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For those using InterBridges to connect an AppleTalk network to an X.25 backbone, this article concerns the rate and size of packet traffic generated by the idle polling of InterBridges across the net, as well as some information on how to initialize this polling.

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 one is a ZIP bringup packet that comes out of each of the connected ports. ZIP bringup is followed by a ZIP GetZoneList or GetMyZone packet. The GetZoneList is followed by a GetZoneList Reply packet. A newly started InterBridge sends out a ZIP Query for information on packets whose addresses are not yet in its Zone Information Table (ZIT). This ZIP query also is answered with 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 holds 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 2 AppleTalk ports and 2 Serial ports on the InterBridge. After the initial polling, 1 packet gets transmitted every ten seconds maintains the connection while idling.

To start the bridges communicating, simply turn one on. The InterBridge polls its nearest neighbor, asks it to update its own internal table of zones, then gives the neighbor bridge its zone information. If a bridge happens to be turned off, the bridge's zone table gets rebuilt at power on, which, from that point on, it maintains on its own. Applications communicating over AppleTalk request the zone information from the InterBridge for the user. Bridges periodically update their tables, and upon receiving a new zone address or a

packet referencing an unnamed zone address with a name, the bridge updates its table to reflect the new zone name and address.

There is a problem that may cause some applications not to function on this type of network. Since InterBridges use ZIP, which is "best effort" protocol, this means checking for timeouts and 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. These programs operate at the mercy of any other traffic on the X.25 net.

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