

ROSE X.25 Packet Switch Status Update

by
Thomas A. Moulton, W2VY
Radio Amateur Telecommunications Society

INTRODUCTION

The past year has been very busy for both the development and the network expansion. Highlights include support for 64k EPROM, reformatted applications, X.29 Invitation to Clear and enhancements for IP users.

These changes and others that are planned continue to expand the richness of the ROSE X.25 Packet Switch as a network backbone tool. It can pass data transparently with no changes being made to the applications that people are using.

BUG FIXES

The following is a list of bugs or symptoms that have been fixed:

- When first installing the ROSE EPROM, the **TNC** needs to be power cycled twice to come alive.
- Connections made using **DIG1 Callsign** were not being made using the **DIG1 Callsign** of the remote node (**TCP/IP** Users).
- Frame boundaries were not preserved for Non-AX25 Level 2 User frames (**TCP/IP** Users).

APPLICATIONS

The applications have had many changes in the basic way they operate. Each application now has a prompt that identifies the application and network address you are

connected to. They also support a **Bye** command which will cause the switch to disconnect **from** you. Some applications such as **INFO** and **SHEARD** will just send their data and disconnect. They will now support all **SSID's**. This means that you can connect to a specific application in more than one switch at the same time. For example you could connect to **USERS-1** and **USERS-2** to access the **USERS** application at two different switches to monitor the path a call request takes.

The **USERS** application now displays the network address of it's neighbor nodes. This will let users walk through the network to learn the topology and to discover new user channels.

The **CONFIG** application now supports a disconnect command (**:0300000000**). It also now supports a password challenge which must be entered correctly to obtain write access to the configuration information. If the password is not entered correctly the user will have read only access to the configuration interface.

CONFIGURATION OPTIONS

The switches now support full 14 digit X. 121 addressing. You may configure, if required, a LID LIST to bar access by a station. The frame and packet level timers are now defined in **100ms** intervals to allow for better tuning of 9600 baud or greater trunk speeds.

TCP/IP

Two of the three bugs that were fixed directly impact **TCP/IP** users. With these fixes IP Users will be able to send a **Datagram** of *ANY* size using the fragmentation provided in NOS. There should be no problems with sending **1K**, **2K**, **4K**, or even **10K datagram** in 256 byte or smaller frames. These enhancements should greatly improve the performance of **IP** connections through ROSE and should provide the best performance.

64K EPROM SUPPORT

The ROSE X.25 Packet Switch now offers an option to install a 64K EPROM which provides the normal applications in EPROM. The applications that are included are: **USERS**, **INFO(English)**, **HEARD**, **CONFIG**.

The larger EPROM is supported on the TNC-2 Clones, Tiny-2, Sprint-2 and TNC-320 and DR-200.

FUTURE ENHANCEMENTS

TXUI - Application to pass UI frames through the network based upon the network address in the digipeater fields. The digipeater fields are formatted much like normal ROSE connections, switch call and address. Users will be able to define a list of which remote switches the UI frames should be sent to. This will allow for sending a CQ to all User channels in a given region or local handling for "Mail For:" beacons and distribution of ARP frames to all IP channels.

NODE - A TheNet NODE style interface that will allow you to connect to a NODE application in a switch and then use that as a launch point to connect to another switch or a user. It is important to note that

the user's **callsign** will still traverse the network without any changes.

CONCLUSION

The ROSE X.25 Packet Switch has undergone a significant number of enhancements that set it apart from other networking schemes. It offers flexibility for both users and system managers while simplifying the connection setup process for all.

There have been discussions with groups that are using **TheNet** about using ROSE in the highest level backbone to increase the geographic region that the nodes can reach. Between the transparent **PID** support and TXUI broadcasting we could very well convert **most** of, if not all, the backbone to ROSE and still support **TheNet** as a network application.

The goal of ROSE is to provide powerful tools to enhance communications independent of the actual protocols being used.