



Poland's Hawe Telekom Selects Infinera ICE6 800G Solution for High-capacity Services over Existing Fiber Optic Network

A Networking Case Study

Hawe Telekom was the first operator in Poland providing telecommunications services to other operators, known as carriers' carrier. Hawe Telekom's services are aimed at operators of fixed and mobile telephone networks, cable television providers, internet providers, and both domestic and foreign entities operating in the telecommunications industry, including all fiber optic network operators.

Hawe Telekom needed to:

- **Enable its "Super Highspeed Delivery" product**, a unique service offering that provides its customers with N x 100G long-distance services that can be turned up within 48 hours. This requires the ability to deliver and scale network services fast.
- **Benefit from the superior economics** offered by coherent technology. Industry-leading high-baud-rate coherent optics offer economic benefits, including lower cost per bit, lower power per bit, and transport with higher fiber capacity. This translates into the most cost-effective services for Hawe Telekom's customers.
- **De-risk supply chain issues** through the ability to mix and match transponders from different vendors over its existing line systems. This flexibility also allows Hawe Telekom to overcome geopolitical supply restrictions and constraints, keeping up with relentless customer bandwidth demand while meeting the highest operator standards and security policies.

Customer

Hawe Telekom

Challenge

Hawe Telekom needed to rapidly activate high-capacity wholesale services on national and international routes over its existing third-party flexible-grid optical line system.

Solution

Infinera CHM6 transponders leveraging ICE6 800G coherent technology in the Infinera GX G42 compact modular optical platform.

Results

Simple deployment and operation of CHM6 open optical transponders across Hawe Telekom's network as open waves, boosting bandwidth at high-performance 600G and 800G transmission settings.

"The results achieved on our network have confirmed that we meet the highest operator standards and can provide services at the highest speeds. We are always looking for cutting-edge solutions, and our investments are always carefully planned, which is why we have opted for Infinera's ICE6 800G system, which allows us to use telecommunications services at the highest level of performance. One such service is 'Super Highspeed Delivery,' which is unique in the market and enables Hawe Telekom to turn up long-distance services within 48 hours of the order."

Dominik Drozdowski, Vice President of the Management Board of Hawe Telekom S.A.

Leveraging High-baud-rate Coherent Optics in an Open Network

Hawe Telekom deployed Infinera CHM6 transponders leveraging ICE6 800G-capable coherent optical technology in the Infinera GX G42 compact modular platform in a production network over an installed line system from a third-party vendor. These wavelengths coexist with the previously deployed wavelengths from the line system vendor.

The CHM6 can be deployed over virtually any optical line system, ensuring that network operators have access to best-of-breed transponder solutions, maximizing their infrastructure investment. The CHM6's high level of programmability – including the ability to tune the center frequency; select from a wide variety of baud rates, spectral widths, and modulation format options for the wavelength; and adjust transmit power according to line system needs – contributes to its outstanding performance, including over third-party line systems.

The CHM6's superior wavelength capacity-reach ensures that these transponders can be used, at worst, as drop-in replacements for previously planned transponders from the incumbent vendor.



In practice, since the CHM6 commonly exceeds the wavelength capacity-reach and spectral efficiency of the incumbent solution, they can often be operated at much higher rates.

Compact Modular Platform Built for the Future

Infinera's GX G42 is a carrier-grade 450-mm-deep, 3RU compact modular platform consisting of four service slots that can be equipped with transponder/muxponder sleds. This platform offers full NEBS Level 3 compliance, redundant controllers, and multi-chassis management. It also offers high capacity and low power consumption in a compact footprint. The G42 supports 100G to 1.2T wavelength speeds and 10G to 800G client interfaces, and is perfectly suited for CSPs, ICPs, and many other types of network operators that require high-capacity networking with maximum spectral efficiency. When equipped with CHM6 transponders, a single 3RU GX G42 can deliver up to 6.4 Tb/s of coherent line bandwidth.

The G42 is equipped with a robust and flexible microservices-based network operating system, offering advanced streaming telemetry and native standard open APIs to ensure fast and simple integration into operational environments and fast solution onboarding.

Supporting NETCONF, RESTCONF, and gRPC/gNMI APIs and data models compliant with Open ROADM and/or OpenConfig, the APIs offered by the GX G42 platform are particularly well suited for open optical network architectures, enabling easy, direct integration of GX nodes into multi-vendor management and control solutions, and a seamless open optical networking experience.



Figure 1: CHM6 transponder sleds for the GX G42 compact modular platform

BENEFITS OF INFINERA ICE6 800G COHERENT TECHNOLOGY

The sixth-generation Infinite Capacity Engine (ICE6) is a 1.6 Tb/s optical engine that delivers two independently programmable wavelengths at up to 800 Gb/s each. ICE6 utilizes ultra-high baud rates (up to 100+ Gbaud) and advanced features including long-codeword probabilistic constellation shaping and second-generation digital Nyquist subcarriers to break performance and spectral efficiency barriers. ICE6 enables service providers to meet the demands of rapid bandwidth growth by providing the greatest capacity at the greatest reach, resulting in a solution with the lowest cost and power per bit and the highest spectral efficiency possible. ICE6 has been designed from the ground up for open, multi-vendor network environments. Its open management interfaces ensure easy and seamless integration, operationalization, and management of these transponders, including over third-party line systems.

The Results

Hawe Telekom is putting together a network that enables its unique “Super Highspeed Delivery” offer, connecting Frankfurt to Warsaw to Vilnius leveraging Infinera’s CHM6 ICE6 coherent solution. These transponders are able to deliver high-performance 600G and 800G wavelengths on Hawe Telekom’s national and international routes over its existing third-party optical line system.

With Infinera’s ICE6 800G solution, and support from Infinera’s partner, FCA S.A., Hawe Telekom is able to deliver the highest-capacity services at the lowest cost per bit and power per bit to its customers, enabling them to cost-effectively keep up with relentlessly growing bandwidth demands.