bintec Workshop

WAN Partner Configuration

Purpose	This document is part of the user's guide to the installation and configuration of bintec gateways running software release 7.1.4 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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	R&TTE Directive 1999/5/EG
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1   Introduction

The following chapters describe the configuration of WAN partners.

You will dial into the corporate network from a Windows PC over ISDN and receive an IP address from the IP subnetwork.

You will also configure a LAN connection to a field office over ISDN for accessing the remote network.

The Setup Tool is used for the configuration.

1.1   Scenario
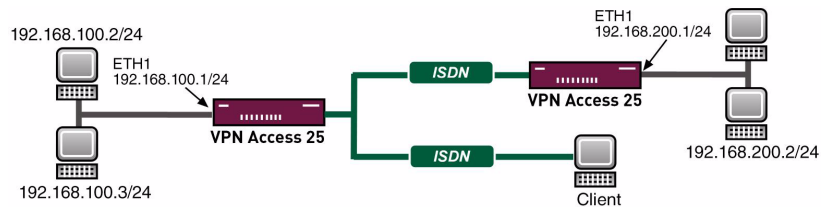
1.2   Requirements

The following requirements must be fulfilled for the configuration:

- An IP address on your LAN interface.

- A boot image of version 7.1.1 or later.

- The bintec router must be connected to an ISDN line.

- You need at least one MSN.

2   Configuration

You must make settings in the following menu for configuring WAN partners:
WAN PARTNER ➜ *ADD*.

2.1   Windows Client Dial-In

2.1.1   Own Numbers

When you have connected your router to the ISDN, configure your own num-
bers (MSN) in the WAN interface. Go to the following menu for this:

■   *ISDN S0* ➜ *INCOMING CALL ANSWERING* ➜ *ADD*.

```
VPN Access 25 Setup Tool                    BinTec Access Networks GmbH
[SLOT 0 UNIT 4 ISDN BRI][INCOMING][EDIT]                    Head_Office


         Item                       PPP (routing)
         Number                     100100
         Mode                       right to left

         Bearer                     any




         SAVE                               CANCEL

Enter string, max length = 42 chars
```

The following fields are relevant:

Field	Meaning
Item	Here you can select the service that is to react to your own number.
Number	Enter your own number (MSN) in this field.

Table 2-1:   Relevant fields in *ISDN S0* ➜ *INCOMING CALL ANSWERING* ➜ *ADD*

Proceed as follows to configure an entry:

- Set *ITEM* to *PPP (routing)* for data connections.

- Enter your number under *NUMBER*, e.g. *100100*.

Note

If you only have one number available on the connection, which you also need for telephoning, you can set the bearer to data.

To add a WAN partner, go to the following menu: *WAN PARTNER ➜ ADD*.

Enter a name for the connection under *PARTNER NAME*, e.g. *Client Dial-In*.

2.1.2   User ID

Now configure the authentication in the following menu:

- *WAN PARTNER ➜ ADD ➜ PPP*.

```
VPN Access 25 Setup Tool                  BinTec Access Networks GmbH
[WAN][ADD][PPP]: PPP Settings (Client Dial-In)          Head_Office


      Authentication              CHAP + PAP
      Partner PPP ID              Dial-in
      Local PPP ID
      PPP Password                secret

      Keepalives                  off
      Link Quality Monitoring     off



            OK                            CANCEL

```

The following fields are relevant:

Field	Meaning
Authentication	Select the protocol for checking the user ID and password.
Partner PPP ID	Enter the user ID for dial-in.
PPP Password	Enter your common password.

Table 2-2: Relevant fields in *WAN PARTNER* ➜ *ADD* ➜ *PPP*

Proceed as follows to configure an entry:

■ Set the *AUTHENTICATION* field to *CHAP + PAP*.

■ Enter the user ID under *PARTNER PPP ID*, e.g. *Dial-in*.

■ For *PPP PASSWORD*, for example, *secret* is entered.

Note

The user ID you enter here is not a Windows log-in account, but only intended for the connection to the router.

2.1.3 Time Adjustments

Adjust the time for maintaining the connection although data is no longer transported.

■ Go to *WAN PARTNER* ➜ *ADD* ➜ *ADVANCED SETTINGS*.

```
VPN Access 25 Setup Tool              BinTec Access Networks GmbH
[WAN][ADD][ADVANCED]: Advanced Settings (Client Dial-In)   Head_Office


 Callback                            no
 Static Short Hold (sec)             120
 Idle for Dynamic Short Hold (%)     0
 Delay after Connection Failure (sec) 300
 Layer 1 Protocol                    ISDN 64 kbps

 Channel Bundling                    no



 Extended Interface Settings (optional) >


 Special Interface Types             none

      OK                                  CANCEL

Use <Space> to select
```

The following field is relevant:

Field	Meaning
Static Short Hold (sec)	If no data is transferred, the connection remains available for the time you have configured here.

Table 2-3:   Relevant field in *WAN PARTNER* ➜ *ADD* ➜ *ADVANCED SETTINGS*

Proceed as follows:

■ Enter a value in the *STATIC SHORT HOLD (SEC)* field, e.g. *120*.

2.1.4   IP Address Assignment

You must open the following menu to assign an IP address to the Windows client on dial-in:

■ *WAN PARTNER* ➜ *ADD* ➜ *IP* ➜ *BASIC IP SETTINGS*.

```
VPN Access 25 Setup Tool              BinTec Access Networks GmbH
[WAN][ADD][IP][BASIC]: IP Settings (Client Dial-In)      Head_Office


   IP Transit Network                    dynamic server




         SAVE                               CANCEL

```

The following field is relevant:

Field	Meaning
IP Transit Network	Here you configure the IP address range of the connection.

Table 2-4:   Relevant field in *WAN PARTNER* ➜ *ADD* ➜ *IP* ➜ *BASIC IP SETTINGS*

Proceed as follows to configure the entry:

■ Set the item *IP TRANSIT NETWORK* to *dynamic server*.

2.1.5   Proxy Arp and Pool ID

You must activate Proxy Arp, as you receive an IP address from the same sub-network that you are accessing.

Go to the following menu for this:

■ *WAN PARTNER* ➜ *ADD* ➜ *ADVANCED SETTINGS*.

```
VPN Access 25 Setup Tool                     BinTec Access Networks GmbH
[WAN][ADD][IP][ADVANCED]: Advanced Settings              Head_Office
                         (Client Dial-In)


  RIP Send                              none
  RIP Receive                          none

  IP Accounting                        off
  Back Route Verify                    off
  Route Announce                       up or dormant
  Proxy Arp                            on (up only)

  Van Jacobson Header Compression      off
  Dynamic Name Server Negotiation      yes
  IP Address Pool                      0


        OK                                      CANCEL

Use <Space> to select
```

The following fields are relevant:

Field	Meaning
Proxy Arp	The router answers ARP requests on behalf of the dialed-in client.
IP Address Pool	This is the pool ID in which the IP address pool is stored.

Table 2-5: Relevant fields in *WAN PARTNER* ➔ *ADD* ➔ *ADVANCED SETTINGS*

Proceed as follows to configure the entry:

■ Enter a free pool ID for *IP ADDRESS POOL*, e.g. *0*.

■ Set the item *PROXY ARP* to *on (up only)*.

If you use *PROXY ARP*, you must activate this function in all interfaces concerned. In this example in the WAN partner and LAN interfaces.

Go to your LAN interface to activate Proxy Arp:

■ *ETHERNET UNIT 1* ➔ *ADVANCED SETTINGS*.

```
VPN Access 25 Setup Tool                 BinTec Access Networks GmbH
[SLOT 0 UNIT 1 ETH][ADVANCED]: Advanced Settings          Head_Office


        RIP Send                 none
        RIP Receive              none

        IP Accounting            off
        Proxy Arp                on
        Back Route Verify        off



     SAVE                                CANCEL

Use <Space> to select
```

The following field is relevant:

Field	Meaning
Proxy Arp	The router answers ARP requests on behalf of the dialed-in client.

Table 2-6:   Relevant field in *ETHERNET UNIT 1* ➜ *ADVANCED SETTINGS*

Proceed as follows to configure the entry:

■   Set the item *PROXY ARP* to *on*.

2.1.6   IP Address Pool

Now you must configure the pool with the IP address the client receives on dial-in. Go to the following menu for this:

■   *IP* ➜ *IP ADDRESS POOL WAN (PPP)* ➜ *ADD*.

```
VPN Access 25 Setup Tool              BinTec Access Networks GmbH
[SLOT 0 UNIT 1 ETH][ADVANCED]: Advanced Settings         Head_Office


    Pool ID                          0
    IP Address                       192.168.100.10
    Number of Consecutive Addresses  1




                 SAVE                             CANCEL

Enter integer value
```

The following fields are relevant:

Field	Meaning
Pool ID	This is the pool ID you entered in *WAN PARTNER* ➜ *IP* ➜ *ADVANCED SETTINGS*.
IP Address	Enter the IP address the client receives on dial-in.
Number of Consecu-tive Addresses	For defining the size of the IP address pool.

Table 2-7:   Relevant fields in *IP* ➜ *IP ADDRESS POOL WAN (PPP)* ➜ *ADD*

Proceed as follows to configure the entry:

■   Enter a *POOL ID*, e.g. *0*.

■   Enter an *IP ADDRESS*, e.g. *192.168.100.10*.

■   *NUMBER OF CONSECUTIVE ADDRESSES* is set to *1*.

2.2   Connection of Field Office

2.2.1   Own Numbers

When you have connected your router to the ISDN, configure your own numbers (MSN) in the WAN interface. Go to the following menu for this:

- ***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***.

```
VPN Access 25 Setup Tool            BinTec Access Networks GmbH
[SLOT 0 UNIT 4 ISDN BRI][INCOMING][EDIT]            Head_Office


        Item                     PPP (routing)
        Number                   100100
        Mode                     right to left

        Bearer                   any


        SAVE                              CANCEL

Enter string, max length = 42 chars
```

The following fields are relevant:

Field	Meaning
Item	For selecting the service that is to react to your own number.
Number	Enter your own number (MSN) in this field.

Table 2-8:   Relevant fields in ***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***

Proceed as follows to configure an entry:

- Set ***ITEM*** to *PPP (routing)* for data connections.

- Enter your number under ***NUMBER***, e.g. *100100*.

To add a WAN partner, go to the following menu:

- ***WAN PARTNER ➜ ADD***.

- Enter a name for the connection under ***PARTNER NAME***, e.g. *Field Office*.

2.2.2   User ID

Now configure the authentication in the following menu:

- ***WAN PARTNER ➜ ADD ➜ PPP***.

```
VPN Access 25 Setup Tool                    BinTec Access Networks GmbH
[WAN][ADD][PPP]: PPP Settings (Field Office)            Head_Office


       Authentication              CHAP + PAP
       Partner PPP ID              Field Office
       Local PPP ID                Head_Office
       PPP Password                Secret

       Keepalives                  off
       Link Quality Monitoring     off




            OK                              CANCEL

```

The following fields are relevant:

Field	Meaning
Authentication	Select the protocol for checking the user ID and password.
Partner PPP ID	Enter a user ID here in case the remote terminal dials in to you.
Local PPP ID	Enter a user ID here in case you dial in to the remote terminal.

Field	Meaning
PPP Password	Your common password is entered here.

Table 2-9:   Relevant fields in **WAN PARTNER** ➜ **ADD** ➜ **PPP**

Proceed as follows to configure an entry:

■   Set the **AUTHENTICATION** field to *CHAP + PAP*.

■   Enter a **PARTNER PPP ID**, e.g. *Field Office*.

■   Enter a **LOCAL PPP ID**, e.g. *Head_Office*.

■   For **PPP PASSWORD**, for example, *Secret* is entered.

2.2.3   Time Adjustments

Adjust the time for maintaining the connection although data is no longer transported.

■   Go to **WAN PARTNER** ➜ **ADD** ➜ **ADVANCED SETTINGS**.

```
VPN Access 25 Setup Tool                 BinTec Access Networks GmbH
[WAN][ADD][ADVANCED]: Advanced Settings (Field Office)    Head_Office


  Callback                            no
  Static Short Hold (sec)             120
  Idle for Dynamic Short Hold (%)     0
  Delay after Connection Failure (sec) 300
  Layer 1 Protocol                    ISDN 64 kbps

  Channel Bundling                    no


  Extended Interface Settings (optional) >

  Special Interface Types             none

       OK                                  CANCEL

Use <Space> to select
```

The following field is relevant:

Field	Meaning
Static Short Hold (sec)	If no data is transferred, the connection remains available for the time you have configured here.

Table 2-10:   Relevant field in *WAN PARTNER* ➜ *ADD* ➜ *ADVANCED SETTINGS*

Proceed as follows:

■   Enter a value in the *STATIC SHORT HOLD (SEC)* field, e.g. *120*.

2.2.4   Outgoing Number

You must add a number in the following menu to enable the head office to reach the field office over ISDN:

■   *WAN PARTNER* ➜ *ADD* ➜ *WAN NUMBERS* ➜ *ADD*.

```
VPN Access 25 Setup Tool                    BinTec Access Networks GmbH
[WAN][ADD][WAN NUMBERS][ADD]: Add or Change              Head_Office
                            WAN Numbers (Field Office)


    Number                        200200
    Direction                     outgoing

    Advanced Settings>

    ISDN Ports to Use  <X> Slot 0 Auxiliary        <X> Slot 0 ISDN S0




        SAVE                              CANCEL

Enter string, max length = 40 chars
```

The following field is relevant:

Field	Meaning
Number	Here you enter the number of the far end.

Table 2-11:   Relevant field in *WAN PARTNER* ➜ *ADD* ➜ *WAN NUMBERS* ➜ *ADD*

Proceed as follows to configure the entry:

■   Enter a value in the *NUMBER* field, e.g. *200200*.

2.2.5   IP Address Configuration

Go to the following menu to enter the IP network of the remote terminal:

■   *WAN PARTNER* ➜ *ADD* ➜ *IP* ➜ *BASIC IP SETTINGS*.

```
VPN Access 25 Setup Tool              BinTec Access Networks GmbH
[WAN][ADD][IP][BASIC]: IP Settings (Field Office)       Head_Office


  IP Transit Network                 no



  Local IP Address                   192.168.100.1



  Default Route                      no

  Remote IP Address                  192.168.200.0
  Remote Netmask                     255.255.255.0


      SAVE                              CANCEL

```

The following fields are relevant:

Field	Meaning
IP Transit Network	For selecting whether you use a transit network.
Local IP Address	Enter your IP address from the LAN interface.
Remote IP Address	Enter the IP network of the remote terminals.
Remote Netmask	This is the subnetwork mask that belongs to the Remote IP Address.

Table 2-12:   Relevant fields in *WAN PARTNER* ➜ *ADD* ➜ *IP* ➜ *BASIC IP SETTINGS*

Proceed as follows to configure the entry:

- Set *IP TRANSIT NETWORK* to *no*.

- Enter a *LOCAL IP ADDRESS*, e.g. *192.168.100.1*.

- Enter a *REMOTE IP ADDRESS*, e.g. *192.168.200.0*.

- Enter a value in the *REMOTE NETMASK* field, e.g. *255.255.255.0*.

Note

Bear in mind that this is an example configuration for the head office.
Configure the same steps in the field office with the values used there.

3   Result

You have configured a remote dial-in from a Windows client to the bintec router and receive an IP address from the same subnetwork on dialing in. You have also connected your field office to the head office over ISDN.

3.1   Test

To check the connections, activate the command prompt on a PC in the field office or on the dial-in PC and send a ping to the head office network:

e.g. `ping 192.168.100.2`.

You should then receive the following messages:

```
Running Ping for 192.168.100.1 with 32 bytes of data:

Answer from 192.168.100.1: Bytes=32 time<1ms TTL=63
Answer from 192.168.100.1: Bytes=32 time<1ms TTL=63
Answer from 192.168.100.1: Bytes=32 time<1ms TTL=63
Answer from 192.168.100.1: Bytes=32 time<1ms TTL=63

Ping statistics for 192.168.100.1:
    Packets: sent = 4, received = 4, lost = 0 (0% loss), approx. time
in milliseconds:
    minimum = 0ms, maximum = 0ms, mean = 0ms
```

3.2   Overview of Configuration Steps

Remote Dial-In

FIELD	*MENU*	*DESCRIPTION*
Item	***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***	*PPP (routing)*
Number	***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***	e.g. *100100*
Partner Name	***WAN PARTNER ➜ ADD***	e.g. *Client Dial-In*
Authentication	***WAN PARTNER ➜ ADD ➜ PPP***	e.g. *CHAP + PAP*
Partner PPP ID	***WAN PARTNER ➜ ADD ➜ PPP***	e.g. *Dial-In*
PPP Password	***WAN PARTNER ➜ ADD ➜ PPP***	e.g. *secret*
Static Short Hold (sec)	***WAN PARTNER ➜ ADD ➜ ADVANCED SETTINGS***	e.g. *120*
IP Transit Network	***WAN PARTNER ➜ ADD ➜ IP ➜ BASIC IP SETTINGS***	*dynamic server*
Proxy Arp	***WAN PARTNER ➜ ADD ➜ ADVANCED SETTINGS***	e.g. *0*
IP Address Pool	***WAN PARTNER ➜ ADD ➜ ADVANCED SETTINGS***	*on (up only)*
Proxy Arp	***ETHERNET UNIT 1 ➜ ADVANCED SETTINGS***	*on*
Pool ID	***IP ➜ IP ADDRESS POOL WAN (PPP) ➜ ADD***	e.g. *0*
IP Address	***IP ➜ IP ADDRESS POOL WAN (PPP) ➜ ADD***	e.g. *192.168.100.10*
Number of Consecutive Addresses	***IP ➜ IP ADDRESS POOL WAN (PPP) ➜ ADD***	*1*

LAN Connection

FIELD	*MENU*	*DESCRIPTION*
Item	***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***	*PPP (routing)*
Number	***ISDN S0 ➜ INCOMING CALL ANSWERING ➜ ADD***	e.g. *100100*
Partner Name	***WAN PARTNER ➜ ADD***	e.g. *Field Office*
Authentication	***WAN PARTNER ➜ ADD ➜ PPP***	e.g. *CHAP + PAP*

FIELD	*MENU*	*DESCRIPTION*
Partner PPP ID	**WAN PARTNER ➜ ADD ➜ PPP**	e.g. *Field Office*
Local PPP ID	**WAN PARTNER ➜ ADD ➜ PPP**	e.g. *Head Office*
PPP Password	**WAN PARTNER ➜ ADD ➜ PPP**	e.g. *secret*
Static Short Hold (sec)	**WAN PARTNER ➜ ADD ➜ ADVANCED SETTINGS**	e.g. *120*
Number	**WAN PARTNER ➜ ADD ➜ WAN NUMBERS ➜ ADD**	e.g. *200200*
IP Transit Network	**WAN PARTNER ➜ ADD ➜ IP ➜ BASIC IP SETTINGS**	*no*
Local IP Address	**WAN PARTNER ➜ ADD ➜ IP ➜ BASIC IP SETTINGS**	e.g. *192.168.100.1*
Remote IP Address	**WAN PARTNER ➜ ADD ➜ IP ➜ BASIC IP SETTINGS**	e.g. *192.168.200.0*
Remote Netmask	**WAN PARTNER ➜ ADD ➜ IP ➜ BASIC IP SETTINGS**	e.g. *255.255.255.0*