

A Addendum to LCOS Version 6.28

A.1 Overview

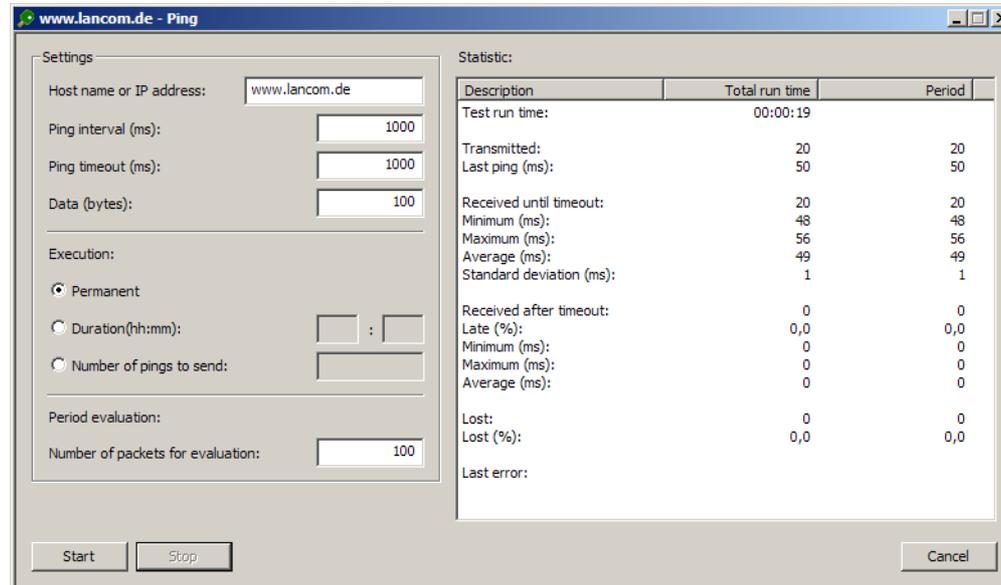
This addendum describes new functions and modifications between the LCOS version 6.24 and the latest version 6.28:

- WLAN
 - 'Connection diagnosis with LANmonitor' → Page 1
- Changes to the LANtools
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A.2 Connection diagnosis with LANmonitor

LANmonitor can be used to check the connection quality between stations in the LAN, WAN or WLAN. LANmonitor sends pings from the computer on which it is installed to the remote site at regular intervals. The responses it receives are the basis for a compiled report.

To enter the parameters and display the results, a dedicated dialog has been implemented in LANmonitor.



Configuration tool	Call
LANmonitor	Device ► Ping... Tools ► Ping... or via the context menu

Configuring Ping execution

■ Host name or IP address

The remote station which is to be queried by Ping is entered here. The following information can be entered for all of the different network devices (servers, clients, routers, printers, etc.) which can be reached via LAN, WAN or WLAN.

- IP address
- URL, e.g. 'www.lancom-systems.com' (without defining the protocol)
- Name of the remote site



If a device is selected when the Ping dialog is opened with **Device ► Ping...** or via the context menu in LANmonitor, then the IP address of this device is assumed to be the remote site.

■ Ping interval

The time interval between two consecutive pings in [ms].

- Default: 1000 ms
- Minimum value: 20 ms



The interval between two pings cannot be less than the packet transmission time, i.e. before sending a ping, the previous ping must have been answered or the ping timeout must have expired.

■ Ping timeout

The time waited for the response to a ping to arrive [ms]. If this time expires and no response was received then the ping is assumed to be lost.

- Default: 1000 ms
- Minimum value: 20 ms

■ Data

The size of a ping packet [bytes]. A "ping" is an ICMP packet which is generally transmitted without any content, i.e. it is just a header. To increase the load of the packets used for testing a connection, a payload can be created artificially. The overall packet size then consists of an IP header (20 bytes), an ICMP header (8 bytes) and the payload.

- Default: 0 byte

- Maximum value: 65500 byte



The packets will be fragmented if the payload of the ICMP packets exceeds the maximum IP packet size.

■ Execution

Repeat mode for the ping command.

- Permanent: Pings are continually transmitted until the button **Stop** or **Pause** is pressed.
- Duration: Pings will be sent over the defined time period (in hours and minutes) and then stops automatically.
- Number of pings to send: The defined number of packets is sent [max. 999999] and then stops automatically.
- Period evaluation: The evaluation can be made for the number of relevant packets, as defined [max. 999999].

Evaluation

The right-hand portion of the Ping dialog displays the results of the ping test. The first column shows the sum values over the entire test; the second column shows only the values collected over the evaluation period, i.e. the sum of the most recent packets. Unanswered pings are not included in the evaluation.



The period evaluation considers only the pings sent during the defined period.

The following information is displayed for evaluation:

■ Test run time

- The total run time [hr./ min./ sec.]

■ Transmitted

- Total number of pings sent
- Run time of the last ping [ms]

■ Received until timeout

- The number of pings answered in the timeout period
- Minimum runtime
- Maximum runtime
- Average
- Standard deviation from the mean run time

■ Received after timeout

- The number of pings answered after the timeout period
- Late packets as a proportion of the total number
- Minimum runtime

□ Choice of Wizard or configuration dialog

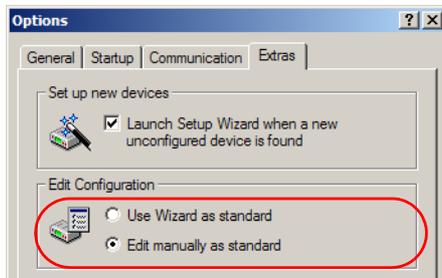
- Maximum runtime
- Average

■ **Lost**

- The number of lost packets
- Lost packets as a proportion of the total number

A.3 Choice of Wizard or configuration dialog

You can define how LANconfig reacts when an entry in the list of devices is double-clicked, i.e. whether a Setup Wizard or the dialog for manually editing the configuration appears.

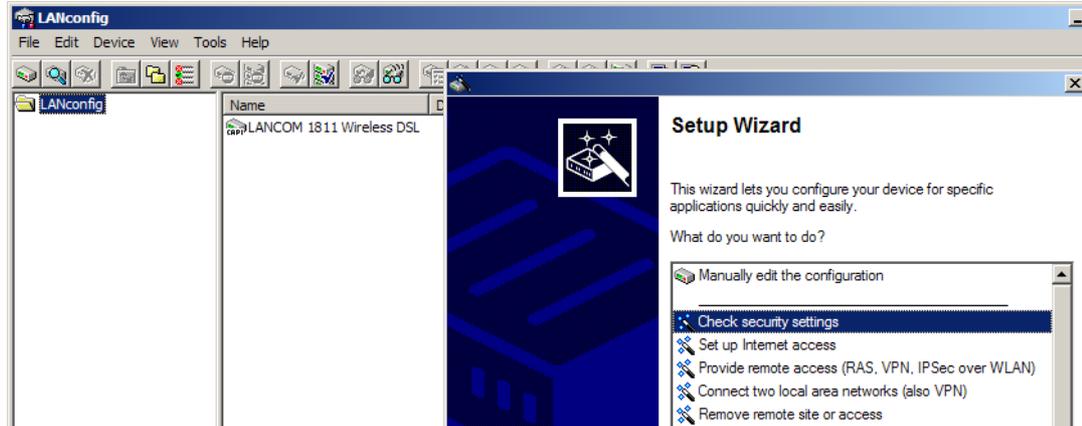


The standard behavior of LANconfig can be set in the dialog **Tools ► Options** on the 'Extras' tab.

Configuration tool	Call
LANconfig	Tools ► Options ► Extras

■ **Editing the configuration**

- Use Wizard as standard: Double-clicking on a device entry in LANconfig will open up a dialog offering a choice of Wizards. As an alternative, the option 'Manually edit the configuration' can be selected here.

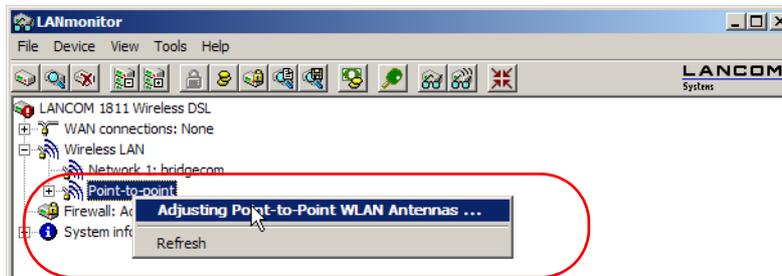


- Edit manually as standard: Double-clicking on a device entry in LANconfig will open up a dialog for editing the configuration manually.

A.4 Displaying signal quality for P2P connections in LANmonitor

The precise alignment of the antennas is of considerable importance to signal quality when establishing a P2P path. To help find the best possible alignment for the antennas, LANmonitor can display the current signal quality over a P2P connection.

The connection-quality display is opened with the context menu in LANmonitor. A click with the right-hand mouse key on the 'Point-to-point' entry prompts the command 'Adjusting Point-to-Point WLAN Antennas'



Configuration tool	Call
LANmonitor	Point-to-point ▶ context menu ▶ Adjusting Point-to-Point WLAN Antennas...



The entry 'Point-to-point' is only visible in LANmonitor if the monitored device has at least one base station defined as a remote station for a P2P connection (LANconfig: **Wireless LAN ► General ► Physical WLAN settings ► Point-to-Point**).

In the dialog for setting up point-to-point connections, LANmonitor requests the required information for establishing the P2P connection:

- Assuming that the P2P path is configured at both ends, i.e. the two remote base stations are entered with their respective MAC addresses; has the point-to-point operating mode been activated?
- Which access point is to be monitored? All of the base stations defined as P2P remote stations in the respective device can be selected here.
- Are both antennas approximately aligned? The connection over the P2P path has to be functioning basically before you start fine-tuning with the aid of LANmonitor.

Once signal monitoring has commenced, the P2P dialog displays the absolute values for the current signal strength and the maximum value since starting the measurement. The development of the signal strength over time and the maximum value are displayed in a diagram.



Initially you should only adjust one of the two antennas until a maximum value is achieved. This first antenna is then fixed and the second antenna is then adjusted to attain the best signal quality.