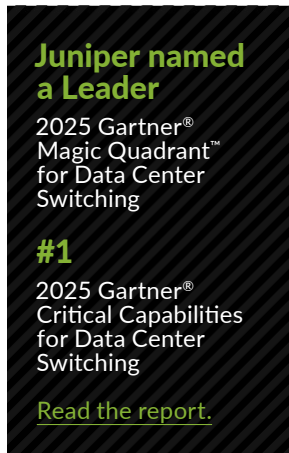
Transformation

"In the rapidly evolving field of AI and ML, selecting the right GPU infrastructure and deciding whether to build, buy, or rent it can significantly impact a company's success," said Jeff Hinkle, CEO at ionstream. "We chose Juniper's Ethernet solution to reduce flapping often seen in InfiniBand networks as well as the flexibility of Ethernet to reconfigure a dynamic server farm to changing customers in a bare metal environment. The speed difference is negligible and the ease of use of Juniper Junos OS operating system compared to other less mainstream operating systems was critical in our decision for our network engineers to support the network."

Hinkle continued: "Juniper provides us with easy-to-deploy, scalable, and AI-optimized networking so that we can deliver accessible, first-class GPU-as-a-Service and AI transformation for our customers, however they choose to consume it."

www.juniper.net

The Juniper AI data center solution is foundational to all ionstream.ai's managed AI service offerings. As a key element of Mist™, Juniper's AI-native networking platform, the AI data center solution is built on a spine-leaf architecture using AI-optimized 800GbE Juniper Networks QFX5240 switches. It enhances GPU performance with RDMA over Converged Ethernet version 2 (ROCEv2) and uses Ethernet VPN (EVPN) to secure multi-tenant environments, making it a reliable and efficient choice for AI-driven networks.

Outcomes

Open ecosystem	High performance	Scalable
TCO	**800GbE**	**AI**
Competitive and accessible networking	First to market	On-demand capacity

Solution and implementation

Juniper AI Data Center Networking   Juniper QFX5240 Switch

Juniper's network for AI workloads solution

Juniper delivers AI cloud infrastructure solutions that accelerate time-to-market and maximize ROI for service providers, neoclouds, and cloud providers. Solutions include secure, multi-tenant AI cloud infrastructures that simplify GPU virtualization to eliminate idle time and maximize efficiency.

Key features include:

- **AI-native operations:** Accelarate the delivery of AI cloud services

- **Zero Trust security:** Safeguard customer models and data

- **Automated optimization**: Enhanced AI service performance

- **Intent-based automation:** Simplified design, deployment, and operations

- **GPU-as-a-Service:** Scalable and secure networks for AI services

The Juniper QFX5240 switch is designed for AI data centers, offering 800GbE ports and advanced networking features. It supports high-density, high-speed connectivity and automation through Juniper Apstra Data Center Director software, ensuring efficient AI workload management and reduced job completion times (JCT).

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Key takeaways and outcomes

Leading the industry in networks for AI workloads

Choosing the right GPU infrastructure is critical for success in AI. After evaluating networking options, ionstream.ai selected Juniper's AI-optimized Ethernet data center solution for its openness, performance, and scalability.

Open Ethernet ecosystem

An open AI infrastructure seamlessly integrated multivendor GPUs and storage for flexibility, availability, time-to-market, and a broad technical support ecosystem.

High-performance AI data center networking

The high-capacity, 800GbE AI data center networking delivered high-performance and low-latency training for the lowest job completion time, inferencing with the fastest time-to-first-token (TFFT), and advanced software features for congestion avoidance and control.

Scalable networking for managed AI workloads

The extensible and flexible Ethernet data center fabric with EVPN/VXLAN isolation separates and secures multi-tenant AI workloads for scalable AI managed services.

Why Juniper

Automated, high-performance, and flexible networks for AI workloads

Juniper's AI data center solution is a quick way to deploy high performing AI training and inference networks that are the most flexible to design and easiest to manage with limited IT resources. Juniper integrates industry-leading AIOps and world-class networking technologies to help customers easily build high-capacity, easy-to-operate network fabrics that deliver the fastest JCTs, maximize GPU utilization, and use limited IT resources.

More information

AI for network ops and networks for AI workloads

To learn more about Juniper's AI for data center solution, visit https://www.juniper.net/us/en/solutions/data-center/ai-infrastructure.html

To learn more about networking the AI data center, read the whitepaper https://www.juniper.net/us/en/forms/2024/networking-the-ai-data-center.html

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