



Tech Info Library

X.25 Protocol: Using It With InterBridges

This article last reviewed: 15 October 1987

The Question

Suppose you want to connect to a network based on the X.25 protocol. You may want to connect an InterBridge to their backbone zone, then connect the InterBridge via one of its modem ports to one of the ports on an X.25 pad located in the WHTC complex. The connection is to tie into another AppleTalk network that has been connected in a similar fashion at some other point in the X.25 network. Your concerns are:

- how to initiate the connection between two InterBridges across the X.25 bridge.
- the amount and size of packet traffic generated by two InterBridges polling each other's existence across the X.25 bridge.

Making the Connection

To initiate the communication between bridges, just turn on the InterBridge. It then polls the nearest bridge and updates its internal table of zones available on the net from the adjacent InterBridge. It also passes its zone address number and name to the other bridge. If a bridge is turned off, it will rebuild the zone table at power on. After a delay in rebuilding the table, it maintains the table on its own. Applications such as the Chooser and InBox, which communicate over AppleTalk, can request the zone information from the InterBridge. Bridges periodically update their tables and will, upon receiving a new zone address or a packet referencing an unnamed zone address with a name, will update the table to reflect the new zone address and zone name.

There is one consideration that may cause some applications not to function with this network. Because InterBridges use ZIP, which is "best effort" protocol, checking for timeouts or proper data handling must be handled by the application. Some applications, notably AlisaTalk running on a VAX, will time-out if delays are very long across the network. You are then at the mercy of whatever traffic and traffic problems might exist on the X.25 net.

Packet Traffic

During the first 30 seconds of polling time, approximately 5-6 packets are

transferred between InterBridges. These packets are in ZIP (Zone Information Protocol). The first will be a ZIP bringup packet that will be delivered out each of the connected ports. This is followed by a ZIP GetZoneList or GetMyZone packet. The GetZoneList packet is replied with a GetZoneList Reply packet. The new InterBridge might send a ZIP Query for information on packets whose addresses are not yet in its Zone Information Table (ZIT). This also will be replied and will be in the form of a ZIP reply packet.

The packets range in size: 8 bytes for a ZIP GetZoneList, 45 bytes for a ZIP bringup, 13 bytes plus 32 bytes for each zonename for a ZIP reply packet, and for a GetZoneList Reply there would be 9 bytes and 32 bytes for each zone name.

The first group of bytes contain the LAP (Link Access Protocol) header, the DDP Datagram Delivery Protocol) header, and the ZIP (Zone Information Protocol) header. This will be true for takedown, bringup, query, and reply packets. The ZIP GetzoneList and GetZoneList Reply packets use ATP (AppleTalk Transaction Protocol) header and user bytes. These transactions take place with each connected port.

There are two AppleTalk ports and two Serial ports on the InterBridge. After the initial polling, one packet each 10 seconds is transmitted to maintain the connection while idling.

Copyright 1989 Apple Computer, Inc.

Keywords: <None>

=====

This information is from the Apple Technical Information Library.

19960215 11:05:19.00

Tech Info Library Article Number: 822