



Modernizing Networks to Enhance Arena Operations and Fan Experiences

Overview

The original network at ČPP Aréna no longer met the requirements of Extraliga competition due to inconsistent infrastructure, unreliable network management, and insufficient security. To overcome these challenges, Mountfield HK, in partnership with Computer Services and Zyxel Networks, implemented a modern and scalable network solution.

The reconstruction began with new metallic distribution lines and a redundant 10 Gbps optical backbone connecting the main switchboards, forming a foundation for the upgraded network. Building on this backbone, Zyxel Networks' USG FLEX firewalls were deployed for centralized security and traffic management, while 10 Gbps switches with redundant optical links provided sufficient capacity for the arena's numerous IP devices. Specialized equipment for hockey analysis was connected via XMG1930 multi-gigabit switches, and high-performance access points, including WBE660S WiFi 7 models, ensured seamless wireless coverage across offices and public areas. Centralized management through the Nebula cloud platform allows real-time monitoring, security oversight, and future network expansion, delivering a reliable, high-performance infrastructure for Mountfield HK.

Challenges

The original network infrastructure at ČPP Aréna no longer met the IT requirements of Extraliga competition. A major issue was the inconsistent network infrastructure across different parts of the arena, with mismatched components from different manufacturers. The lack of unified management further undermined reliable operations. In addition, there was no guaranteed IT support or regular servicing. New data cabling and backbone fiber-optic links were needed in the large winter stadium to connect key infrastructure elements.

Another key requirement was integrating specialized equipment for hockey game analysis, including match reviews and game situations. This involved GOAL SPORT Technology s.r.o. systems, such as GS Video Review for video refereeing and GS Live Production for creating multimedia content from multiple camera angles.

Customer

Mountfield HK

Industry

Sports and Events

Location

Hradec Králové, Czech Republic

Partner

Computer Services s.r.o.

Customer Background

Mountfield HK, a.s. is an Extraliga ice hockey club based in Hradec Králové, Czech Republic, playing its home games at the multifunctional ČPP Aréna. Ice hockey has been part of the city's tradition since 1926, with its modern era beginning in 2013 when top-tier competition returned to the White Tower. Today, the club enjoys strong popularity and a wide fan base in Hradec Králové.



Challenges

Because of the significant volume of video and data traffic generated by these applications, the network needed high-capacity infrastructure, making the deployment of powerful 10Gbps switches a crucial element to ensure smooth, real-time data transmission and reliable operation for specialized equipment.

Additionally, with cyber attacks on the rise, it was necessary to enhance network security and endpoint protection. It was also vital to strengthen secure communication between operations and ensure that employees have safe access to business systems and applications.

Solutions

To address these diverse needs, a modern and powerful infrastructure was deployed, capable of connecting a large number of endpoint devices. The network upgrade involved deploying Zyxel Networks products, known for their unified management and proven reliability, and was designed and implemented by Computer Services s.r.o., a long-term partner of Zyxel Networks.

At the core of the new infrastructure was the USG FLEX 700 firewall, featuring advanced UTM functionality that helped block the latest types of cyberthreats and ensured robust protection across the network. In addition, its antivirus feature safeguarded workstations and servers, ensuring a secure environment for daily operations. The firewall's centralized management simplified network administration and ensured reliable security in line with the latest standards. Complemented by SecuReporter, a cloud-based security and analytics service, it offered real-time monitoring, network oversight, detailed reporting, and proactive threat prevention, enabling IT staff to quickly identify and respond to potential security risks.

The Zyxel Networks' solution also established a strong and resilient backbone network in ČPP Aréna, centered on high-performance 10Gbps switches connected with redundant fiber optic links. This design not only ensured reliability but also provided the transmission capacity required to handle the arena's wide range of IT demands. The upgraded network backbone supported critical systems such as the camera network, the business information system, and other advanced operational devices essential for day-to-day arena management and high-profile events.

Endpoint devices, including the large-scale surveillance camera system, were connected through XGS2220 L3 access switches and XGS1930 Lite-L3 smart managed switches, delivering both stability and performance. Meanwhile, specialized equipment used for hockey analysis—such as real-time match review and video production tools—was connected via XMG1930 Lite-L3 multi-gigabit switches to guarantee fast and uninterrupted data flow. Additionally, switches with gigabit LAN interfaces and Power over Ethernet (PoE) functionality ensured smooth and reliable connectivity for a wide deployment of WiFi access points and security cameras, supporting both staff operations and visitor services.

Indoor areas of the hall and offices are covered by a robust WiFi network managed through the Nebula cloud platform, designed for seamless expansion to support top-level hockey events. Press zones are enhanced with WBE660S WiFi 7 access points to meet demanding, high-bandwidth requirements. Centralized management through Nebula allows rapid configuration adjustments, efficient issue resolution, and straightforward expansion of WiFi coverage by automatically applying the existing network configuration.



The original IT infrastructure of the stadium no longer met the requirements for operating in the extra league competition. It was necessary to replace the outdated cable distribution and improve network management. With the modernized network, we have also significantly enhanced the cybersecurity of the hockey arena's operations."

Bc. Petr Picka, Director
ČPP Aréna Hradec Králové

Results

The arena's reconstruction delivered a reliable network built on high-performance WiFi access points, 10Gbps switches, a redundant optical backbone, and enhanced cybersecurity. Multi-gigabit switches support specialized IP devices for hockey analysis, while offices and public areas benefit from full WiFi coverage. The network also powers key operations such as ticketing, cash registers, and security cameras, ensuring real-time data transmission, smooth operations, and high-quality fan experiences.

- Modern, scalable network supporting multiple endpoint devices and specialized technological equipment
- Enhanced security with centralized antivirus management
- Reliable 10 Gbps fiber backbone, comprehensive WiFi coverage, and cloud-based remote management

Product List



- WBE660S WiFi 7 Access Point
- WAX510D WiFi 6 Access Point
- WAC500 WiFi 5 Access Point



- XGS2220 L3 Access Switch
- XMG1930 Series Lite-L3 Smart Managed Switch
- XGS1930 Series Lite-L3 Smart Managed Switch
- GS1900 Series Smart Managed Switch



- USG FLEX 700 Firewall

