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Technical article

Centrally manage small and medium-sized WLAN Infrastructures with Ease

Direct Access Points for centrally managed WLAN Networks

The demands on modern and highly available WLAN networks are continuously growing, also in the near-industrial environment. For smaller and medium-sized networks, too, a central management and features such as guest access and group-based access control are becoming increasingly important.

Everyone knows WLAN access points – from home, from the office or from the restaurant around the corner. Depending on the needs of the operator, there are either individual access points that simply provide access to the Internet (for example, in the author's favorite restaurant), or complex infrastructures that offer guest portals and tiered services to different user groups in the network (for example, premium WLAN access in hotels). In between, there are more and more applications that call for multiple access points due to the spatial conditions or requirements for high device density. For WLAN networks from one to 64 access points, there is a solution that does not require additional hardware or additional licenses, but can still be centrally managed with ease.

"Direct access point" is the name of the new product in the SCALANCE W portfolio from Siemens, which is based on the latest technology (IEEE 802.11ac Wave 2) and suitable for high-density applications. Comparable to the HPE/Aruba instant solution, the controller-based WLAN network here already begins with the second access point. Integrated into the products is a so-called virtual controller, which allows easy scalability from the first device upward – always centrally managed through a uniform web interface.

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For example, at a factory site where a new WLAN network according to the latest wireless standard is to be set up – independent of the production network – in the foreman offices, communal rooms and the cafeteria. Here, scaling up from the first access point as required can be done without having to invest in an additional WLAN controller and licenses. The direct network can even be connected to other direct networks or controller-based networks.

Like the large controller-based solutions, a direct access point network also allows the management of guest access and user groups, the assignment of corresponding authorizations, and the central management of the network.

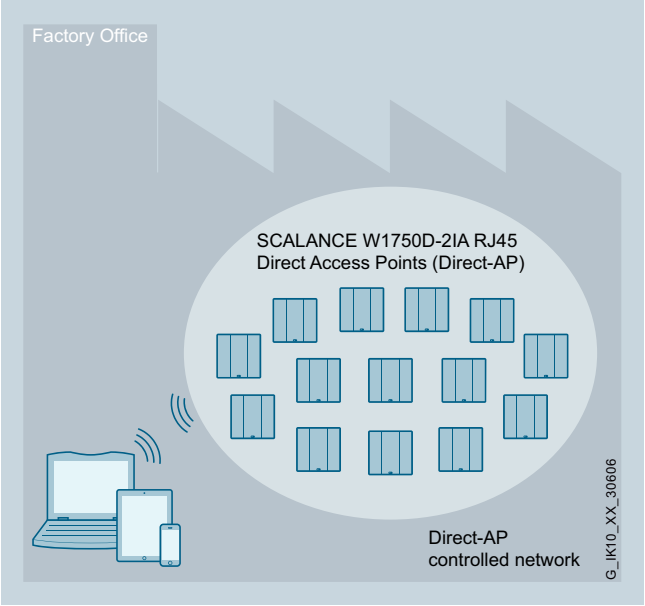
For example, via the authentication method of the "captive portal": the user is prompted for her access data in an upstream website and, where applicable, must accept the terms of use or select and confirm a payment method before receiving access to the WLAN network.

The direct solution also supports the authentication via RADIUS servers (802.1X authentication). Depending on the network design and the application, this can simplify user management accordingly, since external RADIUS servers can also be connected.

The integrated firewall enables the filtering of users and devices (WLAN clients) through policies, and the assignment of corresponding rights and roles. This, for example, can be used to limit the bandwidth or to prioritize certain applications.

ARM (adaptive radio management) – that is, the automatic adaptation of bands and channels according to the environment and the clients in the field – is another feature that increases the stability, availability and performance of a direct network. For example, WLAN clients operating in both the 2.4 and 5 GHz bands can be evenly distributed among the bands – even taking into consideration the greater number of interference-free channels in the 5 GHz band than in the 2.4 GHz band.

An effective way to extend the coverage of the WLAN network is to organize it as a mesh network. Via the wireless connection of the direct APs among themselves, the range of a company network can be extended to company sections that are remote or separated by streets without the laying of additional cables.



Example of a small network, e.g., in a near-factory office

Within a meshed network, data traffic is routed through the direct APs – and should the connection to an adjacent direct AP be interrupted, a new path is automatically configured via another accessible direct AP.

All settings can be accessed via the convenient and intuitive WBM (web-based management) of the virtual cluster or by directly entering corresponding commands and parameters into the CLI (command line interface).

Another special feature of the direct access points is that they can also be operated at a controller. That is, as the requirements or the number of access points grow, the existing infrastructure can be easily transferred to a controller-based concept – without having to touch the individual devices. The devices are compatible with the mobility controllers from HPE/Aruba and can also be managed with the network management system "Airwave".

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Easy installation, modern design – direct AP SCALANCE W1750D-2IA RJ45

The design also ensures that small and medium-sized WLAN installations are cost-effective and easy to implement. The modern and attractive look of the devices makes them ideal for a visible mounting in near-industrial office spaces or clean assembly facilities. The light weight and the easy fastening to the rails of suspended lightweight ceilings provide for a flexible installation wherever an access point is needed. Whether in the factory cafeteria, the open warehouse or foreman offices – a direct access point is easy and flexible to use everywhere.

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Simply flexible

The direct access points enable high data rates of up to 1733 Mbit/s thanks to the latest WLAN standard IEEE 802.11ac Wave 2. With its integrated controller functionality, up to 64 APs can be directly managed: without additional controller hardware and licenses.

From the first access point, up to 64 devices can be gradually added to the network – simply and flexibly.

Thanks to the low weight, the modern and attractively designed devices can be easily mounted to the rails of suspended office ceilings using the supplied clips.

Power-over-Ethernet allows the transmission of power and data over one cable, which further simplifies the installation and reduces costs.

Scalance W1750D-2IA RJ45 – The Highlights

- Wireless standard IEEE 802.11ac Wave 2
- Support for 4x4 MIMO technology (multiple input, multiple output)
- Highest performance for high-density applications
- Direct access point: includes a virtual controller – for the centralized management of up to 64 access points
- Delivery scope includes two clips for the mounting to evenly suspended ceilings with 9/16" or 15/16" panels and T-beams
- Dimensions: approx. 210 mm (W) x 210 mm (H) x 57 mm (D)
- Weight: approx. 950 g
- Temperature range: 0 to 50° C
- Power-over-Ethernet according to IEEE 802.3at
- 5 GHz (max. 1733 Mbit/s gross) and 2.4 GHz (max. 800 Mbit/s gross)
- 2x4 integrated omnidirectional antennas
- USB 2.0 interface (Type A)
- Reset button
- Serial interface (RJ45)
- Slot for Kensington lock

Customer Benefits in near-factory Environment

- Latest technology, very high data rates: realization of high-density applications
- Use in representative surroundings (conference rooms, offices)
- Easy realization of larger, centrally managed WLAN networks in assembly facilities with a clean environment
- Fast and effortless mounting to ceilings
- Reduced cabling effort: only one cable for network connection and power feed (Power-over-Ethernet)
- Central management made easy: no additional controller or additional licenses required

Security information

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