LANCOM Systems

Overview of LANCOM software version 8.0
June 2010

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LANCOM Software 8.0
General

LC.OS 8.0
[LANCOM OPERATING SYSTEM]

The LANCOM operating system LCOS and the corresponding management tools regularly provide **free** new functions to all current LANCOM routers, access points and gateways.

LCOS 8.0 stands for innovative new security functions while improving usability at the same time.

Standing out as an example of this is the new Content Filter technology from LANCOM, which provides transparency for users and a conveniently easy configuration for administrators.

IPsec over HTTPS takes VPN to places that were impossible to reach until now; for example, to mobile clients in third-party networks behind routers which block IPsec, or in UMTS/3G networks with restrictions.

Read on for more on the most important new functions and improvements.

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LANCOM Software 8.0
Highlights

LC·OS 8.0
[LANCOM OPERATING SYSTEM]

- **Content Filter** – Practical and tailor-made for enterprise scenarios; easy-to-operate and high-speed web-access control improves security and productivity for your company, and it conforms to legal requirements for the protection of minors.

- **IPsec over HTTPS** – With this innovative extension, SSL encapsulation-based VPN now works even where IPsec VPN formerly failed because of VPN filters. You don't have to change your configuration, VPN client or router.

- **LCMS Usability Upgrade** – Modernized versions of the highly praised LANCOM management software LANconfig and (W)LANmonitor. New look & feel.

- **USB setup** – LANCOM routers with USB interface can load firmware and configuration files from USB memory while in factory defaults.

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LANCOM Software 8.0
Further improvements

- **Alternative boot configuration** – Configurations can be stored as alternatives to the factory settings; useful for rollouts/commissioning

- **SSH client** – Management of third-party components from a LANCOM router via SSH, also by means of SSH login to the LANCOM

- **Load balancing now also for WLAN controllers** – Redundant connection of WLAN controllers to multiple WAN lines

- **Channel load display in WLC mode and WLANmonitor** – Display of channel load at the access points

- **RADIUS accounting for each WLAN SSID** – Allocation to SSIDs as configured from the WLAN controller

- **T-Entertain Wizard upgraded with IPTV configuration** – Configuration of IPTV, also for non-VDSL connections

- **Alternative DHCP server for DHCP forwarding** – Support of redundant upstream DHCP servers

- **Improved security of SSL/TLS** – Improved key negotiation with SSL/TLS as per RFC 5746

- **Basic HTTP/HTTPS server** – Provisioning of HTML pages or images, e. g. for Public Spot Option, stored on USB media (FAT)

- **DFS according to ETSI 301 893 v. 1.5** – Support for radar pattern recognition in WLAN as recommended from 07/01/2010 on

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Content Filter Option (1)
Filter out undesirable web content when surfing

- Requested **URLs** (and IP addresses) can be sent to a data center **for categorization**

- URLs and classifications are stored in the **internal cache**

- **Flexible allocation** of Content Filter profiles **by means of firewall rules** (e.g. to differentiate between WAN/intranet content or user groups)

- **Convenient definition** of profiles and filter categories **in LANconfig** and with standard profiles

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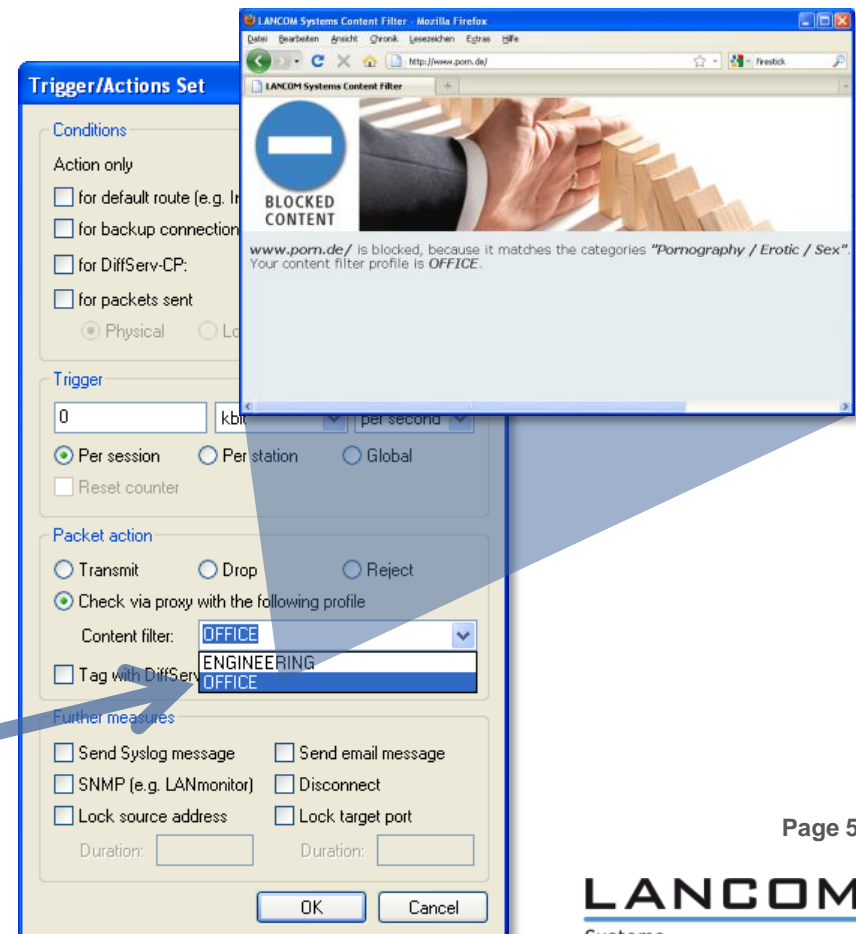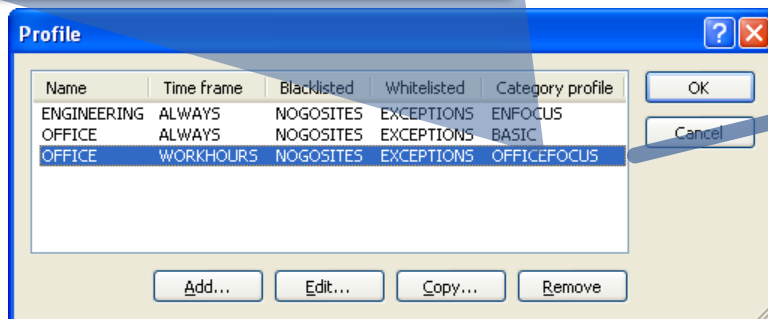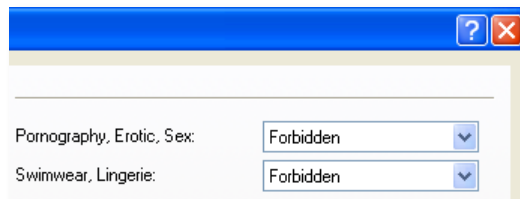
Content Filter Option (2)
Profiles with time limits and different category profiles

- Profiles with **different category profiles** depending on the time, e.g. **for working times and leisure time**

- **Time limits** can be defined with **multiple entries**

- In case of overlap, prohibition takes priority
  (**Order**: "**Forbidden**", "**Override**", "**Allowed**")

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Content Filter Option (3)
"Override" mechanism

- **"Overrides"** are a practical aid **for necessary exceptions**

- **Blocks are intentionally "ignored"** for "soft" categories

- **Temporary unlocking** for users **and logging** of the overrides
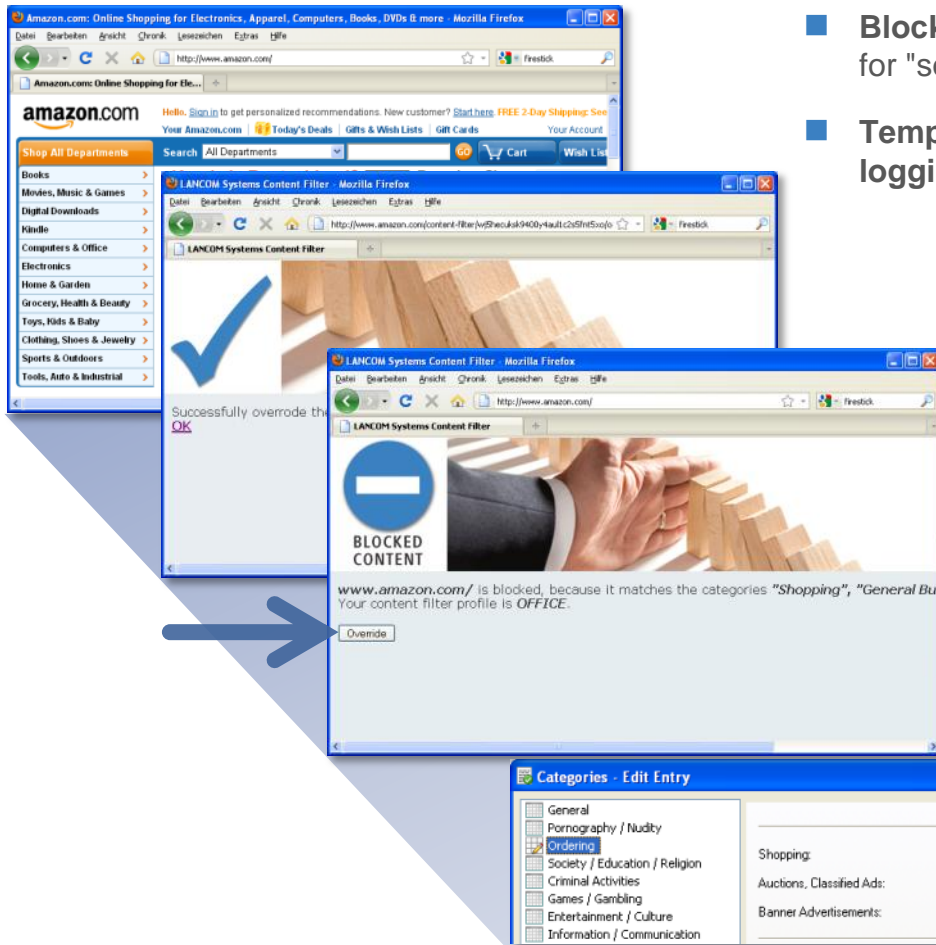
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Content Filter Option (4)
Availability

- ■ The LANCOM **Content Filter is** a **software option** sold separately for LANCOM routers, gateways and WLAN controllers

- ■ Software option **suitable for most current router models but not for all** (compare product web page)

- ■ **Cost-free, time-limited demo license** to test the Content Filter

- ■ Automated process to obtain a **demo license with a button in LANconfig** at „Activate Software Option…"

- ■ Further **information and request for a demo license** on the LANCOM website at

  www.lancom.eu/contentfilter

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IPsec over HTTPS (1)
SSL encapsulation for IPsec

- **SSL encapsulation of IPsec** traffic and transport via TCP over port 443 (as with HTTPS)

- **Overcomes NAT gateways and firewalls** that block IPsec, such as with UMTS/3G providers, hotspots, etc.

- Works for **client-to-site** connections (LANCOM Advanced VPN Client to LANCOM VPN routers)

- Also works **site-to-site** (from LANCOM router to LANCOM router)

**Port 443 open
for HTTPS**

**IPsec
over HTTPS**

**LANCOM router
with IPsec over
HTTPS**

Standard IPsec

**Advanced VPN Client
with IPsec over HTTPS**

**Firewall
blocks IPsec**
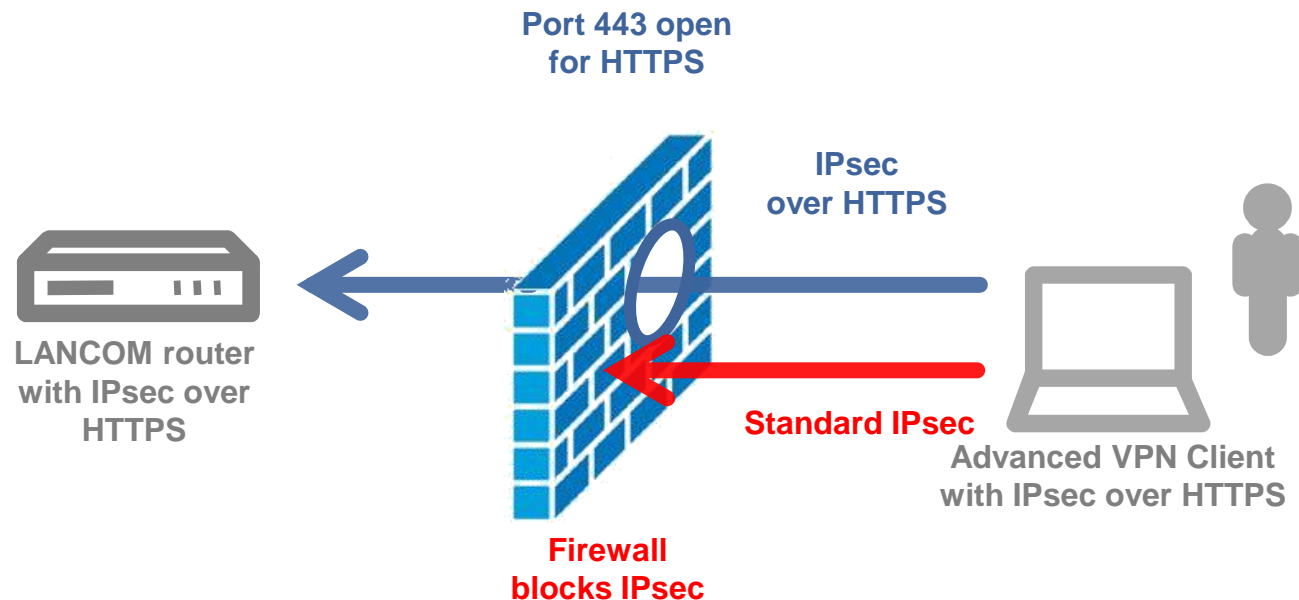
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IPsec over HTTPS (2)
Ideal for mobile applications
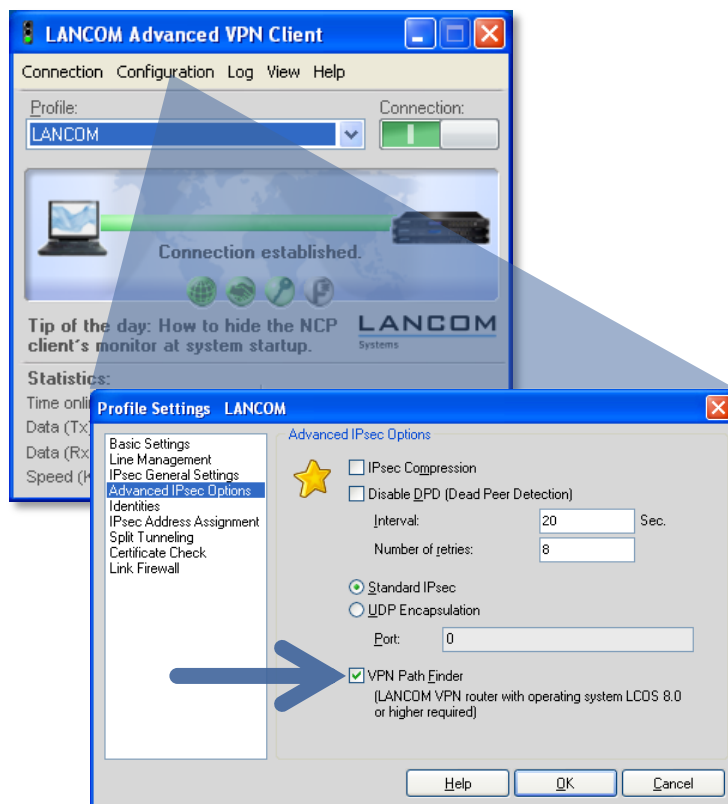
- **Easy setup** of the LANCOM Advanced VPN Client by selecting "IPsec over HTTPS"

- **Automatic detection and switching** between plain IPsec and IPsec over HTTPS:

  - The initial **connection attempt is with IPsec** (less overhead)

  - **If** a standard IPsec connection **cannot** be established, then the Advanced VPN Client reverts to **IPsec over HTTPS** technology

- Available as of **version 2.22** of the LANCOM Advanced VPN Client (free update from version 2.2)

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LCMS modernized
New icons

- **All icons have been completely reworked** in LANconfig, LAN/WLANmonitor and Trace

- High-resolution icons with more colors for a **more intuitive display** and conformity with corporate-design

- **Modernization** that does justice to current screen resolutions and user experience with other applications
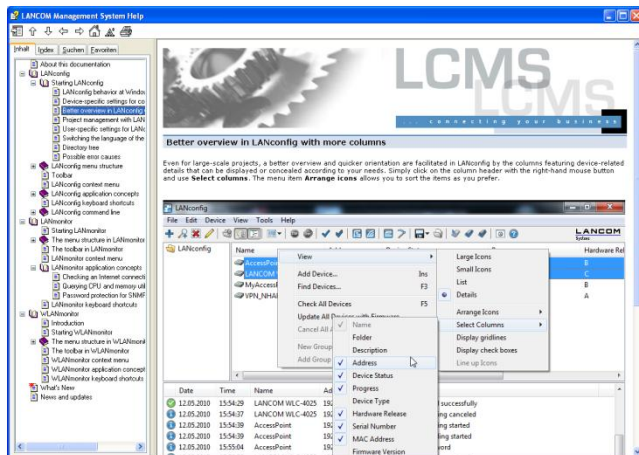
- **Application help for LANconfig, LAN/WLANmonitor** with extensive explanations

- **How-To chapters** covering typical administratoin tasks and hints for configuration

- **Directory, index and search** for extensive reading of topics related or quick help for specific operations

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USB setup
Upload of configuration and firmware from USB memory

- With LCOS 8.0 all routers with USB interface **can be configured automatically by simply inserting a USB memory***

- A router with factory defaults **checks for** appropriate **firmware** or **configuration** files on the USB memory

- Applicable firmware files are automatically uploaded when they are newer than the firmware versions in the device

- The USB setup mechanism **can be used for updates during operation as well** (switchable)

FW

USB memory

upload/rollout

Router with factory defaults

C

Pre-configuration (no LANCOM know how needed)

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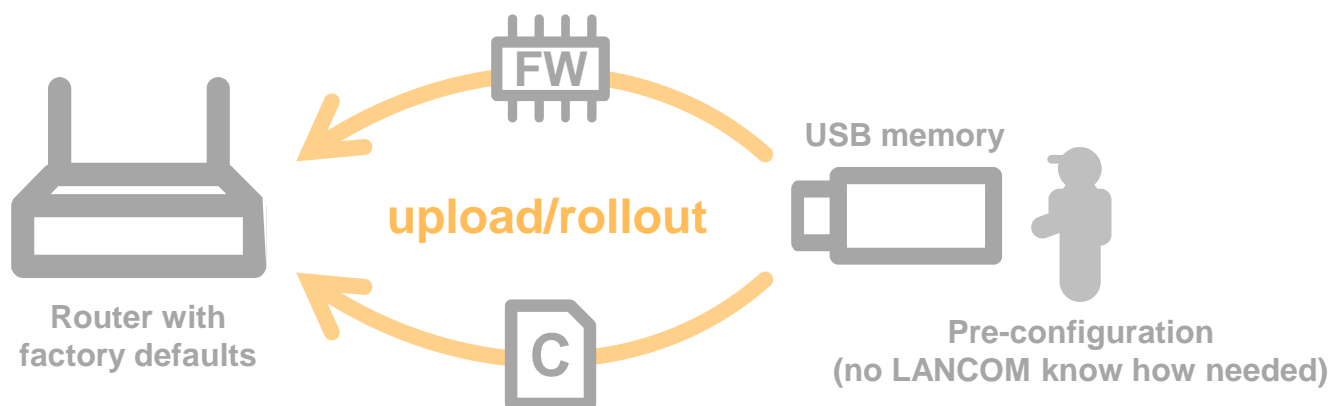
LANconfig
Tree view for fast access to the configuration pages
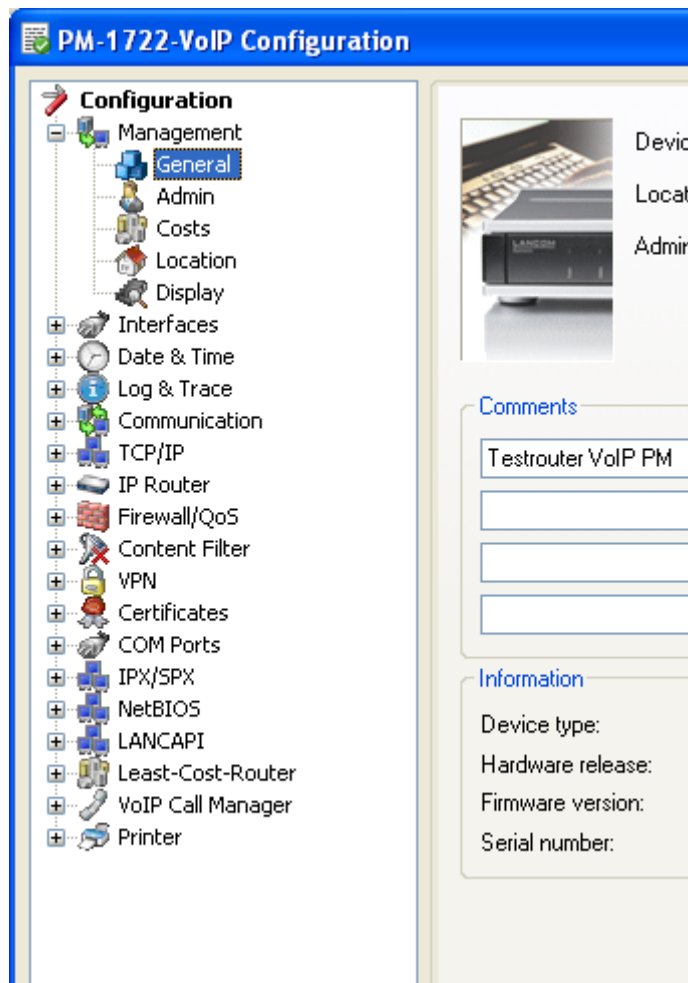
- **Tree view** with the same icons and structure as in WEBconfig

- **Fast access** to configuration pages, without any lists or tabs

- Automatic **compression of sections** when another page is selected

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LANconfig
Intelligent password field

- Single field for password entry with the option of **making the password visible**
  (e.g. to check the passwords as you enter them)

- If passwords are displayed, it is impossible to "steal" the password by copy & paste or with password sniffers (**increased security**)

- To motivate customers to use higher security, it is also possible to **automatically generate a password** (where this makes sense)

- If a password is renewed or changed, a **confirmation field** is displayed **immediately after** entering it – no additional window opens up after closing the dialog (so speeding things up for professionals)

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LANconfig
Dynamic filter

Search pattern **Discard filter** **Filter case-sensitive**
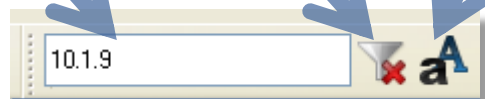
- Searches **any match** of the search pattern in device properties

- Has **immediate impact** on the folder view with each character typed in

- **Searches** the currently **selected folder** only

- Can be **combined with 'flat view mode'** to display all matches in selected and subsequent folders

- **Force exact matching** with capitalization symbol

- **Discard** filter **with one click**


```
LANconfig - \LCS - Filter result
File  Edit  Device  View  Tools  Help

                                                    10.1.9              LANCOM
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```

Name	Address	Device Status	Progress	Device Type	Serial Number	MAC Address
ES-2126	10.1.90.44	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0E:57
ES-2126	10.1.90.45	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0D:FD
ES-2126	10.1.90.46	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0E:8A
ES-2126	10.1.90.47	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0D:FC
ES-2126	10.1.90.48	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0D:FE
ES-2126+	10.1.90.42	Ok		LANCOM ES-2126+	4001423020000	00:A0:57:15:35:71
LANCOM ES-2126	10.1.90.37	Ok		LANCOM ES-2126	40003101A000...	00:A0:57:14:0E:22
Ludwigshafen	10.1.99.12					

LANconfig / Demo / LCS

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Alternative boot configurations
Customer-specific standard settings

- LANCOM routers and access points can be programmed with persistent configurations (however many times the device is rebooted or reset) that contain **customer-specific standard settings for the boot procedure**

- By storing a configuration to **memory space "1"**, the LANCOM factory settings will be "overwritten" **with customer-specific standard settings**

- When resetting, a **short press (more than 5 seconds)** of the reset button initiates the

  – activation of **customer-specific standard settings**, assuming that a corresponding configuration has been saved to memory space "1",

  – **otherwise** (if memory space "1" is empty) the **LANCOM factory settings** are loaded as usual

- Additionally/alternatively a **rollout configuration** can be stored in memory space „2" as well as a **standard certificate** for authentication (more details in reference manual)

1 Customer-specific standard settings available once stored to memory space "1"

5-second RESET/switching on an unconfigured device

LANCOM router

X LANCOM factory settings if no customer-specific standard settings are available

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Service and Support

We wish you every success with your LANCOM product and the new LCOS!

We look forward to your **praise and criticism, suggestions or questions:**
mylancom@lancom.de.

The latest information about Service and Support can be found on our Support flyer, our Internet site or from our **Knowledge Base:**
www.lancom-systems.eu/support.

If the manual and our current support themes in the Internet are of no help to you, then our **Support Hotline** is available to you in Germany on work days from 9:00 – 17:00h

0900-1-LANCOM (= 0900-1-526266)

 (1.24 €/min. from German landlines).

Your LANCOM Systems Team

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