Scaling AI with purpose

Prometheus Hyperscale is proving that speed, scale, and sustainability can coexist in the age of AI with Lumen

Prometheus Hyperscale

prometheushyperscale.com

- Leader in scalable data center design, creating energy-efficient hyperscale data centers
- Flagship project on family ranch blends traditional ranching values with advanced AI technology
- Committed to environmental stewardship and generating local economic growth

Challenges

- The project must match the network availability, performance, and security of a typical Metro Data Center to meet the demands of discerning clients.
- Advanced modern chip design requires techniques to manage exponentially higher power consumption.
- Environmental focus requires sustainable and responsible data center operations.

Solutions

- Lumen® Private Connectivity Fabric℠ (Lumen® PCF℠) to secure, low latency connections, efficiently managing data traffic.
- Black Lotus Labs® to monitor and protect network traffic against threats.
- Network management to enhance data center operations, scalability, and efficiency.

Results

- Developing sustainable infrastructure for AI, machine learning, and high-performance computing.
- Implementing liquid cooling with recycled waste heat, reducing power consumption by approximately 50%.
- Positioned to be an AI-ready data center with state-of-the-art efficiency for next-gen computing.

prometheus HYPERSCALE

1.2 GW+

Planned capacity

<5ms

Latency to Salt Late City and Denver, and <18 ms to Seattle

3

Lumen long-haul fiber routes connecting to major cities

LUMEN®

Challenge

Laying the foundation for the future

Coming from a sixth-generation ranching family, Trenton Thornock values a strong foundation for the future. Now, as founder and CEO of Prometheus Hyperscale, he channels his expertise in innovation and responsible stewardship to address the growing demand of AI-ready data centers. Trenton is committed to revolutionizing the industry with efficient and sustainable solutions.

"We can't solve the AI problem and its environmental impacts without thinking about the impact to the land," he said.

To achieve this, Prometheus Hyperscale required high-capacity, low-latency connectivity for their flagship project on the ranch property. Implementing high-performance infrastructure, such as modern chips, also required advanced techniques to efficiently manage the increased power supply.

Solution

Innovative partnership for sustainable growth

Prometheus Hyperscale partnered with Lumen to advance their infrastructure. By leveraging Lumen Private Connectivity Fabric (PCF), Prometheus gained fast, secure, and flexible connections, achieving speeds down to sub-five millisecond latency for high-performance computing and AI applications.

"By adopting Lumen Private Connectivity Fabric, we're using the same network as some major hyperscalers," said Trenton, "This allows us to securely and quickly connect to other cloud services and AI services with high bandwidth."

Security was a priority. With Lumen PCF and Black Lotus Labs, the threat research and operations arm of Lumen, Prometheus established strong network-side security with active traffic monitoring, making their infrastructure reliable and appealing to major hyperscalers and business partners.

Through this partnership, Prometheus met immediate infrastructure needs and laid the groundwork for scalable expansion, driving their mission to deliver sustainable, high-performance AI infrastructure.

> "Lumen's future-ready fiber is the connective fabric we need to provide best-in-class connectivity and drive our mission of sustainable data centers for the greater good."
>
> — **Trenton Thornock**
> Founder and CEO, Prometheus Hyperscale

Results and Future Plans

Pioneering sustainable data centers

Together, Prometheus Hyperscale and Lumen have enhanced infrastructure, strengthened security, and provided lightning-fast connectivity, laying the foundation for the flagship data center, set to be online in 2026.

Prometheus's heritage in ranching and innovation shapes their perspective, valuing clean energy and renewable resources. "If we fail at our efforts at stewardship, we failed — full stop," said Trenton.

The high-density power and efficient cooling systems support power densities far beyond traditional data centers, establishing Prometheus as a beacon of efficient, scalable digital infrastructure for AI. They are setting new industry standards for sustainability and performance, proving that innovation and responsibility can go hand in hand.

Lumen Solution Set

- Lumen® Private Connectivity Fabric℠ (PCF)

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