LANCOM Systems

Information regarding

LCOS Software Release 8.61 BETA2

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1. Preface

LCOS („LANCOM Operating System“) is the operating system for all LANCOM routers, wireless LAN access points and WLAN controllers. In the context of the hardware given by the products the at a time latest LCOS version is available for all LANCOM products and is available free of charge for dowload from LANCOM Systems.

This document describes the innovations within LCOS software release 8.61 BETA2.

Warning hints – Backing up the current configuration

LCOS 8.61 Beta 1 is an exclusive test version specifically for users who are theoretically acquainted with IPv6 and want to take a first look at the new world of IPv6.

It is not recommended to test this beta version in productive environments!

Before upgrading your device to a new LCOS version it is **essential** to backup the configuration of your router. Due to extensive features it is not possible to downgrade to a previous firmware without using the backup configuration.
Please see the reference manual for instructions on how to backup the router configuration.

If you want to upgrade devices which are only accessible via router connections or WLAN bridges, please keep in mind to upgrade the remote device first and the local device afterwards.

Warning hint – LCOS upgrade for devices LANCOM OAP/IAP-321-(3G) and LANCOM 1780EW-3G

Some of the current LANCOM WLAN routers and access points with LCOS 8.5 or earlier, which are to receive new firmware or extensive new configurations over the wireless LAN interface, may under certain circumstances suffer from WLAN connection loss. The result of this error is that the wireless link is interrupted and, in the worst case —such as with an outdoor point-to-point link— the device may lose contact completely. In this case, re-establishing the radio link would require a manual restart of the remote device by pressing the reset button. To prevent this we recommend to configure an alive test before uploading a new firmware.

Note – Upgrading central site components

We strongly recommend updating productive systems only after internal tests in client environment. Despite intense internal and external quality assurance procedures possibly not all risks can be eliminated by LANCOM Systems.

Note – Dynamic VPN registration

By reason of patent you have to register the functionality „Dynamic VPN“ with IP address transmission over ISDN. This operating mode is usually required when you configure a VPN tunnel with dynamic IP addresses on both sides without dynamic DNS services.
Any other Dynamic VPN operation mode (e.g. transmitting the IP address via ICMP, provoking a callback etc.) does not require registration.
The registration process is fully anonymous - no personal or company data will be transmitted.

The registration of the Dynamic VPN option requires administrator rights on the LANCOM device.

Note – Using VoIP options

VoIP options for LANCOM 1821 Wireless ADSL are discontinued with LCOS 7.20. The final version containing the VoIP Call Manager is LCOS 6.32.
As from LCOS 7.5x support for VoIP options for the devices LANCOM 1511 Wireless DSL and 1521 Wireless ADSL is discontinued. The final version containing the VoIP Call Manager is LCOS 7.30.
For the „VoIP ready“ routers LANCOM 1711 VPN, 1721 VPN and 1811 Wireless DSL support for the subsequently installed VoIP option will be discontinued with LCOS version 7.56. If you want to continue using your VoIP option, please do only use LCOS versions up to and including 7.54.
For T-Systems Business LAN R800+ VoIP functionality is discontinued in LCOS 7.60
LCOS 7.70 is the final version supporting VoIP options for the remaining „VoIP ready“ devices.

Note – Device specific support of the current LCOS version

As from LCOS 8.50 support for the following devices is discontinued:
- LANCOM 1811 Wireless
- LANCOM 1721 VPN

For the following devices the additional, LANconfig-like WEBconfig view is removed as from LCOS 8.60:
- LANCOM L-310
- LANCOM L-305
- LANCOM L-54dual
- T-Systems Business LAN R800+

Please use instead either LANconfig or use the configuration view “LCOS Menu Tree” in WEBconfig

2. Known Issues

Latest support notes and known issues regarding the current LCOS version can be found in the download area of our website http://www.lancom-systems.eu/Common-Support-Hints.64.0.html

3. New Features, Changes and History

LCOS changes 8.61.0125 BETA1 ► 8.61.0190 BETA2

New Features:

Network Connectivity:

- Status information for IPv6 addresses, IPv6 prefixes, DHCPv6 servers and DHCPv6 clients is displayed in WEBconfig
- The DHCPv6 server supports stateful mode and prefix delegation
- The DHCPv6 client now supports the IA_NA option
- IPv4 VPN connections can be established over an IPv6 WAN connection

Bugfixes / Changes:

Network Connectivity:

- Complete support for IPv6 routing tags
- Automatic IPv6 address generation on LAN interfaces from all announced prefixes

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LCOS changes 8.61.0125 BETA1

New Features:

Network Connectivity:

- **Dual Stack:** IPv6 functionality can be enabled and disabled globally. IPv6 functions can be used additionally to IPv4.
  Operation modes: IPv4, IPv4/IPv6
  Supported IPv6 address types: link local, global unicast. unique local
- **IPv6 Router:** Possible step-by-step migration of the network configuration by using a separated IPv6 router with a designated routing table.
- **IPv6 Internet Connection:** Available methods to establish an IPv6 internet connection:
  - IPv6 tunnel using an IPv4 network
  - Native IPv6 over PPP (IPv6CP) with address configuration by the autoconfiguration and with multi link PPP support
  - Native IPv6 over IPoE with either static or automatic address configuration
  (DSLoL only with native IPv6 in exclusive mode available)
- **IPv6 Tunnel Technologies:** The following IPv6 tunnel technologies are available to realize an IPv6 internet connection by using an IPv4 connection.
  - 6to4 tunnel
  - 6in4 tunnel
  - 6rd tunnel with either static configuration or dynamic configuration by DHCPv4
- **IPv6 over PPP (IPv6CP):** IPv6 can be used at a plain IPv6 PPP session or in a combined IPv4/IPv6 session
- **DHCPv6 Server:** Supports stateless mode and propagates DNS server in the LAN
- **DHCPv6 Client:** Supports prefix delegation (IA_PD) and DNS server option. Operation is managed by autoconfiguration.
- **Stateless Address Autoconfiguration (SLAAC):** Automatic IPv6 address configuration by using the MAC address according to EUI-64
- **Neighbor Discovery Protocol (NDP):** Responsible for automatic detection of network devices and the corresponding IPv6 addresses in the same network segment. Possible configuration of multiple subnets by using router advertisements according to the delegated provider prefix.
  Operation modes: Router, Host
- **IPv6 Firewall:** Stateful inspection firewall, which can be activated or deactivated. Only allows connections from the LAN and blocks all connections from the WAN. More functions will become available with further development.
- **IPv6 compatible LCOS Applications:** Currently supported applications: WEBconfig, SSH, Telnet, DNS, TFTP
  Additional applications will be supported with further development.
- **LANconfig with IPv6 Support:** IPv6 support of LANconfig implies the search and configuration of devices via IPv6.
  Operating modes: IPv4, IPv4/IPv6, IPv6

4. Comments

If you want to upgrade the firmware of your device to a new version, please install the latest LCMS version first. **Before running the firmware-upload you should save the router configuration to a file**. After that you can use LANconfig to load the latest LCOS-version into the device.

In principle, we suggest upgrading the firmware of your device only if you are in need of the latest features.

Please note that different firmware files might be available for your device. Further information can be found in the file README.PDF in the download area of our homepage.

