

Linux AX.25 Interface User's Guide

javAPRSSrvr 4.3.2

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Section 1 - Introduction

LinuxAX25Intf was written to provide an interface between javAPRSGate and the Linux kernel AX.25 socket support.

The LinuxAX25Intf source code is published.

LinuxAX25Intf makes use of javax25 written by Øyvind Hanssen and maintained on sourceforge.net. The javax25 code available on the javAPRSSrvr group site has been modified to use JNA instead of individual JNI files. This transforms javax25 into a pure Java implementation relying on JNA to make the proper linkages to libax25.so.

Section 2 - Program Requirements and Description

LinuxAX25Intf is designed to run on Linux with Java 1.8 or higher.

LinuxAX25Intf is comprised of a number of classes which Java looks at as objects. The main class is `net.ae5pl.linuxax25intf.LinuxAX25Intf`. This class is called at startup, sets parameters, and begins execution of the different support threads.

LinuxAX25Intf extends `net.ae5pl.serialintf.SerialIntf` to provide full, bidirectional communication with the AX.25 kernel modules. All IGate logic is handled at in `APRSIGate` which leaves the `LinuxAX25Intf` to concentrate on formatting and sending packets to the TNC via the Linux kernel.

This manual assumes that the user is familiar with AX.25 support in Linux and has properly set up the `ax25ports` file and run the associated configuration programs.

Section 3 - Configuration Parameters

The configuration properties reside in properties files for each client adjunct, server adjunct, and port. The main properties file is called javaprssrvr.properties by default. You can use any text file for the main properties file if you pass the name into javAPRSSrvr as a command line parameter.

The property names are not case sensitive but the values can be. Defaults are shown below.

NOTE: UNLESS YOU REQUIRE A SETTING OTHER THAN THE DEFAULT, DO NOT INCLUDE ANY PARAMETERS WITH DEFAULT SETTINGS.

List parameters (L) may be defined on the property line or may be defined in a text file with the suffix .lst. If defined on the line, each entry is separated by a semicolon. If defined in a file, each entry is put on a separate line in the .lst file and the file name is the property value. Do not put blank lines in the file. For instance, this could be a definition for ListProperty (example only):

```
ListProperty=first.aprs.net:1313;second.aprs.net:1313
```

Or you could have the following 2 lines in a file named hubs.lst:

```
first.aprs.net:1313
second.aprs.net:1313
```

with ListProperty=hubs.lst

Properties preceded by a (M) are unchangeable and should not be included in your properties files. They are included in the descriptions below to indicate what common properties are available vs. those that have been forcibly overridden.

javAPRSSrvr Properties

SerialPorts=

(L)This must include the LinuxAX25Intf properties file.

LinuxAX25Intf General Properties

ClassPath=

(L) Must include LinuxAX25Intf.jar.

Class=

Must be set to net.ae5pl.linuxax25intf.LinuxAX25Intf.

IntfName=

This is the name of the serial interface. This must match the respective client IntfName property.

(M)SharedTransmit=false

(M)TCPPorts=

ax25PortName=1

This is the port name for the TNC as defined in ax25ports.

EchoPackets=false

If true, the port will be opened using socket(AF_PACKET, SOCK_PACKET, htons(ETH_P_ALL)) instead of socket(AF_INET, SOCK_PACKET, htons(ETH_P_AX25)).

Section 4 - Recommended Configurations

Ax25PortName must match what is set in axports and full AX.25 kernel support must be installed.

Section 5 - Installation Instructions

LinuxAX25Intf is LinuxAX25Intf.jar. Also in that jar is the modified javax25.net package simplifying installation by including the single jar in the ClassPath property in your LinuxAX25Intf properties file. javax25 now uses JNA to interact with libax25.so. You can download the latest JNA jar file from <https://github.com/java-native-access/jna> You must have the AX.25 Linux kernel modules installed (libax25) and the ax25-tools utilities installed. Configure /etc/ax25/axports to point to your APRS TNC (or soundcard, or other device).

Section 6 – XML Status Page