

# Network iQ Router Software Release 7.2

Securicor 3net (NDL) Limited announces the release of Version 7.2 for the Network iQ and ACE Router families. Version 7.2 sees the inclusion of software enhancements which will provide customers with additional functionality, event management options, and performance for wide area network data communication systems. The software will be available to customers as an upgrade from early August 1996. Customers who have flash memory installed in their routers will be able to upgrade to the new version with no network disruption, while customers with EPROM based systems will have to order and upgrade the EPROMs or purchase flash memory.

## **Router IP RIP protocol module**

Enhancements to the router IP Routing Information Protocol (RIP) have been added. These extensions are specified in RFC 1723 and known as RIP version 2. The extensions allow for use of different subnet masks on different subnets within the same network, as well as Authentication of RIP broadcasts. The Network iQ is further enhanced by options on sending or receiving RIP by interface, as well as using MD5 encryption on the authentication password, further enhancing the security aspects of the router. Compatibility with RIP version 1 has been maintained on a link-by-link basis.

## **Demand IP RIP**

Another enhancement to the IP RIP module is the implementation of on-demand RIP. Demand RIP is useful in environments where regular RIP broadcasts cannot be used, such as the ISDN, where RIP broadcasts should only be done when a connection is established. Demand RIP also utilises an acknowledgment regime guaranteeing that remote requests have been accepted.

## **Scripted Commands**

To even further increase manageability of the router, a new command line batch processor (scripting) module has been added. A script is a text file containing a list of router commands to be executed sequentially. This allows either manual or automatic (triggered) replay of a set of router commands, as if the commands had been directly entered by an operator. The scripting module includes the capability to transfer the script files to and from a remote host using the tftp protocol. Scripts may also be directly executed through an async port. Scripts can be edited on line (in the router) using a full screen editor if using VT100 terminal emulation.

## **Asynchronous Call Control**

Asynchronous Call Control has been further enhanced to include the following operations:

- Router-to-router PPP/SLIP using async ports
- Asynchronous dial-on-demand
- Asynchronous bandwidth on demand

- Asynchronous dial backup of PPP circuits (ie leased line backup)
- Asynchronous Novell (IPX) connection using async port on PC running Windows95

With the addition of full asynchronous router-to-router PPP connections, it is possible to use all the standard PPP features such as dial-on-demand, bandwidth-on-demand, compression and encryption, and automatic backup through an async port. By utilising the new link triggers, it is possible to use Async calls to back up links in the router not normally able to be backed up by protocols such as PPP (eg X25, frame relay). ACC modem commands can now be implemented as SCRIPTS - see scripting module.

### Trigger Enhancements

The success of the trigger mechanism for local event management has shown that this is a very useful feature, and so it has been enhanced with the addition of:

- Link Up
- Link Down
- Link Change

Link up/down triggers are available on the following link types:

- Frame Relay DLCs (either static or LMI)
- PPP protocols such as LCP, CCP, IPCP
- X25 (MIOX) circuits

### New Logging Module

To further enhance the management functionality of the router, the logging module has been designed to include new formats and specified types of output options. Log messages can be processed and filtered then sent to pre-defined locations. Output destinations now supported include:

- NVS memory
- SYSLOG server
- Another Network iQ router
- Serial port
- User application accepting messages on pre-defined TCP port

### Appletalk

Appletalk Routing has been enhanced to include:

- Bandwidth on demand
- Dial on demand
- Appletalk over X25
- Appletalk Compression

Refer to Application Note 2020 (Appletalk in Routers) for more information on planned enhancements to Appletalk functionality.

### Frame Relay Backup, and Compression and Encryption

Frame Relay now has the ability, by utilising the new link triggers, to back up specific frame relay DLC's in case of network failures. Enhancements have been made to frame relay to utilise the concepts already present with compression and encryption over PPP links. It is now possible to compress and/or encrypt specific DLC's on a frame relay network interface.

### G703 Time Division Multiplex (TDM) Mode

The current G703 interface used for primary Rate ISDN (PRI) access has been enhanced to allow TDM mode of operation. This allows multiple slotted PPP interfaces to enter the router via G703 timeslots. The channelised approach allows each group of timeslots to be designated to a separate PPP link, so remote access by multiple nx64k into a single interface is possible.

### Miscellaneous Changes & Enhancements

- All fixes for notified and identified problems with Version 7.0 have been included in the latest release of software.
- For terminal server operation, a global 'telnet terminal type' string can now be set for the router which is sent during telnet negotiation. This used to always set to "unknown".
- ISDN call control has been modified to use the 'alternate number' option which was previously not implemented. This allows the router to call a different ISDN number if the retries to the primary number are exceeded.