Survey by LANCOM Systems shows: Floods of data are pressuring Wi-Fi networks. Companies want fast and stable Wi-Fi, but more than half work with outdated standards

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Aachen, 27 November 2023—The German network and security solution provider LANCOM Systems asked IT managers about the status quo, the challenges they currently face, and the future of Wi-Fi. The survey shows: Companies see the explosive growth in data as a major challenge. Digitalization and hybrid working, increasing numbers of devices, and data-hungry applications are increasingly pushing wireless networks to the limits of their performance. One reason for this is that more than half of the companies surveyed are not yet working with the latest Wi-Fi 6 and Wi-Fi 6E technology standards and the potential they offer.

Which priorities do companies set with regard to their Wi-Fi infrastructure? What challenges do they see in terms of data volume and performance over the next five years? These and other questions were addressed by the "Wi-Fi out of the box" survey carried out by the analyst firm techconsult on behalf of LANCOM Systems. IT specialists from 361 companies with at least 250 computer workplaces were surveyed.

Most important: Fast, secure, and stable

First and foremost, a Wi-Fi must be fast and secure. For 55 percent of respondents, data-transfer speed is a priority. 53 percent of IT managers consider the second most important requirement to be network security. Password security, encryption, firewalls, regular updates, and similar measures protect wireless networks from unauthorized access, data leaks, and other risks. At 48 percent, stability and reliability are the third most frequently mentioned criteria.

Challenging: Data volumes, hybrid working, performance

With ongoing digitalization, not only is the number of Wi-Fi-capable devices on the rise, but data-hungry applications are also causing a rapid increase in data volumes. 49 percent of those surveyed see this as the biggest challenge. 47 percent see a challenge in the increase

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of data traffic through hybrid forms of work. In third place is ensuring quality and performance: 43 percent say high user densities and peaks in load have an impact on Wi-Fi stability and performance. Four out of ten IT managers see a further challenge in the disruptions to signal quality and data transmission from third-party networks and non-Wi-Fi radio sources.

Success factors: Coverage, interoperability, automation

To ensure the best possible connectivity, 61 percent of the companies surveyed rely on effective Wi-Fi coverage with the help of site analysis and accurate capacity planning. 57 percent name interoperability and the careful selection of network components as crucial factors for smooth network operation. 42 percent use cloud-based management solutions that offer central Wi-Fi administration and a high degree of automation as an answer to the shortage of skilled workers.

Every second company uses outdated standards

Given the high demand for fast and high-performance Wi-Fi, one number is particularly surprising: 51 percent of those surveyed stated that they still work with devices from the Wi-Fi 5 generation (37 percent) or even older standards that operate solely in the 2.4-GHz band (14 percent). In contrast, 29 percent have already switched to Wi-Fi 6. Another 20 percent are currently using the latest Wi-Fi generation, Wi-Fi 6E.

Taking advantage of Wi-Fi 6 and Wi-Fi 6E

The introduction of Wi-Fi 6 brought more than just a significant increase in wireless speeds. Thanks to a more efficient use of frequency bands and channels, Wi-Fi 6 access points also achieve much higher throughput per client than their predecessors. The result: Reduced latency and increased stability for busy wireless networks.

Nevertheless, 38 percent of the IT managers surveyed fear that the 2.4-Gigahertz and 5-Gigahertz spectra are increasingly overloaded and would like to see greater use of the 6-Gigahertz band. Wi-Fi 6 Enhanced, or Wi-Fi 6E for short, addresses this by operating in all three bands. The additional frequency range in the lower 6-Gigahertz band effectively doubles the spectrum that was previously available for wireless LAN and can only be used by Wi-Fi 6E-capable devices. This reduces collisions and further increases throughput and transmission rates. Particularly in high-density environments where large numbers of Wi-Fi clients transmit concurrently, Wi-Fi 6E provides the free capacities required for future-proofed

data volumes and performance.

WRC-23: Quo vadis Wi-Fi?

Another important step in this direction could be taken at the World Radiocommunication Conference (WRC-23) taking place in Dubai from November 20 to December 15. Up for discussion is whether Europe will in future use the upper portion of the 6-Gigahertz band in addition to the lower portion for license-free use by Wi-Fi, as is the case in the USA and other major economic regions.

Michael Müller, Vice President of WLAN & Switches at LANCOM Systems: "The number of Wi-Fi-enabled devices and data-intensive applications is growing rapidly. Fast, reliable, and secure Wi-Fi is a driver of innovation and the basis for many business-critical applications. With Wi-Fi 6 and Wi-Fi 6E, organizations gain the flexibility they need to respond to growing demands today. However, the demand for spectrum is not about to diminish. The opening of the entire 6-Gigahertz band in Europe is therefore an important step to keep using the full potential of Wi-Fi now and in the future. This is essential not least for the climate goals, because in terms of energy efficiency, Wi-Fi is ahead of other transmission technologies."

About LANCOM Systems:

LANCOM Systems GmbH is a leading European manufacturer of network and security solutions for business and the public sector. The portfolio includes hardware (WAN, LAN, WLAN, firewalls), virtual network components, and cloud-based software-defined networking (SDN).

Software and hardware development as well as manufacturing take place mainly in Germany, as does the hosting of the network management. There is a strong focus on trustworthiness and security. The company is committed to products that are free from backdoors and is a holder of the trust mark "IT Security Made in Germany" as initiated by the German Ministry of Economics.

LANCOM was founded in 2002 and has its headquarters in Würselen near Aachen, Germany. Customers include SMEs, government agencies, institutions, and major corporations from all over the world. Since summer 2018, the company has been a wholly owned subsidiary of the Munich-based technology group Rohde & Schwarz.

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Media contact:

Caroline Rixen

LANCOM Systems GmbH

+49 2405 49936-398

caroline.rixen@lancom.de

www.lancom-systems.com