

# Release Notes Archive Document

## LMC Software Releases up to 1.00.116.0

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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 complete history of LMC software releases up to version 1.00.116.0.

LMC Release Notes for versions newer than 1.00.116.0 can be found in the current LMC Release Notes document.

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## 2. Important note

To ensure continued smooth operation with the LANCOM Management Cloud, LANCOM devices with an old firmware version must be updated to a newer version. The following firmware versions are the minimum requirement:

→ at least LCOS 10.12.0147 SU3

→ at least LCOS SX 3.30.0417 RU3

To use all the functions of the LANCOM Management Cloud, we recommend using the latest release version.

### 3. New features, changes, and history

#### LANCOM Management Cloud 1.00.116.0 / 30.03.2021

##### Add-ins — for tailor-made networks

Use the Add-ins to customize the configuration data of all devices managed in the LMC or make versatile detail modifications to existing standard concepts for SD-WAN, SD-LAN, SD-WLAN and SD-Security.

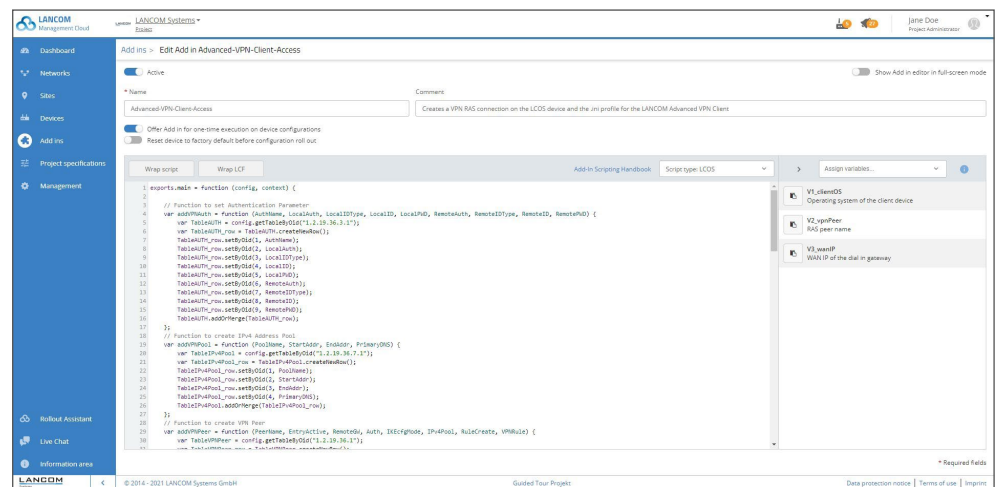
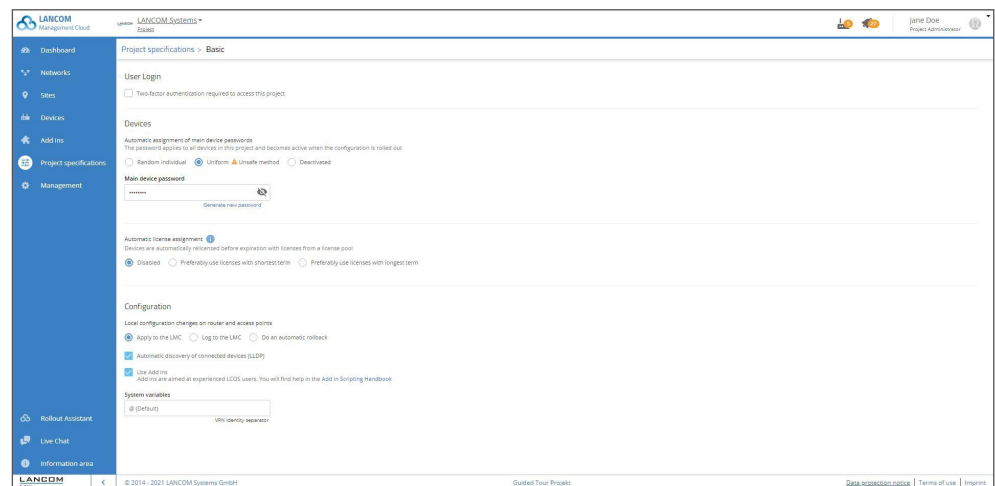
**Activation:** Project specifications > Basic > Configuration > Use Add-ins

**Add-in Management:** Add-ins (new one in the menu bar) > Create new Add-in opens the integrated script editor.

**Requirements:** Knowledge of Java scripting and LANCOM operating systems

**Additional materials:** Information area > Further reading > Add-in Scripting Handbook (incl. numerous practical examples)

Activation of the add-ins in the project specifications area



User interface add-ins with sample script

**Notice: The discontinued hotspot feature no longer allows any changes. Existing hotspots can be operated further for a transitional period.**

#### **Further Improvements**

- Devices with pending configuration changes are permanently in view via an info element and can be called up in a filtered manner via a direct link.
- The Add-in Editor can be switched to full screen mode.
- The 'Basic' section of the 'Project specifications' has been revised.
- Activation of the configuration test mode has been moved to the 'Device startup' section.
- In the firmware update dialog, there is now an option to exclude already selected devices from the update.
- The stability of the WEBconfig tunneling service has been optimized.
- Optimizations in DPS rule generation

#### **Bug fixes**

- If a router is not assigned to a site or is not selected as a gateway, the configuration no longer contains DPS relics.
- The configuration converter for changes to the IEEE 802.1X authenticator table in LCOS 10.42 has been corrected.
- The license category of the devices LANCOM 1926VAG & 1926VAG-4G has been corrected.
- A problem with uploading floor plans with a file size larger than 1MB has been fixed.
- The causeless triggering of alarms for disabled Wi-Fi interfaces has been fixed.
- Corrected memory display for some switch models

## LANCOM Management Cloud 1.00.115.0 / 09.03.2021

### SD-WAN of the highest quality with Dynamic Path Selection

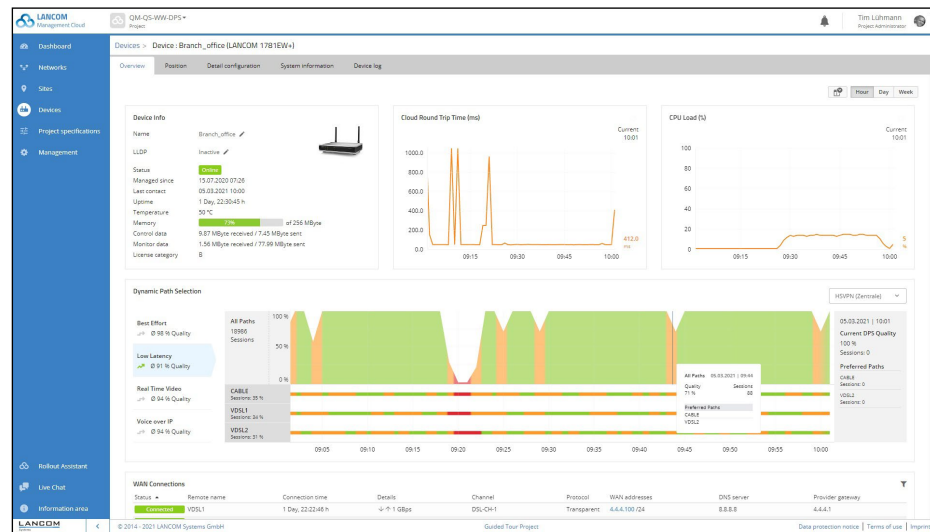
At sites with multiple WAN connections, Dynamic Path Selection ensures that business-critical applications, for example, are always routed over the highest-quality line. The feature continuously monitors your WAN links for load, packet loss, latency, or jitter, and dynamically decides the optimal path for specific applications based on the current link quality. Enable best SD-WAN quality in the 'Project Preferences > SDN > SD-WAN > Dynamic Path Selection' section.

Dynamic Path Selection -  
Activation

Dynamic Path Selection can be enabled by checking a box. Policies, categories, and definitions for common applications and protocols are already predefined in the DPS configuration. This means that Dynamic Path Selection is applied immediately after activation and rollout of the devices. Additional applications can also be assigned quality criteria and individual settings can be made.



### Dynamic Path Selection - Monitoring Widget



The monitoring widget provides high transparency about the overall quality as well as the quality of individual lines. A graphical interface allows to historically track the connection quality and the preferred lines for specific applications.

### Further improvements

- Warning dialog with control query when selecting a different VPN Central Site location
- Individual notification / alerting per device
- The action list of the device table has been divided into categories for a better overview.
- In case of a failed firmware update, the firmware target version is now stored in the log file.
- The maximum image size of floor plans has been increased to 2 MB. The upload of \*.jpg and \*.png image files is allowed.
- Configuration rollouts are now only possible for devices with valid licenses.

### Bug fixes

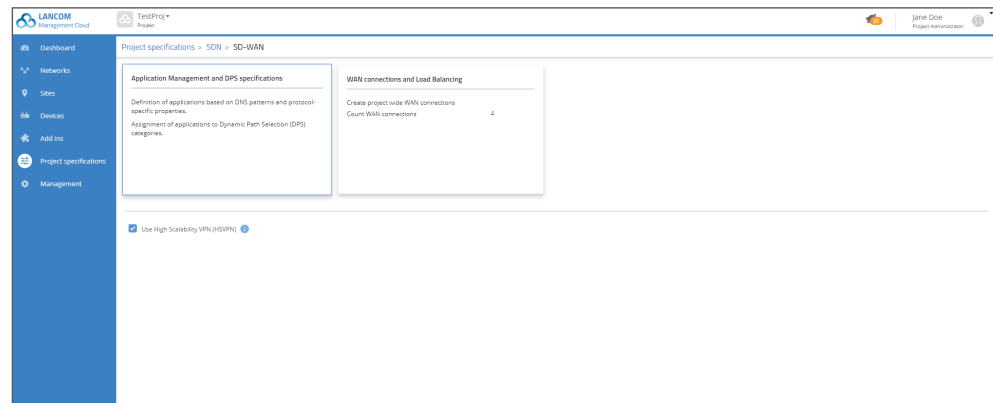
- When activating the initial configuration rollout without test mode, the test mode remained inactive until the device reconnected to the LMC. Test mode is now only disabled for the first automatically initiated configuration rollout after commissioning.
- Fixed a problem in the confirmation dialog when removing devices from the organization.
- When working in the compact view, it could happen that the device selection changed to the first filtered device.
- Error in the configuration of the WIFI4EU
- Minor cosmetic fixes on the hotspot configuration page

## LANCOM Management Cloud 1.00.114.0 / 16.02.2021

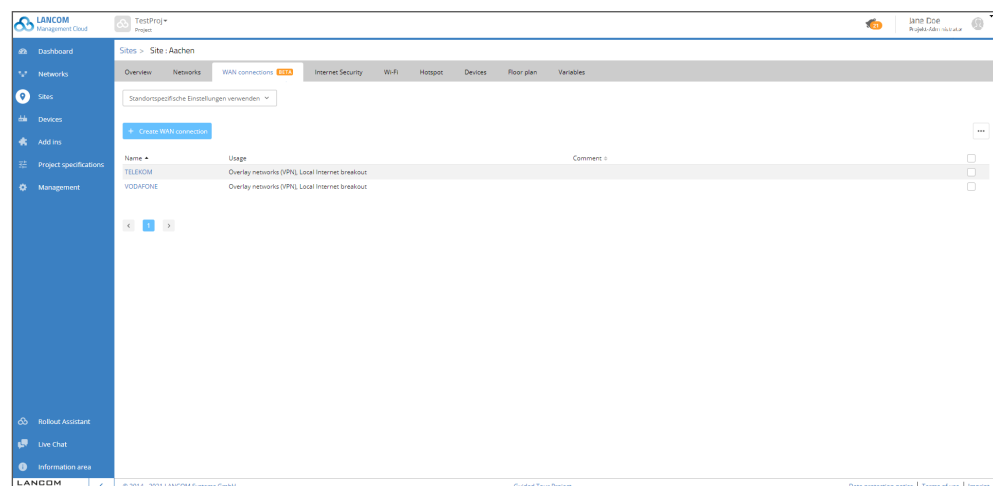
### Full SD-WAN power: HSVPN and Load Balancing

LANCOM High Scalability VPN (HSVPN) ensures maximum scalability and efficiency for your SD-WAN architectures! Numerous VPN connections is combined in just one data tunnel, but without sacrificing the strict separation of routing contexts and the security of a modern IPsec VPN. You can now enable this in the area Project specifications > SDN > SD-WAN.

Furthermore, if multiple WAN connections are defined for a site, they will now automatically operate in active/active mode (Load Balancing), thereby increasing the total available bandwidth.



Activating High Scalability VPN



Configuring Load Balancing

**Further improvements**

- Support for WIFI4EU
- The 'Device Licenses' widget in the 'Security & Compliance' dashboard now displays the number of all unlicensed devices.

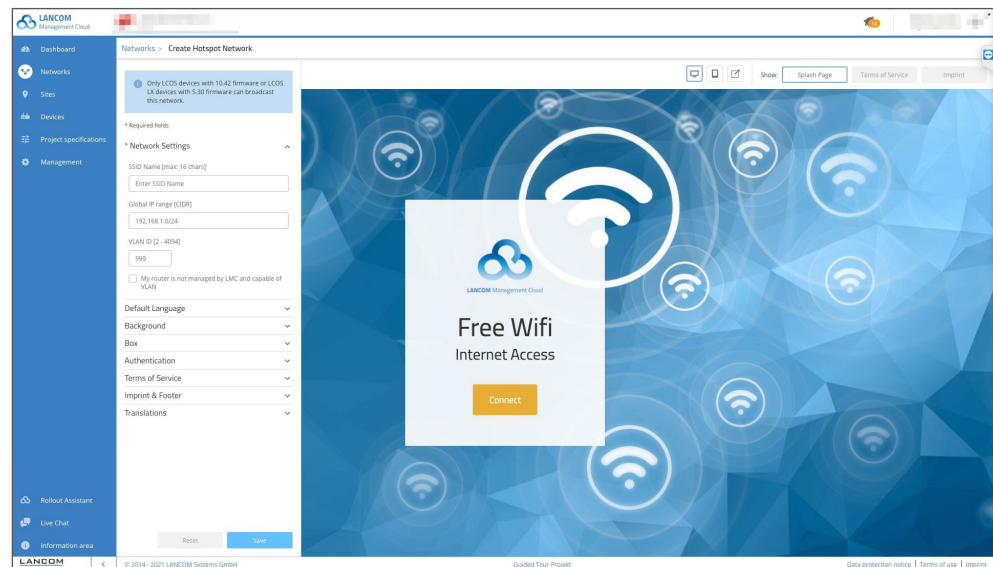
**Bug fixes**

- A problem with missing firmwares in the device commissioning defaults has been fixed.
- Missing log entries when creating and deleting preconfigurations have been added.
- Fixed an error where the configuration could not be written to some device types due to WLC-TUNNEL-AUTOWDS settings in the '/Setup/LAN-Bridge/Port-Data' table.
- WAN connections whose names start with a number can now be included in the configuration of 'WAN Connections and Load Balancing'.
- Changes to inactive networks no longer cause associated devices to be set to 'not up to date'.
- Changes to assigned add-ins now cause associated devices to be set to 'not up to date'.
- If SD-WAN is disabled and device assignment based on IP addresses is enabled in the project, newly created networks can be correctly assigned to sites.
- Subsequent changes to the name of the WAN connection at DynDNS will no longer cause DynDNS to stop working.

## LANCOM Management Cloud 1.00.113.0 / 28.01.2021

### Cloud-managed Hotspot

Create a simple Wi-Fi hotspot with a few clicks – directly from the LMC. No additional gateway or WLAN controller with LANCOM Public Spot Option is required. Intuitive menus provide you with the opportunity to customize your hotspot welcome screen with your logo and corporate colors and integrate important information such as imprint and usage guidelines for your hotspot users. Afterwards you can assign the new hotspot to the respective location and it will be available to your visitors.



### Further improvements

- The firmware type (Rel, RC, ...) is now displayed in the firmware update dialog.
- Stabilization of the rollout process with initial device firmware using retries
- Hotspot users are authenticated for 24 hours.
- The list of authenticated clients is stored for 5 days.

### Bug fixes

- Fixed an issue related to closing notifications in case of offline acknowledgements.

## LANCOM Management Cloud 1.00.111.0 / 15.12.2020

### Dynamic DNS Service for the Public Cloud (Beta)

The LANCOM Management Cloud becomes a DynDNS provider! Simply assign a fixed, self-selected subdomain (mycompany.dyndns-lmc.de) to the gateways implemented there in the sites settings. This subdomain can then be stored in VPN remote stations such as the LANCOM Advanced VPN Client. This way, gateways (from LCOS 10.42 RC3) with dynamic WAN IP addresses remain accessible at all times via this domain name.

This feature is exclusively available in the Public LMC.

The screenshot shows the LANCOM Management Cloud interface for a project named 'LCS-PMK'. The navigation menu on the left includes Dashboard, Networks, Sites, Devices, Project specifications, and Management. The main content area is titled 'Sites > Site: Würselen' and has tabs for Overview, Networks, WAN connections (marked as BETA), Internet Security, Wi-Fi, Hotspot, Devices, and Floor plan. The 'WAN connections' tab is active, showing a configuration form for a connection named 'INTERNET'. The form includes a search icon and a 'Connections' button. Below the name field, there are three toggle switches: 'Use connection for Overlay networks (VPN)', 'Use connection for local Internet breakout', and 'Use Dynamic DNS' (which is currently turned on). A 'Dynamic DNS subdomain' field contains the text 'wuerselen-gateway' followed by '.dyndns-lmc.de'. A note below this field states: 'Configurable subdomain at which the device will be reachable'. There is also a 'Comment' field at the bottom.

The screenshot shows the LANCOM Management Cloud interface for the same project. The navigation menu is the same. The main content area is still 'Sites > Site: Würselen', but the 'WAN connections' tab is now showing a list of connections. A dropdown menu is set to 'Use site based settings'. A '+ Create WAN connection' button is visible. Below this is a table with columns for Name, Usage, and Dynamic DNS. The table contains one entry: 'INTERNET' with usage 'Overlay networks (VPN), Local Internet breakout' and dynamic DNS 'wuerselen-gateway.dyndns-lmc.de'. Below the table is a 'Dynamic DNS' section with a field containing 'wuerselen-gateway.dyndns-lmc.de'. Underneath, there is a table showing device status and IP addresses:

Device	Status
LANCOM-ROUTER	Online

Below the device table, there are two rows of IP address information:

IPv4	80.158.67.40
Last update	11.12.2020 15:09
IPv6	fd62:ed3a:59b:82f::119
Last update	11.12.2020 15:09

The footer of the interface shows the LANCOM logo, copyright information '© 2014 - 2020 LANCOM Systems GmbH', and a 'Guided Tour Project' link.

**Further improvements**

- For switches of the GS-3xxx series WEBconfig tunneling from the LMC is possible from firmware 4.00.0254 (RU3).
- The Rollout Assistant can be accessed via the 'Add device' function in the device table.
- The device table has been optimized for displaying many devices on slower systems.
- Cloud-managed hotspot support (beta) available for devices running LCOS 10.42 RC3 or later

**Bug fixes**

- The user profile image can be changed again.
- A problem with the display of many devices in the firmware download dialog has been fixed.

## LANCOM Management Cloud 1.00.110.0 / 24.11.2020

### New user role 'Technical Administrator'

In network infrastructures with several administrators, differentiating between rights for technical and organizational tasks is necessary to implement compliance requirements. An LMC user with the new role 'Technical Administrator' can configure location, network, and device details. In contrast to the 'Project Administrator', however, the Technical Administrator is not allowed to manage or invite new users and cannot modify project information.

The screenshot shows a web interface for inviting a new user. The title is "Invite new user". Below the title is a horizontal line. Underneath, there is an "E-mail" label and a text input field containing "jane.doe@systemhouse.com". Below the email field is a toggle switch labeled "Active" which is currently turned on. Under the "Active" toggle is the heading "Authorities". Below this heading is a list of five radio button options, each with a role name and a brief description of its permissions:

- Project Administrator  
Is allowed to manage projects, users and devices. Has unrestricted access to project information.
- Technical Administrator  
Is allowed to manage sites, networks and devices. Project information is read-only, and managing users is not allowed.
- Project member  
Is authorized to manage and monitor the project's devices. Has only read access to project information.
- Rollout Assistant  
Is used by LANCOM Rollout Assistant App to simplify device claiming in this project. This user is allowed to add devices and read device information.
- Project viewer  
Is only authorized to view but not to edit project- and device-related information.

At the bottom right of the dialog, there are two buttons: a white "Cancel" button and a blue "Invite" button.

### Further improvements

- If the Add-Ins are activated in the project, user-defined variables with a definable input set can now be created.
- If command line calls (addScriptLine) are used in the add-ins, the LMC now displays possible error messages of the configured devices in the log.
- The tables of license keys or pools are now sortable.
- The page size setting of the device table is now saved.
- E-mail addresses of users are now changeable.
- In e-mails the English text is now displayed first.

**Bug fixes**

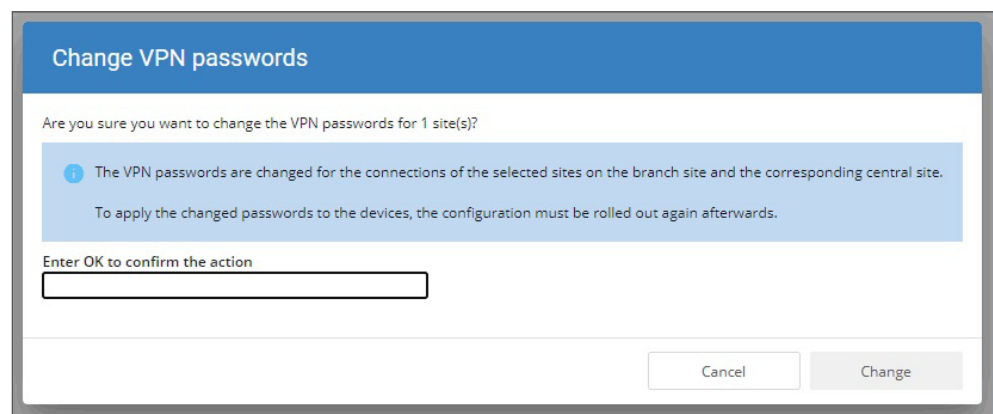
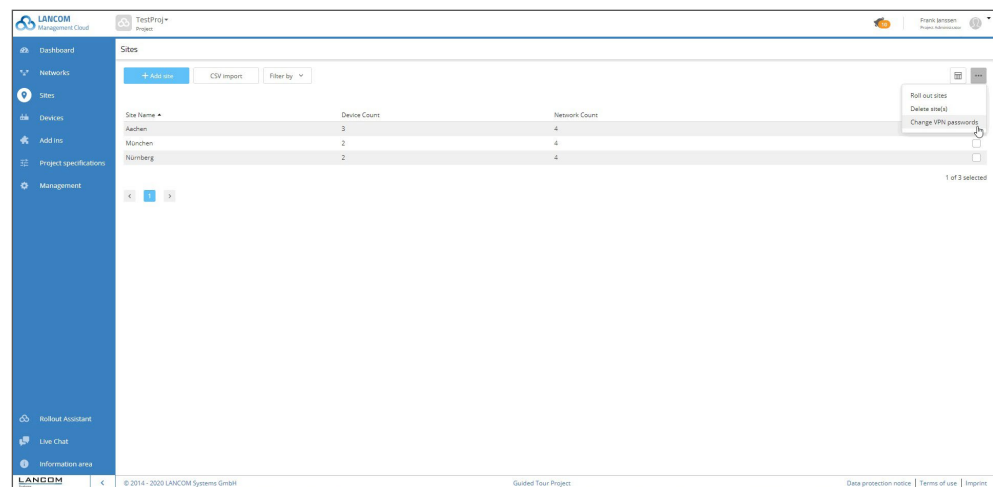
- When removing the assigned schedule on an SSID, affected Wi-Fi devices are now correctly marked as not current
- The configuration options of the RADIUS server definition were corrected.
- If a display name is assigned to a variable that is created as a selection list in the Add-In area, the selection list is displayed correctly again.
- If a variable is marked as password, the display name is now correctly resolved in the once executed Add-Ins.
- If several similarly tagged networks are assigned to the same location, a warning message is generated.
- Send and receive direction of the data for the top users in the dashboard are now shown from the client's perspective.
- Added missing throughput graphs for the ports.
- Removed suggestions for completing entries in explicit confirmation dialogs.
- Fixed a problem with the color indicator for the firmware status in the device table.
- Fixed display errors with Firefox on the device overview page of switches when editing port properties.
- For the Wi-Fi user name, the name transmitted by the RADIUS server is now displayed preferentially.
- The access performance to the web interface as well as to the terminal of the devices from the LMC was improved, a temporary instability of the corresponding service was fixed.



## LANCOM Management Cloud 1.00.109.0 / 03.11.2020

### Easy generation of new VPN passwords

If the VPN keys (IPSec PSK) of a VPN connection could be compromised – whether it is due to an administrator leaving the company or a VPN gateway being serviced – it is advisable to change these VPN passwords. The LANCOM Management Cloud allows VPN passwords of individual sites to be conveniently changed with just a few clicks: In the *Sites* section you simply mark the affected sites, trigger the generation of new VPN passwords and then roll out the configurations of the gateways involved.



**Further improvements**

→ In the device and location table, only entries visible to the user can now be selected.

**Bug fixes**

→ A problem with assigning new devices to a location has been fixed.

## LANCOM Management Cloud 1.00.108.0 / 12.10.2020

### Fully automatic device commissioning

The multiple zero-touch / auto-config features of the LMC for automatic commissioning of cloud-managed devices are now extended by the possibility of early detailed configuration without the physical presence of the device. The advantage: The devices only need to be connected at the operating site and are immediately ready for operation! Under „Devices > Add Device“ you can create „preconfigurations“. You can assign the serial number directly in the device table. Then add the device as usual using the activation code or PIN.

### Step-by-step instructions for the feature “Fully automatic device commissioning

- Switch to the device overview.
- Press the “Add Device” button and select the menu item “Create Preconfiguration”.
- Follow the steps and name the device, select the device model, make a selection regarding the target firmware and define a location if necessary.

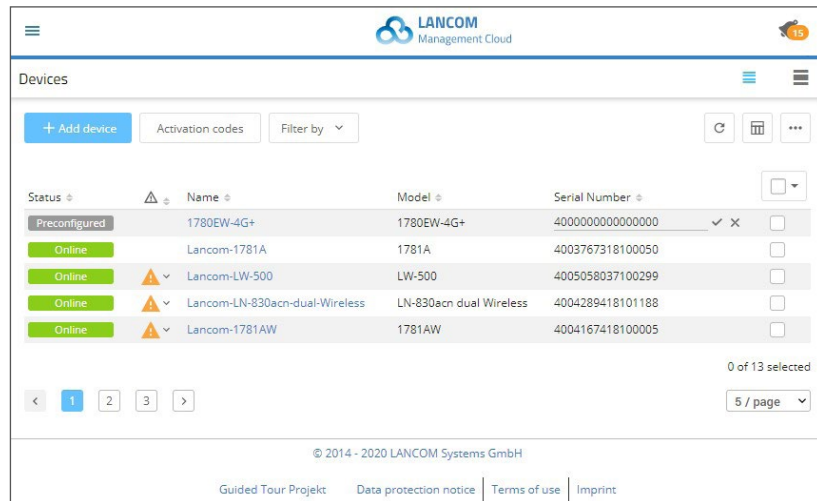
The screenshot shows the LANCOM Management Cloud interface. The left sidebar contains navigation options: Dashboard, Networks, Sites, Devices, Add ins, Project specifications, Management, Rollout Assistant, Live Chat, and Information area. The main content area is titled 'Devices > Preconfigure device' and contains the 'Preconfigure Device' form. The form includes the following fields and options:

- Name:** A text input field containing '1780EW-4G+'. A note below the field states 'Will be used as device hostname'.
- Model:** A dropdown menu with 'LANCOM 1780EW-4G+' selected. A note below the field states 'Must match the physical device'.
- Target firmware:** A dropdown menu with '10.34.0162 RU1' selected. A note below the field states 'Basis for the configuration'.
- Software-Options:** A section with several checkboxes:
  - VPN (25 Verbindungen)
  - Public-Spot
  - Dynamic VPN
  - All-IP
  - Content-Filter
  - Public Spot PMS Accounting plus
- Site:** A dropdown menu with 'No location' selected.

At the bottom right of the form, there are two buttons: 'Cancel' and 'Create'.

- Then press the “Create” button and the preconfiguration is created.

- Once you have the device physically available,
- please click in the line of the previously created pre-configuration in the column Serial number.
- An editable field opens.
- Enter the serial number of the physical existing device in this field.
- Now click on the check mark next to this field and accept the entry.



- Now create a new Preclaiming entry via "Add Device > With Serial Number and PIN".

### Add new device

Please enter here the serial number and PIN of your LANCOM device. The serial number is located on the bottom side of the device. The PIN is printed on a sheet which is enclosed with the original box. You can use the printed LAN MAC address of the device on this sheet to identify the correct device if sheet and device have been separated.

Serial number

PIN

Assign a site to use its software-defined configuration on this device.

No site

- The process is now complete.

As soon as the power supply and Internet connection of the device are established at the later location, it automatically connects to the LMC and receives the settings of the preconfiguration.

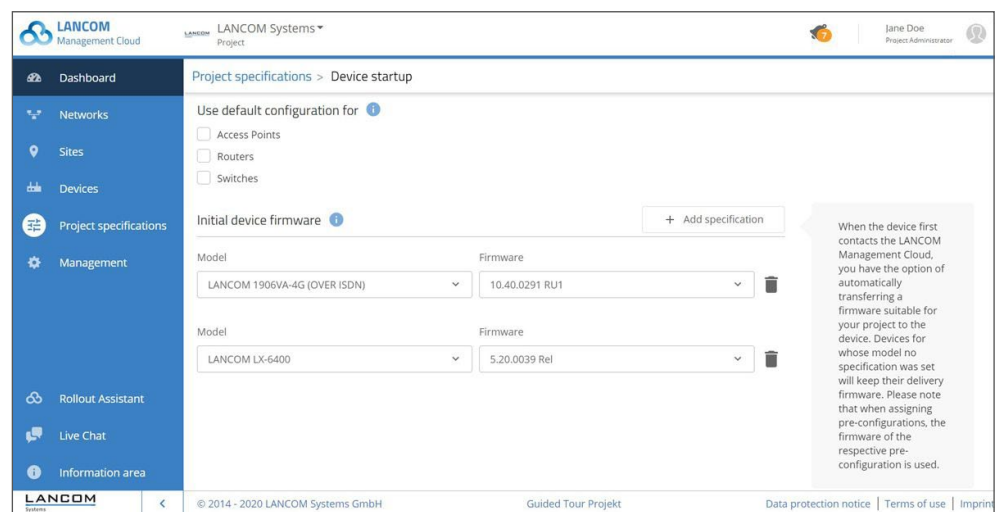
**Bug fixes**

- Anomaly detection error that caused blocked 5 GHz channels to be reported unreliably was fixed.
- An error causing VPN connections to be displayed twice in the dashboard was fixed.
- Secure Terminal Access for devices sporadically stopped working after a UI auto logout, problem was fixed.
- The handling of the password policy in the details configuration of GS-3xxx switches was corrected.
- On LCOS LX access points a time unlimited SSID can now be configured even if the default ALWAYS schedule does not exist in the device.
- Optimization in handling DHCP ranges during CSV import (import failed for certain subnet constellations).
- Added error message when creating nets with already existing "internal configuration name".
- Correction of the configuration conversion when switching to LCOS 10.42 in the 802.1X settings environment.

## LANCOM Management Cloud 1.00.107.0 / 22.09.2020

### Automatic firmware assignment

With this feature, you can control the automatic assignment of a preferred firmware version during the initial setup of different devices. If you connect a device to the LANCOM Management Cloud (LMC), the firmware corresponding to the specification is automatically rolled out to this device. In this way, for example, all devices in a project can be adapted to a uniform software version that corresponds to the project specifications, regardless of the factory delivery status.



### Further improvements

- Additional confirmation is now required for critical delete operations for multiple entries.
- The limit for CSV imports has been increased to 1,000 entries.
- The LMC now offers the possibility of conveniently renewing VPN passwords manually per site.
- In the application management, IP address targets can now be created without restriction to specific ports.
- In addition to the technical variable name, the add-in variables can be given a more readable plain text name for the user dialogs.

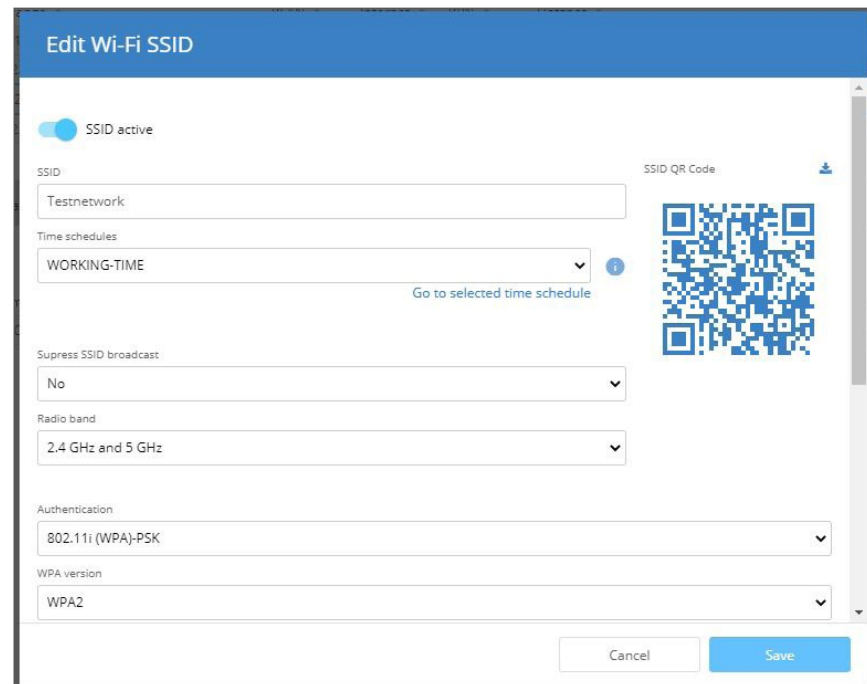
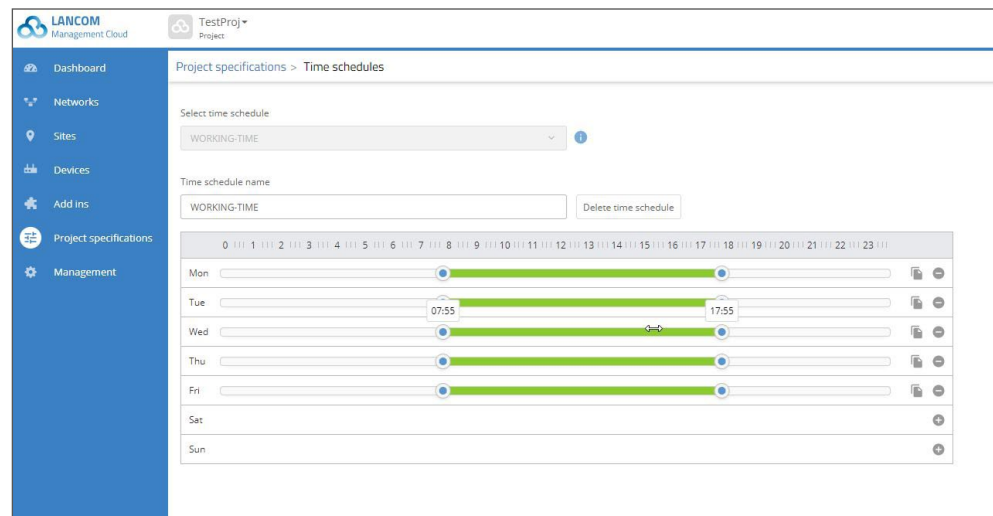
### Bug fixes

- A problem that prevented CSV imports in certain situations has been fixed.

## LANCOM Management Cloud 1.00.106.0 / 01.09.2020

### Wi-Fi scheduling

The 'Wi-Fi scheduling' function enables the time-controlled activation and deactivation of SSIDs in the wireless network. Ideal for wireless networks that should only be available at certain times, such as hotspots or Wi-Fi in educational institutions. You can individually determine the times and duration of Internet availability. The scheduling specifications are created under 'Project Specifications / Time schedules'.



**Further improvements**

→ New role 'Technical Administrator'

The technical administrator can make network and device settings, but has no authority to manage project users. The technical administrator thus helps to implement compliance requirements in the enterprise environment, where technical and organizational rights should be separated.

→ If a device is in up-to-date configuration state before an update with a major release, a rollout to affected devices is now automatically performed after conversion to the new configuration.

**Bug fixes**

→ In the device detail view, the selected tab is now retained when selecting another device.

→ Warnings are now displayed in the floor plans.

→ In the context of exceeding allowed claiming failures, a problem with the display of the lockout time has been fixed.

→ LEPS can be switched on correctly in the detail configuration for LCOS LX devices.



## LANCOM Management Cloud 1.00.105.0 / 11.08.2020

### Offline Acknowledgement - New device status for an improved overview

If devices are known to be offline for a long time, or if they are intended to be offline for a longer period of time, or if work is already in progress on troubleshooting, simply assign them an 'offline acknowledgement' from now on, which enables clearer incident management. You can still identify all devices that are offline unplanned by the red filled out display, known faults are only outlined in red. The 'offline acknowledgement' is automatically removed as soon as the device is back online; devices marked as known are not included in the offline statistics of the dashboards.

Status	Name	IP Address	Firm
Offline	Device-9005504816051743	172.121.203.33	
Offline	Device-9005504816033641	172.71.245.102	
Offline	Device-9005504816015339	172.184.7.99	
Offline	Device-9005504815999537	172.206.211.141	
Offline	Device-9005504815991336	172.160.128.57	
Offline	Device-9005504815985735	172.242.12.185	
Offline	Device-9005504815977634	172.22.196.63	

### Further improvements

- Monitoring in the LMC for switches of the XS series
- WEBconfig access from the LMC to the switches of the XS series, e.g. XS-5110F (from firmware 5.00.0053)
- Terminal access from the LMC to the switches of the XS series, e.g. XS-5110F (from firmware 5.00.0053)
- The technical administrator can now configure two-factor authentication for a project.

## LANCOM Management Cloud 1.00.29.2.0.0 / 30.06.2020

### Audit logs

Changes in the LMC are now logged in a standardised way. These log messages comply with the requirements of PCI conformity and thus create a complete, non-manipulable tracing of events by containing all information about who made which change and at what time. This happens in accordance with data privacy standards. Only project administrators receive the complete information and can download it once a month as a new log archive on the 'Log Download' tab. The logs remain stored for one year before being deleted.

The screenshot displays the LANCOM Management Cloud interface. The top navigation bar includes 'Management', 'Properties', 'Users', 'License', 'Log', and 'Log Download'. The 'Log' tab is active, showing a list of log entries with columns for Level, Created, Message, and By. Below the log list, a configuration dialog for 'Create new network' is open, showing tabs for General, Internet, DHCP, DNS, and Routing. The 'General' tab is selected, showing fields for Name, IP address, and other network parameters. The log entries show various events such as 'Management logs have been accessed' and 'The network 'Intranet' has been created'.

### Further improvements

→ Reset of the two-factor authentication without deactivation

Previously, if the second factor was lost, the two-factor authentication had to be deactivated and set up again using the 'Forgot password' dialog. If only the second factor was lost, it can now be reinstated via the 'Forgot password' dialog without having to deactivate the two-factor authentication.

### Bug fixes

→ Problems with the live chat when loading external scripts have been fixed.

## LANCOM Management Cloud 1.00.29.11.0 / 09.06.2020

### WLAN Anomaly Detection

Best Wi-Fi at all times—that is what users expect! However, WLAN is a complex transmission medium and has to deal with many potential sources of interference such as overcrowded channels, foreign, interfering WLANs or other interfering frequencies or disturbances caused by structural surroundings. Therefore, for the best Wi-Fi experience, a fast and targeted troubleshooting is essential, which is guaranteed by the new Wi-Fi anomaly detection.

To reach this goal, the LANCOM Management Cloud (LMC) evaluates data from the managed WLAN devices using various “metrics” and compares it with previously defined threshold values. As soon as this threshold value is repeatedly exceeded in a certain interval, the affected device is marked accordingly in the LMC and the administrator receives an alert.

Alert	Status	Name	Model
	Online	lc-e386_lc-cloud	LN-630acn dual Wireless

Metric	Current threshold	Current value
Channel Load	5 GHz: 60 %	5 GHz: 65 %

**Further improvements**

- Support of WLAN time control from LCOS 10.40 and LCOS LX 5.20.
- CPU resource allocation for device tunnel service (CLI and WEBconfig tunneling) has been reduced to 1/4 by default.
- The logs of the last 31 days can now be downloaded.
- Dialogues for deleting devices and locations are displayed as a warning.
- The e-mail address of the user performing the import process is now displayed in case of errors.
- New user role in the LMC: Technical Administrator

**Bug fixes**

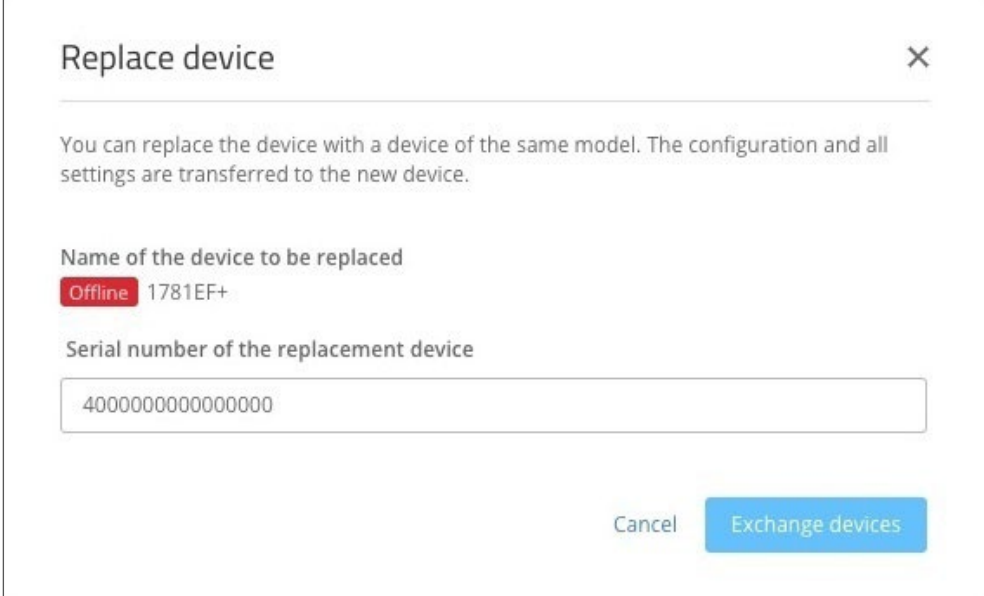
- Fixed a problem with the port view for GS-3528XP switches.
- The list of activation codes in the LMC did not display the selected number of activation codes.
- The correct number is not displayed when displaying activation codes.
- Fixed inconsistencies in UI behavior:
  - Sidebar reopens after reload
  - The maintenance banner reappears after closing it
  - Content does not grow with compressed sidebar
  - items per page dropdown issues
- When filtering and sorting locations, the selection of locations in the table was not removed.
- The cloud enables LMC-specific DHCP options even if the project only enables location assignment based on location information provided by the device.

## LANCOM Management Cloud 1.00.28.0.0.0 / 19.05.2020

### Device replacement & pre-configuration

Device replacement has never been easier: With this new feature, you can transfer the complete configuration from an existing device to a new device of the same model with just a few clicks. Simply select the device to be exchanged and enter the serial number of the replacement device—done!

In addition, you now have the possibility to completely prepare a configuration for numerous LCOS devices—even before the device is connected to the LMC. Ideal for preparing your infrastructure for the least amount of effort during commissioning.



The screenshot shows a dialog box titled "Replace device" with a close button (X) in the top right corner. The main text reads: "You can replace the device with a device of the same model. The configuration and all settings are transferred to the new device." Below this, there are two sections: "Name of the device to be replaced" showing "Offline 1781EF+" and "Serial number of the replacement device" with a text input field containing "400000000000000000". At the bottom right, there are two buttons: "Cancel" and "Exchange devices".

### Further improvements

- Logs are now archived monthly as CSV files.
- New API for the user data storage service

### Bug fixes

- The device images for the GS-3528 series are now correct.
- The incorrect display of the blocking time in case of too many incorrect claiming attempts has been corrected.
- The 'Device Warranty' widget has been removed from the 'Security & Compliance' dashboard. The default layout of the dashboard will be adjusted accordingly.
- When copying the device password from the device overview, no space is appended.
- The setting of Wi-Fi channels via the floor plans was corrected.

## **LANCOM Management Cloud 1.00.26.2.2.0 / 27.04.2020**

### **Redesigned management & device log overviews**

The logging of all events in the LMC is now even more comfortable and clearer.

Keep the overview at all times thanks to the clear layout. This applies equally to the events of your network management and to the logs at device level.

All events are sorted chronologically by date and time, starting from the most recent event in reverse order and going back up to one year in the past. If you are interested in a previous event, you can jump directly to the corresponding time at any time using the date search field.

For each line, information such as the date and time, a short summary of the event and the name of the user who performed the event are available. By clicking on the checkbox, additional events of individual devices in the network can be displayed. Information relating to locations, devices or an action in the "Notification settings" area is displayed as hyperlinks. This allows direct navigation to the named units. The structure of the event log for the individual network components is similar to the management log view. In the device logs, either only warnings and errors can be displayed or the entries of the log level "Info" can be displayed additionally via checkbox.

The line entries can be selected individually by mouse click. This opens a field with more detailed information that is clearly structured and understandable. So you don't spend your valuable time anymore with searching and resolving cryptic entries. If, for example, a LANCOM employee asks you for essential information in a support case, this can be transmitted quickly.

The newly designed protocol overviews provide a practical, well-organized and time-saving way of keeping a constant eye on your network events.

Level	Created	Message	Device	By
ⓘ	23.04.2020 08:23:29	Monitoring initialization started.	Device-9005687031575886	System
ⓘ	23.04.2020 08:23:29	Monitoring initialization started.	Device-9005687031588187	System
ⓘ	23.04.2020 08:23:11	Management logs have been accessed.		atlas-lmc-test@cloud.lancom.de
ⓘ	23.04.2020 08:23:10	Putting of configuration to device initiated.	Device-9005687031575886	System
ⓘ	23.04.2020 08:23:09	Configuration-Rollout started with enabled test mode.	Device-9005687031575886	System
ⓘ	23.04.2020 08:23:09	Putting of configuration to device initiated.	Device-9005687031588187	System
ⓘ	23.04.2020 08:23:08	Configuration-Rollout started with enabled test mode.	Device-9005687031588187	System
ⓘ	23.04.2020 08:23:06	The device Device-9005687031575886 was assigned to site Aachen.	Device-9005687031575886	atlas-lmc-test@cloud.lancom.de
ⓘ	23.04.2020 08:23:06	The device Device-9005687031588187 was assigned to site Aachen.	Device-9005687031588187	atlas-lmc-test@cloud.lancom.de
ⓘ	23.04.2020 08:22:52	The site Aachen was created.		atlas-lmc-test@cloud.lancom.de
		Type	cloud-service-devices:00012	
		siteId	7d5e99bf-e8b6-45f9-8a14-25ffa2e3f381	
		siteName	Aachen	
ⓘ	23.04.2020 08:22:40	Notification Settings have been changed.		atlas-lmc-test@cloud.lancom.de
		Type	cloud-service-logging:00001	
		Entity	[REDACTED]	
		Old Value	autoFirmwareUpdateSuccessful.enabled=true	
		New Value	autoFirmwareUpdateSuccessful.enabled=false autoFirmwareUpdateSuccessful.email={"enabled":false,"recipients":[],"recipientRoles":[]}	
		Source	192.168.200.210 - Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/81.0.4044.113 Safari/537.36	
ⓘ	23.04.2020 08:22:04	Management logs have been accessed.		atlas-lmc-test@cloud.lancom.de

### Bug fixes

- The LMC no longer disables LANconfig's TFTP-based search on managed devices.

**LANCOM Management Cloud 1.00.26.0.0.0 / 06.04.2020****Promotion Switch2Cloud – LANCOM switches including free 3-year license**

LANCOM fully managed switches are 100 % cloud-ready and can be managed automatically via the LANCOM Management Cloud (LMC). Start into the cost- and time-saving cloud management and receive a free 3-year LMC license (if activated until September 30, 2020) for every newly purchased LANCOM fully managed switch until June 30, 2020.

**Further improvements**

→ User-defined columns in the device overview can now be deleted.

**Bug fixes**

- The location filter in the project dashboard now works reliably for the map again.
- The VPN connection times in the individual device monitoring are now displayed correctly.
- The VPN connection throughputs in the individual device monitoring are now displayed in more easily readable units.



**LANCOM Management Cloud 1.00.25.0.0.0 / 24.03.2020****Further improvements**

- The LMC now supports the use of add-ins for one-time, persistent execution directly in the detailed configuration.
- Support for WPA3 for access points with LCOS LX 5.10
- Further improvements in management and device logs

**Bug fixes**

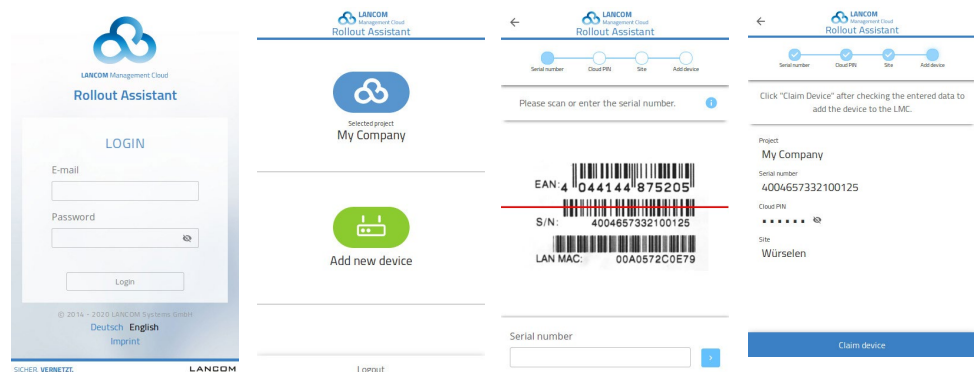
- Correction of the output data in the 'VPN Connections' widget in single device monitoring.

## LANCOM Management Cloud 1.00.24.0.1.0 / 25.02.2020

### Rollout Assistant - the quick and easy way to onboard new LANCOM devices in the LANCOM Management Cloud

The initial commissioning and inventory of new LANCOM devices in the LMC is straightforward with the new Rollout Assistant and takes just a few clicks. The web app, which was specially designed for mobile use on tablets and smartphones, enables you to perform onboarding to the LMC directly on site after the physical device installation. The only requirement is that your smartphone or tablet can access the Internet (LTE, WLAN, etc.). During the inventory using the Rollout Assistant, you can monitor the current device status live and thus find out during the installation whether the device has the final status 'online' in the LMC.

In the future, a new user role 'Service Technician' will be introduced for the LMC. This role is specifically for users of the Rollout Assistant web app and only gives the designated persons the authorization to inventory new devices within the LMC.



### Further improvements

- Improved data access
- History graph for the number of VPN tunnels in the individual device monitoring
- Table of all VPN tunnels in the individual device monitoring
- Optionally, the management date of the devices can now also be displayed in the device table (sorting possible).

### Bug fixes

- The initial device name did not always contain the LANCOM prefix.

**LANCOM Management Cloud 1.00.23.0.0.0 / 03.02.2020****Further improvements**

- It is now possible to access up to one year old log entries.
- The initial name of devices claimed with serial number and PIN has been shortened for a more compact view in the device table.

**Bug fixes**

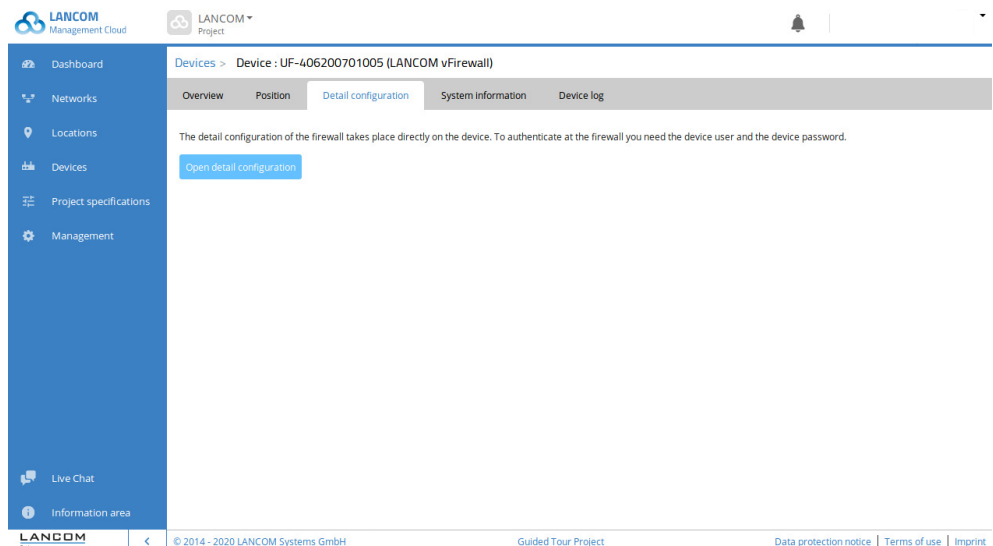
- The button 'Hide log entries for devices' does now an accurate filtering.
- Fixed an issue with the display of expired warranties in the Security & Compliance dashboard
- The link in an invitation e-mail now leads to the account overview.
- The tab 'Latest activity' in the user management does no longer show the status 'Never', despite user activity.
- The switch port status for 'disabled' and 'not connected' is now displayed accurately again.

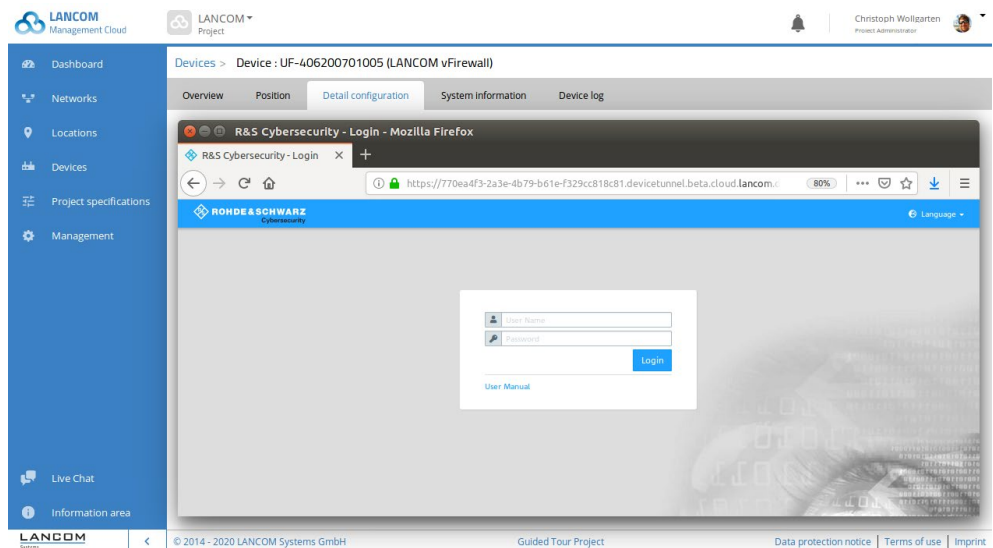
## LANCOM Management Cloud 1.00.22.0.0.0 / 13.01.2020

### Secure WEBconfig Access

The new highlight feature “Secure WEBconfig Access” allows direct and secure access to your LANCOM R&S® Unified Firewall device’s WEBconfig – securely encrypted and above all usable from within the cloud interface. By this direct remote access to the device’s WEBconfig the complete Unified Firewall configuration becomes accessible to a system administrator. A convenient added value which does not only save time, but particularly unifies the global and individual firewall management in the LANCOM Management Cloud.

You can access the LANCOM R&S® Unified Firewall’s WEBconfig in the LMC via the tab “Detail configuration” in the device’s detail view.





One WEBconfig session is supported per device. A previously initiated session is thereby closed.

Important information for LMC Private installations:

For the subdomain \*.devicetunnel under a Private LMC domain (e.g. \*.devicetunnel.customer.tld) the customer needs a wildcard certificate in addition to his LMC domain certificate.

### Further improvements

- Customer-defined columns and views in the device list can be saved per project.
- The maximum number of devices in the license allocation dialog has been extended to 100.
- When modifying the cloud connectivity settings for single devices the device name is now displayed in the subject.
- An initial device name can now be allocated when claiming cloud-ready devices via API.
- The device services have been extended by TFTP sysinfo and TFTP config.
- While initial access, device configurations can be set to default values manually or automatically.

### Bug fixes

- The “previous contact” was shown faulty in the “site overview” widget.
- The switch port throughput graph does not change with a new port selection.
- An issue with processing monitoring data under heavy load has been resolved.

## LANCOM Management Cloud 1.00.21.2.0.0 / 03.12.2019

### User-defined columns in the devices overview

It is now possible to extend the devices overview page with additional columns. These columns are freely configurable and can include values which enable the user to sort and filter the overview by further criteria, for instance to find a certain device faster.

Examples for user-defined columns:

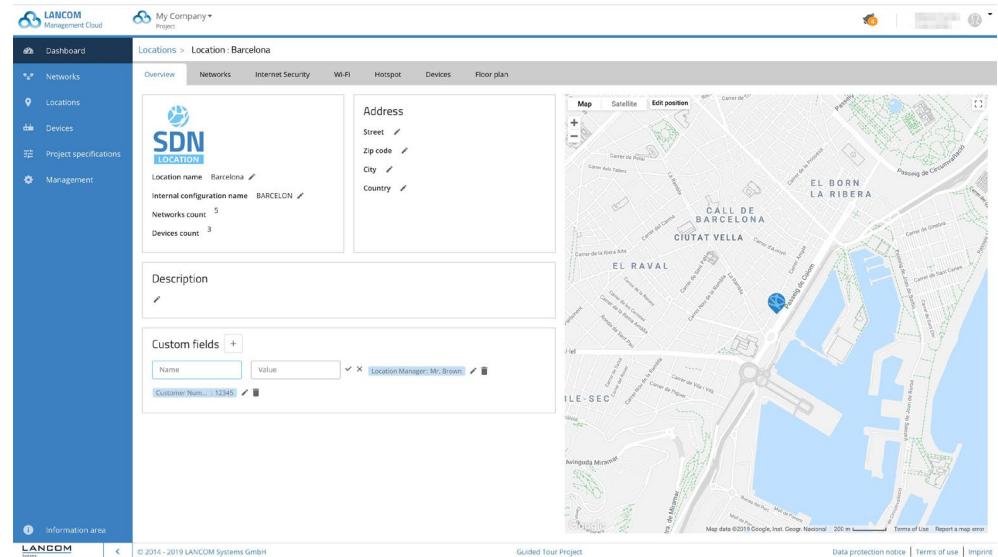
- Contact person
- Location (e.g. „Room 4“)
- Customer number (beneficial in large-scale / individual customer installations)

The screenshot shows the LANCOM Management Cloud interface. The main content area displays a table of devices with the following columns: Status, Name, Device Type, Serial Number, Location, IP Address, Configuration, and License. A custom column 'Customer Name' is visible, showing values like '10.04.2412 BC 1'. A configuration menu on the right allows users to toggle various columns, including the custom 'Customer Name' column.

Status	Name	Device Type	Serial Number	Location	IP Address	Configuration	License	Customer Name
Online	Wuersele-SW	G5-2310P	4093240120000166	Wuersele		Up to date	OK	
Online	Wuersele-GW	1781-4G	402575018100064	Wuersele		Up to date	OK	
Online	Wuersele-APS	LN-860	90200021001002	Wuersele		Up to date	OK	
Online	Wuersele-AP6	LN-1700	90200021000004	Wuersele		Up to date	OK	
Online	Wuersele-AP7	LN-860	90200021001003	Wuersele		Up to date	OK	
Online	Vienna-AP2	LN-860	90200021001001	Vienna		Up to date	OK	
Online	Vienna-GW	1781EF+	4094202332100249	Vienna		Up to date	OK	
Online	Vienna-AP1	LN-830acn dual Wireless	4004163818100570	Vienna		Up to date	OK	
Online	Vienna-SW	G5-2310P	4093933820000045	Vienna		Up to date	OK	
Offline	Nuernberg-UF-500	vFirewall	406190527709	Nuernberg		License pending	OK	10.04.2412 BC 1
Offline	Nuernberg-vGW	vRouter	4025791547894478	Nuernberg		License pending	OK	10.02.0021 Bar
Online	Munich-SW	G5-2310P	4093933820000090	Munich		Up to date	OK	10.02.0021 Bar
Online	Munich-AP2	LN-1700	90200021000001	Munich		Up to date	OK	10.40.0028
Online	Munich-AP1	LN-830acn dual Wireless	4004163818100114	Munich		Up to date	OK	10.02.0021 Bar
Online	Munich-GW	1781EF+	4094202332100250	Munich		Up to date	OK	10.02.0021 Bar
Online	Karlsruhe-AP1	LN-860	90200021001005	Karlsruhe		Up to date	OK	10.40.0028
Online	Karlsruhe-AP2	LN-1700	90200021000005	Karlsruhe		Up to date	OK	10.40.0028
Online	Karlsruhe-GW	1781VA (over SDN)	402259618100145	Karlsruhe		Up to date	OK	10.02.0021 Bar
Online	Hamburg-GW	1781EF+	4094202332100104	Hamburg		Up to date	OK	10.02.0021 Bar
Online	Hamburg-AP2	LN-860	90200021001000	Hamburg		Up to date	OK	10.40.0028

## User-defined columns in the locations overview

In the locations overview, as well, user-defined columns can now be added. Just like in the devices overview, you have the option to sort the overview by all columns.



## Further improvements

- The LMC now supports the option to choose whether the layer-7 application detection is applied to access points or gateways.
- Support of LCOS 10.40
- As from LCOS 10.40 LMC-managed devices can be found via the LANconfig search tool.
- LLDP can now be configured individually on a device level.

## Bug fixes

- If an access point is offline, Wi-Fi channels can be configured via the floor-plans nonetheless.

## LANCOM Management Cloud 1.00.20.0.0.0 / 12.11.2019



### Cloud-managed firewall

The LANCOM R&S®Unified Firewalls are now cloud-ready! Devices are connected to the LANCOM Management Cloud (LMC) by a simple yet secure PIN- or activation code-based pairing procedure. They then appear in the device overview, which offers clearly structured monitoring of the device status and also features an alerting function. On top of that, having a firewall in your network all applications tagged with „LCOS FX“ within the feature „Application Management“ can be provided with rules.

Note: The support for the web-based configuration interface of the LANCOM R&S®Unified Firewalls, as well as the support for the LANCOM R&S®Unified Firewall UF-50 follows in one of the next LMC releases.

### Further improvements

- It is now possible to hide / unhide columns in the device- and location overview.

### Bug fixes

- An issue has been fixed for the device list and location overview in the location filter of the LAN-/Wi-Fi dashboard.
- The “Further VPN connections” display has been corrected in the WAN-/VPN dashboard.
- Cancelling a page change in the project presets does no longer result in a loss of all previously changed settings.
- The speed limitation for an SSID is now set on a LANCOM LW-500, too.
- Wi-Fi channel allocation now works on the LANCOM LW-500, too.



## LANCOM Management Cloud 1.00.19.0.0.0 / 21.10.2019

### Application Management — Convenient control over all applications in your network

Now you can control even more conveniently which applications you allow or block in your networks in the LANCOM Management Cloud.

As the successor to the previous Application Routing, the new Application Management allows you to group several applications into one rule. The respective rule is assigned an action. In addition to routing applications, as it has already been possible in the Application Routing, the “Block Applications” function is now available.

These rules are created with just a few clicks. The corresponding input field allows you to find known applications quickly by name, and also a convenient selection of predefined application categories such as gaming, streaming, business or messaging, in which several similar applications are grouped.

This feature significantly increases the security of your network by allowing you to block the use of particular services within your network. You can also increase performance because you can allow a local breakout for secure applications so that their Internet traffic no longer has to be routed over your central site.

Note: The shown support for LCOS FX in the screenshot is available from version LCOS FX 4.0

The screenshot displays the 'Application Management' tab in the LANCOM Management Cloud interface. At the top, there are navigation tabs: Overview, Wi-Fi, Switches, and Application Management. Below the tabs, a prompt says 'Please select an application to create a rule:' followed by a search input field labeled 'Search for applications'. To the right of the search field are three buttons: 'LCOS' (blue), 'LCOS-FX' (orange), and 'LCOS & LCOS-FX' (green).

There are two main configuration sections, each with a toggle switch on the left:

- Applications:** The toggle is turned on. It shows a list of application tags: FASTMAIL, GMX, ICLOUD-MAIL, MAILCHIMP, and WEB.DE. The 'Action' dropdown is set to 'Steer'. The 'Routing target' dropdown is set to 'Local internet gateway'. The 'Comment' field contains 'Mail - Local Breakout' with an edit icon.
- Categories:** The toggle is turned on. It shows a list of category tags: Filetransfer, share-online, SLIDESHARE, speedshare-org, terafiles-net, and TINYPIC. The 'Action' dropdown is set to 'Block'. The 'Comment' field contains 'Block File Sharing' with an edit icon.

**Further improvements**

- Passwords for LANCOM R&S® Unified Firewalls can now be set from within the LMC.

**Bug fixes**

- Channel settings correction for Wi-Fi devices via floorplans
- The rollout with central site via the info popup window works again.
- Added meaningful error messages on addIn length exceedance
- Executed addIns are now listed in the log by order of execution.
- Correction when trying to type a device name containing blank characters
- Corrected site filter in the Wi-Fi dashboard for site- and device overview
- Corrected DNS display for Wi-Fi connections
- Corrected security rating for device services
- Corrected dashboard display for devices with safety-critical services
- The checkbox for disabling emailing if notifications have been closed automatically has been removed.

**Miscellaneous**

- The number of variables has been reduced to 250 per project.

## LANCOM Management Cloud 1.00.17.2.0.0 (1.20.0) / 10.09.2019

### SD-WAN performance at a glance

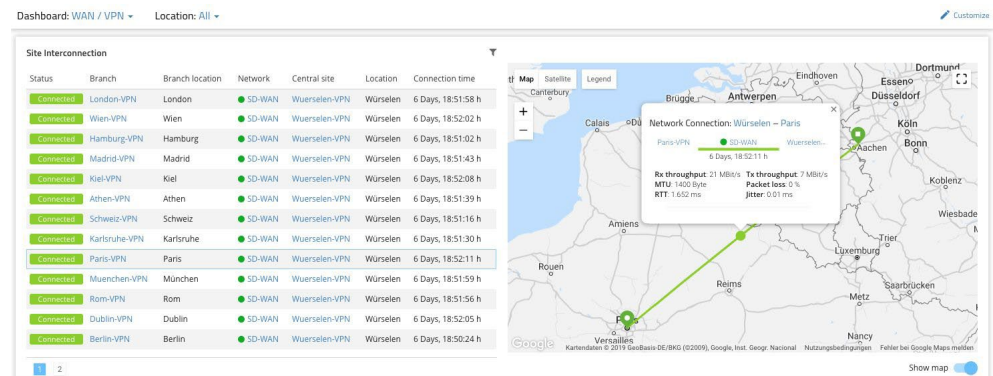
The LANCOM Management Cloud provides a simple overview of your SD-WAN setup and thus of all VPN connections in a network.

For even more control of your SD-WAN, it is now possible to display performance values for a selected VPN connection on the map in addition to a tabular view. This enables end-to-end quality monitoring, e.g. up to VoIP- or application servers in the SD-WAN.

The widget 'Site Interconnection Overview' in the WAN / VPN dashboard shows current performance values such as throughput, packet loss, delay, and jitter for all VPN connections.

Performance monitoring can be activated in the configuration dialog for each network. The monitoring target for the measurement is also defined there, allowing individual and flexible quality monitoring.

**Note:** Performance monitoring is supported by all LANCOM VPN Gateways as of LCOS 10.30.



### Edit network 'SD-WAN'

General | Internet | DHCP | DNS | Routing

Performance Monitoring ⓘ

Monitoring target: 192.168.37.244

Performance Monitoring actively checks the quality of the VPN connection from the branch device to the specified monitoring target. For each connection, the values Round Trip Time, Packet Loss and Jitter are monitored. Determining the Jitter value requires the LCOS version 10.30 on branch devices.

The collected values are displayed in the VPN dashboard in the Site Interconnection widget for each connection.

Tag network data (VLAN)

VLAN ID: untagged

Layer-7 detection Apps including user tracking ⚙

Cancel Save

**Further improvements**

→ The device table can be filtered and sorted by configuration status.

**Bug fixes**

- A faulty default value for miscellaneous Wi-Fi router types running LCOS 10.30 has been fixed. The configuration roll out for these devices is possible again without manual editing.
- In the detail configuration dynamic tables with more than 100 entries are spread across multiple pages, so tables with more than 999 entries can now be displayed correctly.
- Application Steering creates firewall objects only as individual entries if these were not part of the configuration before. This behaviour prevents duplicate entries when editing firewall rules with LANconfig.

## LANCOM Management Cloud 1.00.17.0.2.0 (1.19.1) / 20.08.2019

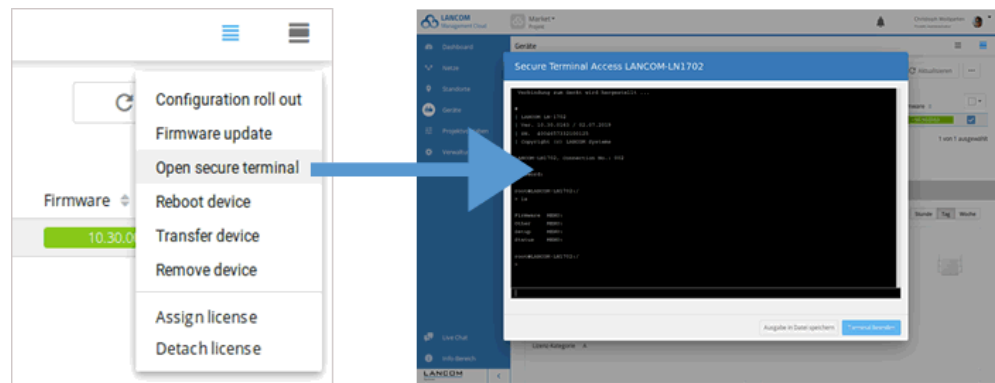
### Secure Terminal Access - Device access directly from the cloud

The new highlight feature Secure Terminal Access allows you direct access to the command line of your LANCOM device ("CLI tunneling") - securely encrypted and above all without leaving the cloud interface.

Whether "Trace" and "Ping" commands for fast troubleshooting, access to low-level configuration parameters and detailed statistics of the LCOS operating system or secure remote access to external devices in the local network via the integrated SSH client - Secure Terminal Access provides you with expert functions as well as extensive diagnostic and troubleshooting commands for LCOS-based devices.

A practical added value for all system administrators that not only saves time, but above all combines global and individual device management in the LANCOM Management Cloud.

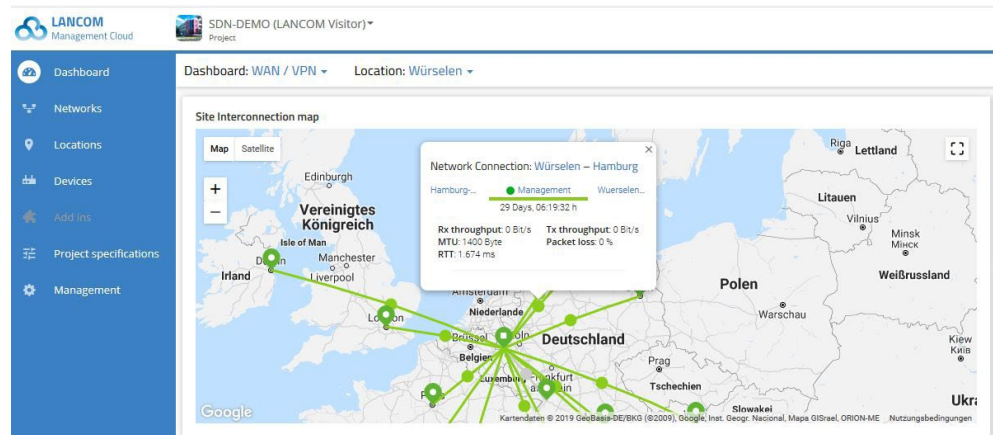
Note: To use Secure Terminal Access, the devices to be configured currently require the LCOS firmware 10.30 RU1 or higher. Administrator rights are required for use in the LMC. Support of the Secure Terminal Access function for the operating systems LCOS LX and LCOS SX is already in preparation.



## VPN Performance Monitoring

The LANCOM Management Cloud allows for a simple overview of all VPN connections within your network.

Now it is possible to monitor the performance values for throughput, MTU, packet loss, roundtrip time, and jitter in the detail view on the map, too.



For this, VPN Performance Monitoring can be enabled per network in the network configuration, and the endpoint for the measurement can be specified. A firmware version LCOS 10.30 or newer is required.

The screenshot shows the 'Edit network 'VoIP'' configuration page. The 'General' tab is active, and the following options are visible:

- Use same subnet for each location
- Subnet size per location: 24
- Indices of subnet gateways: 1
- Link devices via secure connection (VPN)
- Central site IP addresses or DNS names (comma separated): lancom-vr.westeurope.cloudapp.azure.com
- VPN Performance Monitoring
- Monitoring target: 10.99.2.1
- Tag network data (VLAN)
- VLAN ID: 17
- Layer-7 detection

A blue information box states: "VPN Performance Monitoring actively checks the quality of the VPN connection from the branch device to the specified monitoring target. For each connection, the values Round Trip Time, Packet Loss and Jitter are monitored. Determining the Jitter value requires the LCOS version 10.30 on branch devices."

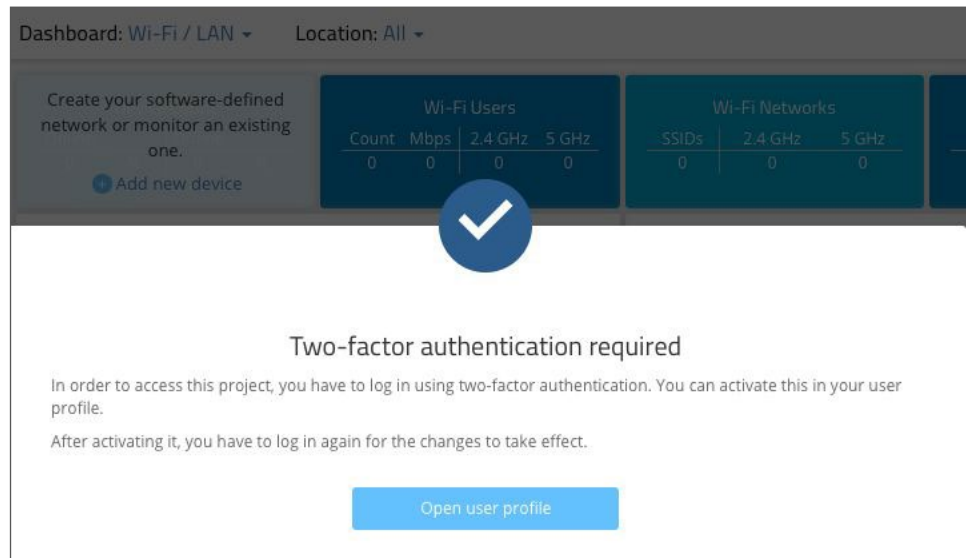
## Further improvements

→ The loading time for project dashboards with many sites and devices has been optimized.

## LANCOM Management Cloud 1.00.16.2.0.0 / 01.08.2019

### Two-factor authentication – Double the security now also for individual projects!

With the extension of the two-factor authentication feature, you now not only safeguard your cloud access, but also individual projects against unauthorized access. Thus, project administrators can specify that users can only access or work with this project if they use two-factor authentication when logging in. For this purpose, the self-chosen access password is supplemented by a time-based one-time password which can be generated on the mobile phone using an authentication app (e.g. Google Authenticator). The ideal solution if the project customer has to meet certain compliance and security requirements regarding data security or if the main administration wishes to enforce a higher security level.



Dashboard: Wi-Fi / LAN ▾ Location: All ▾

Create your software-defined network or monitor an existing one.  
[Add new device](#)

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

Wi-Fi Networks		
SSIDs	2.4 GHz	5 GHz
0	0	0

**Two-factor authentication required**

In order to access this project, you have to log in using two-factor authentication. You can activate this in your user profile.

After activating it, you have to log in again for the changes to take effect.

[Open user profile](#)

### Further improvements

- New filter option in the device list for devices in pre-claimed status
- New filter option in the device list for device firmware
- Performance improvements in the device list, especially when switching tables

**Bug fixes**

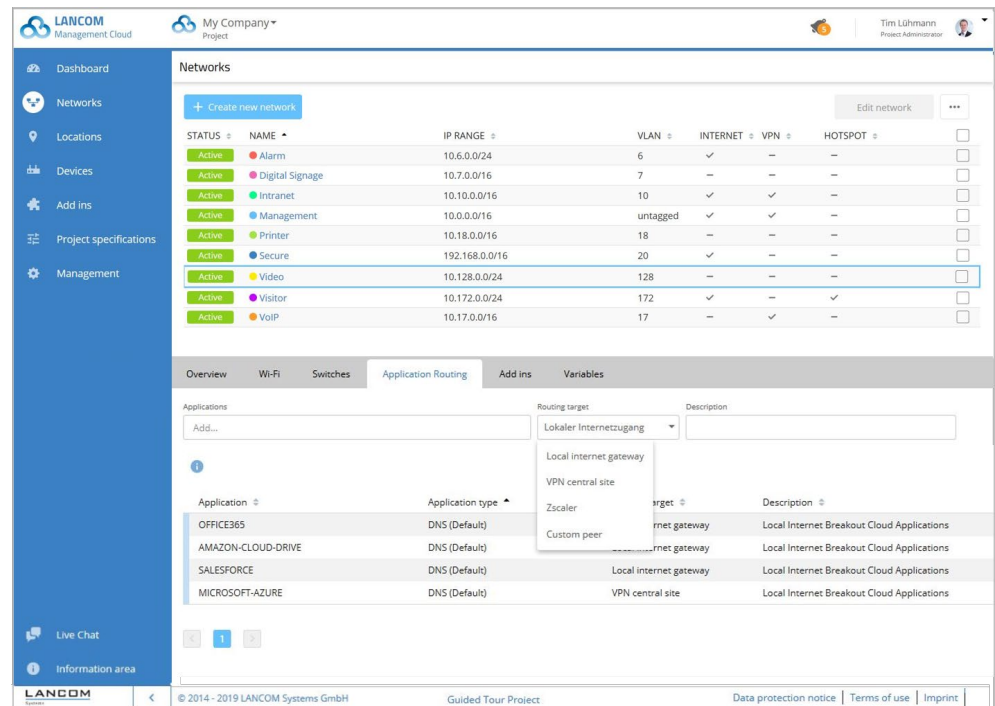
- Corrected throughput graphs for switches
- Improved error messages for two-factor authentication
- Fix for an issue which erroneously caused an error message while registering a new user
- Corrected a display error on the VPN tab in Microsoft Edge
- Corrected projects device count on the organization dashboard
- Miscellaneous bug fixes in the device list
- Runtime limitation for API-generated pairing tokens to a maximum of one year
- Corrected API for request of device data and -statistics



## LANCOM Management Cloud 1.00.16.0.0.0 / 18.07.2019

### SD-WAN Application Routing – The shortcut to more efficiency!

Benefit from significant performance gains when you operate modern cloud applications (e.g. Office 365, Salesforce, etc.). SD-WAN Application Routing detects cloud-based applications and routes them directly to the Internet (local break-out). This boosts your cloud applications and relieves the VPN path to the headquarters as well as the headquarter’s Internet line.



## LANCOM Management Cloud 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

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

Two-factor authentication secures your LMC access. Besides your password, you will be asked for an additional 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 1.00.14.0.3.0 / 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

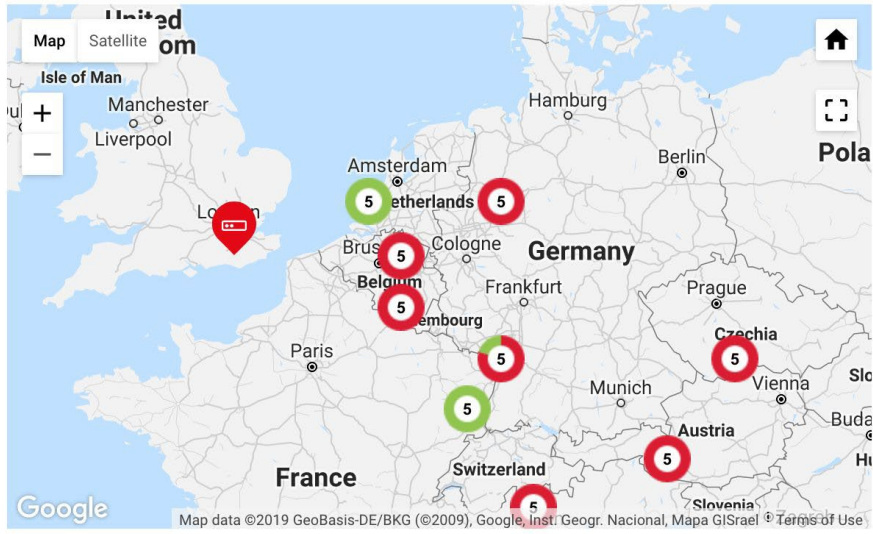
- When new filters have been applied to the device list, the previous selection remained active for the user.
- The operation "Select all" did not select all devices from the device list.
- Issues occurred when displaying the organization overview under Google Chrome.
- Miscellaneous issues solved related 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 1.00.13.0.1.0 / 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

1 - 5 of 51 Items

**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 1.00.13.0.0.0 / 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 1.00.12.2.0.0 / 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 1.00.12.0.0.0 / 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 1.00.10.3.0.0 / 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.

Refresh ...

CONFIGURATION	LICENSE	FIRMWARE	
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 1.00.10.0.0.0 / 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.

The screenshot displays the LANCOM Management Cloud dashboard for 'Musterfirma GmbH'. The dashboard includes several key sections:

- Dashboard: Wi-Fi / LAN** (Location: [dropdown])
- 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:** A map showing various locations in Europe, with a red circle indicating 3 devices at a specific location in Germany.
- 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: 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
- Top Users:**
  - DirkBoliPh...
  - Sandras-iP...
  - dbolte-nb...
  - Sercomm
  - Apple-TV
  - DirkBoltesiPad: dca4:ca:dc:23:6c, 2.53 MByte, 1005.00 kByte, 1.55 MByte

**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.

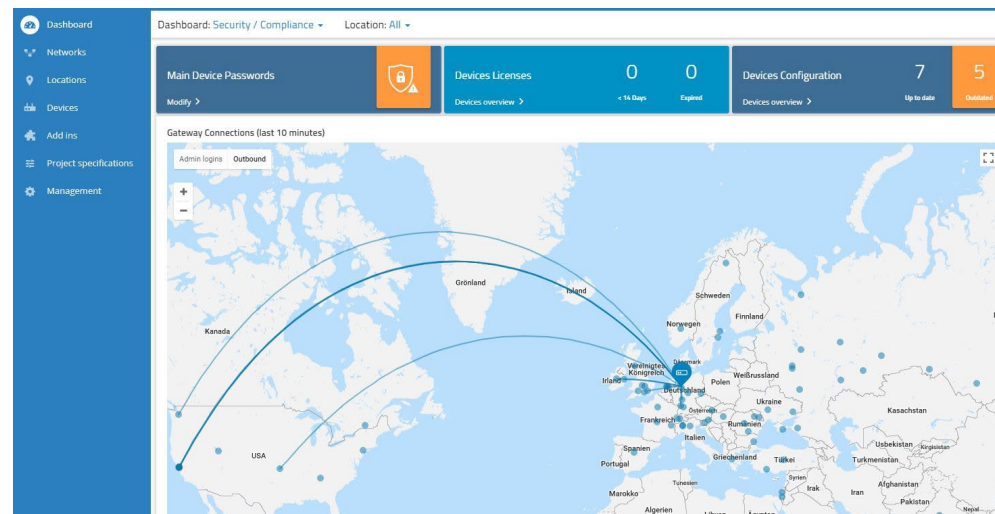
**Bugfixes**

- 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 1.00.9.5.0.0 / 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 1.00.9.4.1.0 / 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

Encoding

### 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 1.00.9.0.2.0 / 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.

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 1.00.6.1.1.0 / 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 1.00.5.2.0.0 / 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 1.00.4.4.2.0 / 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 1.00.4.1.1.0 / 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 1.00.3.28.2.0 / 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 1.00.3.23.1.0 / 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 1.00.3.19.3.0 / 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 1.00.3.15.5.0 / 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 1.00.3.11.0.0 / 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 1.00.3.8.0.0 / 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 1.00.3.6.3.0 / 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 1.00.3.1.0.0 / 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 1.00.2.5.2.0 / 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 1.00.2.3.5.0 / 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 1.00.170710 / 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 1.00.170620 / 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 1.00.170529 / 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 1.00.170509 / 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 1.00.170410 / 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 1.00.170316 / 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 1.00.170224 / 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

## 4. History of incompatible API changes

### **LANCOM Management Cloud 1.00.115.0 /09.03.2021**

→ Deprecated GET /users

### **LANCOM Management Cloud 1.00.113.0 /25.01.2021**

→ Changed GET /accounts/{accountId}/firmware/update

→ Changed POST /accounts/{accountId}/firmware/update

→ Changed PUT /accounts/{accountId}/condition