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(54) Title: ADAPTIVE MULTI-PROTOCOL COMMUNICATIONS SYSTEM

(57) Abstract: An adaptive multi-protocol communications system provides a plurality of single computer interface cards connected to a common backplane or interconnect. Each interface card sends and receives bit streams of a specific application protocol, exchanging data between possibly differing application protocols. The interface card feeds the incoming binary stream into a finite state machine dedicated to converting a specific application protocol bit stream into a multi-dimensional matrix representation for a particular communication protocol, e.g., EDI,XML, or the invention's intermediate translation representation. The invention uses finite state machines to convert from the initial communication protocol bit stream to the invention's intermediate representation. A finite state machine on a receiving interface card is used to convert the incoming bit stream into an intermediate language multi-dimensional matrix and passes the matrix to a destination interface card which has a finite state machine used to convert the intermediate language multi-dimensional matrix to an application protocol bit stream. The application protocol bit stream is then sent to a receiving computer system.