

ATM

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Bintec User's Guide - XGeneration
Version 0.9

Purpose This document is part of the user's guide to the installation and configuration of Bintec gateways running software release 7.1.14 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 ATM Menu

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

```

X2302 Setup Tool                                     Bintec Access Networks GmbH
[ATM]: ATM Configuration                             MyGateway

Ethernet over ATM >
PPP over ATM >
Routed Protocols over ATM >

OAM >
ATM QoS >

EXIT

```

The first ATM root menu provides access to the following configuration menus:

- Protocol Configurations (***ETHERNET OVER ATM, PPP OVER ATM, ROUTED PROTOCOLS OVER ATM***)
- Operation and Maintenance Configuration (***OAM***)
- Quality of Service for ATM Connections (***ATM QoS***).

The ATM profile is configured in the protocol menu corresponding to the protocol you use for the ATM interface.

2 Ethernet over ATM Submenu

The fields of the *ETHERNET OVER ATM* menu are described below.

The first menu window shows all the connections (PVCs) already configured that use Ethernet over ATM (ETHoA). Press **ADD/EDIT** to access the menu for configuring an ETHoA connection:

X2302 Setup Tool [ATM] [ETHoA] [ADD]	Funkwerk Enterprise Communications GmbH MyGateway
Description	
ATM Interface	atm860-3
Virtual path identifier (VPI)	1
Virtual channel identifier (VCI)	32
Encapsulation	bridged-no-fcs
IP and Bridging >	
SAVE	CANCEL

The menu contains the following fields:

Field	Description
Description	Here you enter the desired description for the connection.
ATM Interface	The ATM interface is only shown and cannot be selected. Bintec gateways are currently equipped with only one ATM interface.

Field	Description
Virtual path identifier (VPI)	<p>Here you enter the VPI value of the ATM connection. ATM distinguishes VP (Virtual Path) and VC (Virtual Channel). Each VP can envelop up to 65503 VCs. The VPI is the identification number of the virtual path to be used in the ATM network.</p> <p>Possible values are 0 to 255 and the default value is 1.</p>
Virtual channel identifier (VCI)	<p>Here you enter the VCI value of the ATM connection. The VCI is the identification number of the virtual channel to be used in the ATM network. A virtual channel is the logical connection for the transport of ATM cells between two or more points.</p> <p>Possible values are 32 to 65535 and the default value is 32.</p>
Encapsulation	<p>Here you select the encapsulation to be used.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>bridged-no-fcs</i> - Default value. Bridged Ethernet without frame check sequence (checksum field) ■ <i>bridged-fcs</i> - Bridged Ethernet with frame check sequence (checksum field) ■ <i>VC Multiplexing</i> - Allows the use of multiplexing on the virtual channel.

Table 2-1: ATM → ETHERNET OVER ATM → ADDIEDIT



The ATM encapsulations are described in RFC 1483 and 2684.

You will find the RFC on the relevant pages of the IETF (www.ietf.org/rfc.html).



For ETHoA connections interfaces within the index range of 50.000 and 79.999 are created.

The menu also allows access to the **IP AND BRIDGING** menu.

2.1 IP and Bridging Submenu

The fields of the **ATM → ETHERNET OVER ATM → ADD/EDIT → IP AND BRIDGING** menu are described below.

In the **IP AND BRIDGING** menu you configure the local Ethernet interface for the ATM connection. The available parameters are identical with those of the menu for the configuration of physical Ethernet interfaces (**ETHERNET**).

X2302 Setup Tool		Bintec Access Networks GmbH
[ATM] [ETHoA] [ADD] [IP]: Configure Ethernet over ATM		MyGateway
IP-Configuration	Manual	
local IP-Number		
local Netmask		
Encapsulation	none	
MAC Address		
Bridging	disabled	
Advanced Settings >		
Virtual Interfaces >		
SAVE		CANCEL

The **ETHERNET** menu consists of the following fields:

Field	Description
IP-Configuration	<p>Possible values:</p> <ul style="list-style-type: none"> ■ <i>Manual</i>: Default value. IP address and net-mask must be entered (default value). ■ <i>VLAN</i>: Allows the assignment of the Ethernet interface to a >> VLAN. ■ <i>DHCP</i>: Your gateway obtains, among other values, IP address and netmask from a DHCP server.
local IP-Number	IP address of your gateway in the network at the interface.
local Netmask	Netmask of the network in which your gateway with LOCAL IP NUMBER is located.
Second Local IP Number	<p>Only for IP CONFIGURATION Manual or VLAN and after entering a LOCAL IP-NUMBER.</p> <p>Second IP address of your gateway in the network.</p>
Second Local Netmask	<p>Only for IP CONFIGURATION Manual or VLAN.</p> <p>Netmask of the network in which your gateway with SECOND LOCAL IP NUMBER is located.</p>
DHCP MAC Address	<p>Only for IP CONFIGURATION DHCP.</p> <p>MAC address of the corresponding Ethernet interface, e.g. <i>00e1f906bf03</i>.</p> <p>Some providers use hardware-independent MAC addresses to assign their clients IP addresses dynamically. If your provider has assigned you a MAC address, enter this here.</p>
DHCP Hostname	<p>Only for IP CONFIGURATION DHCP.</p> <p>In this field you can enter the host name required by the ISP. The maximum length of the entry is 45 characters.</p>

Field	Description
Encapsulation	<p>Defines the kind of header added to the IP packets that run over this interface. Possible values:</p> <ul style="list-style-type: none"> ■ <i>Ethernet II</i> (conforms to IEEE 802.3, default value) ■ <i>Ethernet SNAP</i> <p>You can generally retain the default value <i>Ethernet II</i>. The interface is called e.g. en0-1 for <i>Ethernet II</i> and en0-1-snap for <i>Ethernet SNAP</i>.</p>
Mode	<p>Defines the mode in which the interface is operated. Possible values:</p> <ul style="list-style-type: none"> ■ <i>100 Mbps Full Duplex</i> (default value): for X2301 and X2302 only this value can be configured. ■ <i>Auto</i> ■ <i>10 Mbps Half Duplex</i> ■ <i>10 Mbps Full Duplex</i> ■ <i>100 Mbps Half Duplex</i>
MAC Address	<p>Only for IP CONFIGURATION Manual or VLAN. Here you can assign the interface another MAC address. This is only required for configurations that are more complex than the basic configuration, e.g. <i>00a0f906bf03</i>.</p>
VLAN ID	<p>Only for IP CONFIGURATION VLAN. Here you can assign the Ethernet interface to a VLAN by entering the relevant VLAN ID.</p>

Field	Description
Bridging	Here you can activate BRIDGING for this interface. This function is only necessary for special configurations. Possible values: <i>disabled</i> (default value), <i>enabled</i> .

Table 2-2: **ETHERNET** menu fields

2.1.1 Advanced Settings Submenu

X2302 Setup Tool		Bintec Access Networks GmbH	
[ATM] [ETHOA] [EDIT] [IP] [ADVANCED] : Advanced Settings		MyGateway	
RIP Send	none		
RIP Receive	none		
IP Accounting	off		
Proxy Arp	off		
Back Route Verify	off		
		SAVE	CANCEL

The **ATM ETHERNET OVER ATM ADD/EDIT → IP AND BRIDGING → ADVANCED SETTINGS** menu contains settings for the Routing Information Protocol (RIP), IP Accounting, Proxy ARP and "Back Route Verify".

The menu consists of the following fields:

Field	Description
RIP Send	Enables RIP packets to be sent via the Ethernet interface. Possible values: see table "Selection options for RIP SEND and RIP RECEIVE," on page 12, default value is <i>none</i> .

Field	Description
RIP Receive	For receiving RIP packets via the Ethernet interface. Possible values: see table “Selection options for RIP SEND and RIP RECEIVE,” on page 12 , default value is <i>none</i> .
IP Accounting	For generating accounting messages for e.g. >> TCP- , >> UDP and ICMP sessions. Possible values: <i>on</i> , <i>off</i> (default value).
Proxy ARP	Enables the XGeneration gateway to answer ARP requests from its own LAN acting for a defined WAN partner. Possible values: <i>on</i> , <i>off</i> (default value).
Back Route Verify	Activates Backroute Verification for the Ethernet interface. Possible values: <i>on</i> , <i>off</i> (default value).

Table 2-3: **ADVANCED SETTINGS** menu fields

RIP SEND and **RIP RECEIVE** contain the following selection options:

Description	Meaning
none	Not activated.
RIP V2 multicast	Only for RIP SEND For sending RIP V2 messages over the multicast address 224.0.0.9.
RIP V1 triggered	RIP V1 messages are sent resp. received and processed as per RFC 2091. (Triggered >> RIP).
RIP V2 triggered	RIP V2 messages are sent resp. received and processed as per RFC 2091. (Triggered >> RIP).
RIP V1	For sending and receiving RIP packets of version 1.

Description	Meaning
RIP V2	For sending and receiving RIP packets of version 2.
RIP V1 + V2	For sending and receiving RIP packets of both version 1 and 2.

Table 2-4: Selection options for **RIP SEND** and **RIP RECEIVE**

2.1.2 Virtual Interfaces Submenu

The fields of the **VIRTUAL INTERFACES** submenu are described below.

X2302 Setup Tool	Bintec Access Networks GmbH
[ATM] [VIRTUAL] [ADD]: Configure Virtual LAN Interface # 1	MyGateway
IP-Configuration	Manual
Local IP-Number	
Local Netmask	
Encapsulation	none
MAC Address	00a0f9
Advanced Settings >	
SAVE	CANCEL

The virtual interfaces are shown in the **ATM ETHERNET OVER ATM ADD/EDIT → IP AND BRIDGING → VIRTUAL INTERFACES** menu. In the **ATM ETHERNET OVER ATM ADD/EDIT → IP AND BRIDGING → VIRTUAL INTERFACES → ADD/EDIT** menu you configure virtual Ethernet interfaces for e.g. redundant networks.

The menu consists of the following fields:

Field	Description
IP-Configuration	Here you select one of four different configuration modes. Possible values: see table "Selection options in IP CONFIGURATION," on page 14.
Local IP Number	Here you assign an IP address to the virtual interface.
Local Netmask	Enter the netmask for the LOCAL IP-NUMBER .
Second Local IP Number	Only for IP CONFIGURATION Manual or VLAN and after entering a LOCAL IP-NUMBER . Second IP address of your gateway in the network.
Second Local Netmask	Only for IP CONFIGURATION Manual or VLAN . Netmask of the network in which your gateway with SECOND LOCAL IP NUMBER is located.
Encapsulation	Defines the kind of header added to the IP packets that run over this interface. Possible values: <ul style="list-style-type: none"> ■ <i>Ethernet II</i> (conforms to IEEE 802.3, default value) ■ <i>Ethernet SNAP</i> ■ <i>none</i> <p>You can generally retain the default value <i>Ethernet II</i>. The interface is called e.g. en0-1 for <i>Ethernet II</i> and en0-1-snap for <i>Ethernet SNAP</i>.</p>

Field	Description
MAC Address	<p>Enter the MAC address associated with the virtual interface. You can use the MAC address of the physical interface under which the virtual interface was created, but this is not necessary. You can also assign a virtual MAC address.</p> <p>In <i>VLAN</i> and <i>Manual</i> mode, the first six characters of the MAC address (in <i>BRRP</i> and <i>BRRP over LAN</i> mode the first ten characters) are set as default, but can be changed.</p>
VLAN ID	<p>Is only shown if IP CONFIGURATION is set to <i>VLAN</i> or <i>BRRP over VLAN</i>.</p> <p>Here you assign the virtual interface to a VLAN by assigning the VLAN ID of the respective VLAN.</p> <p>Possible values are 1 (default value) to 4094.</p>

Table 2-5: **VIRTUAL INTERFACES** submenu fields

IP CONFIGURATION contains the following selection options:

Description	Meaning
Manual	This mode permits simple manual IP configuration.
VLAN	The assignment to a VLAN is made via the VLAN ID, which is configured in this mode. A MAC address must be defined in this mode.

Table 2-6: Selection options in **IP CONFIGURATION**

This menu provides access to the **ADVANCED SETTINGS** submenu. It contains the same option as the as [“Advanced Settings Submenu” on page 10](#).

3 PPP over ATM submenu

The fields of the **PPP OVER ATM** menu are described below.

The menu for the configuration of a PVC (Permanent Virtual Circuit, die Verbindung zwischen zwei Partnern via ATM) with PPP over ATM (PPPoA) differs only slightly from the menu for the configuration of an ETHoA PVC and contains a list of all configured PVCs.

The configuration is carried out in the **ATM → PPP OVER ATM → ADD/EDIT** menu:

X2302 Setup Tool		Bintec Access Networks GmbH
[ATM] [PPPOA] [ADD]		MyGateway
Description		
ATM Interface		ar7sar-3
Virtual path identifier (VPI)		8
Virtual channel identifier (VCI)		32
Encapsulation		VC Multiplexing
Client Type		Permanent (Leased Line)
SAVE		CANCEL

The following fields in this menu are new or provide other options:

Field	Description
Encapsulation	<p>Here you select the encapsulation to be used.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>VC Multiplexing</i> - Default value. Allows the use of multiplexing on the virtual channel. ■ <i>llc</i> - The LLC protocol (Logical Link Control Protocol) is used for the connection.
Client Type	<p>Here you select whether the PPPoA connection is set up permanently or on demand.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>Permanent (Leased Line)</i> - Default value. This setting creates interfaces within the index range of 80.000 and 89.999. ■ <i>On Demand (Dialup)</i>.

Table 3-1: **ATM → PPP OVER ATM → ADD/EDIT**



Note

Choosing **Client Type** *On Demand (Dialup)* does not automatically create an entry in the **pppTable**. This means that you may need to create an appropriate WAN-Partner using the Layer 1 Protocol PPPoA.

A respective WAN-Partner is automatically created for permanent connections.

4 Routed Protocols over ATM Sub-menu

The fields of the *ROUTED PROTOCOLS OVER ATM* menu are described below.

The menu for the configuration of a connection via Routed Protocols over ATM (RPOA) (*ATM → ROUTED PROTOCOLS OVER ATM → ADD/EDIT*) also differs only in parts from the ETHoA menu.

The configuration is carried out in the *ATM → ROUTED PROTOCOLS OVER ATM → ADD/EDIT* menu:

X2302 Setup Tool	Bintec Access Networks GmbH
[ATM] [RPOA] [ADD]	MyGateway
Description	
ATM Interface	ar7sar-3
Virtual path identifier (VPI)	8
Virtual channel identifier (VCI)	32
Encapsulation	non-ISO
IP >	
SAVE	CANCEL

The differences are to be found in the following fields:

Field	Description
Encapsulation	<p>Here you select the encapsulation to be used.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>non-ISO</i> - Default value. Encapsulation according to IEEE 802.1a LLC / RFC 2684. ■ <i>ISO (not allowed for IP)</i> - Encapsulation according to IEEE 802.2 LLC / RFC 2684. ■ <i>VC Multiplexing</i> - Allows the use of multiplexing on the virtual channel.

Table 4-1: **ATM → ROUTED PROTOCOLS OVER ATM → ADDIEDIT**



Note

For RPoA connections interfaces within the index range of 90.000 and 99.999 are created.

4.1 IP Submenu

The *IP* menu is described below.

Only the following parameters are available for IP configuration with RPoA connections:

Field	Description
IP-Configuration	Here you select the configuration mode. Possible values: <ul style="list-style-type: none">■ <i>Manual</i> (default value): IP address and netmask must be entered.■ <i>DHCP</i>: Your gateway obtains, among other values, IP address and netmask from a DHCP server.
Local IP-Number	IP address of your gateway in the network at the interface.
Local Netmask	Netmask of the network in which your gateway with LOCAL IP NUMBER is located.

Table 4-2: Fields in the **ATM** → **PPP OVER ATM** → **ADD/EDIT** → **IP** menu

5 OAM Submenu

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

OAM is a service for monitoring ATM connections. A total of five hierarchies (F1 to F5) are defined for OAM information flow. The most important information flows for an ATM connection are F4 and F5. The F4 information flow concerns the virtual path (VP) and the F5 information flow the virtual channel (VC).



Note

In general monitoring is not initiated by your gateway but is initiated by the ISP. The gateway only has to respond correctly to the signals received. This is the case for both Flow levels (4 and 5) even without a specific OAM configuration.

Two mechanisms are available for monitoring the ATM connection: Loopback Tests and OAM CC (OAM Continuity Check). These can be configured independently of each other. First the configuration can be specified for an already defined Virtual Channel Connection (VCC, specified by the definition of VPI and VCI in one of the menus for configuration of ATM connections). Second you can also define new combinations of VPI and VCI and then make the OAM settings.

The configuration is carried out in the **ATM → OAM → ADD/EDIT** menu.

X2302 Setup Tool		Bintec Access Networks GmbH	
[ATM] [OAM] [ADD]		MyGateway	
ATM Interface	ar7sar-3		
OAM flow level	virtual channel (VC) level (F5)		
Virtual channel connection (VCC)	specify VPI/VCI		
VPI 0	VCI 32		
Loopback			
Loopback End-to-End	disabled	Loopback Segment	disabled
CC activation			
CC End-to-End	passive	CC Segment	passive
Direction	both	Direction	both
SAVE		CANCEL	

The menu contains the following fields:

Field	Description
ATM Interface	The ATM interface is only shown and cannot be selected. BinTec gateways are currently equipped with only one ATM interface.
OAM flow level	<p>Here you select the OAM flow level.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>virtual channel (VC) level (F5)</i> - The OAM settings are used for the virtual channel (default value). ■ <i>virtual path (VP) level (F4)</i> - The OAM settings are used for the virtual path.
Virtual channel connection (VCC)	<p>Here you select whether you use a previously set combination of VPI and VCI or configure a new combination.</p> <p>Possible settings in the ADD menu:</p> <ul style="list-style-type: none"> ■ <i>specify VPI/VCI</i> - For configuring a new combination. ■ <i>Vpi: <"Vpi value"> Vci <"Vci value"></i> - You select a combination already configured in one of the existing ATM connections. <p>Possible settings in the EDIT menu:</p> <ul style="list-style-type: none"> ■ <i>no VPC defined</i> - The combination shown in the VPI and VCI fields cannot be linked to an existing ATM-connection (PVC). ■ <i>specify VPI/VCI</i> - For configuring a new combination.

Field	Description
Virtual path connection (VPC)	<p>Visible only if OAM FLOW LEVEL = <i>virtual path (VP) level (F4)</i>.</p> <p>Here you select whether you use a previously set value for VPI or specify a new one.</p> <p>Possible settings in the ADD menu:</p> <ul style="list-style-type: none"> ■ <i>specify VPI</i> - For configuring a new value. ■ <i>Vpi: <"Vpi value"></i> - You select a value already configured in one of the existing ATM connections. <p>Possible settings in the EDIT menu:</p> <ul style="list-style-type: none"> ■ <i>no VPC defined</i> - The value shown in the VPI field cannot be linked to an existing ATM-connection (PVC). ■ <i>Vpi: <"Vpi value"></i> - You select a value already configured in one of the existing ATM connections.
VPI	<p>Only visible if VIRTUAL CHANNEL CONNECTION (VCC) = <i>specify VPI/VCI</i> or VIRTUAL PATH CONNECTION (VPC) = <i>specify VPI</i>.</p> <p>Here you enter a VPI value for this VCC (0 to 255). The default value is 0.</p>
VCI	<p>Only visible if VIRTUAL CHANNEL CONNECTION (VCC) = <i>specify VPI/VCI</i> and OAM FLOW LEVEL = <i>virtual channel (VC) level (F5)</i>.</p> <p>Here you enter a VCI value for this VCC (32 to 65535).</p> <p>The default value is 32.</p>

Field	Description
Loopback End-to-End	<p>Here you select whether you activate the loopback test for the connection between the end-points of the VCC.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>disabled</i> - Default value <input type="checkbox"/> <i>enabled</i>.
Send Interval (sec)	<p>Only visible if LOOPBACK END-TO-END = enabled.</p> <p>Here you enter the intervals at which the loopback tests are performed.</p> <p>Possible values are 0 to 999. The default value is 5.</p>
Pending Requests (max)	<p>Only visible if LOOPBACK END-TO-END = enabled.</p> <p>Here you enter how many loopback tests can remain unanswered before the connection is regarded as "down".</p> <p>Possible values are 1 to 99. The default value is 5.</p>
Loopback Segment enable	<p>Here you select whether you activate the loopback test for the segment connection of the VCC.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>disabled</i> - Default value <input type="checkbox"/> <i>enabled</i>.
Send Interval (sec)	<p>Only visible if LOOPBACK SEGMENT = enabled.</p> <p>Here you enter the intervals at which the loopback tests are sent.</p> <p>Possible values are 0 to 999. The default value is 5.</p>

Field	Description
Pending Requests (max)	<p>Only visible if LOOPBACK SEGMENT = <i>enabled</i>.</p> <p>Here you enter how many loopback tests can remain unanswered before the connection is regarded as “down”.</p> <p>Possible values are 1 to 99. The default value is 5.</p>
CC End-to-End	<p>Here you select whether you activate the OAM CC (continuity check) test for the connection between the endpoints of the VCC.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>passive</i> - OAM CC requests are answered after negotiation (CC activation negotiation) (default value). ■ <i>active</i> - OAM CC requests are sent after negotiation (CC activation negotiation) (default value). ■ <i>both</i> - OAM CC requests are sent and answered after negotiation (CC activation negotiation) (default value). ■ <i>without negotiation</i> - Depending on the setting in the Direction field, OAM CC requests are either sent and/or answered. There is no negotiation. ■ <i>disabled</i>

Field	Description
Direction	<p>Not visible if CC END-TO-END = disabled.</p> <p>Here you select how the OAM CC test signals are sent or received.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>both</i> - CC data are received and generated (default value). ■ <i>sink</i> - CC data are only received. ■ <i>source</i> - CC data are only generated.
CC Segment	<p>Here you select whether you activate the OAM CC test for the segment connection of the VCC.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>passive</i> - OAM CC requests are answered after negotiation (CC activation negotiation) (default value). ■ <i>active</i> - OAM CC requests are sent after negotiation (CC activation negotiation) (default value). ■ <i>both</i> - OAM CC requests are sent and answered after negotiation (CC activation negotiation). ■ <i>without negotiation</i> - Depending on the setting in the Direction field, OAM CC requests are either sent and/or answered. There is no negotiation. ■ <i>disabled</i>

Field	Description
Direction	<p>Not visible if CC SEGMENT = <i>disabled</i>.</p> <p>Here you select how the OAM CC test signals are sent or received.</p> <p>Possible settings:</p> <ul style="list-style-type: none">■ <i>both</i> - CC data are received and generated (default value).■ <i>sink</i> - CC data are only received.■ <i>source</i> - CC data are only generated.

Table 5-1: **ATM** → **OAM** → **ADD/EDIT**

6 ATM QoS Submenu

The fields of the *ATM QoS* menu are described below.

X2302 Setup Tool		Bintec Access Networks GmbH	
[ATM] [QOS] [ADD]		MyGateway	
ATM Interface		ar7sar-3	
Virtual channel connection (VCC)		specify VPI/VCI	
VPI	0	VCI	32
ATM Service Category		Unspecified Bit Rate (UBR)	
Peak Cell Rate (PCR) in bits per second		0	
SAVE		CANCEL	

Your **XGeneration** gateway supports QoS (Quality of Service) for ATM interfaces.

Configuration is carried out in the **ATM → ATM QoS → ADD/EDIT**.

The menu consists of the following fields:

Field	Description
ATM Interface	The ATM interface is only shown and cannot be selected. Bintec gateways are currently equipped with only one ATM interface.

Field	Description
Virtual channel connection (VCC)	<p>Here you select whether you use a combination of VPI and VCI already specified by an ATM connection or configure a new combination.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>specify VPI/VCI</i> - Default value. Used for configuring a new combination. ■ <i>Vpi: <"Vpi value"> Vci <"Vci value"></i> - You select a combination specified by one of the existing ATM connections.
VPI	<p>Only visible if VIRTUAL CHANNEL CONNECTION (VCC) = specify VPI/VCI.</p> <p>Here you enter a VPI value for this VCC (0 to 255). The default value is 0.</p>
VCI	<p>Only visible if VIRTUAL CHANNEL CONNECTION (VCC) = specify VPI/VCI.</p> <p>Here you enter a VCI value for this VCC (32 to 65535).</p> <p>The default value is 32.</p>

Field	Description
ATM Service Category	<p>Here you select the service category for the data traffic of an ATM connection. The choice implies a specific way of how ATM traffic is handled.</p> <p>Possible settings:</p> <ul style="list-style-type: none"> ■ <i>Unspecified Bit Rate (UBR)</i> - (Default value). The connection is not guaranteed any specific bandwidth. The PEAK CELL RATE (PCR) defines the limit above which data (bursts) are discarded. This category is suitable for non-critical applications. ■ <i>Constant Bit Rate (CBR)</i> - The connection is assigned a guaranteed bandwidth. The maximum available bandwidth is determined by the PEAK CELL RATE. This category is suitable for real-time applications that require a guaranteed bandwidth. ■ <i>Variable Bit Rate (VBR.1)</i> - The connection is assigned a (low) guaranteed bandwidth (SUSTAINED CELL RATE). The data transfer is also limited by the PEAK CELL RATE and the MAXIMUM BURST SIZE (MBS). The PCR may be temporarily exceeded if necessary, but only for the number of bytes indicated by the MBS. Bursts after this are discarded. This category is suitable for non-critical applications with burst data traffic.
Peak Cell Rate (PCR) in bits per second	<p>Here you enter a value for the maximum bandwidth used.</p> <p>Possible values are 0 to 10000000 and the default value is 0. A value of 0 means that the PCR is not used to shape data traffic.</p>

Field	Description
Sustained Cell Rate (SCR) in bits per second	<p>Only for ATM SERVICE CATEGORY = Variable Bit Rate (VBR.1).</p> <p>Here you enter a value for the guaranteed minimum bandwidth.</p> <p>Possible values are 0 to 10000000 and the default value is 0. A value of 0 means that the SCR is not used to shape data traffic.</p>
Maximum Burst Size (MBS) in bytes	<p>Only for ATM SERVICE CATEGORY = Variable Bit Rate (VBR.1).</p> <p>Here you enter a value for the maximum number of bytes which the PCR can be temporarily exceeded by.</p> <p>Possible values are 0 to 100000 and the default value is 0. A value of 0 means that the MBS is not used to shape data traffic.</p>

Table 6-1: Fields in the **ATM → ATM QoS → ADD/EDIT** menu



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