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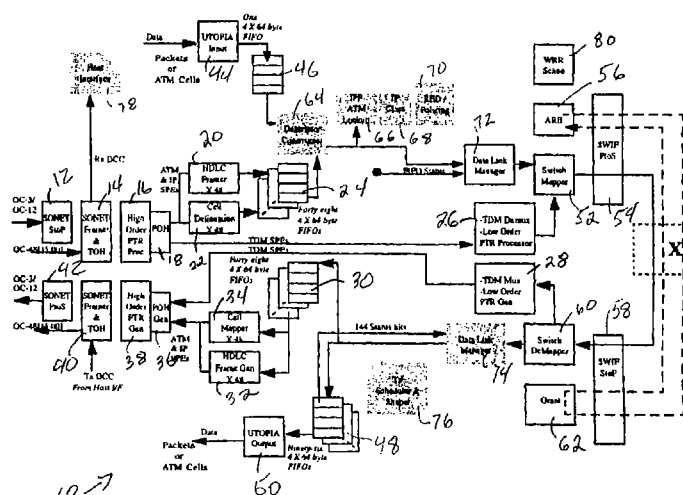
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(54) Title: METHODS AND APPARATUS FOR SWITCHING ATM, TDM, AND PACKET DATA THROUGH A SINGLE COMMUNICATIONS SWITCH



(57) Abstract: A network switch includes at least one port processor (10) and at least one switch element (100). The port processor (10) has an SONET OC-x interface (12), a UTOPIA interface (44), and an interface to the switch element (100). The port processor (10) has a total I/O bandwidth equivalent to an OC-48, and the switch element (100) has 12x12 ports for a total bandwidth of 30 Gbps. A data frame of 9 rows by 1700 slots is used to transport ATM, TDM, and Packet data. Each frame is transmitted in 125 microseconds. Each slot includes a 4-bit tag plus a 4-byte payload. The last twenty slots of the frame are reserved for link overhead. For ATM and packet data, a PDU of 16 slots is defined for a 64-bytes payload. The PDUs are self-routed through the switch with a 28-bit routing tag. Bandwidth is arbitrated among ATM and Packet connections while maintaining TDM timing.

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