



Case Study

SAF LOW LATENCY PROJECT

Custom Connect MicroWave

Netherlands and UK



Frankfurt, Germany

Introduction

SAF Tehnika is excited to share our latest story about an unusual application for microwave radios where our products were used to provide an ultra-low latency data link between the London and Frankfurt Stock Exchanges.

Following our vision to deliver Customized Microwave Solutions we have helped to complete numerous innovative projects all around the world and this latest one has truly been a paradigm changer. The common practice to link financial institutions and exchanges has been to replace existing technologies with fiber optic cables to ensure the best speed and reliability for mission-critical applications. This case study shows that a microwave-based alternative is not only possible but that it is the most suitable option under the current market conditions.

The common axiom in math is that the shortest point between two locations is a straight line. With microwave radios it's possible to create a straighter path as microwave is not beholden to existing right of ways or obstructions like rivers while guaranteeing significantly lower latency than fiber optics or any other cable solution.

Customer

Custom Connect is a global reseller of high-performance network solutions. The company's services include delivering carrier-neutral, reliable and integrated connectivity while simplifying network management, support and sourcing through a single point-of-contact. Custom Connect Microwave (CCMW) is the business unit that develops and markets microwave connections.

Challenge

Sometimes the difference between success and failure in business can be measured in mere milliseconds, making ultra-fast data transaction crucial for profit. That is why the creation of a new low-latency microwave connection between the New York Stock Exchange (NYSE Euronext) Basildon datacenter in UK and the Equinix datacenter in Frankfurt (Germany) was designed.

CCMW was looking for the best and most innovative partner for the co-development of this highly challenging solution. SAF Tehnika engineers co-designed the microwave links spanning four different countries and connecting two coasts of the North Sea and provided on-site supervision of the project, fully tailored to CCMW's specific needs.

Solution

The microwave connection between Basildon and Frankfurt has 13 fixed points, with the longest link reaching 107 kilometers (66 miles). It was accomplished by including SAF Active Repeaters between our Lumina radios thus significantly increasing the distance between links but keeping latency as low as possible. The North Sea crossing is bridged by installing antennas mounted at a height of 200 meters (656 feet). SAF Tehnika together with CCMW provided shared low latency connectivity between London and Frankfurt to accommodate high-frequency trading on the trading platforms of both financial hubs. Stock market traders who are the users of this service are now benefitting from a trading speed improvement of up to 40%.

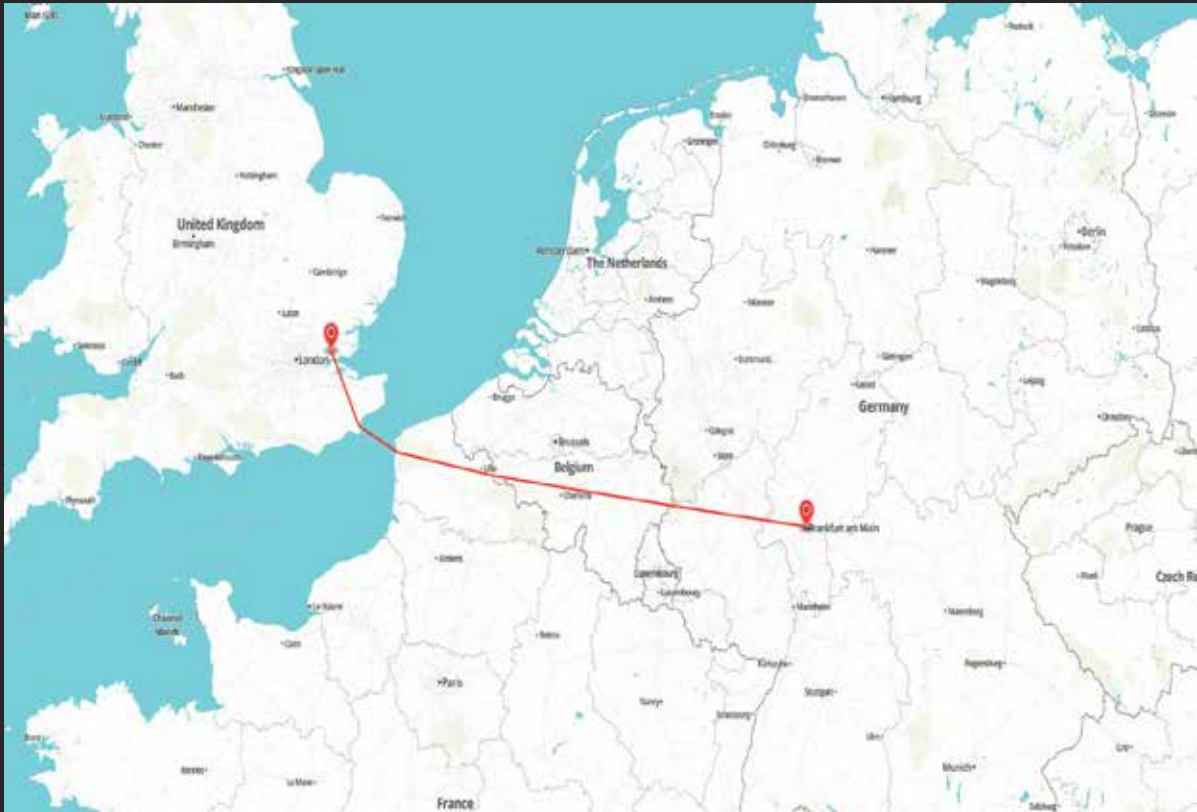
SAF has offered further hardware upgrades and software optimization of the delivered equipment platform in response to ever-increasing demands of the low latency race. Central monitoring and remote troubleshooting of the low latency equipment are additional helpful services which have been made available through the use of our Network Management System (NMS).

SAF Tehnika was chosen for the following reasons:

- Reliable carrier grade equipment with >35 Year MTBF
- Experience and knowledge in building low latency networks
- Exceptionally fast delivery time
- Ability to take on responsibility of the project's management and supervision
- SAF developed a fully customizable solution according to the specifications and needs of the project.

"You will always encounter some issues when developing from scratch a brand new technology solution, but we have been able to resolve those quick and effective. SAF did a very good job in problem solving, they proved to be very flexible and result driven. They really went the extra mile to make this project successful."

- Olav van Doorn, Executive Director of Custom Connect



The path of microwave links connecting Basildon (UK) and Frankfurt (Germany). This image is created only for illustrative purposes and does not represent actual connection route.

"We knew the people from SAF by reputation and from various contacts. The products are of the highest standing in the highly specialised connectiv2ity segment we operate in."

Olav van Doorn/Executive Director of Custom Connect