Lumen Validated Design for Cyber Resilience

Network-Orchestrated Resilience

Protecting critical data from cyber threats is no longer just an IT priority, it's a business imperative. In the era of ransomware, operational complexity, and growing recovery demands, enterprises face rising pressure to enable data resilience across hybrid environments.

Lumen Validated Design (LVD) for Cyber Resilience empowers organizations to maintain business continuity by enabling rapid, secure recovery across hybrid environments, even in the face of ransomware attacks or system failures. Engineered for business continuity, this resilient architecture reinforces security posture and accelerates recovery while protecting data across edge, core, and cloud environments.

Built and validated under real-world conditions, this reference architecture is designed to deliver consistent, repeatable recovery outcomes that help reduce deployment risk, optimize costs, and accelerate time-to-value. By using secure network infrastructure from Lumen and trusted ecosystem partners, organizations can confidently adopt pre-architected, performance-optimized strategies tailored to their specific needs; streamlining deployment and strengthening business continuity.



The Lumen Network is the Foundation for Cyber Resiliency

Far beyond a transport layer, the Lumen Network serves as the backbone for policydriven connectivity, enabling real-time backup and recovery across hybrid environments.

Operating the #1 peered global network, Lumen provides direct paths to major cloud providers, enabling seamless, secure recovery and optimized performance.

Lumen high-throughput network acts as a secure and robust recovery path, enabling localized bandwidth routing, threat detection at the edge, and policy-driven orchestration for zero-trust recovery.

The Lumen Network is the recovery path. Without it, cyber resilience is just storage.

Accelerating Recovery and Minimizing Risk at Scale

- Accelerate Time-to-Value with pre-validated, productiontested designs that help reduce deployment risk and speed implementation.
- Reduce Costs through tool consolidation, dynamic bandwidth scaling, and edge-optimized recovery that minimize data transfer and cloud egress fees.
- **Strengthen Cyber Resilience** using air-gapped vaults, immutable backups, and multi-tiered recovery workflows to help ensure clean recovery and business continuity.
- Scale with Confidence via a unified, architecture that supports compliance built on the Lumen ultra-low-loss fiber network and edge footprint.

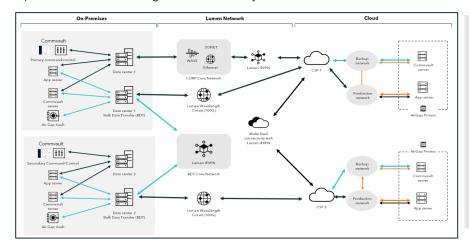


Lumen Validated Design for Cyber Resilience with Commvault

Lumen and Commvault bring together network innovation and advanced data protection to deliver secure, scalable recovery across hybrid environments. With integrated threat detection, edge-optimized connectivity, and immutable backups, Lumen Validated Design for Cyber Resilience with Commvault simplifies operations and enables business continuity.

Validation: Lumen as the Operational Environment

Lumen uses Commvault to protect its own production environments, validating the solution through firsthand operational experience and reinforcing market credibility.



Outcomes achieved:

- ~90% consolidation of legacy backup platforms, reducing complexity and streamlining operations across hybrid environments
- **\$3.5M of annual savings** by reducing licensing and other operational costs

Reduced recovery time objectives (RTO)

Reduced administrative overhead by consolidating backup operations into a single control plane

Products Included:

- **Lumen® Wavelength Solutions** deliver secure, high-performance data transport via 100G circuits, supporting bulk transfers, low-latency recovery, and dedicated bandwidth for vaulting and replication.
- Lumen® IP VPN routes all backup traffic, helping ensure secure, consistent multi-cloud connectivity.
- Secure and high-performance connectivity, especially with **Lumen® Cloud Connect** service, is used for non-Bulk Data Transfer (BDT) traffic across the Lumen core IP VPN routing platform.
- Lumen® Data Protect with Commvault Cloud to enable the following features included in the design:
 - Commvault Cloud Air Gap Protect
 - Commvault Cloud Backup and Recovery
 - Commvault Cloud Risk Analysis.
- Commvault HyperScale X Reference Architecture*

Commvault is a trusted leader in data protection and cyber resilience, delivering air-gapped, immutable backups and automated workflows to defend against ransomware and ensure clean recovery. Its unified management platform streamlines operations with centralized policies and anomaly detection, while integrated threat signals enable early threat identification and validated recovery points.



* Service available via SOW



Lumen Approach to Cyber Resilience

Cyber threats demand a strategy that goes beyond point solutions - one that unifies protection, recovery, and resilience into a single, integrated approach. Lumen has designed a comprehensive, end-to-end solution to enable flexible and secure connectivity, storage, and data protection - **When you need it, where you need it.**

Secure, Dynamic Networking

Lumen NaaS and Black Lotus Labs

Power protection and response operation

Port connectivity

On-demand networking
Integrated cybersecurity
Threat repulsion
Network visibility

Data Backup and Recovery

Lumen Data Protect with Commyault Cloud

Enable rapid recovery of data and cloud apps

Immutable and isolated backups

Layered security

Rapid app rebuilds

Cleanroom recoveries

Forest-level recoveries

Threat-Aware Storage

Lumen Network Storage with NetApp

Help maintain pristine, governable, and accessible data copies

Immutable snapshots
BlueXP orchestration
Data replication
Orchestration and failover
Data classification and governance

Lumen Data Protect with Commvault Cloud

Protect and recover your critical data quickly, simply, and without the risk and complexity of traditional backup. Lumen Data Protect is a fully managed service that delivers immutable, encrypted, air-gapped backups across hybrid and multi-cloud environments. With rapid deployment, intuitive self-service controls, and flexible usage-based pricing, you can keep operations running, and scale confidently.

Lumen Data Protect integrates Commvault's enterprise-grade backup and recovery capabilities within the Lumen Validated Design framework, delivering simplified, scalable protection for today's dynamic IT environments.

Why Lumen?

Lumen is the trusted network for Al. Industry leaders rely on our infrastructure to power intelligent, high-performance solutions across edge, cloud, and hybrid environments. Lumen Validated Designs build on this foundation, integrating our broad service portfolio with best-in-class technologies from leading partners. With deeply peered global connectivity, embedded threat intelligence from Black Lotus Labs, and expert support, Lumen helps you reduce complexity, accelerate deployment, and deliver outcomes with confidence.

