

RELEASE NOTES

SYSTEM SOFTWARE

7.2.1

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Release Notes - System Software 7.2.1
Version 0.5

Purpose This document describes new features, changes, and solved problems of **System Software 7.2.1**.

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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 Important Information

Please carefully read the following information about **System Software 7.2.1** in order to avoid problems when updating to and using the software

1.1 Draft Status

Since not all information about **System Software 7.2.1** was available upon compilation of this version of the Release Notes, this document is only a draft version. The text may and probably does contain errors that can only be avoided in the final version. Funkwerk Enterprise Communications GmbH, therefore, does not accept any liability for problems and damage resulting from inaccurate information in this document.

1.2 Scope

System Software 7.2.1 supports the following gateways:

- **Bingo DSL II**
- **X1000 II**
- **X1200 II**
- **X2100**
- **X2250**
- **X2300**
- **X2500**
- **X2400**
- **X4x00**
- **X8500**
- **VPN line.**

1.3 Feature Set

X.25 and H.323 have been removed from the IPSec versions of the software for the following gateways:

- X1000 II
- X1200 II
- X2100
- X2300
- X2400
- X2500
- X4x00.

2 New Features

System Software 7.2.1 offers the following new features, thus considerably expanding the scope of features previously available in System Software 7.1.15:

- “PKCS#12 Support” on page 5
- “TCP Download Control” on page 8
- “Switch Port Separation” on page 12
- “New HTML Wizard Features” on page 16
- “Cisco LMI” on page 16
- “NewTrace Tool Function” on page 16
- “Configurable Accounting Messages” on page 17

2.1 PKCS#12 Support

System Software 7.2.1 supports the import of PKCS#12 certificates by the IPsec certificate management. They can now be imported using the `cert` application as well as by the Setup Tool.

PKCS#12 supports the transfer of personal identification data like private keys and certificates using a number of security mechanisms (PKI or password protection). Mainly the password mechanism is relevant for an initial IPsec configuration, and PKCS#12 support by **System Software 7.2.1** is currently restricted to that mechanism. Importing a PKCS#12 certificate is carried out in the same way any other certificate is imported, i.e. it can either be downloaded from a TFTP server or it can be copy/pasted to the Setup Tool or the console. In both cases the gateway interactively prompts for the passwords required for decrypting the certificate (`cert` also offer the possibility of directly passing a password).

2.1.1 Importing with the Setup Tool

Certificate import is carried out in the menu **IPSEC → CERTIFICATE AND KEY MANAGEMENT → OWN/CA/PEER CERTIFICATE → DOWNLOAD:**

BINTEC X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[IPSEC] [CERTMGMT] [OWN] [GETCERT]: IPsec Configuration -			
Get Certificate		MyGateway	
Import a Certificate/CRL using: TFTP			
Type of certificate: Own Certificate			
Server:			
Name:		auto	
START		EXIT	



Note

Importing a certificate is described in the User's Guide of your gateway. You can either download the certificate form a TFTP server or copy/paste it into the menu window

When the gateway identifies a password encrypted PKCS#12 certificate, it interactively prompts for the required passwords:

BINTEC X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[IPSEC] [CERTMGMT] [OWN] [GETCERT]: IPsec Configuration -			
Get Certificate		MyGateway	
Please Review retrieved Certificate: [mycert]			
Encountered PKCS#12 password authenticated envelope			
please enter password for outer envelope _____			

The gateway successively prompts for the keys contained by the certificate (Outer Envelope, Internal Safe and Shrouded Key - the last key entered is kept

in the prompt so that you only need to enter it once in case all passwords are identical).

After decryption, the password is displayed in plain text:

```

BINTEC X2300s Setup Tool      Funkwerk Enterprise Communications GmbH
[IPSEC] [CERTMGMT] [OWN] [GETCERT]: IPsec Configuration -
                               Get Certificate      MyGateway

Please Review retrieved Certificate:  [mycert]

Encountered PKCS#12 password authenticated envelope
Certificate =
  SerialNumber = 1
  SubjectName = <CN=certtest, OU=no_dept., O=FEC GmbH, C=DE>
  IssuerName = <MAILTO=noob@fec.com, CN=Openssl Test-CA OU=no_dept
              O=FEC GmbH, L=Nuernberg, ST=Bayern, C=DE>
  Validity =
    NotBefore = 2004 Oct 5th, 08:07:36 GMT
    NotAfter  = 2005 Oct 5th, 08:07:36 GMT
  PublicKeyInfo =
    Algorithm name (X.509) : rsaEncryptionv

                                IMPORT

```

After confirming by hitting **IMPORT** the certificate is installed and you return to the menu for entering or downloading the certificate. You can leave this by hitting **EXIT** and return to the list of installed certificate.

2.1.2 Importing with "cert"

The cert application that is called from the SNMP shell has equally been modified so that it supports PKCS#12 certificates. PKCS#12 certificates are automatically identified and any included passwords are interactively prompted for.

Certificate import is carried out as follows (import by copy/pasting the certificate data):

```
X2300:> cert get -p console test
Please enter certificate data:>

<the SNMP shell displays the encodes certificate data>

cert: Encountered PKCS#12 password authenticated envelope

please enter password for outer envelope (empty password cancels) >
please enter password for internal safe (empty password cancels) >
please enter password for shrouded key (empty password cancels) >
Received 2 certificate(s) 1 key(s). Accept all? (y/n) > y

X2300:>
```

Import by TFTP download is carried out as follows:

```
X2300:> cert get -p tftp://<Server IP Adresse>/1.pem test
cert: Encountered PKCS#12 password authenticated envelope

please enter password for outer envelope (empty password cancels) >
please enter password for internal safe (empty password cancels) >
please enter password for shrouded key (empty password cancels) >
Received 2 certificate(s) 1 key(s). Accept all? (y/n) > y

X2300:>
```

Using the option `-P <password>` you can directly pass a password to the application within the import command. This password, however, is applied to all keys contained by the certificate so that the option is useful only if the passwords for Outer Envelope, Internal Safe and Shrouded Key are identical.

2.2 TCP Download Control

An increasing number of network services requires that data is transferred not only as fast as possible, but also at constant transfer rates (e.g. VoIP). System Software 7.2.1 offers a mechanism to obviate corresponding problems especially for ADSL connections.

Constant transfer rates for low latency data streams can basically be secured in two ways: On the one hand it is possible to reduce the download rate available for general usage so that a certain bandwidth is reserved for a High Priority QoS queue. On the other hand it is possible to use the available bandwidth as effectively as possible by prioritizing the upload of TCP ACK packets in the upstream of asynchronous ADSL connections. This avoids latency that would be

created as a result of the comparatively small upload bandwidth of ADSL connections.

Both mechanisms are configured in the menu **IP → BANDWIDTH MANAGEMENT (TDRC / LOAD BALANCING / BOD) → TCP DOWNLOAD RATE CONTROL (TDRC)**. **ADD/EDIT** allows access to the actual configuration menu (the screenshot does not show the default values):

BINTEC X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[IP] [TDRC] [EDIT]: Configure TCP Download Rate Control		MyGateway	
Interface	50000	ethoa50-0	
Optimize Download Rate via TCP ACK prioritisation (recommended for ADSL)		no	
TDRC Mode	disabled		
Maximum TCP Download Rate (kbits/s)		1024	
Control all TCP Services		no	
Select TCP Services >			
SAVE		CANCEL	

The menu contains the following fields:

Field	Description
Interface	Here you choose the interface the configuration is applied to.
Optimize Download Rate via TCP ACK prioritisation	Here you choose whether the download rate is to be optimized by prioritizing TCP ACK packets. If you choose yes, all of the following fields are no longer available. Available values are <i>yes</i> and <i>no</i> , default is <i>no</i> .

Field	Description
TDRC Mode	<p>Only available for OPTIMIZE DOWNLOAD RATE VIA TCP ACK PRIORITISATION = no.</p> <p>Here you choose the TDRC (TCP Download Rate Control) policy. Available values are:</p> <ul style="list-style-type: none"> ■ <i>static (fixed maximum rate for TCP download)</i> (default) - The download rate of TCP connections is statically restricted to the value specified by MAXIMUM TCP DOWNLOAD RATE (KBITS/S). ■ <i>dynamic (maximum rate less amount of high priority traffic)</i> - The download rate is restricted to a value dynamically determined. The value is computed from the value specified by MAXIMUM TCP DOWNLOAD RATE (KBITS/S) minus the bandwidth that is required by all QoS High Priority traffic over the current interface at the moment of adding or terminating a TCP session. This choice requires a QoS configuration for the respective interface. ■ <i>disabled</i> - The TCP download rate remains unrestricted.
Maximum TCP Download Rate (kbits/s)	<p>Here you specify the maximum bandwidth for TCP connections over this interface.</p> <p>Available values are 1 to 100000, default is 1024.</p>
Control all TCP Services	<p>Here you choose if the download control configured is to be applied to all TCP connections.</p> <p>Available values are yes and no, default is yes.</p>

Table 2-1: **IP → BANDWIDTH MANAGEMENT (TDRC / LOAD BALANCING / BOD) → TCP DOWNLOAD RATE CONTROL (TDRC) → ADD/EDIT**

If you choose *no* for **CONTROL ALL TCP SERVICES**, **SELECT TCP SERVICES** allows access to the configuration of all services that TDRC is to be applied to (the screenshot shows the preconfigured services):

BINTEC X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[IP] [TDRC] [SERVICES]: Configure TCP Services		MyGateway	
TCP Port		Status	
80	HTTP	builtin	
443	HTTPS	builtin	
20	FTP Data	builtin	
110	POP3	builtin	
143	IMAP2	builtin	
ADD	DELETE	EXIT	

ADD allows access to the configuration of further services:

BINTEC X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[IP] [TDRC] [SERVICES] [ADD]: Configure TCP Services		MyGateway	
TCP Service Port		1	
Status		enabled	
Alias Name (Description)			
SAVE		CANCEL	

The menu contains the following fields:

Field	Description
TCP Service Port	Here you enter the TCP port of the service you want to configure. Available values are 1 to 65535, default is 1.

Field	Description
Status	Here you choose if the service configured is to be actually controlled. Available values are <i>enabled</i> and <i>disabled</i> , default is <i>enabled</i> .
Alias Name (Description)	Here you enter a description for the service you have configured, the maximum length of the entry is 20 characters.

Table 2-2: **IP → BANDWIDTH MANAGEMENT (TDRC / LOAD BALANCING / BOD) → TCP DOWNLOAD RATE CONTROL (TDRC) → ADD/EDIT → SELECT TCP SERVICES → ADD**

2.3 Switch Port Separation

System Software 7.2.1 offers a logical separation and individual configuration of the four switch ports of X2300s and X2300is.

Separating the switch ports allows a completely independent configuration of the resulting interfaces. All configuration options are identical to those available for the configuration of a single Ethernet interface (for information on the configuration of Ethernet interfaces see your User's Guide).



Note

Note that this feature is only available for certain serial numbers:

X2300is: all serial numbers starting with X2Y25... and higher;

X2300s: alle serial numbers starting with X2Z25... and higher.

The Ethernet Menu has been changed to support the new feature:

```

BINTEC X2300s Setup Tool      Funkwerk Enterprise Communications GmbH
[SWITCH]: Fast Ethernet Configuration                               MyGateway

Fast Ethernet/en1-0>

Switch Configuration >

EXIT

```

After an update to **System Software 7.2.1**, the switch still is in single interface mode, i.e. there is just one configuration for all switch ports.



Note

Note that the configuration of the interface **MODE** is no longer carried out in the interface configuration menu but in the menu **SWITCH CONFIGURATION**.

You can change the switch configuration in the menu **SWITCH CONFIGURATION**:

```

BINTEC X2300s Setup Tool      Funkwerk Enterprise Communications GmbH
[SWITCH] [ASSIGN]: Switch Interface Assignment                       MyGateway

Switch Port   Assigned Interface   Switch Port Mode

Port 1        en1-0                full autonegotiation
Port 2        en1-0                full autonegotiation
Port 3        en1-0                full autonegotiation
Port 4        en1-0                full autonegotiation

SAVE          CANCEL

```

The menu contains the following fields:

Field	Description
Switch Port	Here the switch port numbers are displayed. The numbering corresponds to the numbering of the ports on the rear of your gateway.
Assigned Interface	Here you can assign an ethernet interface to the switch port. Four interfaces are available: <i>en1-0</i> to <i>en1-3</i> . The default configuration assigns <i>en1-0</i> to all four switch ports. The pre-update Ethernet configuration is applied to interface <i>en1-0</i> . If you do not create or if you remove this interface, the configuration is not inherited.

Field	Description
Switch Port Mode	<p>Here you choose the mode the interface is to be operated in.</p> <p>Available values are:</p> <ul style="list-style-type: none"> ■ <i>full autonegotiation</i> (default) ■ <i>auto 100 mbps only</i> ■ <i>auto 10 mbps only</i> ■ <i>auto 100 mbps/full duplex</i> ■ <i>auto 100 mbps/half duplex</i> ■ <i>auto 10 mbps/full duplex</i> ■ <i>auto 10 mbps/half duplex</i> ■ <i>fixed 100 mbps/full duplex</i> ■ <i>fixed 100 mbps/half duplex</i> ■ <i>fixed 10 mbps/full duplex</i> ■ <i>fixed 10 mbps/half duplex</i> ■ <i>suspend</i> - The interface is set to <i>disabled</i> and disconnected from the power supply. ■ <i>disabled</i> - The interface is created but remains inactive.

Table 2-3: **IP → BANDWIDTH MANAGEMENT (TDRC / LOAD BALANCING / BOD) → TCP DOWNLOAD RATE CONTROL (TDRC) → ADD/EDIT → SELECT TCP SERVICES → ADD**

After switch configuration, the menu **KEY-100SW, FAST ETHERNET** changes and displays the Ethernet interfaces assigned to the switch ports. You can now configure the interfaces individually.

Please note: The separation of the switch ports into Ethernet interfaces is a logical one, i.e. the maximum overall bandwidth available across all switch ports or Ethernet interfaces remains unchanged (100 Mbit/s Full Duplex). If you, e.g.,

separate all switch ports, each of the resulting interfaces can use only part of the overall bandwidth.

If you collect several switch ports into a single interface, the bandwidth available between these ports is a full 100 Mbit/s Full Duplex.

2.4 New HTML Wizard Features

The bintec HTML Wizard for gateway configuration supports a number of new features that allow the configuration of more complex functions like firewall configuration.

The following features have been added:

- configuration of the Stateful Inspection Firewall
- configuration of multiple LAN to LAN connections
- country profiles for pre-selecting common ISPs during internet access configuration.

During configuration, detailed online help texts inform you about the necessary steps.

2.5 Cisco LMI

System Software 7.2.1 supports Cisco LMI for Frame Relay.

In the menu **FR → LINK CONFIGURATION → ADD/EDIT** you can choose *original_lmi* for **LINE MANAGEMENT**.

2.6 NewTrace Tool Function

System Software 7.2.1 offers new filter options as well as support for X.25 over ISDN interfaces.

The trace application now allows tracing only the traffic transmitted from, to or between two specific IP addresses inside your LAN. The following options have been created for this purpose:

```
-S      set source IP address filter (LAN only)
-U      set destination IP address filter (LAN only)
-Ba,b  filter IP packets between a and b (LAN only)
```

Moreover, support for tracing X.25 over ISDN interfaces (interface index numbers 27000 to 29999) has been added.

2.7 Configurable Accounting Messages

System Software 7.2.1 allows customizing IP Accounting syslog messages.

Using the variable **BIBOADMACTLOGFORMAT**, it is possible to combine the following kinds of information at will:

```
%d      Date the session opened; in DD.MM.YY format.
%t      Time the session opened: in HH:MM:SS format
%a      session age in seconds
%c      protocol type
%i      source IP address
%r      source port
%f      source interface index
%I      destination IP address
%R      destination port
%F      destination interface index
%p      outgoing packets
%o      outgoing octets
%P      incoming packets
%O      incoming octets
%s      message sequence counter
%%      '%'
```

The desired format can be created with the following command:

```
biboAdmAcctlogFormat="<fmt>"
```

followed by

```
cmd=save.
```


3 Changes

The following changes have been made to our system software in order to enhance its performance and usability:

- “QoS - Monitoring Menu” on page 19
- “New Option for Setup Tool Start” on page 25
- “New DHCP Parameter” on page 25
- “PPTP - Additional Configurable Parameters” on page 25

3.1 QoS - Monitoring Menu

The **MONITORING AND DEBUGGING** → **IP QoS** menu shows QoS-specific statistics information for interfaces which have been configured for Quality of Service. These values cannot be changed.

X2300s Setup Tool	Funkwerk Enterprise Communications GmbH
[MONITOR] [IP QoS]: IP QoS Interface Monitoring	MyGateway
Interface	ethoa50-0
Operational Status	up
Nominal Transmit Rate	2048000
Maximum Transmit Rate	192000
Received Packets	1075
Received Octets	66650
Transmit Packets	2334382
Transmit Octets	144731684
QoS Policy Statistics >	
EXIT	

The following values are shown:

Field	Description
Interface	Selection of the interface for which QoS has been configured and whose QoS statistics are to be displayed.
Operational Status	Shows the operational status of the selected interface.
Nominal Transmit Rate	The maximum overall data transmission rate in bits per second.
Maximum Transmit Rate	The maximum data rate specified for this interface in bits per second in the transmit direction (see User's Guide chapter QoS in the INTERFACES AND POLICIES → <Interface> → QoS SCHEDULING AND SHAPING submenu).
Received Packets	The number of packets received over the selected interface since the last change to the <i>up</i> status.
Received Octets	The number of octets received over the selected interface since the last change to the <i>up</i> status.
Transmit Packets	The number of packets sent over the selected interface since the last change to the <i>up</i> status.
Transmit Octets	The number of octets sent over the selected interface since the last change to the <i>up</i> status.

Table 3-1: **IP QoS** menu fields

3.1.1 QoS Policy Statistics Submenu

The **QoS POLICY STATISTICS** submenu is described below.

Opening the **MONITORING AND DEBUGGING** → **QoS POLICY STATISTICS** menu normally shows a view of the distribution of the whole bandwidth in the form of a bar graph.

```

X2300s Setup Tool                               Funkwerk Enterprise Communications GmbH
[MONITOR] [IP QOS] [STATISTICS]: QoS Bandwidth   MyGateway
                                                Distribution (ethoa50-0)

load      ^
           |    |
           |    +----- 100
           +-----+
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           |    |    |    |    |
           +-----+-----+-----+-----+-----+-----+-----+
           HP  1    2    3    DEF                                classes

EXIT

(d)istribution (c)lasses (t)os (i)nterface statistics
  
```

The graph shows the percentage share of the individual configured QoS packet classes in terms of the total bandwidth. The bars contain the bandwidth distribution of the QoS packet classes.

The meaning of the different graphical representation of the bars is as follows:

- **agreed**: Share of the packets within the guaranteed bandwidth for this QoS packet class.
- **agreed but bounded**: Share of the packets within the maximum guaranteed bandwidth for this QoS packet class.
- **overbooked**: Overbooking of the guaranteed (not bounded) or maximum (bounded) bandwidth. This overbooking is only allowed in the "not bounded" mode.

Detailed statistics values can still be displayed. You can change the display with the following commands as described in the help line:

- **c** = Classes: Display of statistics values for classes
- **t** = TOS: Display of statistics values for TOS
- **i** = Interface Statistics: Display of statistics values for interfaces.

The **RESET STATISTICS** button resets all values in the respective window to 0.

CLASSES

X2300s Setup Tool		Funkwerk Enterprise Communications GmbH				
[MONITOR] [IP QoS] [STATISTICS]: QoS Class		MyGateway				
		Statistics (ethoa50-0)				
Class	Pkts Send	Dropped	Queued	Octs Send	Dropped	Queued
DEF	0	0	0	0	0	0
N 1	0	0	0	0	0	0
N 2	167550	355049	22	6702000	19172646	880
N 3	292021	735122	405	11680840	39696588	16200
HP	1969580	0	13	78783200	0	520
EXIT		RESET STATISTICS				
(d)istribution		(c)lasses		(t)os		(i)nterface statistics

The following values are shown:

Field	Description
Class	<p>The ID of the configured QoS packet class.</p> <p>The abbreviations in front of the entries have the following meaning:</p> <ul style="list-style-type: none"> ■ N = Normal ■ HP = High Priority ■ DEF = Default
Pkts	<p>Number of packets of this QoS packet class:</p> <ul style="list-style-type: none"> ■ <i>Send</i>: Packets sent ■ <i>Dropped</i>: Packets dropped ■ <i>Queued</i>: Packets in the queue

Field	Description
Octs	Number of octets of this QoS packet class: <ul style="list-style-type: none"> ■ <i>Send</i>: Octets sent ■ <i>Dropped</i>: Octets dropped ■ <i>Queued</i>: Octets in the queue

Table 3-2: **QoS POLICY STATISTICS** → **CLASSES** menu fields**TOS**

X2300s Setup Tool		Funkwerk Enterprise Communications GmbH				
[MONITOR] [IP QOS] [STATISTICS]: TOS Statistics		MyGateway				
		(ethoa50-0)				
TOS OutPkts OutOctets InPkts InOctets PktsDropped OctetsDropped						
00	0	0	0	0	0	0
01	0	0	1135	68100	0	0
EXIT			RESET STATISTICS			
(d)istribution		(c)lasses		(t)os		(i)nterface statistics

The following values are shown:

Field	Description
TOS	The value in the TOS field of the IP packet.
OutPkts	Number of packets sent with the value entered under TOS.
OutOctets	Number of octets sent with the value entered under TOS.

Field	Description
InPkts	Number of packets received with the value entered under TOS.
InOctets	Number of octets received with the value entered under TOS.
PktsDropped	Number of packets dropped with the value entered under TOS.
OctetsDropped	Number of octets dropped with the value entered under TOS.

Table 3-3: **QoS POLICY STATISTICS** → **TOS** menu fields**INTERFACE STATISTICS**

X2300s Setup Tool		Funkwerk Enterprise Communications GmbH	
[MONITOR] [IP QOS] [STATISTICS]:		QoS Interface	MyGateway
Statistics (ethoa50-0)			
Transmit Packets	2469015		
Transmit Octets	98760600		
Queued Packets	417		
Queued Octets	16680		
Dropped Packets	1090901		
Dropped Octets	43636040		
EXIT		RESET STATISTICS	
(d)istribution	(c)lasses	(t)os	(i)nterface statistics

The following values are shown:

Field	Description
Transmit Packets	Number of packets sent over the selected interface.
Transmit Octets	Number of octets sent over the selected interface.

Field	Description
Queued Packets	Number of packets in the queue of the selected interface.
Queued Octets	Number of octets in the queue of the selected interface.
Dropped Packets	Number of packets dropped at this interface.
Dropped Octets	Number of octets dropped at this interface.

Table 3-4: **QoS POLICY STATISTICS** → **INTERFACE STATISTICS** menu fields

3.2 New Option for Setup Tool Start

Under **System Software 7.2.1**, the Setup Tool can be started with the option `-I`. This starts the Setup Tool in the menu **MONITORING AND DEBUGGING** → **INTERFACES** and does not allow access to any other menus of the Setup Tool.

3.3 New DHCP Parameter

Using the new MIB variable **IPDHCPUSEDEFAULTHOSTNAME**, it is possible to determine if your gateway includes a standard host name in DHCP replies. If **IPDHCPUSEDEFAULTHOSTNAME** is set to *disabled*, no host name is transmitted, if set to *enabled*, the gateway transmits a host name created from the IP address of the client. The default value is *enabled*.

3.4 PPTP - Additional Configurable Parameters

The following parameters relevant for PPTP control connections can be configured from the SNMP shell by means of the **PPTPPROFILETABLE**. Entries in this ta-

ble are optional, and as long as no values have been explicitly configured, system inherent default values are used:

- **HOST** - If no value for **HOST** is configured, the gateway transmits the **SYSNAME** found in the **SYSTEMTABLE**. Otherwise, the value configured for **HOST** is transmitted.
- **VENDOR** - If no value for **VENDOR** is configured, the gateway creates an ID from the string "Bintec" and a system inherent value from the **BIBOADMBOARDTABLE**.
- **FIRMREV** - For **FIRMREV=-1** the firmware revision *0* is transmitted, for **FIRMREV=0** (and if no entry has been created here) the revision implied by the system software is transmitted. For any other value (between *1* and *999*) exactly the value specified is transmitted.

3.5 IPsec - Configurable Log level

Using the variable **CERTGLOBLOGLEVEL**, the detail of syslog messages concerning certificate management can be customized:

Log Level	Detail in Syslog Messages
3	important events like e.g. an invalid certificate
4	extended information about events logged in level 3
5	cache and search events
6	extended information about successful cache events
7	output of certificates after successful search events

Table 3-5: Details contained in certificate management syslog messages

Messages from level 3 (and lower) are displayed on the global syslog level *Info*, all others on the syslog level *Debug*.

3.6 BRRP over VLAN

If no IP configuration was assigned to the physical interface of a virtual router (e.g. if it was to be used for bridging only), using BRRP over VLAN was not possible because no BRRP advertisements were sent over this interface.

To enable sending BRRP advertisements over a different interface, a new parameter has been created: **BRRP → CONFIGURATION: ADVERTISEMENT INTERFACE**. It allows choosing the interface BRRP advertisements are to be sent over.

3.7 NAT - Session Count Control

Up to now a gateway could reboot if the number of NAT sessions became too high.

System Software 7.2.1 allows controlling the maximum number of NAT sessions acceptable for a specific interface. Configuration is carried out using the variable **IPEXTIFNATMAXSESSIONS**. If the maximum number is reached, the gateway tries to close old sessions. If that is impossible, new sessions are no longer accepted.

3.8 Keepalive Monitoring - Flexible Default

With a default of only three attempts to reach a host with an ICMP Echo Request, Keepalive Monitoring has proved too inflexible. The number of attempts can now be configured at will (between 1 and 65535) using the variable **IPHOSTSALIVETRIALS**.

3.9 BOOTP - CPU Load Reduced

BOOTP NetBIOS relaying has been changed in order to reduce the CPU load created by the BOOTP service.

4 Solved Problems

The following problems have been solved in [System Software 7.2.1](#):

4.1 Factory Reset - Disfunctional for Some Gateways

(ID 3068)

Resetting the gateway configuration by switching the gateway off and on again three or five times respectively did not work.

4.2 Setup Tool - Individual Distribution Ratios Cannot be Set

(ID 3169)

When choosing *individual for all interfaces of the group* for the field **DISTRIBUTION RATIO** in a configuration of **IP LOAD BALANCING OVER MULTIPLE INTERFACES**, the individual values entered for the interfaces were not in all cases stored correctly.

4.3 Setup Tool – Cobion Filter not Disabled

(ID 3434)

Setting **SECURITY** → **COBION ORANGE FILTER:ADMIN STATUS** to *disable* after it had been enabled before did not completely disable the filter, and access to web sites could still be blocked.

4.4 Bridging - Performance Loss

(ID 3525)

When using an ETHOA connection with either *bridged-fcs* or *bridged-nofcs* encapsulation, the performance of the gateway gradually decreased.

4.5 Setup Tool - Routing Entries Corrupted

(ID 3576)

When a WAN partner route with transit network was edited in **IP → ROUTING → ADD/EDIT**, the route type was nevertheless displayed as *route without transit network*. When confirming with **SAVE**, the transit network configuration was lost.

4.6 Ethernet – Reception of Large Packets Faulty

(ID 3583)

The reception of packets larger than 1518 bytes was not initialized and handled correctly.

4.7 Bridging - Bridge Filter not Matching

(ID 3584)

The bridge filter mechanism did not function properly because a wrong interpretation of filter lengths prevented adequate matching.

4.8 Setup Tool - Load Balancing Configuration Incorrectly Written to MIB

(ID 3680)

When configuring *IP LOAD BALANCING OVER MULTIPLE INTERFACES* with *DISTRIBUTION POLICY service/source-based routing*, wrong entries were written to the *IPEXTRTABLE*. This could lead to a Load Balancing malfunction.

4.9 PPPoE - Problems with Two PPPoE Access Servers

(ID 3698)

When a gateway was configured to use two PPPoE Access Servers, the PPP layer could not be established.

4.10 PPPoE - Connection Establishment Failure

(ID 3756)

Due to an overly brief timeout, certain types of PPPoE connections (e.g. wireless connections) could not be established.

4.11 Setup Tool - False MAC Address Displayed

(ID 3846)

After specifying a MAC address for any of the Ethernet interfaces, the menus for the configuration of the remaining interfaces showed the same MAC Address.

4.12 Bridging - Packet Loss or Corruption

(ID 3875)

After activating Bridging, data transfer on the Ethernet interfaces could be lossy or corrupted.