WELCOME TO THE NEW HYPER-INTEGRATED NETWORK MANAGEMENT

Welcome to the LANCOM Management Cloud!

The LANCOM Management Cloud is the world's first hyper-integrated management system that intelligently organizes, optimizes and controls your entire network architecture. State-of-the-art software-defined networking technology drastically simplifies the provision of integrated networks – the manual configuration of individual devices has become a thing of the past. The system adjusts dynamically to your wishes and requirements, it offers maximum security, and it is fit for the future. The system is hosted precisely according to your wishes: In your company's Private Cloud or in the Public Cloud – hosted in Germany by the leading German manufacturer of integrated networking solutions.

> Control of the entire network by one system
> Radically simplified & automated configuration
> Your operating model? Your choice! Available as a Public Cloud and Private Cloud
> Unsurpassed scalability for networks of any size
> Unique system for maximum savings in time and costs

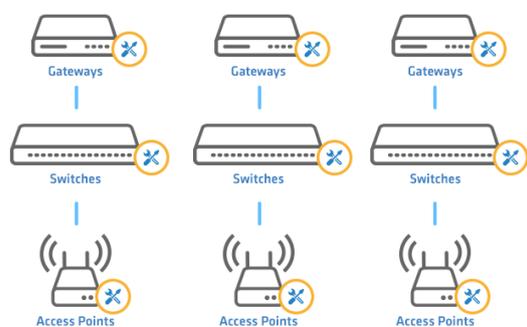**LANCOM**
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This is hyper integration
State-of-the-art technology

The New Dimension in Network Management

The advantage offered by software-defined networking (SDN) makes the manual configuration of individual devices a thing of the past, replacing it by automated network orchestration. The overall concept of LANCOM SDN encompasses every aspect of networking, including wide-area networking (SD-WAN / VPN), local-area networking (SD-LAN), and wireless networking (SD-WLAN). Administrative tasks that previously took hours or days to complete are now taken care of within minutes or a few clicks.

SD-WAN

SD-WAN enables, among other things, the automatic set-up of secure IPSec-VPN connections between sites, including network visualization via wide-area routes, too: A few mouse clicks is all it takes to enable the VPN function and select the required LANs / VLANs for each site. The laborious configuration of individual tunnel endpoints is no longer required at all.
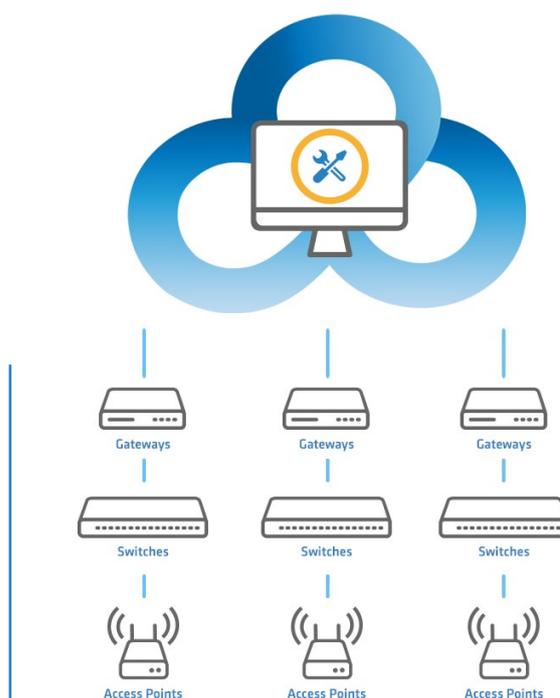
SD-LAN

SD-LAN acts as central instance to orchestrate the port profiles for each switch and to automatically assign the necessary network configuration, e.g. the required VLANs. At the click of a mouse, switch configurations that are fully customized to each site's network architecture are simultaneously rolled-out or updated.

SD-WLAN

SD-WLAN facilitates the automatic configuration of multiple WLANs (multi-SSID), including the separation of hotspot networks. All that needs to be specified here is the SSID, authentication method and, if necessary, the bandwidth restrictions for each WLAN. WLAN profiles are created and rolled out or updated on any number of access points and WLAN routers at the various sites simply by mouse click.

Gateways   Gateways   Gateways

Switches   Switches   Switches

Access Points   Access Points   Access Points

Gateways   Gateways   Gateways

Switches   Switches   Switches

Access Points   Access Points   Access Points

Formerly: Manual configuration

LANCOM Management Cloud: SD-WAN, SD-LAN and SD-WLAN

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A reliable premium portfolio & maximum transparency

Gateways / routers
› For VDSL, ADSL, fiber, LTE / 4G, All-IP / VoiP
› IPSec VPN site connectivity
› Secure network virtualization

Switches
› Managed switches with 10 to 52 ports
› PoE power supply
› Security and QoS features

| Access points |
| --- |
| › For indoor, industrial and outdoor use |
| › High-speed IEEE 802.11ac support |
| › Wireless ePaper and iBeacon |

Comprehensive solution portfolio

All current LANCOM gateways, routers, switches, and access points are "Cloud-ready" for centralized configuration as well as unified management and monitoring. By combining proven systems with innovative technologies, LANCOM offers a unique all-round solution for contemporary network architectures.

Flexible roles and permissions system

Different roles and rights can be assigned to the entire pool of users. This provides different access channels for external service providers, for customer views, for service technicians or system administrators.


Layer-7 application monitoring

Layer-7 application monitoring analyzes the network traffic at application level. A graphical display integrated in the dashboard instantly shows when, where, which application, or which user is causing excessive network traffic.
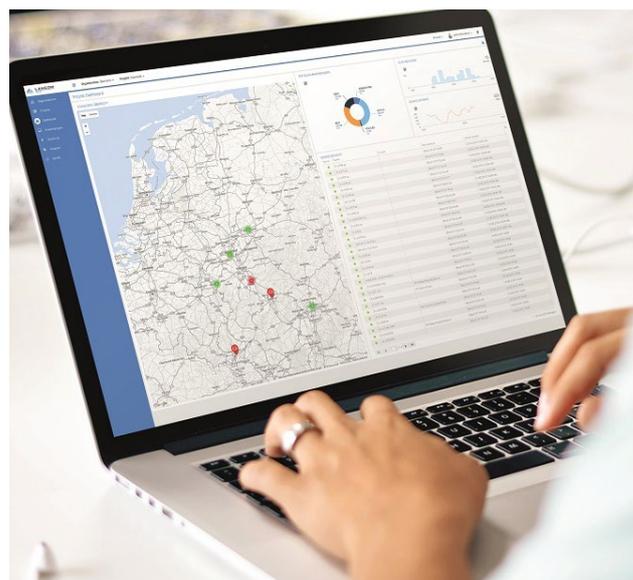
24/7 monitoring

Thanks to 24/7 monitoring, administrators are constantly aware of any events or errors on the network, which helps with the immediate identification and elimination of problem sources. This saves valuable time and eliminates the need for manual checks on network performance.

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Six good reasons for the LANCOM Management Cloud
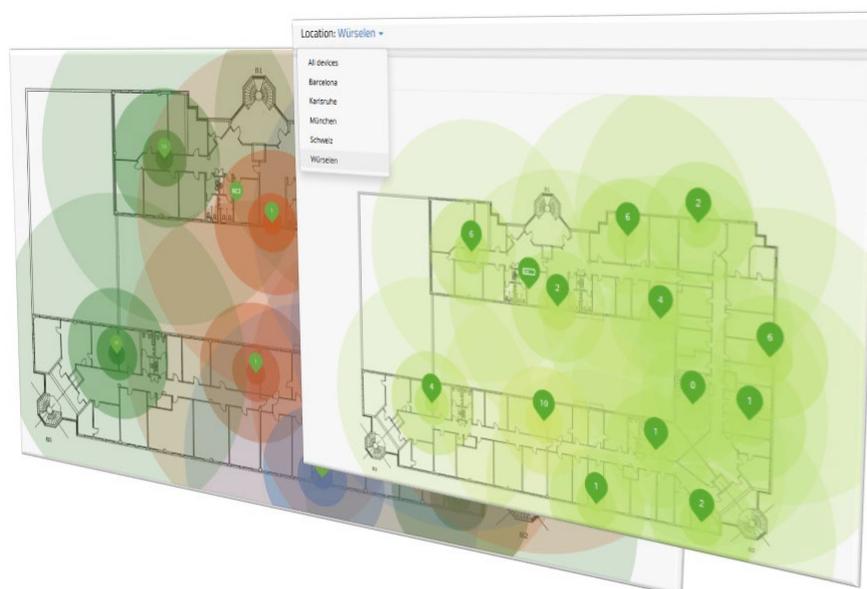
Zero-touch deployment

After authenticating with the LANCOM Management Cloud, a new LANCOM device automatically receives a computed configuration from the system, and it logs-in to the project it is assigned to, where it can be allocated to a site.

Configuration & policy management

The LANCOM Management Cloud supports the centralized management of network infrastructures, regardless of the firmware version. Equally, the full range of security settings, such as VPN and WLAN access data, can be centrally rolled out and updated across the entire corporate network.

Security Made in Germany

Gateways, routers, access points, the LCOS operating system, and the LANCOM Management Cloud are developed and manufactured in Germany. With the Public Cloud hosted in Germany, data security and legally compliant handling are guaranteed to comply with German and European data protection regulations.

Multitenancy

The LANCOM Management Cloud supports the management of any number of projects. The user interface makes it quick and easy to move between individual projects. Integrated logging gives you an instant overview of current and past network events.

Your operating model? Your choice!

The LANCOM Management Cloud is hosted in Germany as a "Public Cloud", or as a "Private Cloud" hosted either by system vendors or directly at the end customer's own premises.

A system that is perfectly scalable

The LANCOM Management Cloud is a future-proof system that meets the demands for everything from small networks to large enterprise installations. Management is easy and smart throughout: Specified networks can be assigned to any number of sites and quickly commissioned.

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LANCOM Management Cloud

Product variants	
Public Cloud	A variant of the LANCOM Management Cloud hosted at a data center in Germany
Private Cloud	A variant of the LANCOM Management Cloud operated by LANCOM customers or their on their own premises
Scope of services – network management	
SD-WAN	Automatic networking of sites via VPN, including network virtualization across the wide area network (WAN)
SD-WLAN	Automatic configuration of all access points and Wi-Fi routers including multi-SSID, Active Radio Control (Band Steering, Adaptive RF Optimization), Fast Roaming, VLAN, and authentication
SD-LAN	Convenient configuration and graphical assignment of networks to switch ports with automatic, continuous VLAN switching
Firmware management	Central distribution of firmware versions to single, multiple, or all devices
Wi-Fi hotspot	Convenient setup of a simple hotspot
Scope of services – monitoring	
Wi-Fi / LAN project dashboard	Aggregate monitoring information about sites, floor plans, devices, error states, clients and applications for a project
WAN / VPN project dashboard	Overview of all VPN connections including status (active/inactive)
Organization dashboard	Convenient overview of all projects, location-aware placement of projects on a map, traffic-light indicators of device status
Device lists	Filtering or sorting of the devices according to criteria such as device type, serial number, firmware version and configuration status, etc.
Single device monitoring	Detailed display of device-specific information such as: › Wi-Fi channel › Wi-Fi quality › Total throughput › Cloud latency › CPU load › Switch usage
Scope of services – logging	
Logging system	Detailed logging of configuration changes and error states at project and device levels
Scope of services – device management	
Zero-touch deployment	When being integrated into a network, access points and switches are automatically detected by the LANCOM Management Cloud and included into the administration. Routers and gateways generally need to be set up with Internet access in advance, e.g. with the LANCOM setup wizards or have to be connected per Ethernet WAN- or LAN port to a DHCP network with Internet access (operation behind a network termination router or with already existing Internet access)
Easy port config	The LANCOM Management Cloud allows simple configuration rollout for all switches of a location. Since network configurations are usually not created from identical trunk and port configurations, it is now possible to set the desired networks and properties for each port individually via single device monitoring of the switch. A graphical interface offers the highest level of transparency and ease of use!
Scripting	Self-expandability of the system by freely definable LCOS scripts, which can be activated on device-, location-, and network level and thus provide automated full access to all device parameters. These scripts themselves can access self-defined and system variables and can contain input screens for user-defined values. Scripting is available on request for system administrators; the resulting GUI elements are available on user level.
Auto configuration	Automatic assignment of configurations to new devices that are added at a site
Individual device configuration	Full, detailed configuration of all parameters for individual devices
LMC Config Sync	Local configuration adjustments on individual devices are automatically adopted, detected and logged, or immediately reset by the LMC.
Password management	Central management of all device passwords
Flexible device handling	Devices are easily moved between organizations and projects
Device integration	Available for all current LANCOM products from LCOS version 10 and LANCOM Switch OS version 3.30 (both available as a free S/W update)
Scope of services – project management	
Projects	Area for creating and managing multiple, independent projects
Roles and rights	Support of different roles for users in organizations and projects: › Organization Administrator (all rights across projects) › Project administrator (all rights within a project) › Project member (rights to conduct network, site and device management and monitoring within a project) › Project observer (read-only rights within a project) Administrators can temporarily enable or disable users. Any number of users can be added to each project. Users can be active in multiple projects.

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Scope of services – project management (continued)	
Organization	Project administration area for specialist resellers, system vendors and system integrators; any number of projects per organization Key features: ❯ Live project status as a map view ❯ Device pool, from which you can move devices into projects ❯ Freely definable organisation and project properties, i.e. customer number, contact person, etc.

Scope of services – help systems	
Live chat (beta)	Live chat functionality for administrators of registered LANCOM partners with direct access to LANCOM Cloud experts for all questions about the LANCOM Management Cloud; accessible on workdays between 09.00 am and 05:00 pm, as well as an offline alternative for LANCOM out of office times.
Info area	Centralized info area containing all LANCOM Management Cloud resources, e.g. system status, video tutorials, guided tour, FAQs, system requirements and scenarios

System requirements – private cloud	
System characteristics	1 virtualization platform (e.g. OpenStack, Hyper-V, VMware), including: 1 master node (min.): 2 vCores, 4 GB RAM, 25 GB storage (ext4, 1 partition) 1 worker node (min.): 4 vCores, 16 GB RAM, 25 GB storage (ext4, 1 partition) NAS / SAN memory linking as required Further details on request

System requirements – browser to access the LANCOM Management Cloud	
Supported browsers	Supported Internet browsers: ❯ Google Chrome ❯ Mozilla Firefox ❯ Apple Safari ❯ Microsoft Edge All browser specifications are platform independent (PC, laptop, Mac, tablet). We recommended you use the latest browser version. Recommended screen resolution of 1400 pixels wide

System requirements – supported LANCOM devices	
Devices & software versions	The LANCOM Management Cloud is supported by all LANCOM routers, access points and fully managed switches as from software version LCOS 10, resp. LANCOM Switch OS 3.30. Complete overview of the supported devices and software versions: https://www.lancom-systems.com/products/firmware/lifecycle-management/product-tables/
Cloud starter license	Automatic start-up license (valid for 30 days) for all devices that are newly integrated into the LANCOM Management Cloud by LANCOM resellers and system house partners. After the 30 days have expired, devices without valid license will no longer be able to be configured, but remain autonomous, fully operational and will be monitored concerning their operational status by the LMC via a simple status monitoring (online / offline) in the map view. For the full scope of functionalities you are invited to choose one of our license models.
Access Points	License category A ❯ LANCOM L-151gn, L-151E ❯ LANCOM L-320agn (R2), L-321agn (R2), L-322agn (R2), L-322E, L-330agn ❯ LANCOM L-451agn, L-452agn, L-460agn ❯ LANCOM LN-630acn ❯ LANCOM L-822acn, LN-830acn, LN-830E ❯ LANCOM LN-860, LN-862 ❯ LANCOM L-1302acn, L-1310acn ❯ LANCOM LN-1700, LN-1702 ❯ LANCOM IAP-321, IAP-322 ❯ LANCOM IAP-821, IAP-822 ❯ LANCOM OAP-321, OAP-322 ❯ LANCOM OAP-821, OAP-822, OAP-830
Gateways / Routers	License category A ❯ LANCOM 730-4G ❯ LANCOM 730VA, 831A ❯ LANCOM 1631E ❯ LANCOM 883 VoIP, 884 VoIP ❯ LANCOM vRouter 10

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System requirements – supported LANCOM devices (continued)	
Gateways / Routers	License category B > LANCOM 1780EW-4G > LANCOM 1780EW-4G+ > LANCOM 1781-4G > LANCOM 1781EW+ > LANCOM 1781A, 1781AW > LANCOM 1781A-4G > LANCOM 1781EF+ > LANCOM 1781VA, 1781VAW, 1781VA-4G > LANCOM 1783VA, 1783VAW, 1783VA-4G > LANCOM 1784VA > LANCOM 1900EF > LANCOM 1906VA > LANCOM 1906VA-4G > LANCOM IAP-321-3G, IAP-3G, IAP-4G > LANCOM OAP-3G, OAP-321-3G > LANCOM vRouter 50 License category C > LANCOM vRouter 250 License category D > LANCOM 7100+ VPN, 9100+ VPN > LANCOM vRouter 500, 1000 and unlimited
Wi-Fi Controllers	Device category B > LANCOM WLC-4006+ License category D > LANCOM WLC-4025+, WLC-4100
Switches	License category A > LANCOM GS-2310P, GS-2310P+ License category B > LANCOM GS-2326, GS-2326+, GS-2326P, GS-2326P+ > LANCOM GS-2328, GS-2328P, GS-2328F License category C > LANCOM GS-2352, GS-2352P

Security	
Secure device communication	HTTPS- / TLS-secured communication between all managed devices, certificate-based authentication, secure and unambiguous assignment of equipment and projects (claiming & pairing)
Data hosting service (Public Cloud)	All devices and personal data are hosted at a datacenter in Germany and are subject to German and European data protection regulations
Security auditing	Security auditing of the LANCOM Management Cloud by a BSI-accredited test laboratory
IT security "Made in Germany"	LANCOM Systems bears the quality seal "IT security made in Germany" from TeleTrusT for compliance with the following requirements: > The company is headquartered in Germany. > The company offers trusted security solutions. > The products contain no hidden access paths. > Research and development in IT security takes place in Germany. > The company is committed to satisfying the requirements of German data protection regulations.

Item	
License category A	LANCOM Management Cloud license for the management & monitoring of a category A device (access points, single-site routers, GS-2310P(+), vRouter 10). Specification of the LMC project ID and project information needed, incl. support & updates Available with validity periods as follows: > 1 year, item no. 50100 - LANCOM LMC-A-1Y > 3 years, item no. 50101 - LANCOM LMC-A-3Y > 5 years, item no. 50102 - LANCOM LMC-A-5Y
License category B	LANCOM Management Cloud license for the management & monitoring of a category B device (GS-2326(P)(+), 17xx router, WLC-4006+, vRouter 50). Specification of the LMC project ID and project information needed, incl. support & updates Available with validity periods as follows: > 1 year, item no. 50103 - LANCOM LMC-B-1Y > 3 years, item no. 50104 - LANCOM LMC-B-3Y > 5 years, item no. 50105 - LANCOM LMC-B-5Y
License category C	LANCOM Management Cloud license for the management & monitoring of a category C device (GS-2352(P)(+), vRouter 250). Specification of the LMC project ID and project information needed, incl. support & updates Available with validity periods as follows: > 1 year, item no. 50106 - LANCOM LMC-C-1Y > 3 years, item no. 50107 - LANCOM LMC-C-3Y > 5 years, item no. 50108 - LANCOM LMC-C-5Y

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Item (continued)	
License category D	LANCOM Management Cloud license for the management & monitoring of a category D device (7100+ VPN, 9100+ VPN, WLC-4025+, WLC-4100, vRouter 500 / 1000 / unlimited). Specification of the LMC project ID and project information needed, incl. support & updates Available with validity periods as follows: ❯ 1 year, item no. 50109 - LANCOM LMC-D-1Y ❯ 3 years, item no. 50110 - LANCOM LMC-D-3Y ❯ 5 years, item no. 50111 - LANCOM LMC-D-5Y
LANCOM Management Cloud Private License (per server)	License to operate a private LMC installation, one-time charge (per server). LANCOM Management Cloud Installation Service required Item no. 50201
LANCOM Management Cloud Installation Service (by LANCOM) (per server)	Private LMC installation on premises, on-site installation (per server) by LANCOM field staff; LANCOM Management Cloud Private License required Item no. 50202

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