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Overview LANCOM Software Version 7.20

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www.lancom-systems.com

LCOS 7.20
[LANCOM OPERATING SYSTEM]

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Introduction



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

Here is an overview of the main new functions and improvements:

- **VoIP PBX features** for all LANCOM VoIP router
- **"1-Click-VPN"** – VPN setup easier than ever
- **Advanced VPN Solutions** – fully automatic rollout with certificates
- **ARF** – complete Router virtualization

Highlights

VoIP

- Integration of PBX functionality
- Support of T.38

Management

- 1-Click-VPN
- HTTP tunnel for remote administration

Routing

- Virtualization of the router with ARF

VPN

- Certificate enrollment with SCEP

WLAN

- Integrated RADIUS/EAP server
- Improved 5Ghz operation

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LCOS – LANCOM Operating System

New functionalities of VoIP Call Manager 1/2

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PBX functionalities

- **Hold/Swap, Transfer** for SIP, ISDN and analog subscribers
- **Call control** with analog, ISDN or SIP terminal devices
- **Call Forwarding** (unconditional, on busy, on no reply)
- **Busy on Busy** (suppression of a second incoming call)
- **Configuration** of Call Forwarding with **LANconfig** or with **terminal devices**
- **Call Data Records** via **e-mail** or **syslog**
- Functionalities to **support LANCOM VP-100**



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New functionalities of VoIP Call Manager 2/2

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PBX functionalities

- **Hunt groups** (ringing of many telephones at the same time)
- **Call diversion** (sequential call distribution, cascading of groups)
- **Multi login** (different terminal devices with the same extension number)

Professional VoIP

- **VoIP & ARF** (security and QoS for VoIP in the LAN)
- **T.38** (sending faxes via SIP, e.g. from LANCOM to LANCOM)
- Transparent **passthrough of ISDN facilities** (e.g. ECT in the public exchange centre)



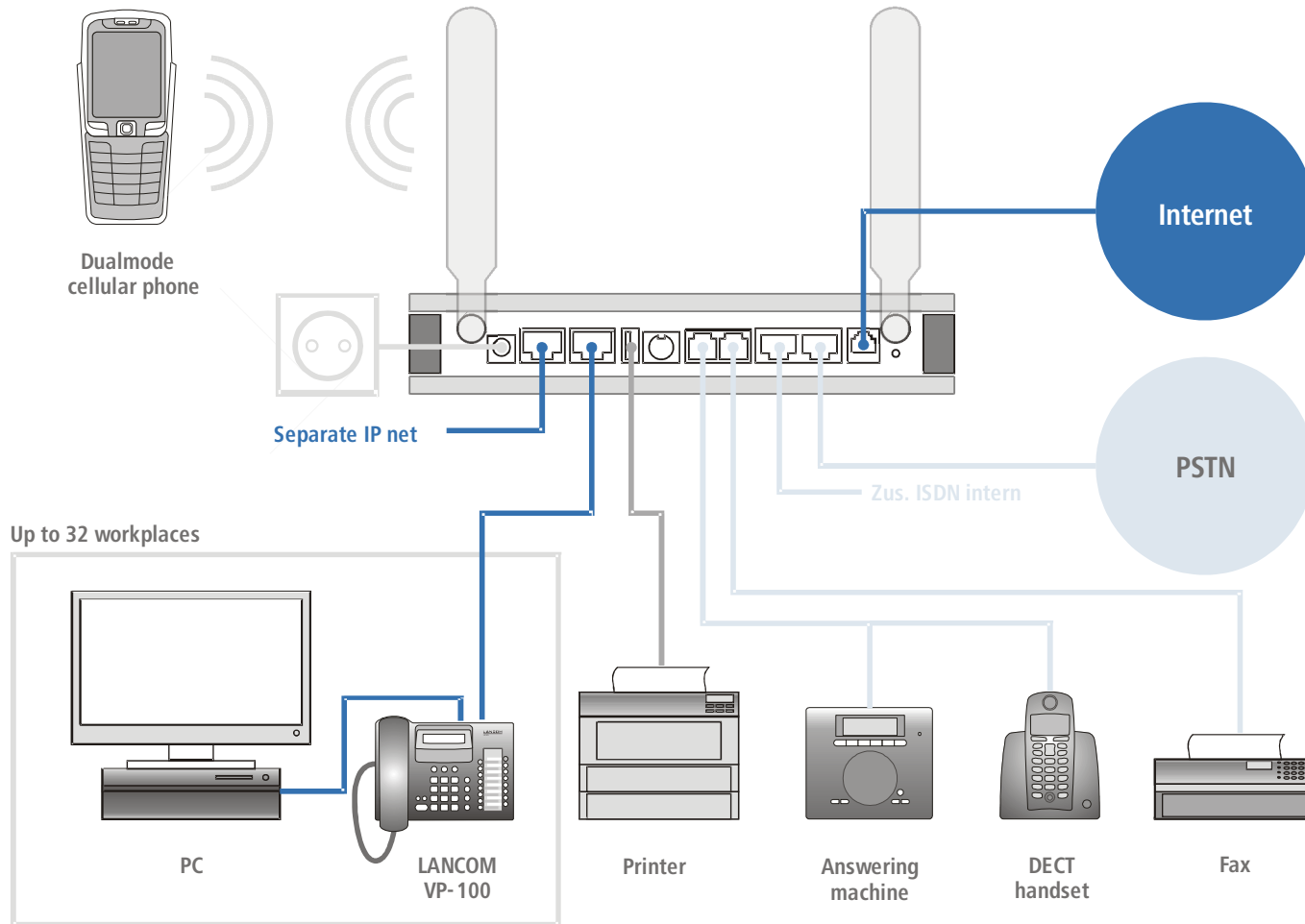
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LANCOM 1823 VoIP

The perfect solution for the small office



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How does it look like?

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LANCOM VoIP PBX functionalities

Suitable for all VoIP routers

VoIP PBX functionalities for the whole VoIP portfolio.

- All Business VoIP Routers 1723, 1823, 1722, 1724 VoIP
- All „VoIP ready“ routers with Basic or Advanced Option

LANCOM 1723 VoIP



LANCOM 1722 VoIP



LANCOM VoIP Basic Option



LANCOM 1823 VoIP



LANCOM 1724 VoIP



LANCOM VoIP Advanced Option



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LANCOM VoIP Options

All features from the VoIP Call Manager

LANCOM VoIP Basic Option for...



821+



DSL/I-10+



1611+

LANCOM VoIP Advanced Option and VoIP-32 Option for...



1711 VPN



1721 VPN



1811 Wireless DSL



1821+ Wireless ADSL



7111 VPN



8011 VPN



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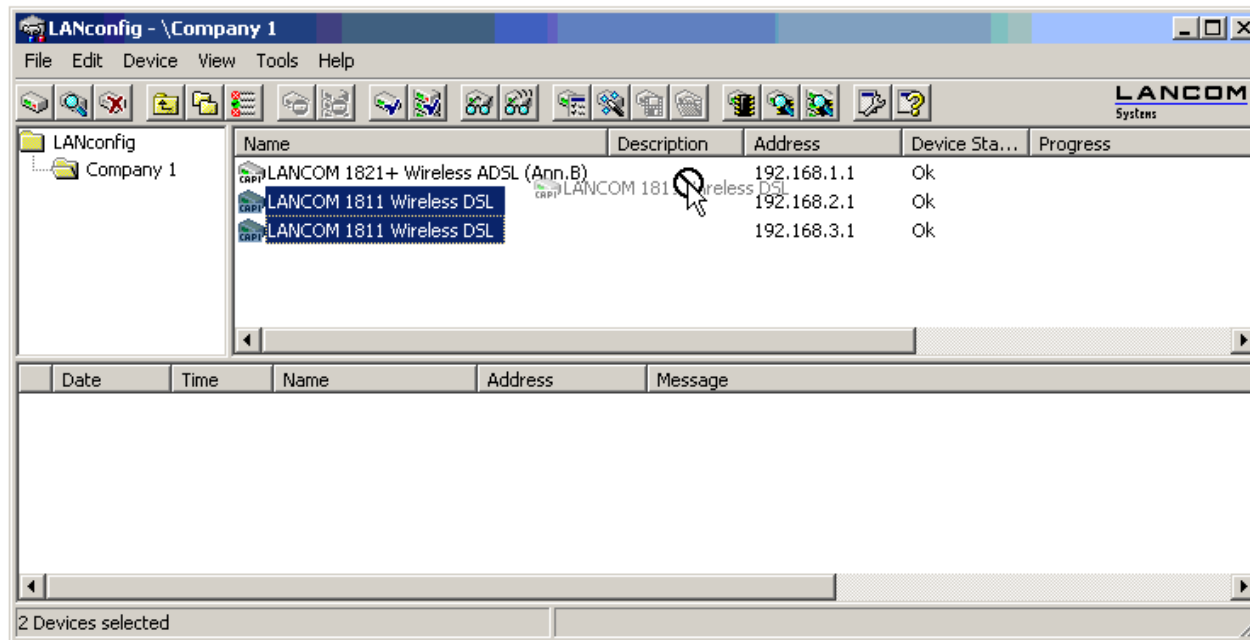
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1-Click-VPN Site to Site

- No expert knowledge necessary
- „Drag and Drop“ of site to site coupling
- One click until completion



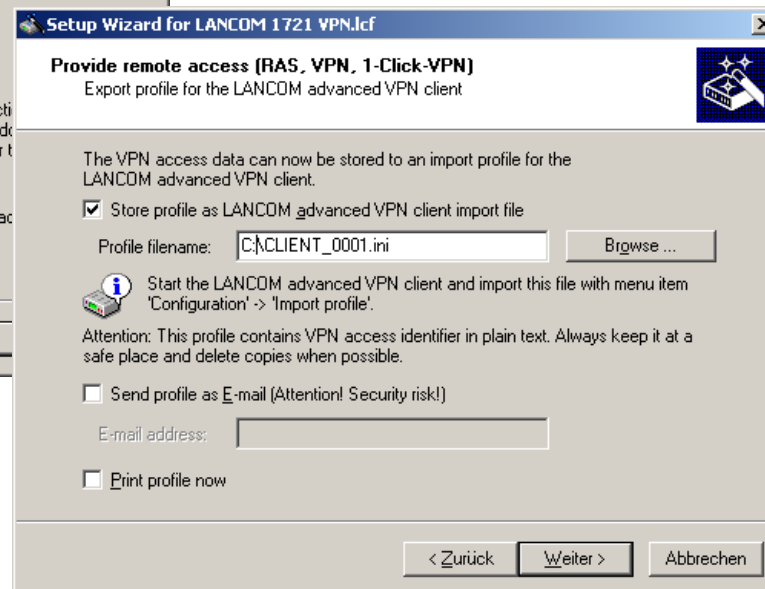
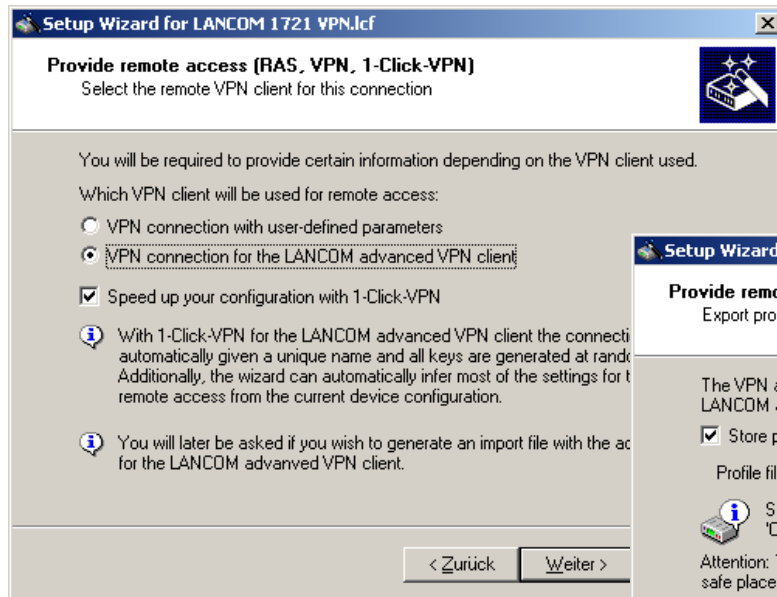
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1-Click-VPN Client assistant

- Simplified VPN client assistant
- One click until completion
- Generation of a complete import script for the LANCOM Advanced VPN Client



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Simple Certificate Enrollment Protocol (SCEP)

From Cisco and Verisign developed standard

Automated

- generation
- roll-out
- extension

of certificates

- Manual install per web browser no longer necessary
- Device tests run-time automatically and prolongs when necessary
- Device generates key pair automatically and passes certification enquiry to CA by using the PKCS#10 standard



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Advanced Routing and Forwarding (ARF)

- Virtualization of the physical router
- Instead of two available IP networks (intranet, DMZ), ARF makes available two, eight or 64 complete IP networks on one LANCOM
 - e.g. 8 x IP networks of which the router is part
 - e.g. 8 x DHCP server
 - e.g. 8 x DNS forwarder
 - e.g. 8 x RIP
 - e.g. 8 x ARP
 - e.g. 8 x VLAN settings
 - e.g. 8 x interfaces (Switch-Ports)
 - ...



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ARF Contexts

Devices	Interfaces	IP networks	VLANs
L-54 series	1/2	8	Yes
800+	4	2	No
DSL-I/10+	3/4	2	No
821+	4	8	Yes
1511	4	2	Yes
1521	4	2	Yes
1611+	3/4	2	Yes
1711	4	8	Yes
172x	2/4	8	Yes
1811	4	8	Yes
182x	2/4	8	Yes
3550	4	8	Yes
7111	4	64	Yes
8011	4	64	Yes

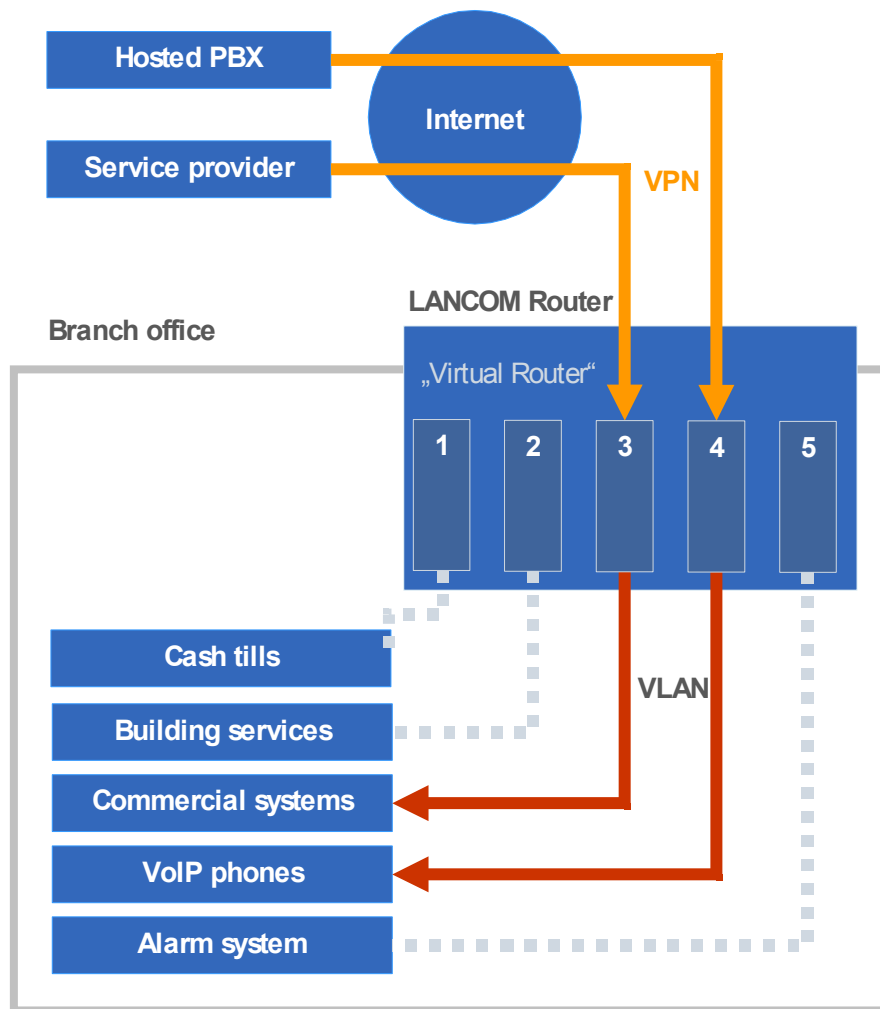


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Example of use: external service provider



- Spread of IP networking facilities
→ „All IP Network“
- Maintenance of the different facilities by various service providers
→ **Outsourcing**
- VLAN and virtual routers provide secure and flexible separation of services
→ **Logical networks**



LCOS – LANCOM Operating System HTTP tunnel

Create TCP/HTTP Tunnel

Enter the host name resp. IP address and TCP port of the device you want to reach, then click on 'Create' to create the tunnel connection.

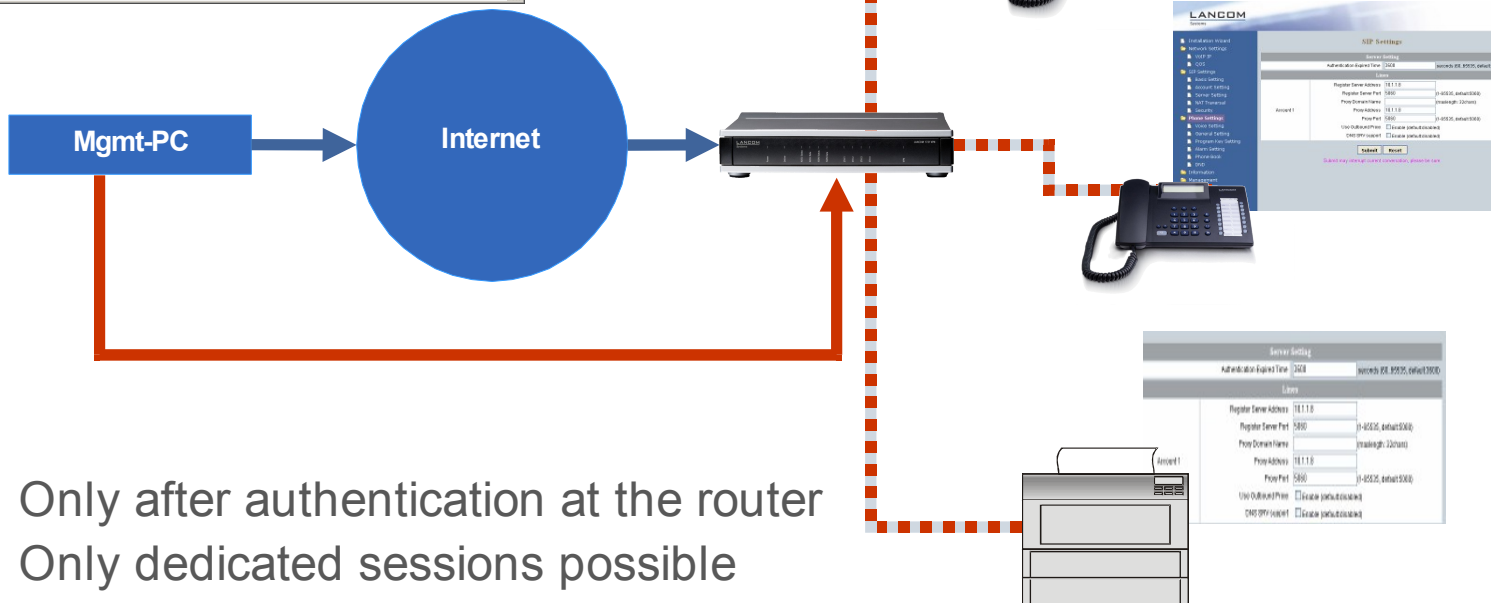
Host Name/IP address:
TCP Port:
Routing Tag:

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Fertig



- Only after authentication at the router
- Only dedicated sessions possible
- Interesting for LANCOM Support

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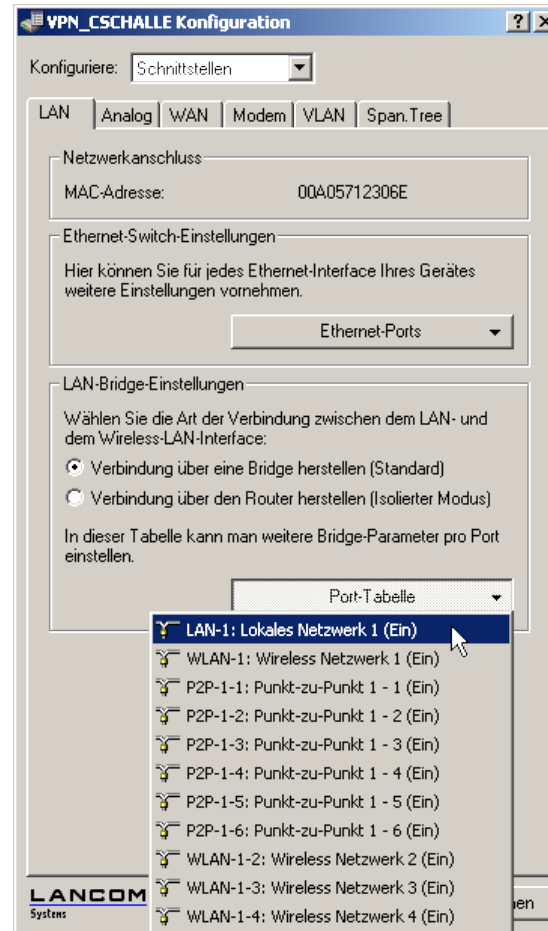
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Bridge Gruppen

- New: Bridge Groups
 - To „group“ individual interfaces
- Easily groupable LAN Interfaces:
 - LAN Ports
 - WLAN Point-to-Point Connections
 - WLAN SSIDs



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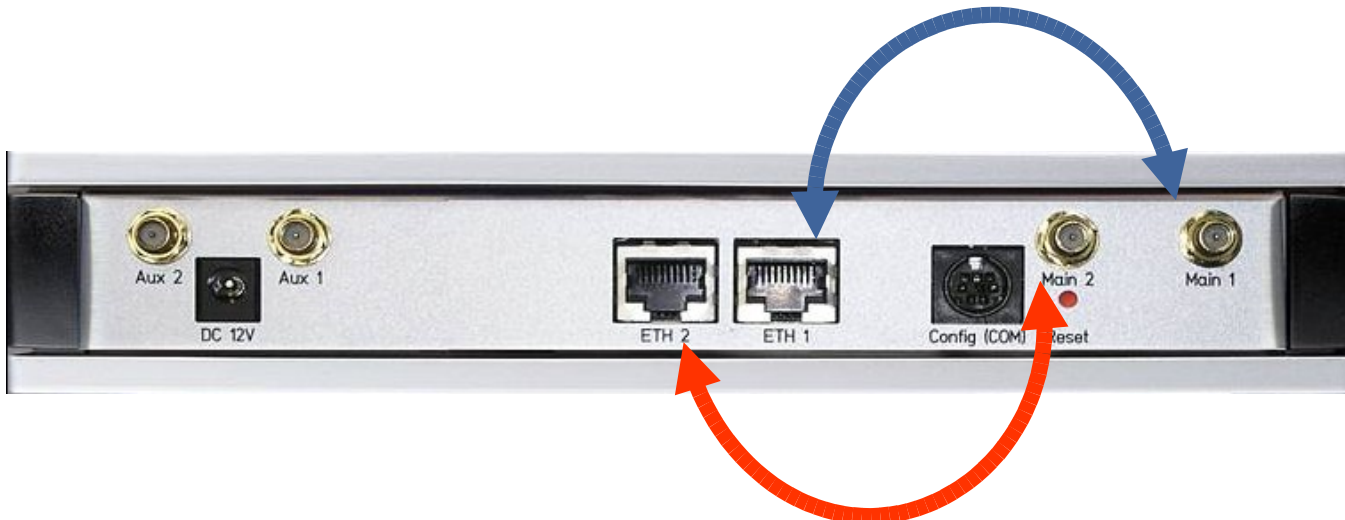
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Einsatz von Bridge Gruppen

- Example: „Splitting“ a LANCOM L-54 dual
 - Ethernet 1 is „grouped“ with WLAN Module1 (BRG-1)
 - Ethernet 2 is „grouped“ with WLAN Module 2 (BRG-2)
- The 2 groups do not have any connection to each other in „isolated“ Mode
 - In Factory default settings all interfaces are connected to each other



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Additional LCOS Features

WLAN

- New operating mode for 5 GHz WLAN connections
 - A channel that has not detected interference for > 24h can continue functioning without interruption
- Roaming optimisation in „Client“ Mode
- 802.1x / EAP RADIUS Server Integration
- VLAN Expansion by tagging the tagged packets - „Q-in-Q“
- Rapid Spanning Tree Protocol (RSTP)

Management

- Configurable Reset Button
 - "ignore" the button will be ignored
 - "boot-only" Pressing the button the device will only boot
 - "reset-or-boot" Usage as designed, this is default
- „Blurry“ CRON-Actions
 - Delayed execution of CRON actions
- Double clicking in LANconfig will start the assistant

Routing

- Extended Port forwarding
 - Inclusion of WAN address and protocol as criteria

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Further information

More than 100 new pages of detailed information about all new functions in LCOS 7.20 are available in the addendum to the LCOS reference manual

- Available for free from <http://www.lancom.de/>

The detailed revision history is in the release notes for LCOS 7.20.

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Service und Support

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We wish you every success with your new LANCOM product!

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

The latest information about Service and Support can be found on our Support flyer, our Internet site or from our **Knowledge Base** under www.lancom-systems.de/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 under 0900-1-LANCOM (= 0900-1-526266) (1.24 € / Min. from German landlines).

Your LANCOM Systems Team

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