

TCP/IP Packet Client for W0RLI's SNOS BBS

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Overview

The goal was to connect to a SNOS ORCYMB BBS via TCP/IP over the packet network using a generic e-mail client (Thunderbird) without having to dedicate a local computer to run SNOS.

Hardware

The equipment is an older Windows XP computer (with a built-in RS-232 serial port), an AEA PK-232MBX TNC (KISS mode required), an older Kenwood dual band 2M-UHF transceiver on 144.93.0 MHz and an 11 element 2 meter beam pointed at Beaver Creek.

Software

SV2AGW's packet engine and TCP/IP networking program are used provide the link between the Thunderbird e-mail client and the TNC.

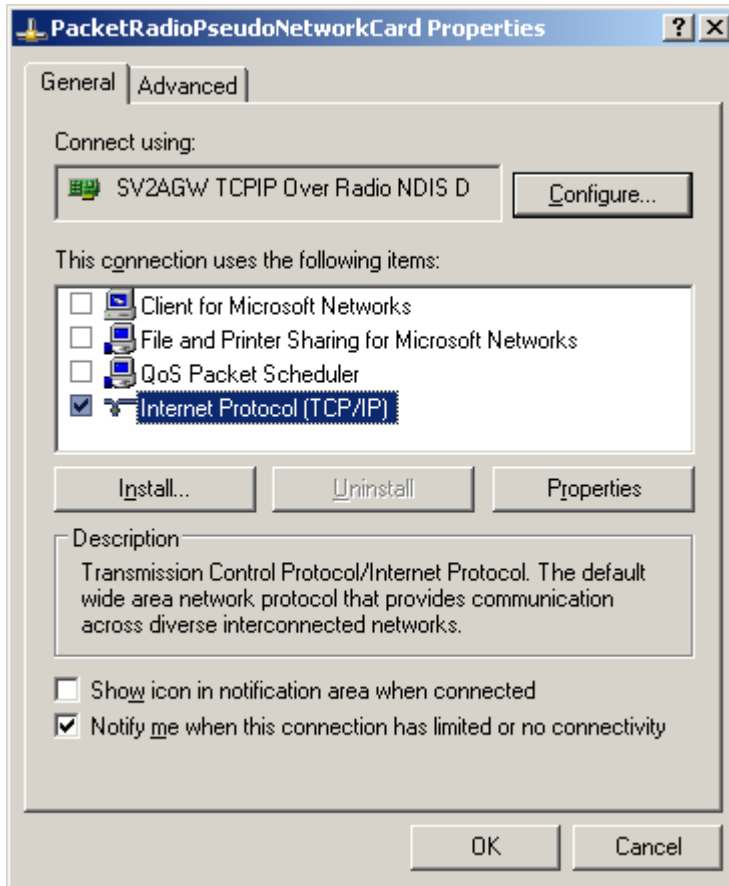
Download these zip files from <http://www.sv2agw.com/downloads/default.htm>

drivers.zip	(Required. TCP/IP network card simulator for AGWPE)
agwpe.zip	(Required. Packet Engine Program)
agwtermTcp.zip	(Optional but VERY helpful in monitoring incoming and outgoing messages)
pehelp.zip	(Optional but has VERY helpful descriptions of the AGWPE parameters)

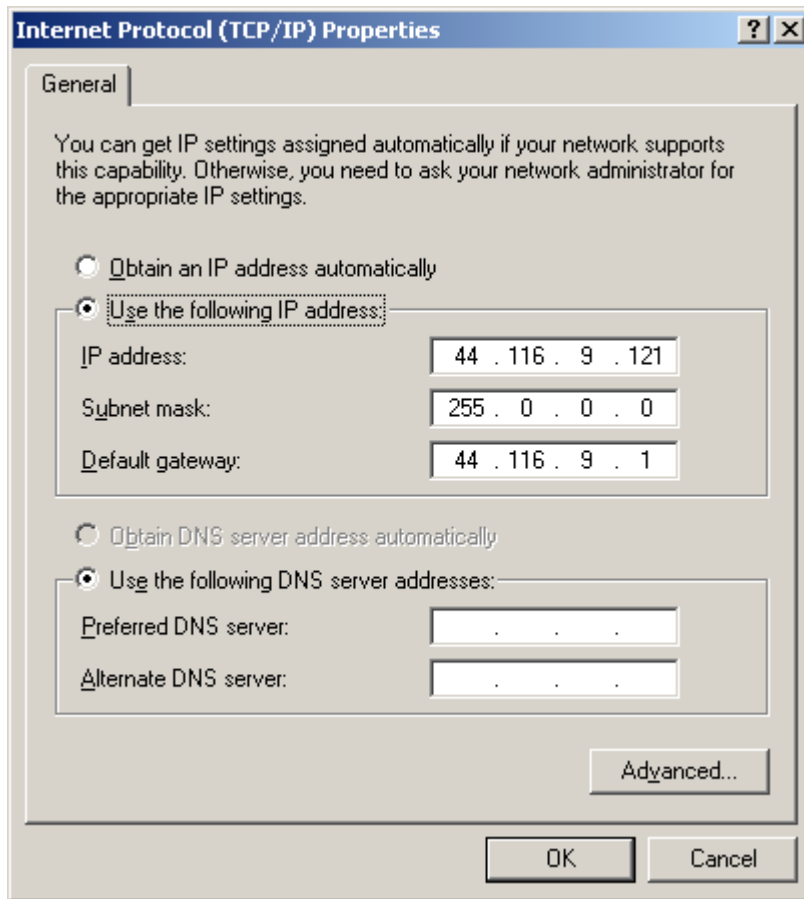
Install the Network Card Simulator

Unzip the Drivers.zip file. From its output, unzip tcpipXP.zip. In your XP Network Connections add a new network card specifying the .inf file from the unzipped TCPIPXP directory as the driver.

In the network card properties, leave only the TCP/IP protocol checked.



Set up the new network card's TCP/IP properties.



44.116.9.121 is the IP assigned to my station by the packet network coordinator, W7SZS. Your's will be diferent.

44.116.9.1 is the Beaver Creek gateway's IP. You will probably use a different gateway node. The list of network IP addresses can be found in <http://noapra.org/applications/snos/hosts>.

Install the AGW Packet Engine

Unzip and install AGWPE. Run the program and click on the icon in the tray beside the system clock to display the set up menu.

In the AGW Packet Engine's Properties, set up a new radio port specifying the appropriate TNC type, the COM port and adding an appropriate description.

Properties for Port3

Tnc Setup | Tnc Commands

Select Port: COM2

Be carefull for Modems like Baycom etc need also the Baudrate.

SerialPort/modem BaudRate: 9600

Tnc Type: Select Your Tnc Model. PK232

Tnc Sub Type: Select The special KISS Mode. KISS Simple

Options

Tnc Control Commands

IniKiss1:
IniKiss2: KISS ON
IniKiss3: RESTART

ExitKiss On Exit:

SinglePort
 DualPort
 Quadraple Port

Tnc RadioPort

Port	Port Description (Frequency,BaudRate etc)	Ports Kiss Id
Port1	144,930Mhz 1200baud	0
Port2		
Port3		
Port4		

OK Cancel

In AGW Packet Engine's TCPIP Over Radio setup, enable TCP/IP, select your radio port and plug your call sign (usually with a dash 1 SSID).

Uncheck the Allow Broadcast Messages check box.

The documentation suggests setting the packet length to 300 for 1200 baud packet and 576 for 9600 baud packet. Higher PacLen values seem to work also.

DialUp \leftrightarrow AX25 Setup

Check one of them or nothing to disable TCPIP

Enable DIALUF Enable TCPIP (Recommend Method)

Thank's NO TCPIP

RegiStration

Enter Your Registration Number Here.Else the TCPIP will Work only for 45min. Normal AX25 Packet needs no Registration.

Registration Num:

Radio

Select The Default RadioPort for TCPIP Access.

Port1 with PK232 On COM1: 144.930Mhz 1200baud;

PacLen (MSS or MTU). Recommende Value 576

Calls and Ip Adresses

MyCall: MyIp:

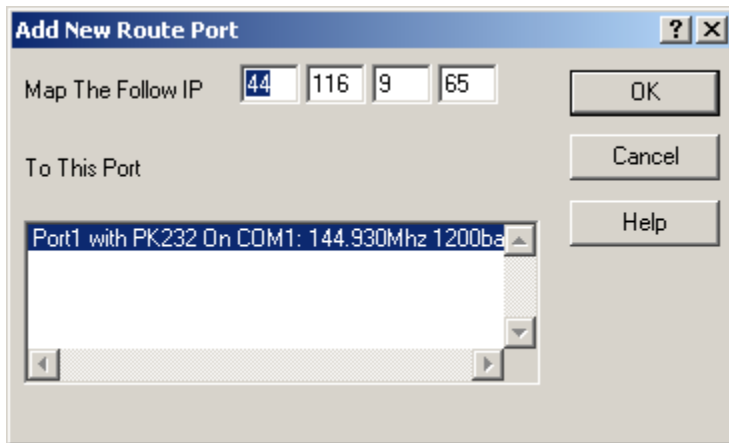
ServerCall: ServerIp:

Via Path:

Pass All IP Traffic to MSTcpip Stack

Allow Broadcast Messages.

Click the Setup Routes button and the New Route button to specify that the messages to the IP of ORCYMB are to be sent to the radio port that you just set up.

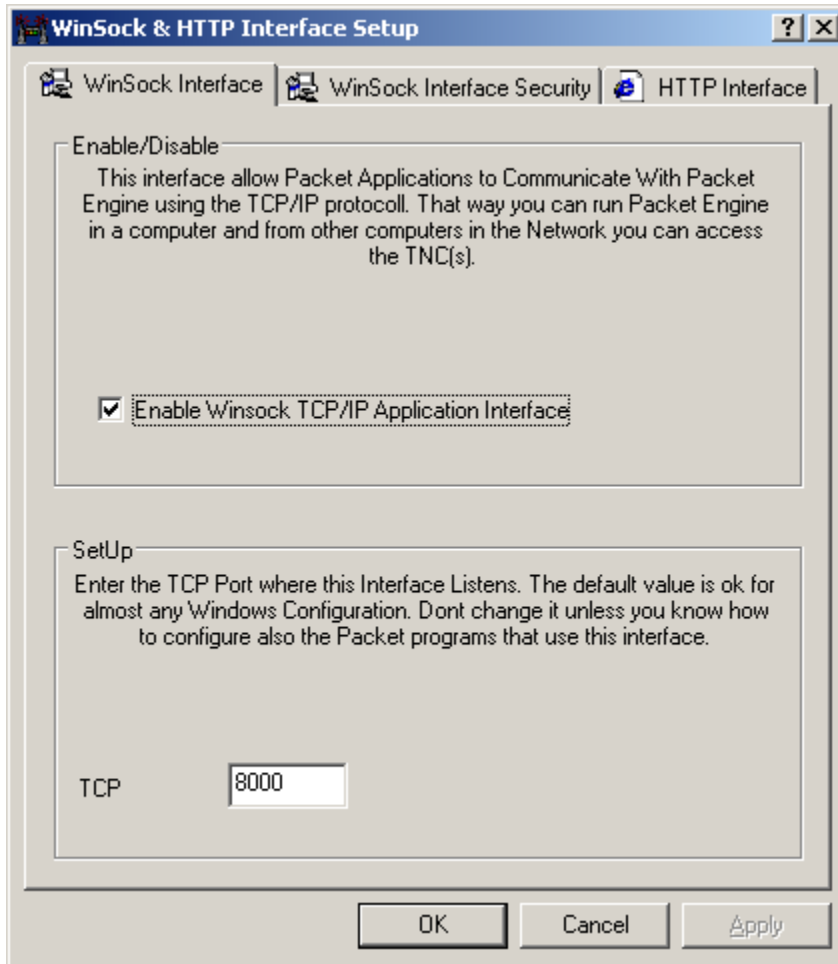


In the AGW Packet Engine's Startup Programs, it's helpful to point at a .bat file that has these lines in it so that the local computer knows to send its ham radio packets to the Beaver Creek gateway. The first line specifies that packets going to the gateway must be sent to the local packet IP address. The second line specifies that all packets going to the 44.116.0.0 are to be sent to the Beaver Creek gateway.

```
route ADD 44.116.9.1 MASK 255.255.255.255 44.116.9.121  
route ADD 44.116.0.0 MASK 255.255.0.0 44.116.9.1
```

Alternatively, you could manually enter these as permanent routes on your computer.

In the Setup Interfaces, check the Enable Winsock box.



Restart the AGW Packet engine and you should see three icons in the tray near the clock: one for the AGW Packet Engine and two old-fashioned modem icons. From a command line you should now be able to ping the gateway node as well as the remote BBS node.

```
C:\Documents and Settings\Greg>ping 44.116.9.1 -w 100000
```

```
Pinging 44.116.9.1 with 32 bytes of data:
```

```
Reply from 44.116.9.1: bytes=32 time=2088ms TTL=29  
Reply from 44.116.9.1: bytes=32 time=2217ms TTL=29  
Reply from 44.116.9.1: bytes=32 time=2218ms TTL=29  
Reply from 44.116.9.1: bytes=32 time=2374ms TTL=29
```

```
Ping statistics for 44.116.9.1:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
    Approximate round trip times in milli-seconds:  
        Minimum = 2088ms, Maximum = 2374ms, Average = 2224ms
```

```
C:\Documents and Settings\Greg>ping 44.116.9.65 -w 100000
```

```
Pinging 44.116.9.65 with 32 bytes of data:
```

```
Reply from 44.116.9.65: bytes=32 time=2644ms TTL=28  
Reply from 44.116.9.65: bytes=32 time=4015ms TTL=28  
Reply from 44.116.9.65: bytes=32 time=2905ms TTL=28  
Reply from 44.116.9.65: bytes=32 time=3218ms TTL=28
```

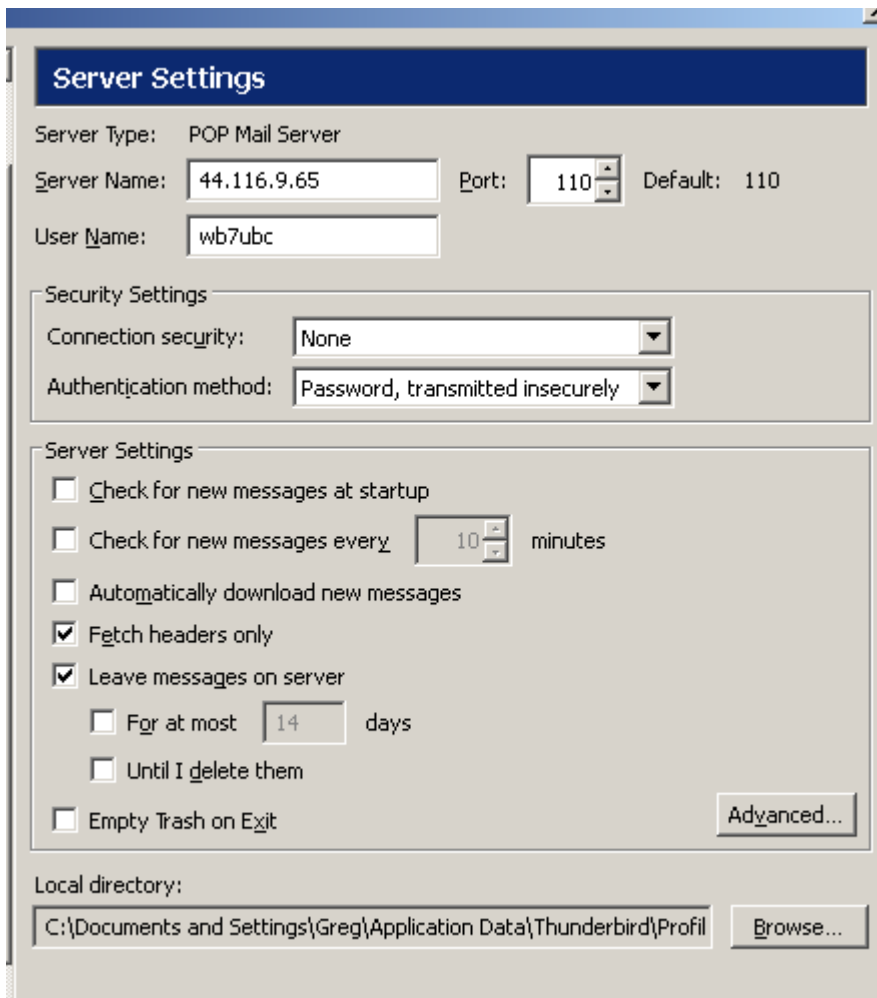
```
Ping statistics for 44.116.9.65:
```

```
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
    Approximate round trip times in milli-seconds:  
        Minimum = 2644ms, Maximum = 4015ms, Average = 3195ms
```

Thanks to W7SZS for setting up routes at ORCYMB and BVCK so that the ping responses were directed to my IP address.

Setting up the E-Mail Client

Here are the Thunderbird POP3 settings. The check box settings are purely personal preference.



The screenshot shows the 'Server Settings' dialog box in Thunderbird. The window title is 'Server Settings'. The 'Server Type' is set to 'POP Mail Server'. The 'Server Name' is '44.116.9.65', the 'Port' is '110', and the 'Default' is '110'. The 'User Name' is 'wb7ubc'. Under 'Security Settings', 'Connection security' is 'None' and 'Authentication method' is 'Password, transmitted insecurely'. The 'Server Settings' section contains several checkboxes: 'Check for new messages at startup' (unchecked), 'Check for new messages every 10 minutes' (unchecked), 'Automatically download new messages' (unchecked), 'Fetch headers only' (checked), 'Leave messages on server' (checked), 'For at most 14 days' (unchecked), 'Until I delete them' (unchecked), and 'Empty Trash on Exit' (unchecked). There is an 'Advanced...' button. The 'Local directory' is 'C:\Documents and Settings\Greg\Application Data\Thunderbird\Profil' with a 'Browse...' button.

Server Settings

Server Type: POP Mail Server

Server Name: 44.116.9.65 Port: 110 Default: 110

User Name: wb7ubc

Security Settings

Connection security: None

Authentication method: Password, transmitted insecurely

Server Settings

Check for new messages at startup

Check for new messages every 10 minutes

Automatically download new messages

Fetch headers only

Leave messages on server

For at most 14 days

Until I delete them

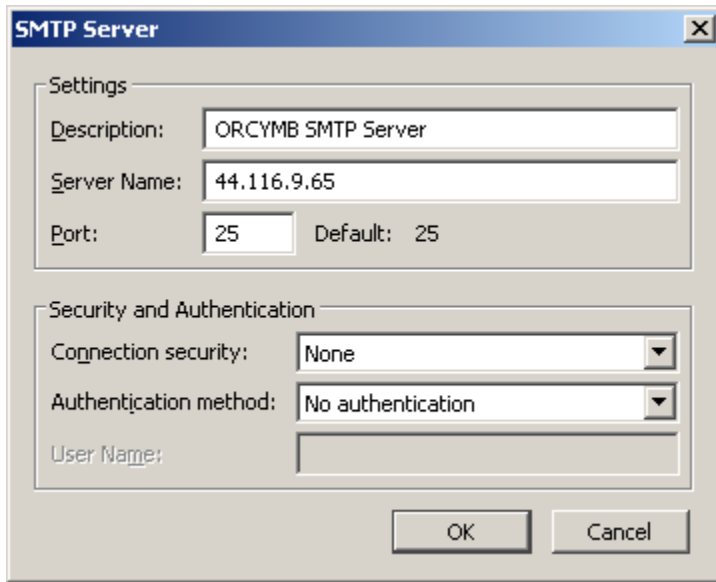
Empty Trash on Exit

Advanced...

Local directory: C:\Documents and Settings\Greg\Application Data\Thunderbird\Profil

Browse...

Here are the Thunderbird SMTP settings.



The image shows a dialog box titled "SMTP Server" with a close button (X) in the top right corner. The dialog is divided into two sections: "Settings" and "Security and Authentication".

Settings

- Description:** ORCYMB SMTP Server
- Server Name:** 44.116.9.65
- Port:** 25 (Default: 25)

Security and Authentication

- Connection security:** None
- Authentication method:** No authentication
- User Name:** (empty text box)

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Receiving Bulletins via the SNOS News Group Server.

Set up a Thunderbird newsgroup account to the ORCYMB news group server. Make sure you specify the ORCYMB SMTP server for the outgoing e-mail.

The screenshot shows the 'Account Settings' dialog for a newsgroup account named '<ORCYMB BULLETINS>'. The 'Account Name' field is filled with 'ORCYMB BULLETINS'. Under the 'Default Identity' section, the 'Your Name' and 'Email Address' fields are both filled with 'WB7UBC@W75Z5.OR.U.SA.NOAM'. The 'Reply-to Address' and 'Organization' fields are empty. The 'Signature text' section has an unchecked checkbox for 'Use HTML (e.g., bold)' and a large empty text area below it. There are two unchecked checkboxes: 'Attach the signature from a file instead (text, HTML, or image):' with a 'Choose...' button, and 'Attach my vCard to messages' with an 'Edit Card...' button. The 'Outgoing Server (SMTP):' dropdown menu is set to 'ORCYMB SMTP Server - 44.116.9.65'. A 'Manage Identities...' button is located at the bottom right of the dialog.

Account Settings - <ORCYMB BULLETINS>

Account Name: ORCYMB BULLETINS

Default Identity
Each account has an identity, which is the information that other people see when they read your messages.

Your Name: WB7UBC@W75Z5.OR.U.SA.NOAM

Email Address: WB7UBC@W75Z5.OR.U.SA.NOAM

Reply-to Address:

Organization:

Signature text: Use HTML (e.g., bold)

Attach the signature from a file instead (text, HTML, or image):
Choose...

Attach my vCard to messages: Edit Card...

Outgoing Server (SMTP): ORCYMB SMTP Server - 44.116.9.65

Manage Identities...

Server Settings

Server Type: News Server (NNTP)

Server Name: Port: Default: 119

Security Settings

Connection security:

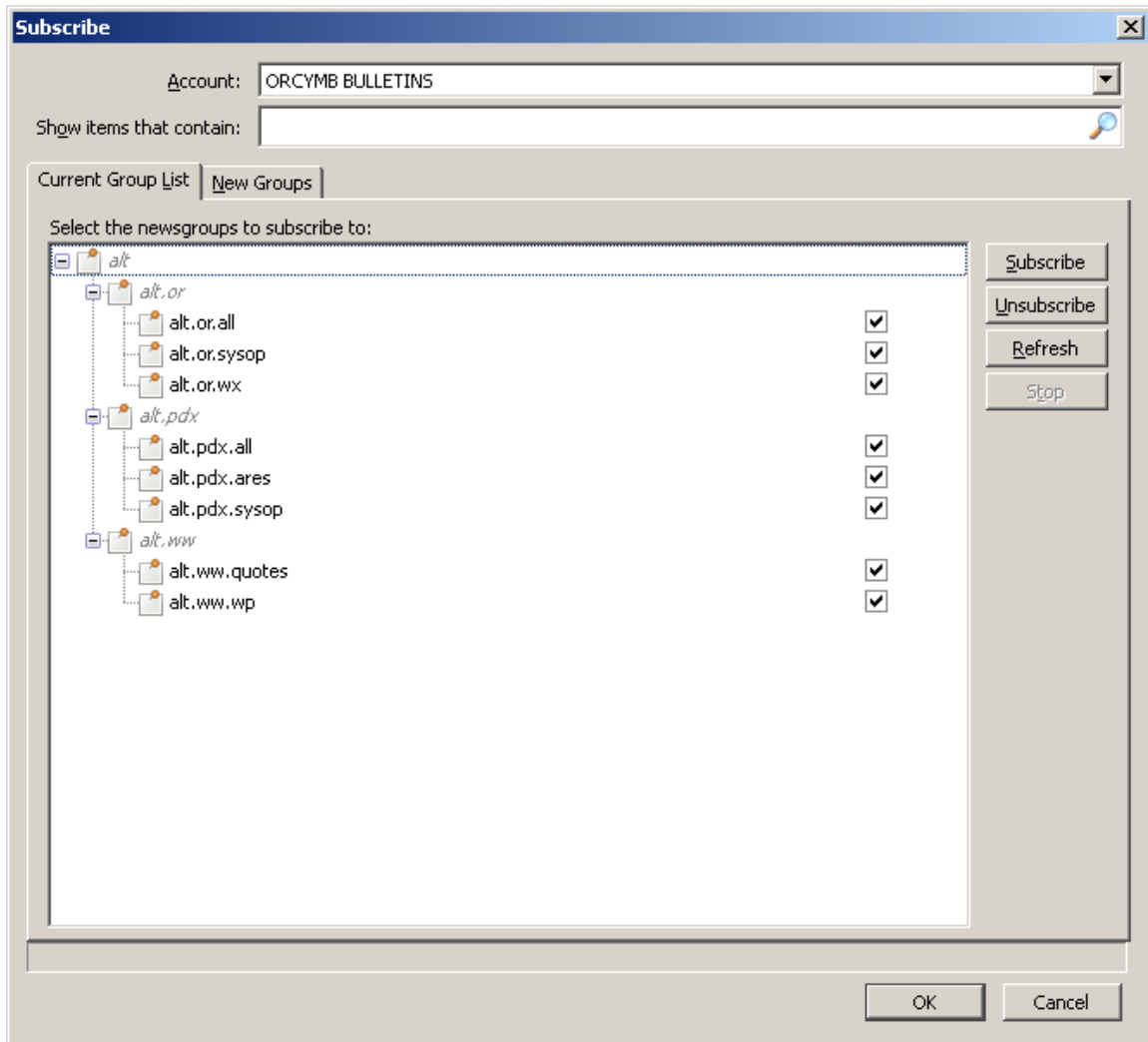
Server Settings

- Check for new messages at startup
 - Check for new messages every minutes
 - Ask me before downloading more than messages
 - Always request authentication when connecting to this server
- newsrsrc file:

Local directory:

Default Character Encoding:

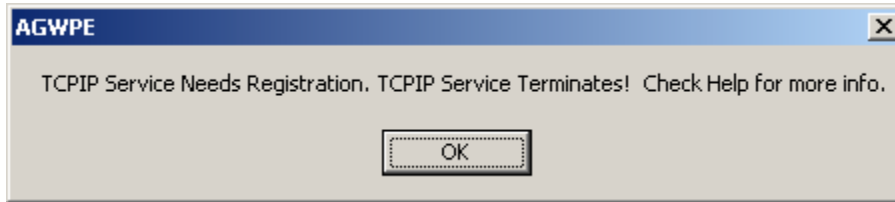
Once you have the account set up, right click on the ORCYMB Bulletins account in the Thunderbird e-mail folders and click on subscribe. ORCYMB will provide a list of the current bulletin message topics. Expand the newsgroup trees and check the boxes for your topics of interest.



If someone posts a bulletin with a new subject line, you will NOT receive it since it doesn't fall into one of the news group categories (subject lines) that you've selected. So it's good to periodically check for new bulletin topics using the Subscribe command described above.

Caveats

It should be noted that the time-limited Windows TCP/IP software from SV2AGW only runs for 30 - 45 minutes before it ceases to work, issuing this message.



A financial contribution of \$28 to SV2AGW is said to convert this time-limited operation into unlimited operation.

Alternatively, a simple restart of the AGW Packet Engine program buys you another 30 minutes or so of operation without breaking the TCP/IP connection.

Thanks again to David, W7SZS whose invaluable help and guidance made this endeavor a success.

73

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