

# Networking the Al Data Center

Get ROI from your AI with optimized GPU computation.



Al infrastructure spending will increase Data Center CAPEX by 15% to over \$500 Billion by 2027

Source: Dell'Oro Group

THE PROBLEM

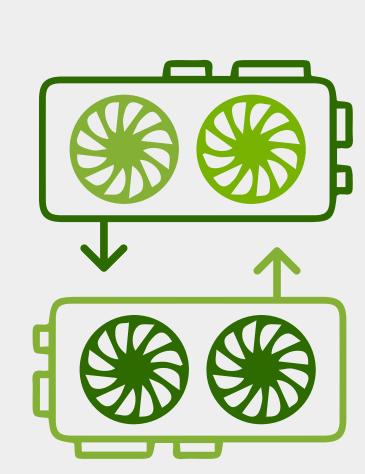
5400.000+

per GPU-powered AI training server

Source: Juniper research

The cost of running special-purpose **Graphics Processing** Units (GPUs) in 2023

GPU compute resources are costly, but necessary for Al-driven data center network infrastructure. To get the most out of these resources for Al training, you must be tactical and economical. Otherwise, training will be limited by network constraints, rather than compute capabilities.

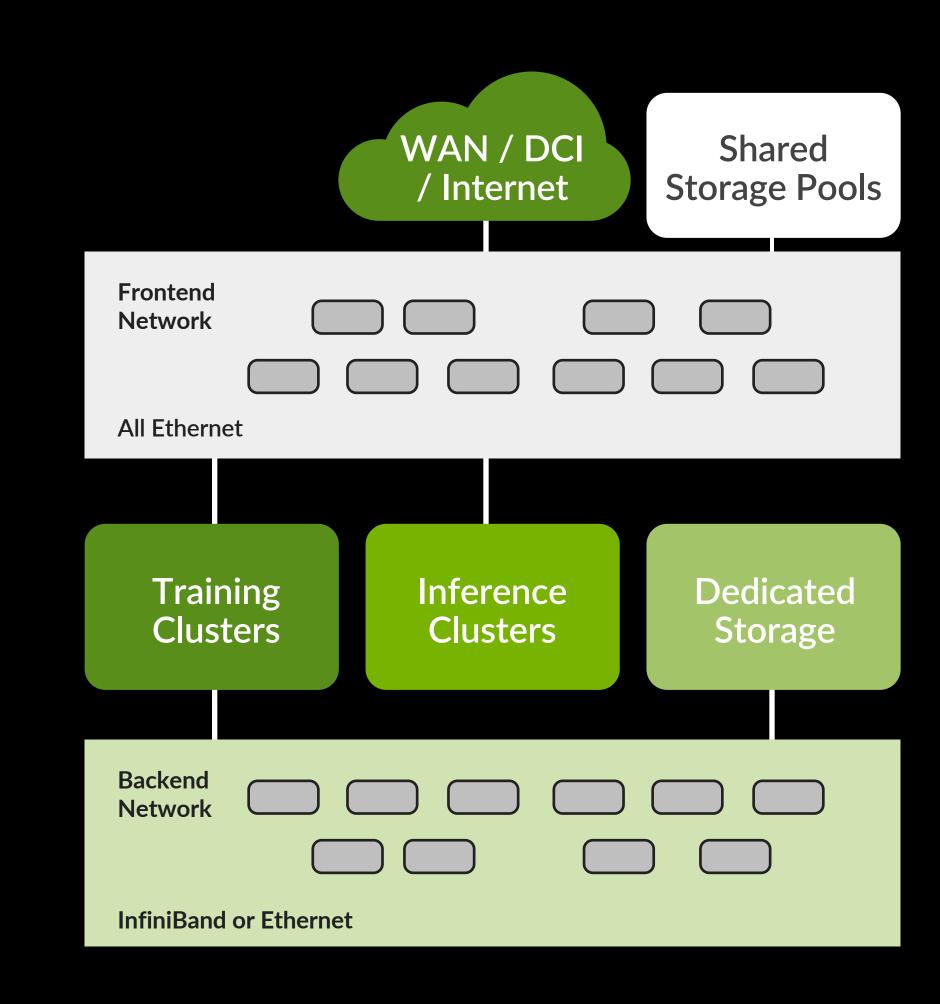


Parallel processing across GPUs increases efficiency. However, poor network design can lead to tail latency, negating your efficiency gains and delaying job completion time.

### THE SOLUTION

## An Al Data Center Network can help

As an open, future-proof, and proven solution for enterprise networks, Juniper's Al Data Center Network improves the return on your infrastructure investment.





#### Massively scalable performance

Fastest job completion time.

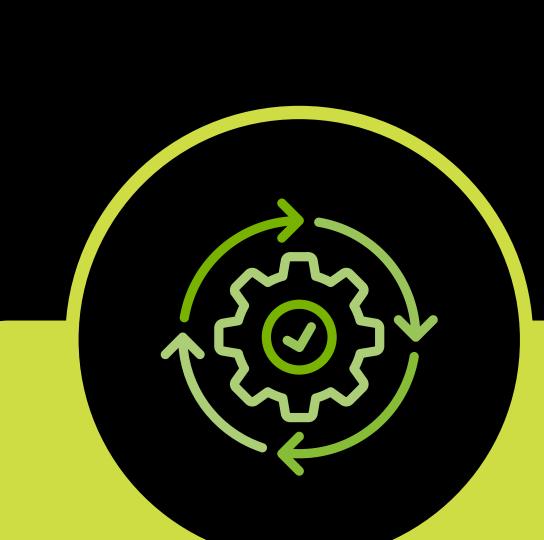
- Optimize GPU efficiency ASIC diversity allows customers
- to pick, select, and mix compute based on location, price, performance, and preference
- Support Juniper ASICs and Broadcom chips in our families of Al data center networking products



#### **Industry-standard** openness

**Designed to work with existing** infrastructure.

- Industry-driven ecosystems promote innovation and drive down costs
- 400G and 800G Ethernet technology with the backing and expertise of the industry to deploy cost-effective innovations without vendor lock-in
- QFX/PTX, with 400G and 800G market leadership, is an industry-best solution



#### **Experience-first** operations

**Automate and simplify AI networking.** 

Automate and simplify networking

for the backend, frontend, and storage fabrics Maximize current DC-IT resources, lower operational requirements, and reduce

operating expenses

 Juniper Apstra, as the only intent-based, multivendor data center solution, is inherently designed for efficient, economical Al learning



See how Juniper powers the Al revolution with enhanceddata transfer, lossless transmission, and congestion-control technologies.

Go deeper into the challenges and solutions of Al data center networking.

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