L2TP

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Bintec User's Guide - XGeneration
Version 1.0

Purpose

This document is part of the user's guide to the installation and configuration of Bintec gateways running software release 7.1.15 resp. 7.1.19 for WLAN or later. For up-to-the-minute information and instructions concerning the latest software release, you should always read our **Release Notes**, especially when carrying out a software update to a later release level. The latest **Release Notes** can be found at www.funkwerk-ec.com.

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Guidelines and standards

Bintec gateways comply with the following guidelines and standards:

R&TTE Directive 1999/5/EG

CE marking for all EU countries and Switzerland

You will find detailed information in the Declarations of Conformity at www.funkwerk-ec.com.

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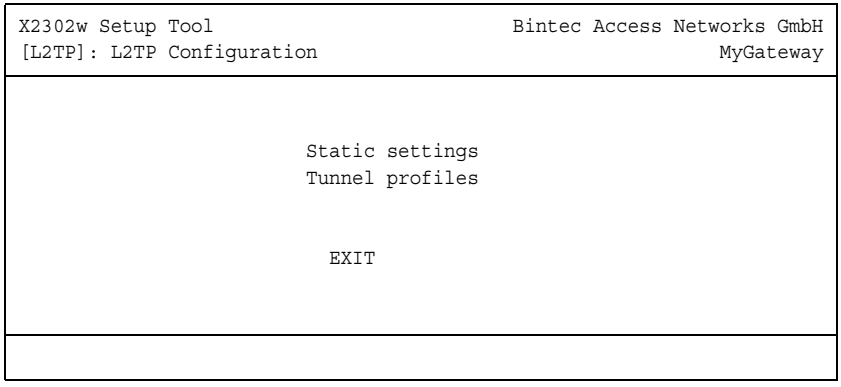
1 L2TP Menu

The fields of the *L2TP* menu are described below.



The Layer 2 Tunneling Protocol allows tunneling PPP connections through a UDP connection.

The Bintec implementation covers the L2TP Network Server (LNS) functions as well as the functions of a client L2TP Access Concentrator (LAC). A client LAC is able to locally create the PPP data stream that is encapsulated in L2TP. Thus, it is possible that hosts in a LAN can connect to the gateway via all supported types of connection and still use L2TP. Presently our gateways support L2TP tunnels over UDP connections only.

To use L2TP a respective WAN Partner must be configured in the ***WAN PARTNER*** menu and the required option - *PPP over L2TP (LNS mode)* or *PPP over L2TP (LAC mode)* - selected in the WAN partner's ***ADVANCED SETTINGS*** menu. It is also necessary to choose an ***L2TP TUNNEL PROFILE***. The list of profiles you can choose from is created in the ***L2TP*** menu which is accessible from the Setup Tool main menu.

The L2TP menu contains the following submenus:

- ***STATIC SETTINGS***
- ***TUNNEL PROFILES***

1 L2TP Menu

2 Static Settings Submenu

The fields of the *STATIC SETTINGS* menu are described below.

```
X2302w Setup Tool                          Bintec Access Networks GmbH
[L2TP][STATIC]: L2TP Static Settings                          MyGateway


   UDP port number for LNS mode       1701
   Port usage for LNS mode            floating


                SAVE                              CANCEL
```

In the ***L2TP*** ➜ ***STATIC SETTINGS*** menu basic options for the LNS are configured.

The submenu ***STATIC SETTINGS*** offers the following configuration options:

Field	Description
UDP port number for LNS mode	This is the port monitored by the LNS for incoming L2TP tunnel connections. Available values are all integers from *1* to *65535*, the default value is *1701* as detailed in RFC 2661.
Port usage for LNS mode	This parameter determines if the LNS will only use the monitored port (***UDP PORT NUMBER FOR LNS MODE***) as local source port for the L2TP call or if it chooses one of the available free ports.

Table 2-1: ***L2TP*** ➜ ***STATIC SETTINGS***

3 Tunnel Profiles Submenu

The fields of the *TUNNEL PROFILES* menu are described below.

```
X2302w Setup Tool                          Bintec Access Networks GmbH
[L2TP][TUNNEL PROFILES][ADD]: Configure L2TP tunnels          MyGateway

     Profile Name                    l2tp3
     Local IP Address
     Local UDP Port (LAC only)       0
     Local Hostname
     Remote IP Address (LAC only)
     Remote UDP Port (LAC only)      1701
     Remote Hostname
     Tunnel Password
     Hello Interval                  30
     Data Packets Sequence Numbers   disabled
     Minimum Time Between Retries    1
     Maximum Time Between Retries    16
     Maximum Retry Count             5

                          SAVE                              CANCEL
```

The L2TP tunnel profiles are created or edited in the ***L2TP*** ➜ ***TUNNEL PROFILES*** ➜ ***ADD/EDIT*** submenu.

It offers the following configuration options:

Field	Description
Profile Name	Here you can enter a description for the current profile. The gateway automatically numbers the profiles "*l2tp..*", but this value can be changed.
Local IP Address	Here you enter the IP address that will be used as source address for all L2TP calls based on this profile. If left blank, the gateway uses the IP address of the associated interface.

Field	Description
Local UDP Port (LAC only)	Here you can enter the port number that is used as source port for all outgoing L2TP calls based on this profile. Available values are *0* to *65535*; the default value *0* means that ports will be dynamically allocated to calls using this profile.
Local Hostname	Here you enter the host name which is included in outgoing tunnel establishment messages for identifying this gateway. These messages are the SCCRQs sent by the LAC and SCCRPs sent by the LNS. The LNS uses this parameter to match the incoming SCCRQ to one of the available L2TP profiles. The maximum length of the entry is 35 characters.
Remote IP Address (LAC only)	Here you enter the IP address used as destination address for calls based on this profile. The destination must be a device capable of acting as LNS.
Remote UDP Port (LAC only)	Here you enter the destination port number used for all calls based on this profile. The remote LNS that receives the call must be listening for L2TP connections on this port.

Field	Description
Remote Hostname	Here you enter the host name which is expected in incoming tunnel establishment messages (SCCRQs received by the LNS and SCCRPs received by the LAC) for identifying the remote gateway. The maximum length of the entry is 35 characters. The ***LOCAL HOSTNAME*** configured on the LAC has to match the ***REMOTE HOSTNAME*** configured for the intended profile on the LNS, and vice versa. However, a blank ***REMOTE HOSTNAME*** specified on the LNS qualifies the associated profile as a default entry that is used for all incoming calls for which no profile with a matching ***REMOTE HOSTNAME*** can be found.
Tunnel Password	Here you enter the password that is used for tunnel authentication. Authentication between LAC and LNS is two-way, i.e. the LNS checks the ***LOCAL HOSTNAME*** and the ***TUNNEL PASSWORD*** contained in the LAC SCCRQ against the ones specified in the relevant profile. The LAC does the same for the respective fields of the LNS SCCRP. If this field is left blank, authentication data will neither be sent nor considered in tunnel establishment messages.
Hello Interval	Here you enter the interval (in seconds) between sending two L2TP HELLO messages in order to keep the tunnel open. Available values are *0* to *255*, the default value is *30*. A value of *0* means that no L2TP HELLO messages are sent.

Field	Description
Data Packets Sequence Numbers	Here you can choose if the gateway uses sequence numbers for data packets sent through a tunnel based on this profile. Available choices are *disabled* (default value) and *enabled*.
Minimum Time Between Retries	Here you enter the minimum time (in seconds) the gateway waits before resending an L2TP control packet to which it has received no reply. Wait time will be dynamically increased until it reaches the ***MAXIMUM TIME BETWEEN RETRIES***. Independently of the current wait time, no more retries are sent if ***MAXIMUM RETRY COUNT*** has been reached. Available values are *1* to *255*, the default value is *1*.
Maximum Time Between Retries	Here you enter the maximum time (in seconds) the gateway waits before resending an L2TP control packet to which it has received no reply. Available values are *8* to *255*, the default value is *16*.
Maximum Retry Count	Here you enter the maximum number of times the gateway retransmits an L2TP control packet it has not received an acknowledgement for. If this number is reached without receiving a reply, the tunnel times out. Available values are *1* to *255*, the default value is *5*.

Table 3-1: ***L2TP ➜ TUNNEL PROFILES ➜ ADD/EDIT***

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