

Paalink AGW...a Modern AX.25 WL2K Packet Client Compatible with POP3/SMTP E-mail Clients

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Overview:

Paalink AGW is a new implementation of a flexible, easily configured Winlink 2000 (WL2K) radio E-mail client that interfaces with most popular E-mail client programs such as Microsoft Outlook Express. Essentially Paalink AGW adds packet radio and Telnet channels for WL2K connectivity to Outlook Express. Paalink AGW is intended for use with the Winlink 2000 system including B2F protocol that supports attachments, mixed addresses and tactical addresses. Paalink AGW uses the AGW Packet Engine to support a large number of TNCs and allows sharing TNCs across applications. Figure 1 shows the interfaces between the Paalink AGW program and the other subsystems that complete the WL2K Packet client.

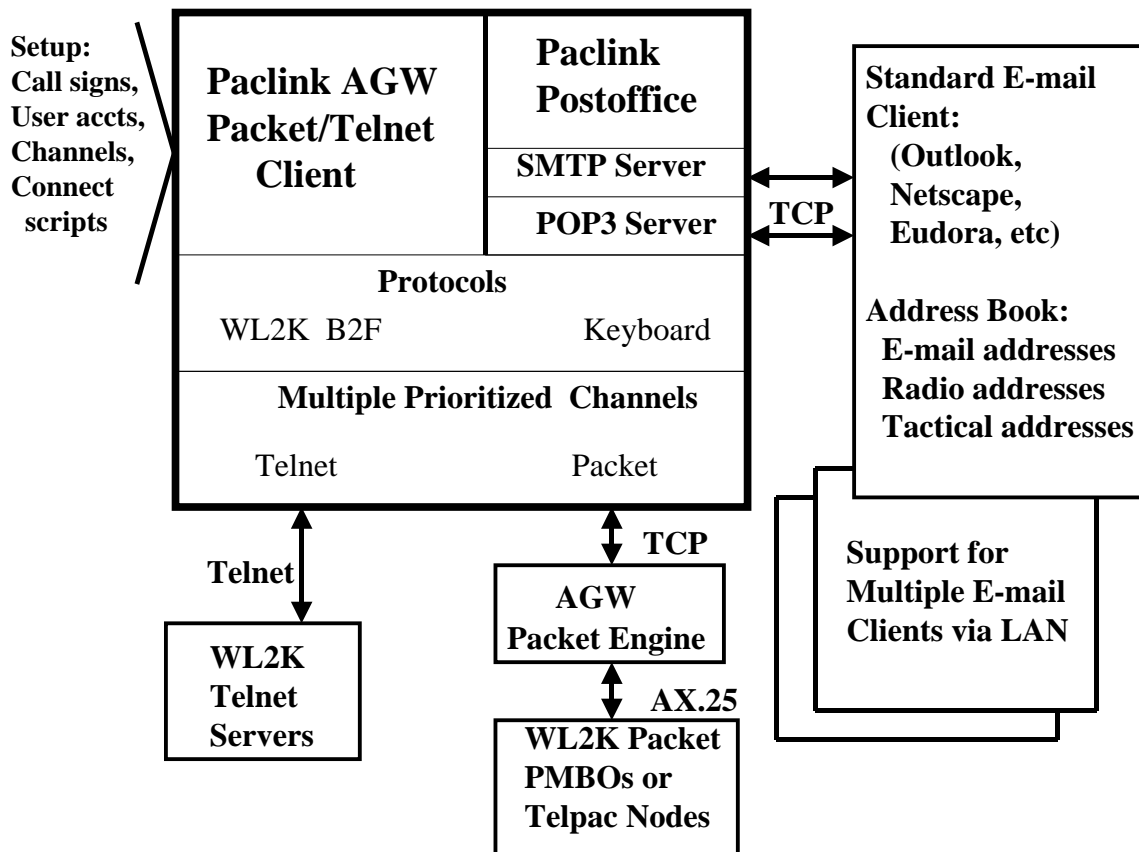


Figure 1. Paalink AGW Packet/Telnet Client and Subsystem Interfaces.

One implementation feature is that Paclink AGW uses standardized TCP or Telnet protocols for communicating between all major subsystems. The TCP connections are normally on the same computer, but could be located remotely on a LAN or accessed via the Internet. This allows, for example, accessing Paclink AGW remotely over the Internet using any standard POP3/SMTP client with the correct user, password and firewall settings.

Another significant aspect of the Paclink AGW architecture is its use of existing POP3 and SMTP compatible E-mail clients to provide most of the user interface, message addressing, composition, management and display functions. This is very important in emergency applications where keeping familiar user interfaces is critical.

Paclink AGW requires only one E-mail account to access its multiple prioritized channels. Paclink automatically routes E-mail sent via user clients via the best available channel. This “insulates” E-mail client users from details such as Telnet or Packet routing and redundant radio paths. Paclink AGW requires only a few menus to set up and has a wizard which automatically sets up accounts on the popular MS Outlook Express client.

Tactical Addressing:

Paclink AGW now adds a powerful tool of Tactical Addressing to the Winlink 2000 system. Tactical addresses can be easily generated (e.g. REDCROSS-22@winlink.org) and now sent over standard ham radio channels (with normal amateur call signs). Winlink 2000’s dynamic routing always tracks the path messages take and eliminates the need to create and maintain any routing tables. WL2K automatically registers new Tactical Addresses into the system and insures no duplicates are permitted.

Summary:

Paclink AGW is a new modern tool that gives popular E-mail clients AX.25 packet and Telnet access to the Winlink 2000 system. It should find many applications in expanding Winlink 2000’s emergency messaging systems. Paclink is written in VB .NET for Windows 2000 and Win XP and requires the Microsoft .NET framework. Paclink is free for amateur radio use. Commercial applications should contact the authors.

References:

[1] Winlink 2000...A Global Ham Message Transfer and Delivery Network; Rick Muething, Vic Poor, Hans Kessler, and Steve Waterman. 19th ARRL and TAPR Digital Communications Conference, Sept 2000.

<http://www.winlink.org/>

[2] Telpac and Paclink--Streamlined AX.25 Packet Server and Client for a full service Ham Radio Messaging Network. 22nd ARRL and TAPR Digital Communications Conference, Sept 2003

[3] The AGW Packet Engine by George Rossopoulos, SV2AGW

<http://www.raag.org/sv2agw/pepro.htm>