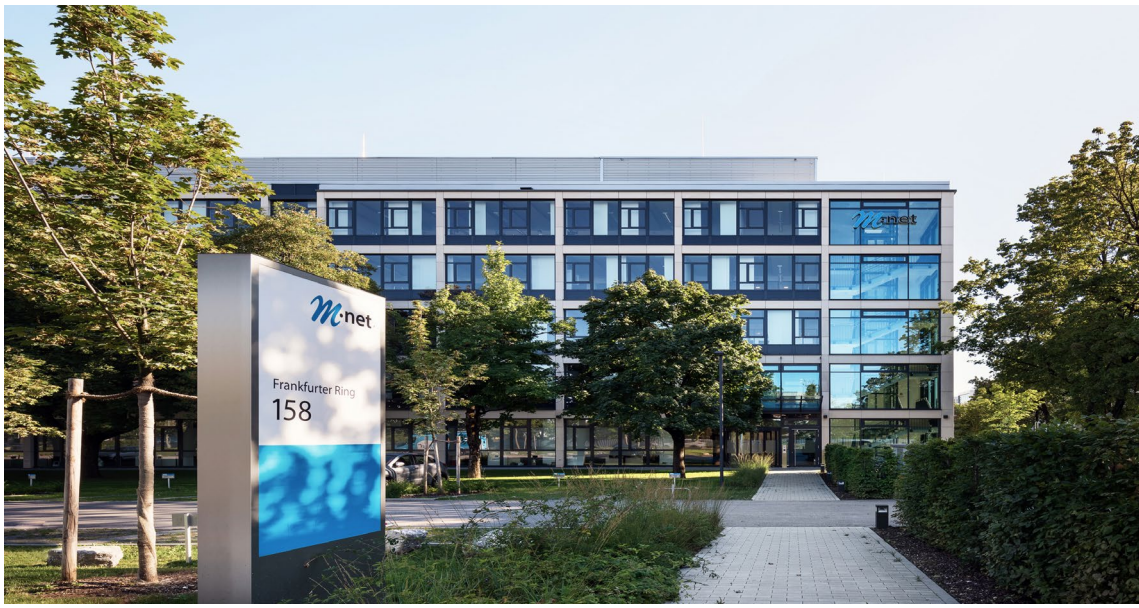
M-net optimizes its Wi-Fi at the push of a button



Campus and site networking with LANCOM Systems – comprehensive and interference-free Wi-Fi thanks to ARC 2.0

For over 25 years, the leading Bavarian fiber optic provider M-net has been supplying large parts of Bavaria, the greater Ulm area in Baden-Württemberg, and the Main-Kinzig-Kreis in Hesse with telecommunications services via fiber optics. The offering ranges from high-speed internet, telephone, television, and mobile services to networking and data center solutions, as well as high-speed internet connections for business customers. 850 employees are working at the Munich headquarters, three sales branches, two data centers, and eleven shops for M-net customers. With the move to the new company headquarters on Frankfurter Ring in Munich, the decision was made to unify the infrastructure for campus and site networking, including comprehensive Wi-Fi coverage across all company areas. For the network components, M-net opted for the German infrastructure provider LANCOM Systems. With LANCOM Active Radio Control 2.0 (ARC), a self-learning automation tool, the Wi-Fi was optimized based on real usage data.

Until 2021, M-net locations used network components and WLAN access points from different manufacturers, some of which were no longer up to date with current technology. In this situation, the move to the new company headquarters in Munich was the ideal opportunity to standardize the network infrastructure. It quickly became clear that the German infrastructure manufacturer LANCOM Systems should be shortlisted as one of the three potential providers. In particular, the simple management of the

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components was an important criterion in the selection process. Project manager Peter Voit explains: "In the end, the decision was not difficult for us: LANCOM is a German manufacturer of quality products. The deciding factors were the consistent management, the cloud option, the excellent and simple patch management, as well as the stability, durability, and technical reliability of the LANCOM components."

After the decision was made to choose LANCOM as the preferred partner for the network equipment, the implementation of campus and site networking was accelerated: first with the new setup of the headquarters and the commissioning of the WLAN access points, and then gradually in the branches, data centers, and shops. Special consideration had to be given to several so-called RF labs at the Munich M-net headquarters, where Wi-Fi routers and other Wi-Fi components from different manufacturers are tested. This presented a particular challenge, as the test operations and the high number of components in the lab could significantly disrupt the production Wi-Fi.

Implementation in 5 phases

Together with a partner company, the process began with Ekahau equipment to illuminate and measure the areas. Based on the measured values, channels and transmit power, as well as settings for access points and Wi-Fi clients, were manually optimized.

Significant improvements were achieved in a second phase with the integrated tool 'WLAN Adaptive RF Optimization' in the LANCOM access points. The measures had a particularly positive effect on local access points.

In the next phase, three additional LANCOM access points were used as frequency analyzers in challenging areas, and based on the results, corresponding optimizations of the Wi-Fi network were made.

Afterwards, the internal SSIDs were turned off in the 2.4 GHz band to achieve smaller radio cells with high throughput. The SSIDs of the production networks are only used in the 5 GHz band. The results were convincing, disturbances were significantly reduced.

In the final phase, the breakthrough in terms of stability, availability, and throughput was achieved through the use of ARC 2.0. LANCOM Active Radio Control 2.0 (ARC 2.0) significantly simplifies the optimization of Wi-Fi networks: Based on computer-based learning, the cloud-based tool calculates the best configuration for the Wi-Fi based on real usage data. Since the Wi-Fi was optimized based on the settings proposed by ARC 2.0, it has been running almost seamlessly across the entire coverage area. Peter Voit adds: "Our phased approach brought noticeable improvements in performance and stability of the Wi-Fi coverage with each step. The final success finally came thanks to ARC 2.0."

A look at the daily office routine at M-net highlights the practical benefits of ARC 2.0: During the pandemic, when only a few employees were present in the offices, the Wi-Fi coverage was nearly perfect. After numerous employees returned to the on-site presence at least temporarily in recent months, the WLAN resources were partially pushed to their limits at times. If entire teams log into an access point at the same time, this has an impact on performance. Thanks to ARC 2.0, however, a configuration could be determined at the push of a button, ensuring high-performance, interference-free Wi-Fi operation even with an increasing number of users.

Even if more employees return to the offices, Peter Voit feels well-prepared with LANCOM's Wi-Fi components and the WLAN optimization provided by ARC 2.0.

Summary

The final conclusion of Peter Voit is consistently positive: "We can now offer employees at all locations a uniform infrastructure and interference-free operation of the WLAN solution. Especially the centralized cloud management interface, including integrated patch management, significantly reduces the administrative efforts in operation. Now that the WLAN operation has stabilized at a very high level, we are even considering a Wi-Fi-first strategy for our end devices and how it could succeed with LANCOM.“

The partner

Since 1996, M-net has been supplying large parts of Bavaria, the greater Ulm area, and the Main-Kinzig-Kreis in Hesse with telecommunications services via fiber optics. And provides everything from a single source: from high-speed internet, telephone, televisi-on, and mobile services to networking and data center solutions, as well as high-speed internet connections for business customers. As a pioneer in fiber optic expansion, M-net, together with its shareholders, municipal utilities of major Bavarian cities and numerous infrastructure partners, invests in the development of its own fiber-based broadband network.

At a glance

The client

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Requirements

→ Site connectivity, campus networking

→ Own campus, WLAN installation, ARC 2.0

→ Central controller-based management of the entire network

Utilized components

→ 81 LN-1700, LN-1700 UE, as well as 3 IAP-822 access points for the multi-story office locations in Augsburg, Munich, and Nuremberg, including warehouses and underground garages

→ 11 LN-1700 UE in dense retail locations and challenging RF environments

→ 2 Wi-Fi 6 LX-6400 access points for the branch in Kempten

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