

APPLICATION NOTE

WaveLogic Encryption Solutions

Securing All In-flight Data, All the Time

Security has become a boardroom issue. A 2018 Ponemon study revealed that 56 percent¹ of respondents' companies had been victims of breaches within the last year. More targeted industries such as healthcare, finance, government, and education report breaches far exceeding the average.

In addition to endangering customer information, data breaches impact an organization's bottom line. According to a different Ponemon study, each record lost in a data breach in the U.S. costs the affected company an average of \$221.² Again, this varies by industry; the cost per record lost in the healthcare industry is almost double. Approximately 29,000 records are exposed during every data breach, putting the cost of a single breach into the millions, in addition to the immeasurable loss of customer trust.

But even as the threat of breaches rises, the traffic flow across the network is growing. Bandwidth demands continue to climb, necessitating a network that can elegantly scale to handle higher capacities with less operational complexity. Additionally, with the increasing sophistication and frequency of data breaches, no organization is immune to the ever-present threat of malicious attacks to collect sensitive and private information. Today's high-capacity networks require much more than high capacity bandwidth—they need a security strategy to protect all critical data, both at rest and in-flight, as it spans the globe traveling metro, regional, long-haul and submarine distances.

Designed to secure today's high-capacity networks, Ciena's WaveLogic Encryption cost-effectively enables a scalable, protocol-agnostic, ultra-low-latency encryption solution on the widely deployed 6500 Packet-Optical Platform. The solutions extends to Ciena's Waveserver stackable interconnect system enabling cost-effective, secure Data Center Interconnect (DCI) applications. This always-on encryption combines ease of operation and administration to enable a simple-to-implement data protection strategy that leverages Ciena's industry-leading WaveLogic coherent technology to deliver unmatched flexibility, performance, and the industry's first coherent 100G to 400G wire-speed encryption solution.

Benefits

- Offers an ultra-low-latency, FIPS-compliant, wire-speed encryption solution for highly secure and transparent end-to-end communications
- Provides a scalable encryption solution with programmable WaveLogic coherent technology for flexible 100G to 400G wire-speed encryption
- Features protocol-agnostic encryption, offering flexibility to support a variety of services
- Leverages enhanced security features, including two distinct sets of keys for authentication and data encryption functions, with a fast encryption key rotation interval of seconds
- Integrates seamlessly into existing enterprise Public Key Infrastructures (PKIs) using X.509 certificate-based authentication
- Enables secure management of Encryption-as-a-Service capability by the end-user in carrier- or enterprise-managed infrastructures via an integrated management tool
- Delivers a field-proven encryption solution widely deployed across the globe in finance, legal, healthcare, military, utility, and government networks

¹ Ponemon, Experian Data Breach Resolution research report: 2018 Is your company ready for a big data breach?; February 2018; <https://www.experian.com/assets/data-breach/white-papers/experian-fifth-annual-preparedness-study-2018.pdf>

² Ponemon, IBM study: Cost of a Data Breach July 2018; <https://www.ibm.com/downloads/cas/861MNWN2>