

# LANCOM Release Notes

## LMC Software Release 1.00.16.0.0.0

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## 1. Preface

The LANCOM Management Cloud (LMC) is the new benchmark for innovative, future-proof and automated network management and monitoring. By leveraging software-defined networking, the LMC is a solution that makes even complex networking scenarios easy to manage by significantly reducing the amount of work and the costs involved.

The LMC Public Cloud is available at <https://cloud.lancom.de> and is regularly updated with new features and bug fixes.

This document describes the new features of the LMC Software Release 1.00.16.0.0.0, as well as the improvements since the previous version.

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## 2. New features, changes, and history

### LANCOM Management Cloud 1.00.14.0.3.0 > 1.00.16.0.0.0 / 09.07.2019

#### Announcement

In the next sprints, the APIs for authentication will change to be fully RFC-7617 compliant. This may affect users which are directly interacting with the APIs.


#### Two-factor authentication

Two-factor authentication secures your LMC access. Besides your password, you will be asked for an additional

Activate two-factor authentication

Use Google Authenticator (or any other authenticator supporting TOTP) on your smartphone to generate a time-based one-time password to authenticate with the LMC. This service does not require any network connection.

In order to activate two-factor authentication, please install the authenticator on your smartphone and scan the QR code below with the app.



Alternatively, you can enter the secret manually.

SRQEXGIVJEV7GB5BFOXZZRMT6XZTD3NX

Verify your password

Verify the code for this secret

Cancel

Activate

factor. This factor is a time-based one-time password based on RFC-6238, using a 160-bit key.

This process can be activated individually for each user. Scan the QR code with an authenticator (e.g. Google Authenticator) or enter the key manually. At the next login, enter your username and password as usual. Subsequently, you will be asked to additionally enter the currently valid one-time password.

You can disable this process at any time by entering your password and current code. Should you have lost your device, you can reset your password as usual - as a consequence, the two-factor authentication will be disabled, too.

In one of the further releases, this functionality will be extended: You can then specify that your projects require a two-factor authentication: Each user who wants to enter the project has then to be authenticated with two-factor authentication.

Simply activate this functionality in your user profile.

### Improvements

- Write access is now disabled by default on switches which are managed by the LMC.

### Bugfixes

- Several issues fixed with the CSV export of monitoring data
- Optimizations when adding and deleting multiple networks at a site

## LANCOM Management Cloud 1.00.13.0.1.0 > 1.00.14.0.3.0 / 06.05.2019

### What's new dialog

Innovations in the LANCOM Management Cloud are now displayed via a What's new dialog. It will be displayed once for each new version and inform you about the most important news. Of course, you can always deactivate or reactivate this dialog.



### Improvements

- Support for the LANCOM LW-500
- The organization dashboard has been optimized for large-scale projects.
- Locations now have an address and a comment function.
- Wi-Fi inter station traffic is now switchable in the SD-WLAN configuration.

### Bugfixes

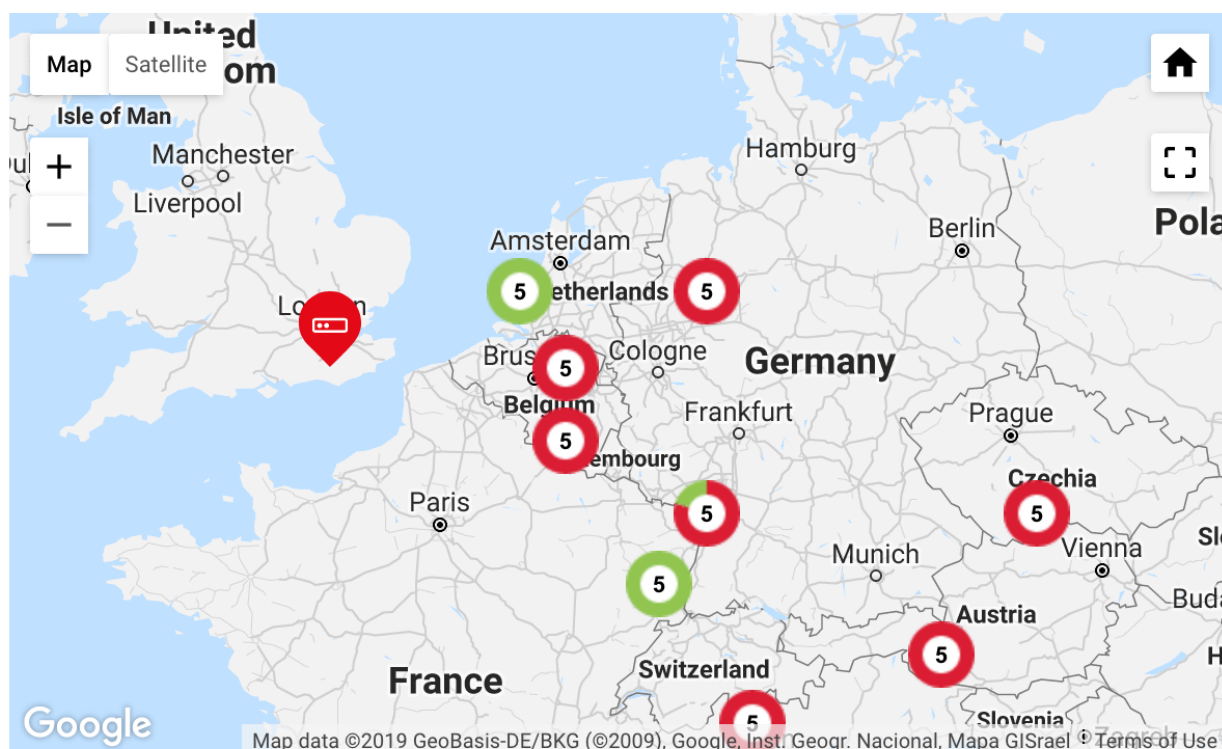
- When new filters have been applied to the device list, the previous selection remained active for the user.
- The operation "Select all" did not select all devices from the device list.
- Issues occurred when displaying the organization overview under Google Chrome.
- Miscellaneous issues solved related to the determination of the heartbeat condition of devices
- An "HTTP 404 - Resource not found" error could occur in the device list in some cases.
- Prevention of a DNS forwarding misconfiguration when using multiple central-site VPN gateways
- Wi-Fi country settings are no longer set to Europe by default.

## LANCOM Management Cloud 1.00.13.0.0.0 > 1.00.13.0.1.0 / 15.04.2019

### Online / offline status for devices in the location overview

The map in the location overview now shows the proportional online and offline status of all devices in all locations. Previously, the whole location was tagged as offline when at least one device was offline.

#### Locations Overview



#### Device Overview

16 online / 35 offline  

Status ▾	Name	Device type	MAC address
Offline	Device-9005554949788324	LANCOM 1781EF+	00:a0:57:C1:62:63
Offline	Device-9005554949848427	LANCOM GS-2352	00:a0:57:C7:43:24
Offline	Device-9005554949463711	LANCOM L-330agn dual W...	00:a0:57:C6:80:62
Offline	Device-9005554949478012	LANCOM GS-2352	00:a0:57:C1:11:70
Offline	Device-9005554949672218	LANCOM GS-2352	00:a0:57:C0:80:85

### Bugfixes

- Fixed an issue which caused the non-appearance of log messages, e-mails etc.
- The switch port speed settings, particularly for the SFP/SFP+ ports, are no longer set fixed to "auto", but are now applied from the detail configuration.
- The download of QR codes for the Wi-Fi SSID is working again.
- Devices can be removed from locations again when using the Firefox browser.
- Display issues have been fixed which caused a missing "save" button in particular situations in the detail configuration and the switch overview.
- Update procedures of full configurations are now displayed on the device information overview page.

### Miscellaneous

- The dialogue for adding devices to locations has been optimized.

## LANCOM Management Cloud 1.00.12.2.0.0 > 1.00.13.0.0.0 / 25.03.2019

### Notifications

**The notification feature is leaving beta. Along with that, the following changes have been implemented:**

- For many event types only one notification is open at a time. A new notification is created only if the previous issue has been solved, or has been closed by the administrator.
- You receive a message for an open notification if the system status subsequently gets worse: if only one device is affected initially, but more devices become affected later, you will be notified.
- As before, some notifications are grouped: if multiple devices fail at the same time, only one notification is generated and you will get only one e-mail.

Handling and visualization have not changed.

### Improvements

- The sorting of columns in the device table is now saved.
- The claiming process for adding new devices to the LMC has been stabilized.
- It is now possible to re-enter the location- and device overviews from the CSV import dialog box.
- The LANCOM IAP-4G+ is now supported by the LMC.

### Bugfixes

- Issues when centering map sections of projects and locations have been solved.
- It is possible again to navigate to the menu items of the LMC after opening an invitation link.

### Miscellaneous

- Changes to the license service API



## LANCOM Management Cloud 1.00.12.0.0.0 > 1.00.12.2.0.0 / 04.03.2019

### Announcement

The notification feature will soon be ready for leaving beta status. Along with that, all open and already closed notifications will be deleted at this particular time.

### Improvements

- Updated license notes for CLA licenses
- The device table now supports filtering by device status.
- The location device table now supports sorting and filtering by various columns.

### Bugfixes

- A behavior which prevented log messages for status changes has been corrected.
- An issue which prevented the display of Wi-Fi clients on a floorplan has been fixed.
- The throughput indicator for VPN site connections on the dashboard has been fixed.
- An issue regarding the reuse of device connections to the LMC in private cloud installations has been fixed.
- Mails about expiring licenses are now sent to all project administrators.

## LANCOM Management Cloud 1.00.10.3.0.0 > 1.00.12.0.0.0 / 11.02.2019

### Announcement

The notification feature will soon be ready for leaving beta status. Along with that, all open and already closed notifications will be deleted at this particular time.

### Improvements

- › Improvements in account selection and account overview. Now the five previously opened projects are displayed.
- › Improved LMC loading times
- › Performance improvements in various dashboard widgets
- › Improved navigation in the VPN connection table
- › Improved device log display for mobile Internet connections
- › Improved alert display for mobile Internet connections
- › The sorting of the device table has now effect on the complete database.

### Bugfixes

- › Correct DNS forwarding rules when Internet access is provided via the VPN central site.
- › Access points and switches can be assigned even if a subnet on that location has no IP addresses available.
- › Fixed sorting of the voice call routing table in the detail configuration
- › If the password policy “randomly individual” is selected when creating a new project, this setting is applied accurately.
- › Fixed display for the LANCOM 1906VA-4G (over POTS)
- › Improvements and bugfixes for logging and firmware status display in conjunction with the auto updater
- › The live chat is working completely again.
- › Fixed some issues regarding temporary connection loss of LCOS devices, resulting in false online/offline alerts. An update to LCOS 10.20 RU3 is mandatory for this.

## LANCOM Management Cloud 1.00.10.0.0.0 > 1.00.10.3.0.0 / 13.12.2018

### Complete Auto Updater Support

For LCOS devices with activated Auto Updater an Auto Updater icon is now displayed in the firmware column of the device table. If there are updates available for one or more devices based on their Auto Updater settings, the user receives a summarizing notification and an optional e-mail about this event. As is usual, the user is made aware of available firmware updates for devices without activated Auto Updater visually in the device table, too. These firmware updates can then be installed manually.

CONFIGURATION ▾	LICENSE ▾	FIRMWARE ▾	<input type="checkbox"/>
Up to date	★ OK (18.08.2021)	🔄 10.20.0336	<input type="checkbox"/>
Up to date	★ OK (17.08.2020)	🔄 10.20.0336	<input type="checkbox"/>
Up to date	★ OK (11.08.2020)	10.12.0262	<input type="checkbox"/>
Up to date	★ OK (17.08.2020)	🔄 10.20.0336	<input type="checkbox"/>
	★ No License	10.12.0262	<input type="checkbox"/>

0 of 6 selected



**John Smith** ▾  
 Project Administrator

### Notifications BETA

- Automatic firmware update successful** \*\*\*

Automatic firmware update on 4 devices. 2 days ago
- Automatic firmware update failed** \*\*\*

Failed to automatically update firmware on device: [Device-004](#). 2 days ago
- Automatic firmware update successful** \*\*\*

Automatic firmware update on 3 devices: [Device-006](#), [Device-041](#), [Device...](#) 2 days ago

[All notifications](#)

### Further improvements

- Offline notifications for individual devices do now include the device name in the e-mail subject.
- The location's network overview offers a survey of the allocated IP ranges.

### Bugfixes

- The selection "device-specific settings" works again in the project defaults.
- On managed gateways the correct sender interface for the LCOS Auto Updater is now set if the LCOS Auto Updater has been activated via project defaults.
- Changing the device name on the device overview page works again.


## LANCOM Management Cloud 1.00.9.5.0.0 > 1.00.10.0.0.0 / 21.11.2018

### Alerts that reassure

The LANCOM Management Cloud automatically informs you when your system is malfunctioning. The practical notification center in the LANCOM Management Cloud helps you keep track of important network events at all times: Be informed on device- and other failures and notice once a problem has been solved. You can individually configure which events are notified to whom at what time. Furthermore, related events are consolidatedly displayed — without the risk of spam.

This feature is currently in beta status. More functionality is yet to come.

Musterfirma GmbH ▾  
Project


16  
 Max Mustermann ▾  
Project Administrator

Dashboard: Wi-Fi / LAN ▾ Location: ▾

Device Count			
Online	Offline		
3	1	75%	25%

Wi-Fi Users			
Count	Mbps	2.4 GHz	5 GHz
6	0.18	0	6

SSIDs
2

Locations Overview  


Top Users  

Name	Device	Status	Time
DirkBoliPh	Device AP-Erdgeschoss	Offline	7 days ago
Sandras-IP	Device AP-Obergeschoss	Offline	7 days ago
dbolte-nb	Device AP-Obergeschoss	Offline	7 days ago
Sercomm	Device AP-Obergeschoss	Offline	7 days ago
Apple-TV	Device AP-Obergeschoss	Offline	7 days ago
DirkBoltesiPad	Device AP-Obergeschoss	Offline	7 days ago

Notifications **BETA**  

Device offline  
Device AP-Erdgeschoss is offline.  
7 days ago

Device offline  
Device AP-Obergeschoss is offline.  
7 days ago

Device offline  
Device AP-Obergeschoss is offline.  
7 days ago

Device offline  
The following devices are offline: AP-Obergeschoss, Sw  
8 days ago

Device offline  
4 devices are offline.  
9 days ago

All notifications

Device	MAC	Size	Size	Size
DirkBoltesiPad	dc:a4:ca:dc:23:6c	2.53 MByte	1005.00 kByte	1.55 MByte

1 2

1 - 6 of 8

### Further improvements

- In the switch device overview settings for a selected port can simply be copied to other ports. Using this function, the similar configuration of many ports gets much easier and faster.
- In the switch port masks of the network definition all ports can now be selected or deselected in common.
- The CSV location import allows reading of Zscaler authentication data.
- Tables with explicit sequence, e.g. the action table, now can be sorted within the detail configuration.
- In the Security & Compliance Dashboard login names of admin logins are now shown under details.
- In the device information of the device overview the prorated uptime for a device in the is shown for the last 7 days.

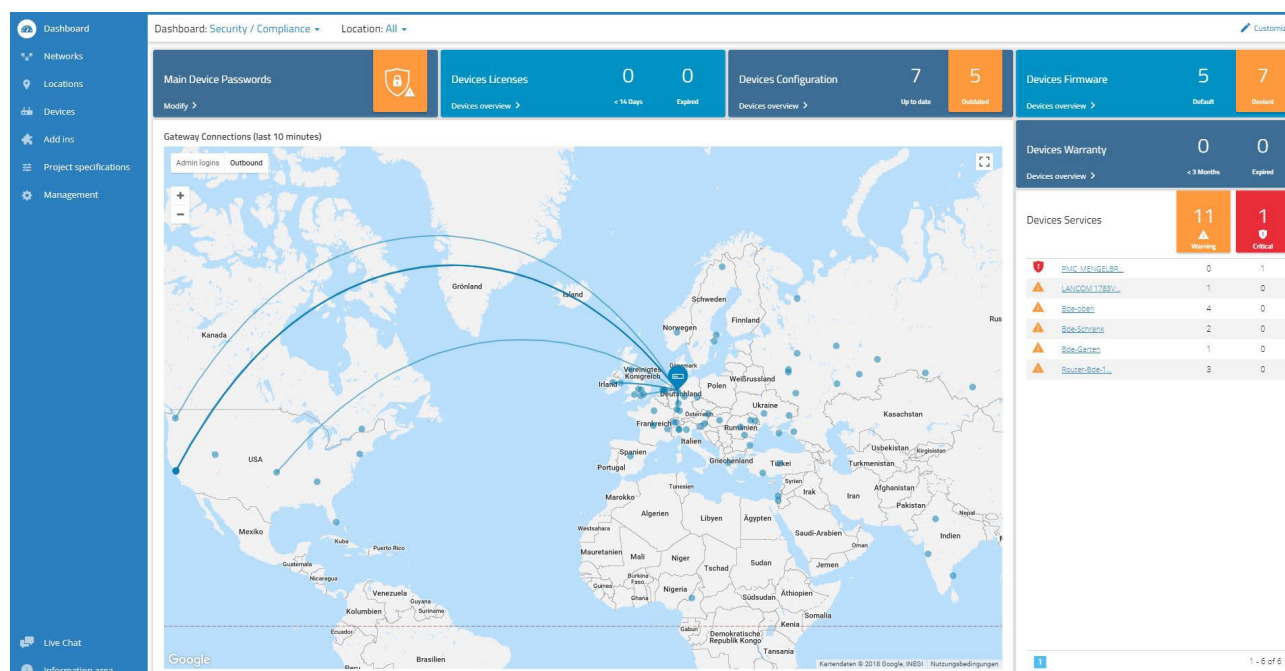
### Bugfixes

- The Wi-Fi 5 GHz indoor-only mode can be properly activated on LCOS 10.20 access points again.
- Location-specific settings for Zscaler and LCOS Auto Updater can be set accurately again.

## LANCOM Management Cloud 1.00.9.4.1.0 > 1.00.9.5.0.0 / 29.10.2018

### Security & Compliance Dashboard

The new Security & Compliance Dashboard shows at a glance whether the devices in the network are configured according to corporate security policies. Furthermore, the dashboard keeps you up to date regarding the remaining device warranty and license terms. Intuitive, color-coded status information makes it easier than ever to meet security and compliance requirements in cloud-managed infrastructures.



### Further improvements

- Added a link to the device list for direct location access
- Added a link for direct access to the individual device overview in a location's device allocation

### Bugfixes

- If SD-WAN is disabled in the LMC, lately created networks can be allocated to locations accurately again.
- The conversion of VoIP configurations for analog users has been corrected when switching over to LCOS version 10.20.
- The device name of managed switches is now set accurately.
- Miscellaneous display bugfixes

## LANCOM Management Cloud 1.00.9.0.2.0 > 1.00.9.4.1.0 / 15.10.2018

### Bulk import: Time savings on a large scale

In large-scale scenarios, the creation of sites, the allocation of networks or the addition of new devices can be laborious. Instead, prepare your large scenario with a spreadsheet program and import the information via CSV into the LANCOM Management Cloud.



### Device import from CSV file

Here you can import devices from a CSV file. The devices are added to your project automatically. Create a CSV file which matches the format of the [example file](#). After uploading the file, the import proceeds asynchronously in the background. In the meantime, you can use the LANCOM Management Cloud as usual.

Selected file: No selection

Select file

Encoding

UTF-8

Upload

### New features

- > The SD-WLAN function of the LMC now supports WPA3-secured wireless networks.
- > The LMC can specify for each project how the LCOS Auto Updater is to be operated so that the devices are automatically kept up to date with the latest LCOS.
- > The SD-WAN function of the LMC supports the decoupling of individual networks via the secure Internet access products of Zscaler.

### Improvements

- > The unencrypted management protocols (SNMP1/2, Telnet, HTTP, and TFTP) are automatically disabled on devices managed by the LMC.

### Bug fixes

- > When networks are created while SD-WAN is deactivated, they can be correctly assigned to a location again. Networks that were created incorrectly can be corrected by saving the network settings again.
- > When a VPN network is removed, the corresponding devices are set to "Outdated".
- > The display of the checkbox selection in the detailed configuration has been corrected.



## LANCOM Management Cloud 1.00.6.11.0 > 1.00.9.0.2.0 / 17.09.2018

### Searching, sorting, and filtering in lists

You are managing multi-site projects? As a Managed Services Provider, you are managing a big amount of projects? The new functions for page-spanning sorting and filtering in lists make it easier and much more comfortable to find the desired entry.

This convenient function is available for site-, user-, and project lists.

Client IP	Client MAC	AP name
<input type="text"/>	<input type="text" value="30:"/>	
192.168.2.242	30:07:4d:f1:69:24	lc-e228 lc-cloud
192.168.2.191	f8:77:b8:59:30:48	lc-e197 lc-cloud

### Mobile quality indicator

As known from mobile radio devices, the WAN connection table in the individual device monitoring offers now a quality indicator for mobile WAN connections. See and evaluate at a glance every important detail of any mobile connection.

WAN Connections								
Status	Remote name	Connection time	Details	Channel	Protocol	WAN addresses	DNS server	Provider gateway
Connected	INTERNET	9 Days, 23:24:08 h	↓↑ 1 GBit/s	DSL-CH-1	Transparent	172.16.85.3/12	172.16.2.253	172.16.2.253
Connected	EPLUS	01:04:48 h	LTE (4G) Home network (MEDIONmobile) Band B20 800 MHz Signal -63 dBm	EXT	DHCP	10.74.1.56/28	62.109.121.17 62.109.121.18	10.74.1.57

1 - 2 of 2 Items

### Further new features

> With activated add-ins: One script part can be executed per branch office on Central Site devices.

### Improvements

- In the service table you can now categorize the available device services by criticality.
- The global time range selection in the individual device monitoring is now always visible.
- Useful user feedback for the brute force protection for claiming
- When specifying the location ID for rollout the underscores at the end of the ID can be dropped.
- Miscellaneous internal improvements

### Bug fixes

- An issue with sorting by „Remote IP“ or „Connection time“ in the „Further VPN connections“ table has been fixed.
- Additional interface bindings can be allocated to the untagged network (default VLAN) via detail configuration.
- Miscellaneous bugfixes for the UI

## LANCOM Management Cloud 1.00.5.2.0.0 > 1.00.6.1.1.0 / 08.08.2018

### New features

- The password management of the LMC can optionally allocate individual passwords to the managed devices automatically.
- Variables with a pre-defined selection can be created for usage associated with add-ins.
- Mouse zoom function for history graphs on the individual device monitoring page.
- It is now possible to sort for e-mail addresses in the user table.

### Improvements

- For WLAN SSIDs the roaming optimization 802.11r can be activated in a compatibility mode, which allows the operation of not 802.11r capable Wi-Fi clients, too.
- The LMC can set an explicitly configured sender network for communication with the RADIUS server with WPA Enterprise (802.x) on Wi-Fi routers.
- The LMC location ID is applied to the DHCP server for automatic location determination for appropriately configured networks.
- Automatic defaults when selecting a date for the history graphs in the individual device monitoring.

### Bug fixes

- Issues in the VPN dashboard with deactivated SD-WAN have been fixed.
- An issue in the location overview of the VPN dashboard for locations without position has been fixed.
- The missing display of the WAN throughput for LANCOM 7100 and 9100 series devices has been fixed.
- A faulty display in the graph tooltip with missing data has been fixed.
- The editing of DHCP forwarding settings in the network properties has been corrected.
- The display of the page for editing ground plans has been corrected.
- If creating an allocated add-in for a device aborts with activated add-ins functionality, the entire configuration will not be uploaded.

## LANCOM Management Cloud 1.00.4.4.2.0 > 1.00.5.2.0.0 / 19.07.2018

### New features

- Detail information is shown in the history graphs when clicking and hovering with the mouse.
- User-defined time range selection for history graphs in the individual device monitoring
- The rollout can now be performed based on the location information the managed device passes to the LMC (allocation possible via DHCP option and rollout wizard as from LCOS 10.20).
- Support for WLAN client management (preliminary for LCOS 10.20)
- Support for new device types

### Improvements

- The device name can now be edited on the device overview page.
- Optimization of requests in the location table with performance optimization in scenarios with many locations
- The clustering of neighbored devices in the location overview map has been optimized for bigger projects.
- If interfaces are already allocated to a VLAN which is managed by the software-defined function, these are added from the detail configuration to the resulting interface allocation.

### Bug fixes

- The allocation of location groups in the monitoring with direct device allocation was corrected.
- The display of the number of Wi-Fi clients in the 5 GHz band has been corrected in the floor plans.
- The content of the top user table in the Wi-Fi dashboard has been corrected after a location change.
- The configuration for 28-port switches has been corrected.
- If cloud-ready devices are allocated to a project and location using their serial number and PIN, the correct function is now assigned.
- The function of the checkbox in the function assignment for devices at a location has been corrected.
- The target for forwarded DNS suffixes at the branch site is now set to the corresponding IP address of the central site device.
- VPN tunnels are displayed accurately at the branch site, even if the defined IP address range of the related network is completely covered by a manually created, additional route.
- Automatically generated configuration parameters (by the software-defined function) can be displayed by a project viewer again.
- With activated add-In functionality
  - the dedicated add-in variables are now sortable on network- and device level
  - the script editor is again available write-protected for project members
- Miscellaneous internal bug fixes and improvements

## LANCOM Management Cloud 1.00.4.11.0 > 1.00.4.4.2.0 / 08.06.2018

### New features

- The project view can be focused on the desired intended use SD-WAN, SD-LAN or SD-WLAN. For this, all not needed elements are disabled.

### Improvements

- The device status of the gateway can be easily viewed by selecting a location on the VPN dashboard map.
- A combined status from registration and line status is displayed in the telephony service table.
- Functions with contextual help texts are now marked by a blue "i". The help text is displayed by clicking the blue "i".
- Support for the LANCOM 1640E
- In the dialogue for the network settings management the tab can be changed even if not all necessary settings have been made.
- Reworked license pool and -key view
- Networks (VLANs) without SSIDs are allocated exclusively to LAN interfaces on access points.
- The default project location contains the default network, too.
- When adding a device, a location can be optionally selected.

### Bug fixes

- Under certain circumstances connections in the WAN connection table were displayed twice and with different status.
- The linking of IPv6 addresses in the WAN connection table has been fixed.
- Successively modifying and saving within the detail configuration could lead to errors when saving the entire configuration.
- An issue has been fixed which could cause Wi-Fi clients learning the VLAN 1 IPv6 prefix (even if they should not be part of this VLAN).
- If the only one configured VDSL connection of a router is broken, the WAN connection table is still displayed in the individual device monitoring.
- An issue has been fixed which could cause the status of the VPN connections in the VPN dashboard switching between green and orange infrequently.
- The display speed of the project- and device logs has been improved dramatically.

## LANCOM Management Cloud 1.00.3.28.2.0 > 1.00.4.1.1.0 / 15.05.2018

### Improvements

- Follow-up licenses can now be allocated to devices. These licenses are used automatically after the current licenses have expired.
- Opting-in to the LMC Newsflash can now be done from within the user profile.
- The time range selection (hour / day / week) in the individual device monitoring applies now to all widgets on this page.
- For map zooming you now have to additionally press the CTRL key to prevent zooming when scrolling through the page.

### Bug fixes

- The displayed number of devices of a location has been corrected.
- If no SSID was allocated to the network with the default VLAN 1, a faulty VLAN configuration could lead to IPv6 connection issues.
- A blocked route generated needless routing entries at the branch offices.
- Miscellaneous internal bug fixes and improvements

## LANCOM Management Cloud 1.00.3.23.1.0 > 1.00.3.28.2.0 / 12.03.2018

### New features

- Setup of redundant central site VPN gateways

### Further improvements

- The device list of a location now shows the function of every device, e.g. "Gateway", "AP" or "Switch".
- Added an option to the location's device list to define which networks of the current location should be applied to each device's configuration.
- On the overview page of a device the "WAN connections" table shows the negotiated speed of the respective connection.
- Information about cellular connections is available on the overview page of a device.
- On the overview page of a device the table "Phone services" shows a detailed line status.
- Selecting a single line in the graphs for single devices is possible directly via the legend.
- In the detail configuration of a device existing lines of dynamic tables can be copied as template for new entries.

### Bug fixes

- Particular street types were not displayed in map view.
- The map position was not saved accurately in map view.
- Firmware updates can only be triggered when the previous firmware update has been finished.
- Incorrect links to the Guided Tour videos have been fixed.
- When setting or unsetting the mark for "Set main device passwords globally" the configuration status of the devices is set to "outdated", because these changes are applied only after writing the configuration back again.
- The device icons on the floor plan are the same size now.
- Device logs can now be viewed by project administrators and project members. Project logs can still be viewed only by project administrators.
- The device filter in the device list works correctly again when using Firefox.

## LANCOM Management Cloud 1.00.3.19.3.0 > 1.00.3.23.1.0 / 12.03.2018

### New features

- All WAN connections at a glance: A new table gives you a clear comprehension of the working status of configured WAN connections. This information is available under "Project > Devices > Individual device > Overview".

### Further improvements

- A user gets an additional warning now when trying to change a network's central site, because massive VPN configuration changes will occur by this.
- For deleting a project, a password has to be specified now. Furthermore, a message pops up, if devices and / or licenses are still allocated to the project.
- Throughput for multiple WAN connections of the same type is separately displayed within graphs.
- Essential internal improvements on processing monitoring data

### Bug fixes

- After adding license keys, the dialogue closes now and the user gets a notification that the action was successful.
- In the DHCP table you can now filter by type.
- The DHCP table contains a link to the network with the appropriate client.
- The call routing table is displayed accurately again. In certain scenarios an empty table was mistakenly displayed in the individual device configuration. However, configuration data was not affected by this.
- Devices on the map dashboard were not always displayed at the correct position.
- The calculation of the Wi-Fi users within projects has been improved.



## LANCOM Management Cloud 1.00.3.15.50.0 > 1.00.3.19.3.0 / 20.02.2018

### New features

- The active and inactive services (e.g. SSH, HTTP, SNMPv2) of a device are now shown in the individual device monitoring, including additional information about the ports and interfaces on which the services are accessible. It is possible to filter and sort for all properties.
- The DHCP clients table is now shown for devices with enabled DHCP server in the individual device monitoring. It is possible to filter and sort for all properties.
- Devices which are added to a project can now be allocated to a site, depending on their internal IP address. Provided that a unique IP subnet has been allocated to each site, the device's site can be determined by its allocated IP address.

### Further improvements

- On the site selection dashboard it is now possible to search for a particular site.
- The selected site on the dashboard is now saved when leaving the dashboard.
- The selected map view (street / satellite) is now saved when leaving the dashboard.
- The name of a network can now be changed.
- The name of a site can now be changed.
- Miscellaneous detail improvements for the user interface

### Bug fixes

- Miscellaneous internal performance- and stability improvements in the monitoring section
- Inconsistencies between the dashboard widgets for Wi-Fi users and Wi-Fi throughput have been fixed.
- The VPN dashboard displayed an inaccurate number of VPN connections in particular cases.
- The selected amount of devices which have to be shown in the device list is now stored properly.
- After having successfully added a license key to the license pool, the corresponding dialogue closes without problems.
- An issue with the display of the automatic port labeling in the individual device monitoring for switches has been fixed.

## LANCOM Management Cloud 1.00.3.11.0.0 > 1.00.3.15.5.0 / 30.01.2018

### New features

- Local configuration changes on the devices are now reported to the LMC (as from LCOS v10.12 RU4). From within the LMC there are options to apply these changes to the configuration, to inform about the changes, or to actively reset the changes on the device.
- The management of subnetworks at each location now allows the manual specification of networks of your choosing in addition to the subnets that are assigned from the central pool.

### Further improvements

- Devices can now be restarted from the LMC.
- Installing a new firmware version no longer leads to an automatic rollout of the configuration.
- The display of the previous week's monitoring data on the dashboard has been modified.
- Responsive design and optimizations for the detailed configuration of devices
- Members and viewers can now see whether devices in the device list are operating the current firmware.
- Improved user feedback when too many attempts were made to add a device with the wrong PIN.
- Users can now remove themselves from an organization/project, unless they are the last-remaining administrator.
- If an individual device configuration has been set with a sender interface for communications with the LMC, this is no longer overwritten by the Smart Config.

### Bug fixes

- Modified site locations are stored accurately again.
- An issue was solved which caused the device configuration status in the device list to remain on "updating".
- Miscellaneous bugfixes for dashboard and device monitoring

## LANCOM Management Cloud 1.00.3.8.0.0 > 1.00.3.11.0.0 / 14.12.2017

### New features

- Comfortable configuration of a simple hotspot via the LMC
- In the new area "Project specifications" general settings can be configured project-wide (e.g. main device password, band steering, hotspot, ...).
- A new color marker in the device list shows if the device is running the current firmware, or if a new firmware is available.
- A link to the LANCOM knowledgebase was placed in the info area.

### Further improvements

- The "add device" dialogue has been reworked and shows now where to find the needed information (S/N+PIN).
- A message is now saved to the device log, if a device could not retrieve a new firmware from the LMC successfully.
- VPN dashboard: VPN connection lines are now selectable and show the connection status and containing networks.
- VPN dashboard: Reworked information overview when selecting a location.

### Bug fixes

- The device detail view on the floor plans shows the picture of the device in correct size again.
- In some cases device remained on the floor plan after deleting them from the location.
- The 5-GHz Wi-Fi coverage is only shown on the floor plan for devices which do actually broadcast a 5-GHz network.
- An issue when configuring dual radio 11ac access points has been fixed.
- Issues when configuring LANCOM 883 and LANCOM 884 devices have been fixed.
- Several internal bug fixes and performance improvements

## **LANCOM Management Cloud 1.00.3.6.3.0 > 1.00.3.8.0.0 / 29.11.2017**

### **New features**

- Direct graphical network assignment on switch ports in the switch overview

### **Further improvements**

- Upload of up to 15 floor plans per location (previously 5)
- The login process has been speeded up.

### **Bug fixes**

- A problem with the PoE configuration of the GS-2352P has been fixed.
- Miscellaneous internal bug fixes and stability improvements

## LANCOM Management Cloud 1.00.3.1.0.0 > 1.00.3.6.3.0 / 12.10.2017

### New features

- Custom Fields – Administrators for organizations or projects are now free to define own properties for their organizations / projects.  
Example: an organization administrator can create a property named “customer number” for his organization and the included projects. This property can then be updated with the corresponding numbers.

### Further improvements

- 28-port switches do now have their own mask for port determination within the network.
- The LANCOM Management Cloud can now allocate multiple centralized addresses to the branch office routers as alternative VPN endpoints.
- Partner ID and partner status are now shown in the organization management.
- A table with all ports including their designation was added to the single monitoring view for switches.
- The user is informed by e-mail if a device license is about to expired or has already expired.
- When creating networks, a pre-defined color palette is now available.

### Bug fixes

- Only the visible devices were filtered in the device list, and not the complete list.
- Picture upload for organizations, projects, and devices was fixed.
- When using the firefox browser one connection was missing in the VPN connection table of the WAN dashboard.
- Error messages could occur when deleting a location, even though the location was deleted successfully.
- LLDP was not always activated on the switch, although it was activated in the project settings (LLDP monitoring requires switch firmware 3.30.0324 RU2).
- Fixed problems with the floor plan display in the safari browser.
- An issue which prevented the pairing of new devices was fixed.
- Miscellaneous internal stability improvements

## LANCOM Management Cloud 1.00.2.5.2.0 > 1.00.3.1.0.0 / 12.09.2017

### New features

- Exclusively for LANCOM partners: As of now, all devices that are newly integrated into the LANCOM Management Cloud get an automatic start-up license valid for 30 days. After the 30 days have expired, a simple online / offline status monitoring is available via dashboard and device overview.
- Exclusively for LANCOM partners: As of now, a live chat with direct access to LANCOM Cloud experts for all questions about the LANCOM Management Cloud is available (accessible via the menu bar).
- Floor plans of buildings can be uploaded for particular locations to place devices exactly on these plans ("Locations > Floor plan"). For placed Wi-Fi devices a rough coverage overview is available on the map incl. channel load and reception quality (dashboard under "Wi-Fi / LAN" > widget "Locations overview").
- Device filter in the Devices overview (name, device type, serial number, IP address, site)
- Particular location information can be filtered on the dashboard.

### Further improvements

- Support for the 28-port switches in the "network" area
- Automatic e-mail notification on expiring device licenses

### Bug fixes

- Issues while activating the layer 7 application detection have been fixed. For a successful activation the configuration has to be rolled out again to the appropriate Wi-Fi devices.
- License management issues have been fixed
- Config service issues have been fixed

## LANCOM Management Cloud 1.00.2.3.5.0 > 1.00.2.5.2.0 / 18.08.2017

### New features

- Automatic switch port marking per LLDP

### Further improvements

- The logging records if users were deleted from the organization / project.
- Devices can now be deleted directly from the LMC from within the project (previously, there was a transfer to an organization necessary).
- The license column in the device list now shows the expiration date, and not the remaining days.
- In the compact device view the selected tab (e.g. detail configuration) is now stored, even if a device from another site is selected.

### Bug fixes

- Fixed an issue with unconfigurable switches after claiming.
- Fixed an issue with the automatic logout, if there were unsaved changes left.
- Fixed an issue with writing configuration data to LN-630 devices.
- The current value in history graphs is now consistent (hour/day/week).
- No VPN devices were shown in the WAN dashboard under certain circumstances.
- Fixed an issue with the dashboard widgets for Wi-Fi networks and Wi-Fi standards.

## LANCOM Management Cloud 1.00.170710 > 1.00.2.3.5.0 / 04.08.2017

### New features

- As of now, the Wi-Fi optimization functions Adaptive RF Optimization and Band Steering can be activated under "Management > Settings" (globally for the whole project) and under "Locations > Overview > Wi-Fi Defaults" (per location) for Access Points and WLAN routers in a project.
- From now on, a Wi-Fi SSID which is defined under "Networks > Wi-Fi > Create new SSID", can be activated and deactivated.
- From now on, the roaming optimization functions Opportunistic Key Caching (OKC) and IEEE 802.11r Fast Roaming can be activated while defining a Wi-Fi SSID under "Networks > Wi-Fi > Create new SSID".
- From now on, the SSID broadcast can be suppressed while defining a Wi-Fi SSID under "Networks > Wi-Fi > Create new SSID", so that the respective SSID is no longer automatically visible for clients in the list of the available SSIDs.

### Further improvements

- Project IDs and license algorithms are now shown in the organization's project list.
- Single switch ports can be manually labeled in the switch monitoring.
- The current throughput is graphically shown in the switch monitoring for the selected switch port.
- The last known port status is shown in the switch monitoring for switches with "offline" status.

### Bug fixes

- Deleting locations failed under certain circumstances
- Miscellaneous bug fixes within the switch configuration
- When rolling out configurations to a bigger amount of devices, these configurations were partially not accepted.
- Log entries for deleted devices were showing a wildcard instead of the device ID.
- Further general issues fixed



## LANCOM Management Cloud 1.00.170620 > 1.00.170710 / 10.07.2017

### Notice

For this LMC release we recommend a firmware update for switches to at least LANCOM Switch OS 3.30 REL (Build 3.30.0204). Without, the monitoring data will not be accepted by the LMC anymore, due to a security check. A later update is always possible in case the monitoring data is already missing.

### New features

- When generating a new project the admin is asked if the global password distribution should be used.

### Further improvements

- The admin table can now be edited when using the individual configuration of switches.
- The reliability of the online/offline status view has been improved.

### Bug fixes

- A support problem of the devices L-321agn Wireless R2 and 730-4G has been fixed.
- In the compact view of large projects all devices were listed but only the first four had a configuration status displayed.
- In new projects the area location could not be entered under specific circumstances.
- An unexpected error when deleting a location has been fixed.
- Variables were not resolved correctly for specific log entries.

## LANCOM Management Cloud 1.00.170529 > 1.00.170620 / 20.06.2017

### New features

- › Networks are displayed per port within the switch monitoring.
- › A cloud answer time diagram was added for switches.
- › A CPU load diagram was added for switches.

### Further improvements

- › The information area was extended by further information sources.
- › The LMC can now create an offline configuration for cloud-ready devices.
- › Internal improvements for tracking calls between micro services

### Bug fixes

- › Firmware files are now available for "(over ISDN)" and "(over POTS)" routers, too.
- › The URL which is sent to the device for upgrading the firmware is no longer compiled wrong, so firmware updates can be done reliably.
- › Sorting of the license categories is now alphabetical within the license pool.
- › The VPN dashboard's info popover shows always the selected outpost, and not the central site.
- › Changes to a site cause the status display of the central site gateway to change to "outdated".
- › The VPN dashboard's connection table shows again all VPN connections.
- › All variables are now resolved for the log file.
- › Status changes are now displayed accurately for recently added devices.
- › Some user interface issues were fixed.
- › Issues were fixed for the group aggregation of the dashboard monitoring data.
- › Fixed an issue in the WAN dashboard's VPN device table.

## LANCOM Management Cloud 1.00.170509 > 1.00.170529 / 29.05.2017

### New features

- Guided tour for organizations
- Added an info section with FAQ, hints & tricks, and tutorial videos

### Further improvements

- Significantly faster loading and displaying of device detail configurations.
- License icons in the device list are gray if the project works in license mode "NONE".
- In pairing state, the LMC public can now redirect devices to another private cloud.
- Device-related information can now be hidden from the project log.
- If WLAN SSIDs are defined via smart config, only these are applied to the device. There is no mix of smart config and single device configuration in this case.

### Bug fixes

- Fixed an issue where in some cases the time zone was missing when transferring a timestamp. As a consequence, the date was misinterpreted at the recipient.
- No more missing display of device networks and configurations due to failed validation
- Even if DHCP is enabled, gateways with Wi-Fi feature (e.g. LANCOM 1783VAW) won't stop allocating IP addresses.
- Correct license categories are shown for LANCOM LN-17xx and LN-86x.
- Fixed an issue when transferring devices from within an organization.
- Miscellaneous internal bug fixes

## LANCOM Management Cloud 1.00.170410 > 1.00.170509 / 09.05.2017

### New features

- Licensing of cloud-managed LANCOM devices
- 1-click port configuration for particular switches

### Further improvements

- When adding devices to sites, the first router is set as a gateway automatically.
- The centralized device password allocation can be disabled by the project administrator.
- Devices can be passed from the LMC public to the LMC private.
- Support for the new switch models GS-2328\*
- Extended switch parameter: SNMP communities
- Improvements for the WAN dashboard
- Improved display of the Layer-7 top applications
- The WAN throughput is now shown separately for up- and downstream.
- Display for multi VPN within the WAN dashboard
- The Switch LMC operation was extended by TRY settings with “try 24h” by default.
- Added support for LMC handover before pairing on the device.
- Device information and monitoring was merged to one single tab for better viewing experience.
- The selection of Wi-Fi frequency bands is now possible during network configuration.

### Bug fixes

- When using the auto fill function of a Web browser, the user’s LMC login data is no longer entered for Wi-Fi SSID and PSK in some cases.
- The CSV export of the top applications now contains the complete data.
- The timeline of the history graphs now stops moving if a device does not send any data.
- Fixed an issue with aggregating monitoring data.
- Corrected display of the VPN connection state within the WAN dashboard.
- Client names are now displayed similar within the Wi-Fi client table and the top users table.
- Fixed an issue with deleting sites.
- The window for adding devices is now displayed on the iPad, too.
- Fixed an issue with the LMC blink mode on WLC-managed accesspoints
- Optimized DNS request count for accesspoints, routers and WLCs, and DNS caching was added for LMC connectivity on the device.
- Automatically generated Wi-Fi PSKs now consist of 16 characters (previously 8).

## LANCOM Management Cloud 1.00.170316 > 1.00.170410 / 10.04.2017

### New features

- Centralized allocation of device passwords to all devices of a project
- Display of failed login attempts for:
  - Device login
  - SNMP login
  - WLAN SSID login

### Further improvements

- Display of Internet backup connections within the single device monitoring of routers
- Scripting feature variables can be defined as confidential and are masked on the user interface.
- Immediate activation of new network specifications for all LANCOM devices when changing the IP address range

### Bug fixes

- An issue which prevented the configuration of the vRouter was fixed
- General text improvements
- Proper name resolution for top users
- Fixed an issue with a wrong status display within the device list after a location rollout
- Fixed an issue which lead to disabled networks being still active
- If multiple configuration change have been made while a device was offline, all changes are now saved when the device is online again.
- Fixed an issue with a faulty free memory display for switches
- Fixed an issue with editing the VoIP line table
- LTE routers do no longer lose their mobile connection after a configuration rollout.
- Fixed miscellaneous issues within the single device configuration

## LANCOM Management Cloud 1.00.170224 > 1.00.170316 / 16.03.2017

### New features

- For sorting and filtering purposes, the device location is now shown in the device list
- The routes which should be accessed via central site can be defined per network
- WAN throughput is now shown in the single device monitoring
- Access LMC using a mobile device

### Further improvements

- The automatic inactivity logoff timer can be configured in the user profile
- Improvements for transmitting table contents of the device- and user list
- VPN connections are now initialized with green dotted lines on the WAN dashboard
- Additional messages added for the account- and device log
- Further general performance improvements

### Bug fixes

- The SDN configuration is rolled out accurately to routers with activated WLC option
- Fixed some issues which led to erroneous device status display
- Fixed the VPN connection status display on the WAN dashboard
- Messages in the account- or device log are shown accurately
- Fixed several issues in the VoIP Call Router area for single device configuration
- Further general issues fixed

## LANCOM Management Cloud 1.00.170213 > 1.00.170224 / 24.02.2017

### New features

#### Config test mode

- After a new configuration is uploaded, the device checks that it can still reach the LANCOM Management Cloud. If not, the device falls back to the previous configuration.

#### Simplified operation through predefined default settings:

- When you create a project, a site with the name of the project is created by default
- When you create a project, the network "INTRANET" is created by default

#### E-mail integration

- When you invite previously unregistered users, an invitation e-mail with instructions is sent automatically to their e-mail address.
- When inviting users to organizations and projects, an e-mail with an invitation link is sent automatically to their e-mail addresses.

#### Password reset

- The user now has the option to reset the password, if forgotten. For this, a link is sent to the relevant e-mail address.

### Further improvements

- Immediate language switching (DE|EN) for login/registration/password reset
- The Layer-7 application detection can now be turned on and off for each SSID/VLAN in the SDN-Configuration.
- Devices now need just one URL to connect to the LMC. All you have to enter is the LMC domain (e.g. cloud.lancom.de).
- LMC and LCOS now use the same policies for secure passwords.
- The gateway at a site now no longer needs to have the first address on the corresponding network.
- The invitation link sent by e-mail is now valid for 5 days.
- A change of network IP is now displayed in the overview.
- Performance improvements
- A number of improvements have been made to the dashboard display.

### Bug fixes

- A display issue with the top Wi-Fi applications has been fixed.
- Some naming inconsistencies between the "Cloud" and "LMC" have been fixed.
- An issue with the display of the current Wi-Fi throughput on the dashboard has been fixed.
- The Cloud operating mode "only-without-wlc" is now available only for Wi-Fi devices.
- An issue with setting the DNS forwarding has been fixed.
- An issue with the map zoom level on the dashboard has been fixed.

## LANCOM Management Cloud 1.00.170213 / 13.02.2017

### New features

- Guided tour of the LANCOM Management Cloud
- Widgets in the Wi-Fi dashboard now optionally display the data over the last hour, the last day or the last week.
- For sites, it is now possible to select the router that is to act as the gateway.

### Security

- Users are now logged out automatically after 30 minutes (can be configured for longer).

### Improvements & bug fixes

- The overview page for a device now shows when it was incorporated into the organization/project.
- Just one LMC domain is required for pairing and claiming. Operators of a Private Cloud are required to ensure that the prefixes pairing.\* and control.\* are available at their domain.
- Organizations and projects now have an ID.
- Performance improvements
- Individual device configurations have now been furnished with entries that were missing so far.
- Bugs fixed in the SDN-Configuration
- It is now no longer possible for delegated invitations to accidentally create dead organizations and projects.
- Issues with project observers entering the areas "Networks", "Sites" and "Devices" have been fixed.
- Implausible entries in the Wi-Fi dashboard
- "Ghost devices" appeared in empty projects
- The WAN dashboard occasionally stops updating.
- An issue with the device and account log has been fixed.
- Arrangement of the dashboard widget is now back to normal.