

WAN PARTNER CONFIGURATION

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bintec Workshop
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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.bintec.net.

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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.bintec.net.

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1 Introduction

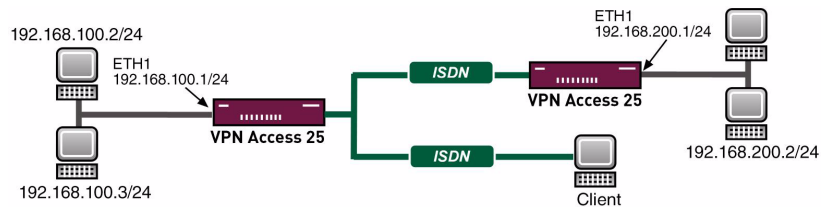
The following chapters describe the configuration of WAN partners.

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 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	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 Consecutive 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. <i>Field Office</i>
Local PPP ID	WAN PARTNER → ADD → PPP	e.g. <i>Head Office</i>
PPP Password	WAN PARTNER → ADD → PPP	e.g. <i>secret</i>
Static Short Hold (sec)	WAN PARTNER → ADD → ADVANCED SETTINGS	e.g. <i>120</i>
Number	WAN PARTNER → ADD → WAN NUMBERS → ADD	e.g. <i>200200</i>
IP Transit Network	WAN PARTNER → ADD → IP → BASIC IP SETTINGS	<i>no</i>
Local IP Address	WAN PARTNER → ADD → IP → BASIC IP SETTINGS	e.g. <i>192.168.100.1</i>
Remote IP Address	WAN PARTNER → ADD → IP → BASIC IP SETTINGS	e.g. <i>192.168.200.0</i>
Remote Netmask	WAN PARTNER → ADD → IP → BASIC IP SETTINGS	e.g. <i>255.255.255.0</i>

