

Greenfield Data Center Expansion

Drive tenant activation. Optimize time-to-revenue.

Greenfield data center expansions represent both opportunity and risk for data center operators (DCOs). New facilities must be brought online revenue-ready from day one, even when tenant demand, workload mix and interconnection requirements are still uncertain. Yet traditional network models often lag behind power and real estate availability, relying on custom designs, long provisioning cycles and fragmented carrier ecosystems. The result is slow tenant onboarding, high operational complexity and increased pressure to either over-build infrastructure or risk delaying time-to-revenue as demand materializes.

Lumen helps DCOs overcome these challenges by providing a day-one connectivity foundation designed for scale, speed and flexibility. With access to high-capacity backbone connectivity, on-demand bandwidth and a broad interconnection and cloud ecosystem, Lumen enables greenfield sites to launch with the performance, reach and agility tenants expect without locking operators into rigid or over-engineered designs. By simplifying network deployment and enabling dynamic scaling as demand evolves, Lumen helps DCOs accelerate tenant activation, optimize time-to-revenue, and differentiate new facilities as ecosystem-ready platforms.

Challenges

Network readiness lags behind power and real estate

In greenfield builds, power and space often come online before connectivity. DCOs struggle to efficiently stand up scalable, low-latency network infrastructure with sufficient backbone reach, interconnection access and cloud connectivity, creating risk that the facility opens without being fully marketable to tenants.

Uncertainty around tenant demand and workload mix

DCOs must commit to infrastructure before knowing who the first tenants will be or what workloads they'll run (AI, cloud on-ramps, data replication, SaaS, etc.). Over-building hurts ROI; under-building slows tenant onboarding and time-to-revenue.

Long lead times delay monetization

Custom network designs, manual provisioning and dependence on multiple carriers can delay tenant turn-up, putting early bookings, expansions and renewals at risk, especially when tenants expect cloud-like speed and flexibility from day one.

Difficulty differentiating a new site

In competitive markets, a greenfield facility can look like "just more space and power" unless it launches with a compelling ecosystem story with rich interconnection options, cloud access, performance commitments and scalable bandwidth that tenants can grow into.

Operational complexity from day one

New builds often introduce fragmented connectivity models with multiple vendors, bespoke builds, inconsistent SLAs, and manual workflows, driving higher operating costs and slower scaling as the site grows.



Capital investment points to sustained data center expansion.

Global data center capex surged 57% in 2025 as AI deployments accelerated.¹

¹Light Reading, <https://www.lightreading.com/data-centers/data-center-capex-surges-57-in-2025-as-ai-deployments-accelerate-dell-oro>, March 2026

Solutions - Infrastructure

Lumen® Wavelengths

High-capacity optical transport service that delivers dedicated lit fiber connectivity across metro and long-haul routes, enabling scalable data center, cloud and AI workloads on the Lumen ultra-low-loss fiber network. Ideal for east-west workloads.

Lumen® Wavelength RapidRoutesSM

Prioritized 100G and 400G connectivity between high-demand markets and data center hubs. Built for AI-scale east-west traffic, these predefined routes offer predictable performance and delivery in as little as 20 days on qualifying site pairs. Rapid Routes corridors are enabling up to 2x faster deployment timelines vs. Lumen traditional delivery models.²

Lumen® Managed Optical Fiber Networks (MOFN)

MOFN is well-suited for DCOs who want fiber ownership advantages (control, scale, economics) while relying on Lumen to monitor, manage and maintain the physical network, helping to reduce operational burden.

Lumen® Dark Fiber

Dark fiber gives DCOs dedicated, unlit optical fiber they fully control. It's ideal when traffic demand is high and predictable, performance must be ultra-deterministic, and the DCO wants maximum control, long-term cost efficiency and the ability to monetize interconnection at scale.

Solutions - Connectivity

Lumen® On-Demand Services

Flexible, scalable internet and network services with options for consumption-based pricing models and self-service adjustability. Ideal for dynamic north-south workloads.

- **Internet On-Demand** to rapidly deploy dedicated internet connectivity across locations
- **IP VPN On-Demand** for multi-site and cloud connectivity using SLA-backed MPLS with on-demand scalability
- **Ethernet On-Demand** to connect point-to-point locations and clouds with private bandwidth up to 400 Gbps

Lumen® Dedicated Internet Access

DIA is recommended for fast, reliable, and cost-effective public internet access for operations, tenants, or edge sites without the scale, control, or performance requirements of private optical infrastructure.

Lumen® IP VPN

Secure, SLA-backed private network service that delivers high-performance, managed routing. Consider for secure, segmented connectivity between data centers, enterprise customers, or remote sites without the cost or complexity of dedicated optical infrastructure and while still enabling traffic isolation, reliability, and SLA-backed performance.

Lumen® Ethernet

High-performance, SLA-backed Layer 2 connectivity service. Use Ethernet for simple, scalable, and cost-effective private connectivity between data centers, cloud on-ramps, or customer environments—without the complexity or long-term commitment of optical infrastructure.

² Based on Lumen internal data of deployment timelines for complex wavelength builds vs. Lumen traditional delivery models, March 2026.

Results

With Lumen, connectivity can be a day-one enabler of revenue, differentiation and scale, not a post-build afterthought.

Quick access to high-capacity, scalable connectivity

Lumen provides pre-lit, high-capacity routes and access to a dense backbone, allowing DCOs to bring greenfield sites online with enterprise-grade, low-latency connectivity from the start.

On-demand scaling without over-building

With Ethernet On-Demand, Internet On-Demand, and Wavelength services, DCOs can scale bandwidth as tenants onboard or workloads shift, helping to avoid unnecessary capital spend while still meeting performance expectations.

Fast tenant activation and time-to-revenue

Lumen's standardized designs and on-demand provisioning help remove connectivity as the critical path to help accelerate tenant turn-up and support network readiness that doesn't delay monetization.

Built-in ecosystem and interconnection advantage

By connecting greenfield sites into 2,200+ third-party on-net data centers and 125+ cloud on-ramps, Lumen helps DCOs launch with a strong ecosystem story and premium interconnection services tenants value.

Simplified operations and consistent performance

Lumen's standardized 100G/400G architectures, deterministic performance and centralized orchestration help reduce operational complexity and enable consistent SLAs as sites scale locally and regionally.

Why Lumen?

Lumen is a trusted connectivity partner, operating one of the world's largest and most secure networks with 24/7 monitoring and threat mitigation powered by Black Lotus Labs®. With direct on-ramps to 2,200+ third-party on-net data centers and 125+ cloud providers, Lumen simplifies network ecosystems and delivers performance customers can rely on. Built for demanding environments, Lumen provides scalable connectivity with near real-time visibility and consistent, reliable performance

[Connect with a Lumen representative](#) to explore flexible solutions for your evolving needs.