

Challenge:

- High speed network data transfer
- Decent network throughput with minimal spectrum
- High quality connection of existing links

Solutions used:

500 point-to-point links with a signal range up to 55 km and 20-25 km with an integrated antenna

- InfiLINK 2x2
- InfiMAN 2X2
- InfiLINK XG
- R5000-Qmxb

Benefits:

- Increase of the maximum network bandwidth due to the use of the latest InfiNet solutions
- More efficient use of the spectrum
- Ability to extend end customer services without replacing the equipment
- Effective solution that operates smoothly even in the adverse climatic conditions of the Moscow region

FLEX equips InfiNet solutions for high-speed connectivity across Moscow's harsh environments

Service provider FLEX has developed a large-scale infrastructure Across Moscow using InfiNet's solutions

FLEX is one of the largest broadband Internet access operators in the Moscow region. Since 1993, the company has offered a wide range of advanced wireless services for corporate, public and private customers. To date, the operator's network covers the entire 44,300 km² of the Moscow region.

FLEX clients include the Moscow Region Government, the regional Ministry of Education, Sberbank of Russia, Rostelecom, phone retailers Euroset and Svyaznoy, retail chains Dixy and Magnit, as well as many municipal and corporate customers.



FLEX first began implementing InfiNet solutions in 2002 when it needed to deploy links for banks and customers. The high functionality of the InfiNet routing hardware installed exceeded all of the operator's expectations and saved it the trouble of using additional equipment. Moreover, InfiNet solutions showed excellent performance in the adverse climatic conditions of the Moscow region, as well as best-in-class technical characteristics. FLEX ultimately decided to replace all devices from other manufacturers with InfiNet solutions, determined by the reliability and flexibility of the solutions, the ability to modify the network, and the wide range of products available.

FLEX is a unique test platform for InfiNet's portfolio with all of the latest solutions piloted within FLEX's network. Since October 2014, the InfiLINK XG portfolio has been tested in various network sectors with a range of 11 to 52 km within 5 GHz and 6 GHz bands. The tests were conducted in conditions of complete and partial LOS and NLOS, and revealed the equipment provided link speed of 120 Mbit/s in the 40 MHz band, up to 60 Mbit/s in the 20 MHz band and up to 20 Mbit/s in the 10 MHz band at NLOS.

Due to the continuous expansion of the customer service packages and improvement of their quality, the operator needs constant link expansion. InfiNet has developed a new solution, the R5000-Qmxb base station sector enhancing radio network efficiency, which was among the devices first tested by FLEX.

The Mmxb base station sector was replaced by the R5000-Qmxb in the 5GHz frequency band. The sector enabled the connection of 12 subscriber units at distances from 300 meters to 17 kilometres. By replacing its units with the R5000 Qmxb, FLEX found the minimum data transfer rate increased substantially from 13 Mbps to 75 Mbps and noted a significant improvement of connection quality. FLEX opted to use R5000-Qmxb in the future to further increase its network capacity.

Today, FLEX network is built exclusively with InfiNet equipment, and some of the devices installed back in 2003 are still fully functional to this day. The operator's network includes more than 8,500 subscriber units and 200 base stations, as well as 500 point-to-point connections with a signal range up to 55 km.

InfiNet solutions allow the operator to provide a full range of services in the frequency bands of 5 and 6 GHz: an arrangement of backhaul channels, Internet access, VoIP and video surveillance systems.

Maxim Kolyada, chief engineer at FLEX, reflected on the test results: "We tested InfiNet's InfiLINK XG solution and got outstanding results due to its high throughput, spectral efficiency and reliable radio technology operating in harsh conditions, at LOS and NLOS. Also, it is worth mentioning this success came from a steady operation over long distances even with integrated antennas, as well as excellent fade margin,"

"For many years, we have considered InfiNet the main driver of the broadband market. The main advantage of the manufacturer remains the quality of the products. The equipment offers rich functionality, reliability and the highest level of service. Commercial advantages are no less important for us — we do not incur any additional costs when installing the equipment. There are no hidden pitfalls, everything is transparent, and we always know what we get," Pavel Bespalov, CEO at FLEX.

