Secure Your Data In-Flight with FirstLight's Encrypted Wavelength

With the proliferation of sensitive data traveling over multiple networks, companies can't be without modern data transport security. FirstLight now provides ultra-low-latency encryption without sacrificing network performance.

No organization is immune to the threat of sensitive and private information being pilfered by hackers. Today's network requires much more than high-capacity bandwidth – it needs a security strategy to protect critical data in flight.

FirstLight's Encrypted Wavelength solution enables ultra-low-latency encryption to secure your in-flight data with ease and speed. Encrypted Wavelength offers high-capacity, cost-effective, and scalable wire-speed encryption for end-to-end data protection. Furthermore, FirstLight's Encrypted Wavelength features protocol-agnostic encryption to support a variety of applications.

Using proven technology from a leading vendor, two distinct sets of encryption keys are used for authentication and data encryption, with an encryption key rotation of mere seconds. This provides an 'always-on' encryption strategy combining ease of operation with unmatched flexibility, performance, and dependability.

Consider that approximately 29,000 records are exposed during every data breach, putting the cost of a single breach into the millions, in addition to the loss of customer trust.

While the focus of many in-flight data encryption solutions is on encrypting data at layer 2 or higher, Encrypted Wavelength encrypts data at the transport layer, protecting all in-flight data at layer 1 and all the time. Traditionally, layer 2 encryption is more expensive than layer 1, and requires costly equipment and maintenance, with higher latency, higher overhead and a lower performance standard. Layer 1 encryption is more affordable, provides better performance, and has ultra-low latency, with less overhead costs.

The hardware and software components associated with FirstLight's Encrypted Wavelength solution are compliant with Federal Information Processing Standards (FIPS) 140-2, offering assurance that the encryption solution complies with stringent encryption algorithms, key exchange mechanisms, and best-practice user authentication standards.

With the 'always-on' protection of FirstLight's Encrypted Wavelength, your critical data is protected and secure – whether it's traveling across the street, across town, or across regions.

Key Applications

- Enterprise Data Center Interconnect (DCI) to support transport of large data sets and highly sensitive information between Data Center locations.
- Government and financial institutions that require certified, secure, high-speed communications between different locations.
- Healthcare applications with high-quality, low-latency requirements for secure, efficient, and timely collaboration between healthcare stakeholders. With encryption rendered useless to hackers, fines and penalties associated with a breach under HIPAA may be waived.
- Latency-sensitive applications, such as high-definition video or high-speed trading, that require a secure, ultra-low-latency transport solution.
- Utilities that want to protect their critical communication infrastructures.

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Features:

- Protecting all in-flight data 24/7 across all infrastructure: 10G and 100G from metro to long-haul
- Ultra-low latency wire-speed encryption for highly secure end-to-end communications
- Scalable and flexible wire-speed encryption
- FIPS-compliant encryption standards
- Protocol agnostic for a variety of services
- Leverages enhanced security features, including two distinct sets of keys for authentication and data encryption functions
- Integrates seamlessly into existing enterprise Public Key Infrastructures (PKIs)
- Enables secure management of encryption capability by the end-user in carrier- or enterprise-managed infrastructures via an integrated management tool
- Leverages enhanced security features with fast and hitless key rotation every second
- Delivers a best-practice encryption solution widely deployed across the globe in finance, legal, healthcare, military, and government networks

L1–L7 Encryption Comparison: Performance Impact by Network Layer