

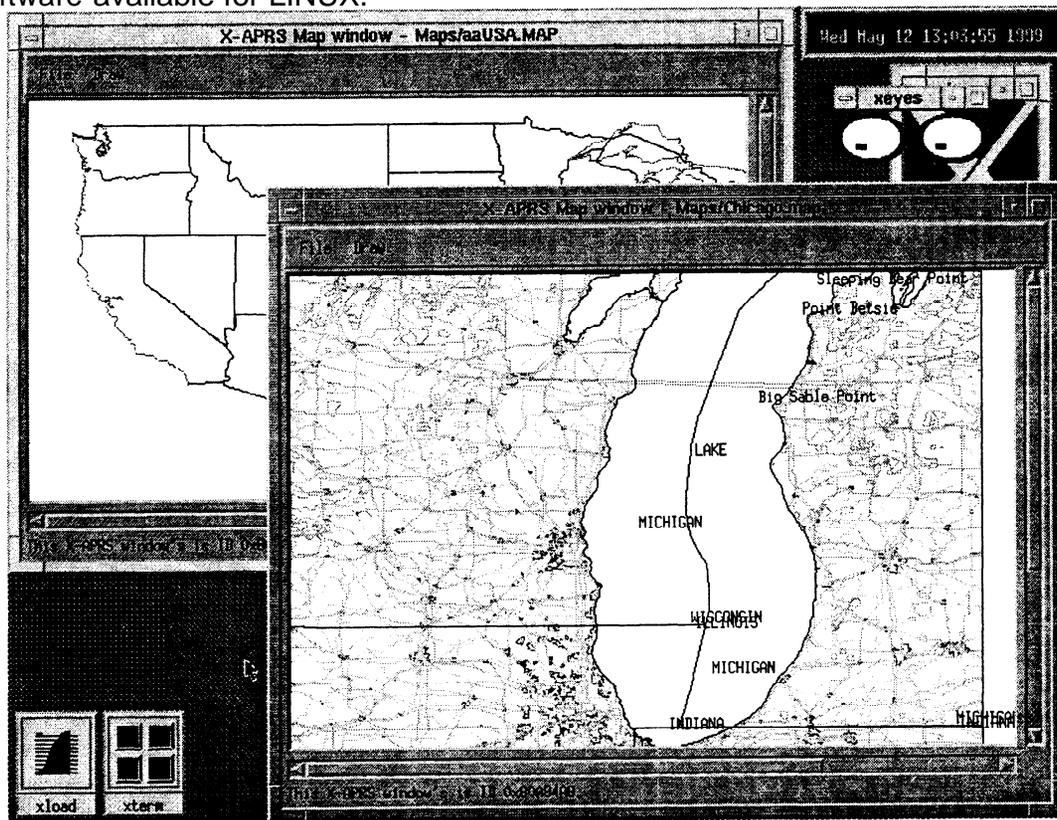
X-APRS™

APRS® For X-Windows (Linux)

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Abstract

APRS, Automatic Position Reporting System, has been around for most of this decade. Part of the attraction of APRS is that it runs on many different platforms. There are versions that run on DOS, Macintosh, Windows, Palm Pilot, and now, The Sproul Brothers (TSB) have introduced a version that runs on LINUX, using X-Windows. This is an important addition to the APRS community because many Hams are starting to use LINUX and there are lots of other Ham Radio related software available for LINUX.



Background

LINUX has become quite popular among Ham Radio people as an alternative operating system. There has been a large amount of work done for Linux for the Ham Radio community. Linux even has a system level Packet driver that speaks KISS to Packet TNCs. There has been a lot of pressure to get APRS running on Linux. This pressure has been building up over the last couple of years.

Implementation

WinAPRS and MacAPRS are written using C/C++. The actual set of source code consists of 300 source files and just over 2 MILLION lines of code. The development system that we have been using for all of MacAPRS and WinAPRS is Codewarrior by Metrowerks. This is a full C/C++ development system that allows the programmer to compile programs for Windows on a Macintosh and to compile programs for Macintosh on Windows. This system does NOT convert Mac programs to Windows or vice-versa. The programmer must write the code for the specific operating system. This system just allows one program to have conditional compile statements that say IF COMPILING FOR WINDOWS DO IT THIS WAY, and IF COMPILING FOR MACINTOSH DO IT THIS OTHER WAY. Now that Codewarrior is available on LINUX, we can take the entire set of source code and add a third conditional to it of IF COMPILING FOR LINUX DO IT THIS THIRD WAY.

By using this 'conditional compile' method, we can have one large set of source code that is guaranteed to be compatible, and only have differences where the target operating system requires it. For example, Protocol Parsing, which is the MOST important aspect of keeping the programs compatible, has nothing to do with which operating system it is running on, it is just straight 'C' code with no conditional compile statements at all.

Because of all of this, the conversion to a new platform becomes fairly easy. Once the primitives such as drawing lines and characters are implemented, the rest comes over fairly quickly and in large pieces. Another advantage is that all three versions become almost identical with all of the same features.

X-APRS is being developed for **Redhat** Linux. Eventually, we plan on making it work on some of the other popular versions of Linux and also SUN UNIX and other flavors of UNIX as needed.

Conclusion

X-APRS is progressing very nicely and is already in public beta testing at the time this article was written. There will be much more discussion of X-APRS at the Digital Communications Conference.

Reference

X-APRS is available at: <ftp://aprs.rutgers.edu/pub/hamradio/APRS/>

Documentation is at: <http://aprs.rutgers.edu/>