Winlink 2000 Telpac Gateway
Introduction and Overview

Rick Muething, KN6KB KN6KB@winlink.org

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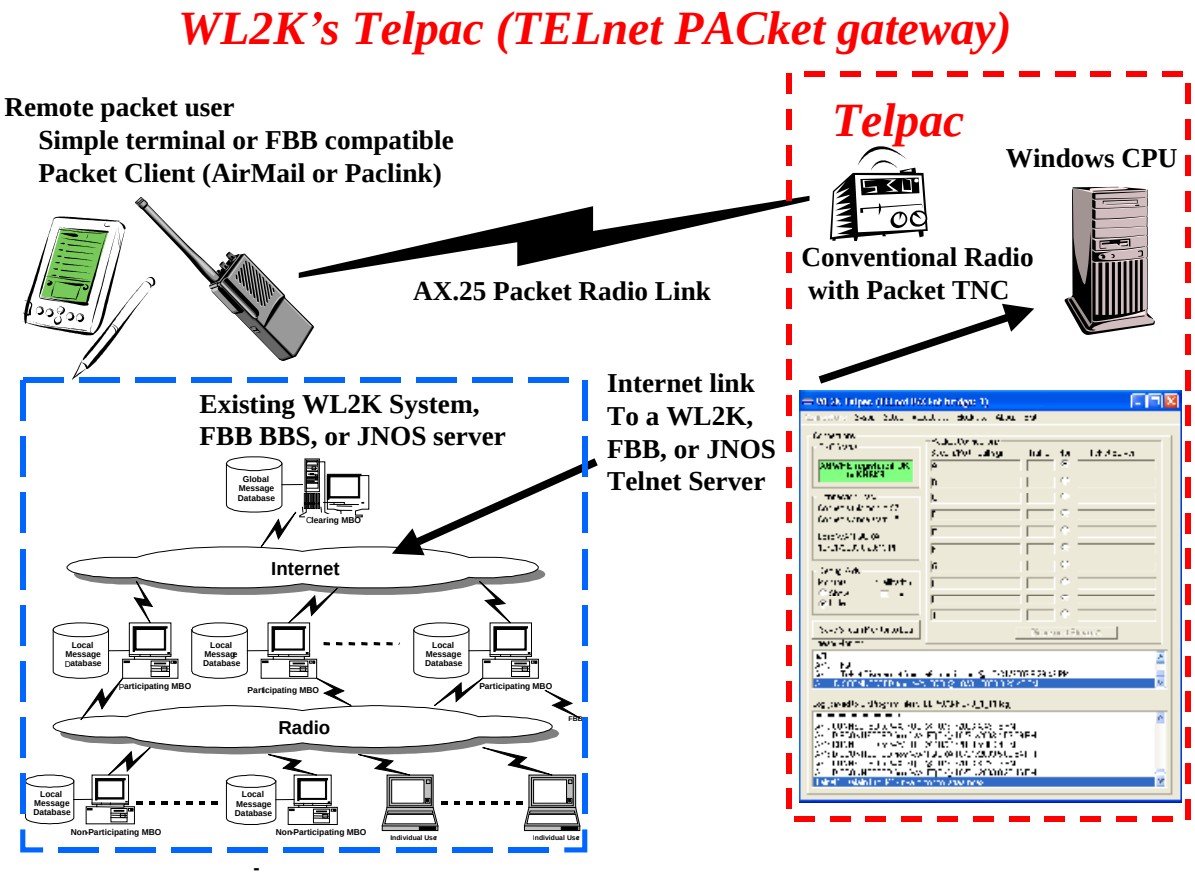
DESCRIPTION

Winlink 2000 Telpac stands for TELnet PACket gateway and is an enhancement of the previous experimental WL2K SMSNode. Telpac software provides streamlined setup to deliver full WL2K BBS capability to the wireless ham user using AX.25 packet in combination with WL2K's Telnet Servers. Telpac also now supports the FBB and JNOS Telnet servers. Telpac is simple to install and run and requires a minimum of computer and radio equipment. The Telpac software runs independently from the normal Winlink MBO (PMBO) software on virtually any Windows 98 and later computer. Telpac is ideal for temporary emergency setup or unattended remote locations where it can deliver reliable wireless communication to the "last mile". The following graphic shows the major components of Telpac and how it interfaces the remote wireless ham to the existing WL2K system and the Internet.



HOW IT WORKS

Telpac takes advantage of Internet connectivity and eliminates the need for local message storage, databases, and routing tables at the Telpac gateway. The user connects to a Telpac gateway with a standard packet keyboard or FBB compatible BBS connection. In keyboard mode he uses a few familiar commands to List, Read, Kill or Send messages. Telpac also supports standard FBB BBS forwarding as found in many BBS programs and capable user client programs like AirMail. These commands are immediately transmitted to the Telnet server for execution. These servers are run by many of the WL2K full feature PMBOs. This process takes only a few seconds over typical Internet links. Once the commands are in the WL2K Telnet server normal WL2K processing takes over to deliver the messages to multiple radio or Internet destinations. Besides the simplicity and robustness of the Telpac gateway one significant advantage over conventional BBSs is the very short message latency. By way of new WL2K technology called FastLink messages are routinely *delivered* to the recipient's destination mail server in less than two minutes! Since the Telpac gateway has no local storage and since the WL2K system uses "smart routing" to eliminate the need for designating a "home BBS" users are free to roam and send and receive mail from any Telpac gateway or WL2K PMBO. Message routing is never an issue! Installation and operation is very simple and a sysop can usually set up and have a Telpac gateway operating in less than 30 minutes! Since Telpac ties directly to a WL2K PMBO all WL2K features such as bulletins on demand, binary attachments, position reports, options messages etc. are fully supported.

REQUIREMENTS

The requirements to set up a Telpac gateway are modest:
Any modest Win 98 or higher PC should work as the processing loads and memory requirements are minimal. A serial port for the TNC is required unless a sound card TNC is used with the AGW Packet Engine.

Telpac is optimized to work with a full time Internet connection via cable modem, DSL or ISDN. It can also be configured to use an on-demand dial up connection but this increases the latency of the initial Telnet session while the dial up Internet connection is established. Dialup automatically terminates when all connections are completed.

Telpac supports the AGW Packet Engine by SV2AGW. Those unfamiliar with this very capable "middle ware" which links TNCs to applications should check out http://www.elcom.gr/sv2agw . The AGE Packet engine provides support for many more TNCs including the BayPac and sound card 1200/9600 baud modems. It will also allow remote modem operation via full time TCPIP connections. With AGWPE modems can be shared across other packet applications that support AGWPE. Brief setup and testing instructions for AGWPE are included in the Telpac installation document.
Telpac also supports direct serial control of popular packet TNCs such as: KPC3, KAM, KPC9612, PacComm TINY-2 and others. Kantronics TNCs that support true binary transmission, Host mode, and up to 10 connection streams are recommended when not using AGWPE.

A Packet compatible radio is required. Normal FM voice radios work well at 1200 baud and many newer "data ready" radios support 9600 baud or higher. Those willing to do some simple mods can find very useable surplus commercial radios such as the Motorola Mitrek series. These make very capable 1200 and 9600 baud VHF and UHF packet radios. These rugged 40 - 100 Watt crystal controlled radios are often available at Hamfests and on EBay for under $50.

APPLICATIONS

We have successfully tested Telpac with very simple terminals (Palm devices with HT radios). These basic terminals permit "walk around" access to the WL2K system for any remote user in range of a Telpac gateway. Since the Telpac gateway operates as a Telnet Packet bridge it also supports BBS<>BBS forwarding using standard FBB forwarding protocol. This allows more capable user software like AirMail or other FBB compatible BBSs to interface with full functionality including attachments using WL2Ks B2F advanced binary protocol. Other obvious applications include the setup of "emergency BBS" gateways where a Telpac gateway is installed or activated near the emergency/disaster site to provide "last mile" wireless connectivity to remote field operators and emergency personnel. Other potential applications include high-density user areas like marinas, RV parks and hamfests that can give hams immediate wireless access to the WL2K system and the Internet from simple packet terminals. In some of these applications it may be preferred to have the Telpac gateway use a wireless (802.11 or WiFi) link to the remote Telnet Server.

INFORMATION

The current list of active WL2K Telpac gateways can be found at
www.winlink.org/status/Telpac.aspx
For more information about WL2K Telpac or to join the growing WL2K network as a participating Telpac gateway please contact Rick Muething KN6KB at:
KN6KB@winlink.org or rmuething@cfl.rr.com

Telpac and the Winlink 2000 System were developed by:
Vic Poor, W5SMM
Hans Kessler, N8PGR
Steve Waterman, K4CJX
Rick Muething, KN6KB