

End-to-end security for your WAN

Protect your business and your customer's critical in-flight data with Ciena's unique, fully BSI-certified WaveLogic Encryption solutions

The latest European data-protection legislation requires organizations to follow strict guidelines for data usage, storage, and transport. Ciena has designed our optical-layer encryption solutions to ensure that there is no weak link anywhere in your network—and to help you protect your in-flight data end to end. These are the first optical-layer encryption solutions to be granted both full BSI certification and FIPS certification—demonstrating Ciena's leadership in WAN security.

Many organizations, including telecommunications operators, have invested heavily to ensure that their data protection measures comply with the General Data Protection Regulation (GDPR). However, most initiatives have been focused on data usage and storage, with little or no attention paid to WAN security at the optical layer.

Is your WAN secure?

When it comes to WAN security, fiber optic connections have always been considered highly secure. But in recent years, they have become potential security gaps in the network and a challenge for service providers and large enterprises. In fact, unencrypted data traveling over fiber can be intercepted and stolen by cybercriminals using a simple 'wire tap' device that can be purchased online.

So how can you protect your in-flight data?

To protect in-flight data, some organizations have implemented encryption solutions at Layer 3 of their WAN networks. However, this approach impacts network performance and increases network latency, negatively impacting the customer experience and increasing the risk of churn. Additionally, these kinds of Layer 3 encryption solutions can be complex to deploy

and manage, with significant equipment requirements—leading to higher network operating costs.

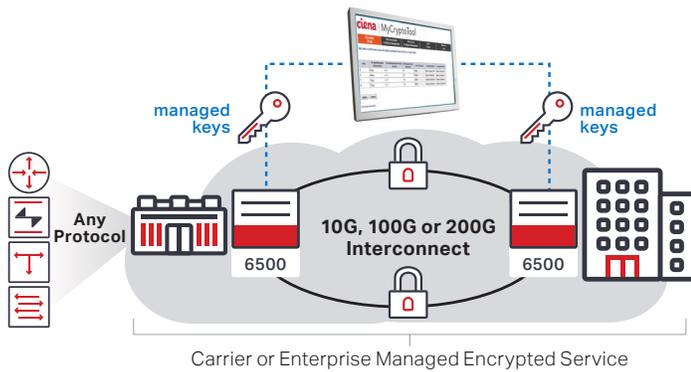
The smarter, more cost-effective way to secure your WAN from end to end is to deploy a best-of-breed optical-layer encryption solution. By encrypting your in-flight data at the optical layer, you can render wire taps useless and make it impossible for cybercriminals to steal or otherwise misuse data as it crosses your network. In addition to reducing the available data rate (or throughput) over the WAN, higher-layer encryption solutions (Layer 2 or 3) do not protect all of the information, and metadata—such as source or destination addresses—remains unencrypted. Layer 2 and 3 encryption solutions are also restricted to safeguarding only Ethernet or IP traffic. By contrast, a Layer 1 solution encrypts ALL client signal data.

As an additional benefit, optical-layer encryption reduces your hardware footprint compared to Layer 3 solutions, as it integrates directly into the optical transport network, making it a highly cost-effective option. With no negative impact on network performance or latency, it is the clear choice in terms of delivering a consistently excellent service experience for subscribers.

Which is the best optical encryption solution for your business?

Not all optical encryption solutions are created equal, with the same level of difficulty in their testing methodologies. The best offer consistently proves excellent performance and scalability, with end-to-end, 24/7 data protection.

In most cases, encryption solutions that lead in all of these areas will be certified to the highest standards—such as the German Federal Office of Information Security (BSI) security standard, one of the top security accreditations for network security solutions in Europe.



What is BSI certification under Common Criteria?

A BSI certification under Common Criteria for Information Technology Security Evaluation (CC) means that the entire testing and certification process has been realized following the regulations of the CC – an internationally recognized standard (ISO/IEC 15408) for computer security certification (currently in version 3.1, revision 5).



Technology products are tested against CC in the lab in a standard, rigorous, and repeatable manner to ensure all the security claims made by the manufacturer are accurate. While this cannot guarantee security, it provides independent verification that the security attributes of products are suitable with the target use case.

Why is Ciena unique in terms of our BSI certification?

Ciena is currently the only network equipment provider to have achieved full BSI certification for our WaveLogic™ Encryption solutions (BSI-DSZ-CC-1082-2020 and BSI-DSZ-CC-1095-2020). Our fully certified products include 10G and 100G/200G hardware modules on Ciena's popular 6500 Packet-Optical platform.

This means that, while our competitors may have limited BSI approval to use their technologies in specific networking use cases, Ciena is the only equipment provider that is certified for full BSI accreditation under the Common Criteria.

Read more about Ciena's High-capacity, Wire-speed Encryption Modules at www.ciena.com/products/wavelogic-encryption.

Is BSI certification the same as BSI approval?

When it comes to validating the security credentials of technology solutions, BSI certification and approval are two different things. Approval is given for a specific use case, requiring the technology to adhere to a pre-specified construction and version status.

By contrast, full certification is achieved in a neutral test environment, recognizing a product's readiness for deployment in a range of architectures and use cases.

Is BSI certification only relevant in Germany?

No, international recognition is a key part of the certification in the form of the Common Criteria Recognition Arrangement (CCRA). This means that product certifications apply equally in Germany, France, Italy, Spain, the Netherlands, Greece, Finland, Norway, and Israel. Additionally, the United States, Canada, and New Zealand have all signed the CCRA, and international membership is constantly growing.

Why is Ciena's full BSI accreditation so important for your business?

By choosing to deploy Ciena's fully BSI-certified solutions, you can rest assured that your data will always be secure as it travels over your WAN, with no risk of being compromised by cyber-criminal activity. As a consequence, you and your customers are also fully protected against non-compliance risks, both financial and reputational.

Is Ciena also FIPS-certified?

Yes, Ciena's 6500 Wavelogic Encryption solutions are also certified by the Federal Information Processing Standard (FIPS) against FIPS 197 and FIPS 140-2. Our FIPS 140-2 Level 3-compliant offering provides enhanced protection for critical information against physical tampering via zeroisation, a process by which all data is set to zero the moment any physical tampering of the cryptographic module is detected, even when the card is not plugged into the shelf.



How can I find out more?

For more information about our unique, fully BSI and FIPS-certified optical-layer encryption solutions and the protection it offers for your data, business, and customers, please contact us or visit <https://www.ciena.com/protect>.

About Ciena

Ciena is a networking systems, services, and software company. We provide the insight and technology to develop and implement networks that adapt to the constant changes in today's business ecosystem. Our passion is to enable you to deliver rewarding experiences for your end-users and drive exceptional business outcomes for your organization in an unpredictable environment. For updates on Ciena, follow us on [Twitter](#), [LinkedIn](#), or the [Ciena Insights blog](#).

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