RELEASE NOTE
BIANCA/BRICK-M

03.12.1996

New System Software Release 4.3 Revision 4

The BIANCA/BRICK-M system software release 4.3 revision 4 contains several new advanced features and corrects some problems reported in version 4.2 Revision 3.

Special Note: The following modules/protocols are no longer supported with Version 4.3 Revision 4 on the BRICK-M.

      CM-TR   Token Ring Interface
      CM-X21 X.21 Interface
      CM-PRI ISDN Primary Rate Interface
      X.25 Routing

Please do not upgrade to this release if you require support for X.25 Routing or these modules.

Performing the Update is explained on Page 2.

Once Software Release 4.3 Revision 4 is installed you will find:

When upgrading your BIANCA/BRICK-M, it is recommended that you also use the most recent version of *BRICKware for Windows* and *UNIXTools*. Both can be retrieved from BinTec's FTP server at http://www.bintec.de.

Performing the Update

To upgrade your BRICK-M to version 4.3 Revision 4 follow the instructions in Chapter 2 of the *User's Guide*. You can continue to use your existing configuration files once you have installed and booted the new PROM version.

New Features

Extended IP Routing

The BRICK now provides finer control of the routing of IP traffic using an extended IP routing table. Normally, the routing of IP data is dependent soley on the packet's destination address. With the ***ipExtRtTable***, routing decisions can be made based on information contained in the packet's header or by additional source/destination information.

Extended IP Configuration

RIP Version 2 Support

The BRICK now supports version 1 and 2 of the Routing Information Protocol. Each interface on the BRICK capable of tranmitting IP traffic can be individually configured to send or receive version 1 and/or version 2 RIP packets.

Proxy ARP

The BRICK now supports proxy ARP as an alternative method of performing IP address to physical address resolution. Normally, ARP requests for the hardware address of a particular IP address are answered by the station the IP address is assigned to. With proxy ARP, the request can be alternatively answered by the BRICK.

IP Accounting

Each interface on the BRICK can be individually configured to perform accounting of IP sessions. For each TCP, UDP or ICMP session that is routed over the interface an entry is created in the ipSessionTable. As long as IP sessions are active, the ipSessionTable is updated dynamically. Once a session closes, an accounting message is sent to the syslog table.

Network Address Translation

The BRICK now supports Network Address Translation, or NAT, which allows a router that connects to hide a complete LAN behind one IP address.

This may be useful in different installations where:

- Security is an issue.
  (controlling access to a limited number of hosts)
- The number of available IP addresses is limited.
- Monitoring of outgoing connections is desired.

With NAT in operation, all hosts on the BRICK's LAN may access enternal networks, the internet for example, but only hosts with explicit permission can be accessed from external hosts.

Dynamic IP Address Assignment

The BRICK supports dynamic IP address assignment. The BRICK can be configured as a client, for accepting an IP address from an Internet Service Provider (ISP) for example, or as a ser-

ver for asigning of IP addresses from a pool of available addresses at connection time

RADIUS Server Support

RADIUS is a client/server security system often used by Internet Service Providers to control access to a network. The BRICK supports the Remote Authentication Dial In User Service, or RADIUS, standard and can be configured to operate as a RADIUS client to allow for user authentication at connection time.

ISDN Features

V.110 Support for IP Routing

When used with the CM-EBRI ($1xS_0$) the BIANCA/BRICK-M is capable of bitrate adaptation according to the V.110 standard.

56kbit Support for IP Routing

The BRICK can now be used with ISDN interfaces that are limited to a bandwidth of 56 kbits. 56 kbit mode is supported by all ISDN communications modules (CM-1EBRI, CM-1BRI, CM-2BRI, CM-2UP0) and is often required for ISDN connections to and from the USA.

Data over Voice Bearer (DOVB) Support for IP Routing

DOVB is now supported by the BRICK. With DOVB, charging for ISDN data connections can be avoided within local calling areas where speech signalling is used. This feature is mainly for our customers in the USA.

New Communications Module

The BRICK-M now supports the UP0 interface to the ISDN with BinTec's newest communication module, the CM-2UP0.

LAN Interfaces

The BRICK-M now reports problems with its LAN interface(s) (e.g., unable to transmit packets due to too many collisions, LAN cabling is not attached, etc.) to the ***biboAdmSyslogTable***.

Improved Split-Horizon Algorithm

The algorithm used for split-horizon updates for RIP has been improved. Decisions are now based on the interface, the RIP packet was received on instead of the source IP address which was used previously. Sent RIP packets will have their TTL field in the IP header set to 1 to prevent those packets from being routed by other routers.

Improved SetupTool

SetupTool continues to be extended and can now be used to configure more of the BRICK's existing features such as Access Lists and External System Logging. Many of the BRICK's newest features; RIP, Proxy ARP, IP Accounting, NAT, and Dynamic IP Address Assignment, can also be configured with SetupTool.

Also, a new Monitoring and Debugging menu has been added to SetupTool. This feature allows you to actively monitor: active ISDN calls (incoming and outgoing), IP statistics (number of send/received packets by protocol), interface statistics (number of sent/received packets by interface), or Syslog Messages.

New Applications

Debug Application

A new **debug** command is now available from the SNMP shell. The debug command can be used to selectively display debugging information originating from the BRICK's various subsystems.

The syntax is as follows:

> **debug** [**show** | **all** | [*<subs>* [*<subs>* ...]]]

The debug command followed by "show" lists all possible subsystems that can be debugged. If "all" is used all messages are displayed to the screen. Also, one or more subsystem names can be used to display debug messages from different subsystems.

Capitrace Application

The capitrace program enables tracing and interpretation of CAPI messages and displays all CAPI messages sent and received by the BRICK. The environment variable CAPI_HOST must be set to the IP address of the BRICK to trace CAPI messages on.

The syntax is as follows:lows:

> **capitrace** [**-hsl**]
>
> -h hexadecimal output (default)
> -s short output
> -l long output (default)

MIB Changes

Since this release no longer supports the X.21, Token Ring, and Primary Rate Interfaces the following system tables have been removed.

- ***pmxIfTable***
- ***x21iftable***
- ***tokenringiftable***
- ***x25***
- ***x25CallTable***
- ***x25RewriteTable***
- ***x25LinkTable***
- ***x25CallHistoryTable***
- ***x25MprTable***
- ***x25LinkPresetTable***
- ***x25RouteTable***

New System Tables

With all of the new features added in Version 4.3 Revsion 4, several new system tables have been added.

- ***ipExtIfTable***
- ***ipExtRtTable***
- ***ipNatTable***
- ***biboPPPIpAssignTable***
- ***ipNatPresetTable***
- ***ipSessionTable***

Bug Fixes

IP

- IP RIP datagrams are now sent with a TTL (time to live) value of 1. Previously, a value of 0 was used which was incorrect. Using a value of 1 prevents receiving routers from forwarding those datagrams.

- ICMP-ERROR datagrams are now properly generated. Previously, these datagrams were not being generated.

This was the reason the traceroute command in Windows was unable to detect the BRICK.

- Datagrams containing SYN and ACK flags were previously retransmitted without the ACK flag. These datagrams are now retransmitted properly.

ISDN

- The charging facility which contains the charging costs in local curreny for ISDN calls is now properly supported. By default the *isdnAccountingTemplate* now uses %C in field 9 and reports ISDN charging information in local currency. Previously %c was used which reported charging units only.

SNMP

- SNMP Link-Down traps are now properly sent, previously only Link-Up traps were sent.

Capitrace

Two problems were reported with the capitrace application. Version 1.5 of UNIX tools corrects both problems and is available via BinTec's ftp site at http://www.bintec.de.

- When decoding the CAPI-2.0-CONNECT_IND a segmentation fault occured on some UNIX platforms.

- When redirecting the standard output of capitrace (into a file for example) the last messages could have been lost.

Known Problems

BRICKware and Windows NT

Problem

If you want to install *BRICKware for Windows* on a computer running Windows NT using the NTFS file system please note that the NTFS file system is case sensitive.

When browsing for the installation directory at the start of the installation procedure, the dialog box will convert all path-names to *lowercase* letters.

This causes the installation to fail.

Solution

You can avoid this problem by entering the desired pathname by hand, instead of selecting it with a mouseclick.

IP Broadcasting and PCNFS

In DIME Tools Options menu under IP Broadcasting, either global or local broadcasting can be selected. Please note that when using PC-NFS, only local broadcasting may be used.

For detailed information, see the online help in DIME Tools.

PC/TCP and Windows 95

If problems occur when using PC/TCP with Windows '95 and DIME Tools check to see if a "Winsock.dll" is located in your Windows (normally C:\windows) directory.

If a different winsock.dll (not winsock.dll installed by PC/TCP) is located there, try moving that file to your Sysbckup directory (normally C:\Windows\Sysbckup).