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Naef, III

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[54] METHOD AND APPARATUS FOR INTERACTIVE COMPUTER CONFERENCING

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[56] References Cited

U.S. PATENT DOCUMENTS

4,414,621	11/1983	Bown et al.	364/200
4,441,162	4/1984	Lillie	364/900
4,493,021	1/1985	Agrawal et al.	364/200
4,503,499	3/1985	Mason et al.	364/200
4,551,720	11/1985	Levin	340/825
4,654,483	3/1987	Imai et al.	379/54
4,686,698	8/1987	Tompkins et al.	379/53
4,718,005	1/1988	Feigenbaum et al.	364/200
4,768,150	8/1988	Chang et al.	364/300
4,777,595	10/1988	Strecker et al.	364/200
4,780,821	10/1988	Crossley	364/200
4,796,293	1/1989	Blinken et al.	379/202
4,814,984	3/1989	Thompson	364/200
4,825,354	4/1989	Agrawal et al.	364/200
4,887,204	12/1989	Johnson et al.	364/200
4,897,781	1/1990	Chang et al.	364/200
4,937,784	6/1990	Masai et al.	364/900
4,939,509	7/1990	Bartholomew et al.	340/717
4,949,248	8/1990	Caro	364/200
4,949,254	8/1990	Shorter	364/200
5,008,853	4/1991	Bly et al.	364/900

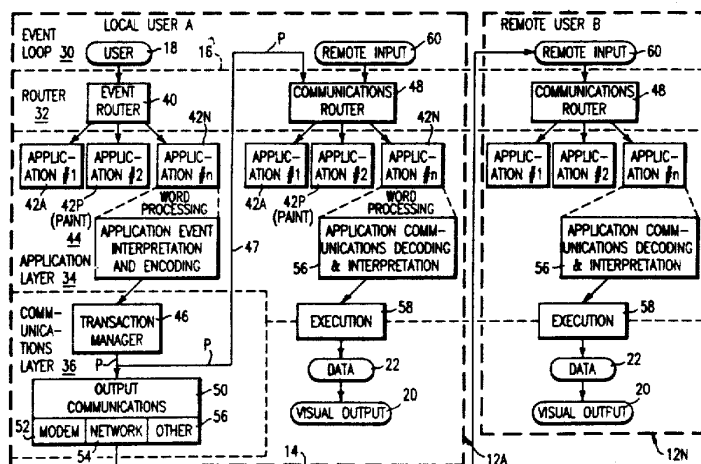
OTHER PUBLICATIONS

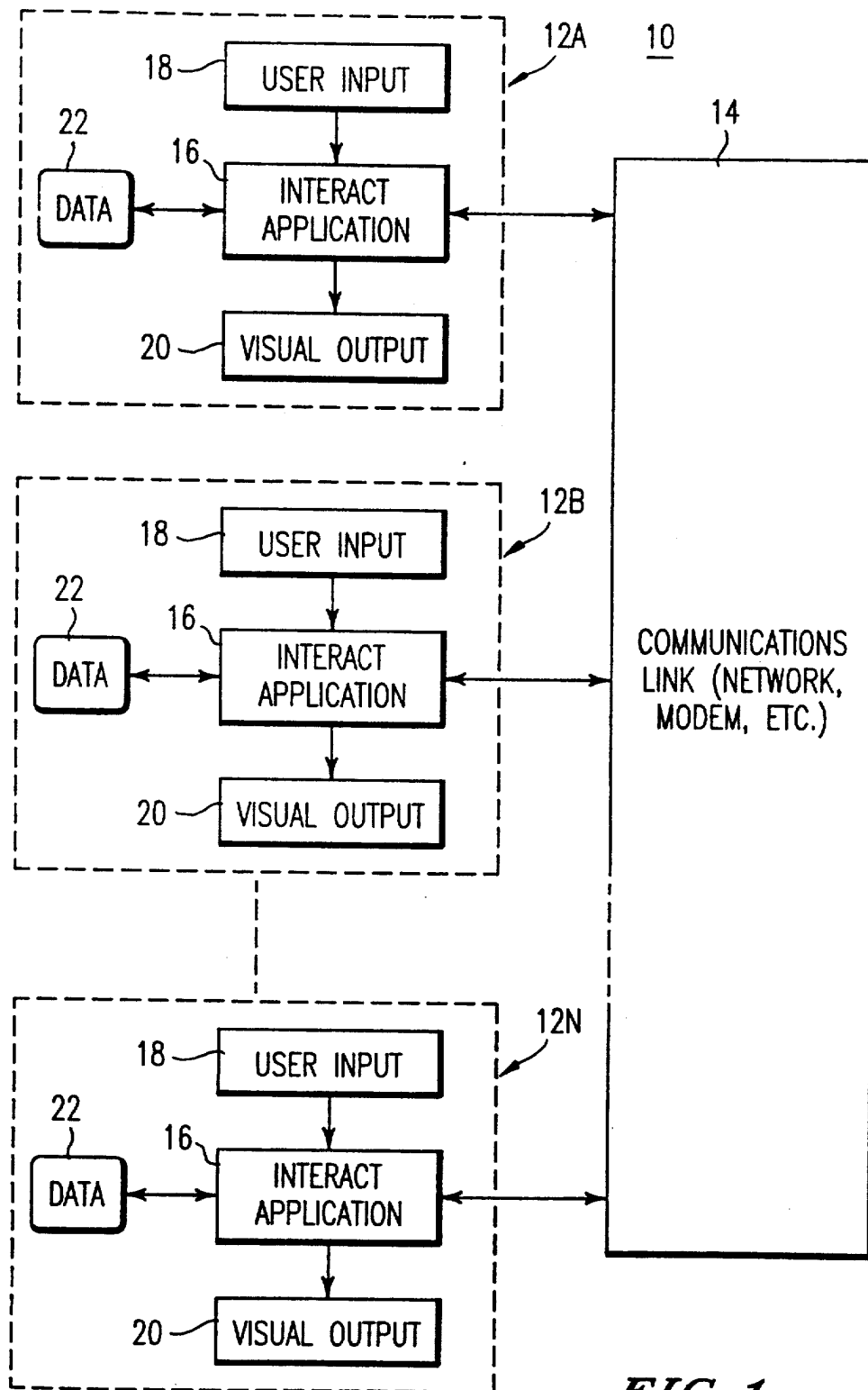
E. Circenis and R. Magnuson, "Pascal Procedures--

Build a Network Painting Program", *MacTutor*, vol. 5, No. 7, pp. 28-51 (Jul. 1989).J. Langowski, "Forth Forum-Appletalk Protocol Handlers", *MacTutor*, vol. 5, No. 7, pp. 52-57 (Jul. 1989).M. Stefik et al., "Beyond the Chalkboard: Computer Support for Collaboration and Problem Solving in Meetings", *Communications of the ACM*, vol. 30, No. 1, pp. 32-47 (Jan. 1987).S. Sarin and I. Greif, "Computer-Based Real-Time Conferencing Systems", *Computer*, vol. 18, No. 10, pp. 33-45 (Oct. 1985).H. Forsdick et al., "Initial Experience with Multimedia Documents in Diamond", *Computer Message Service, Proceedings of IFIP 6.5 Working Conference*, IFIP, pp. 97-112 (1984).W. Pferd et al., "Interactive Graphics Teleconferencing", *Computer*, vol. 12, No. 11, pp. 62-72 (Nov. 1979).M. Brown and R. Sedgewick, "Techniques for Algorithm Animation", *IEEE Software*, vol. 2, No. 1, pp. 28-39 (Jan. 1985).*Primary Examiner*—Kevin A. Kriess*Attorney, Agent, or Firm*—Venable, Baetjer & Howard

[57] ABSTRACT

A method and apparatus for conferencing among a plurality of computers is described. A local user receives inputs containing user actions and data for interpretation as to what the user action is with respect to the data and produces user action outputs. An interpreter/encoder interprets and encodes the user action outputs into packets of encoded commands and data related thereto. A communications device sends the encoded information to at least one remote user and the local user itself. An interpreter decoder at each computer interprets and decodes the encoded information specifying an operation to be performed on the data. The operation is then executed at the local user and the remote users. The system is operating system independent and multiple documents and applications may be worked on at the same time by different users.

34 Claims, 5 Drawing Sheets

**FIG. 1**

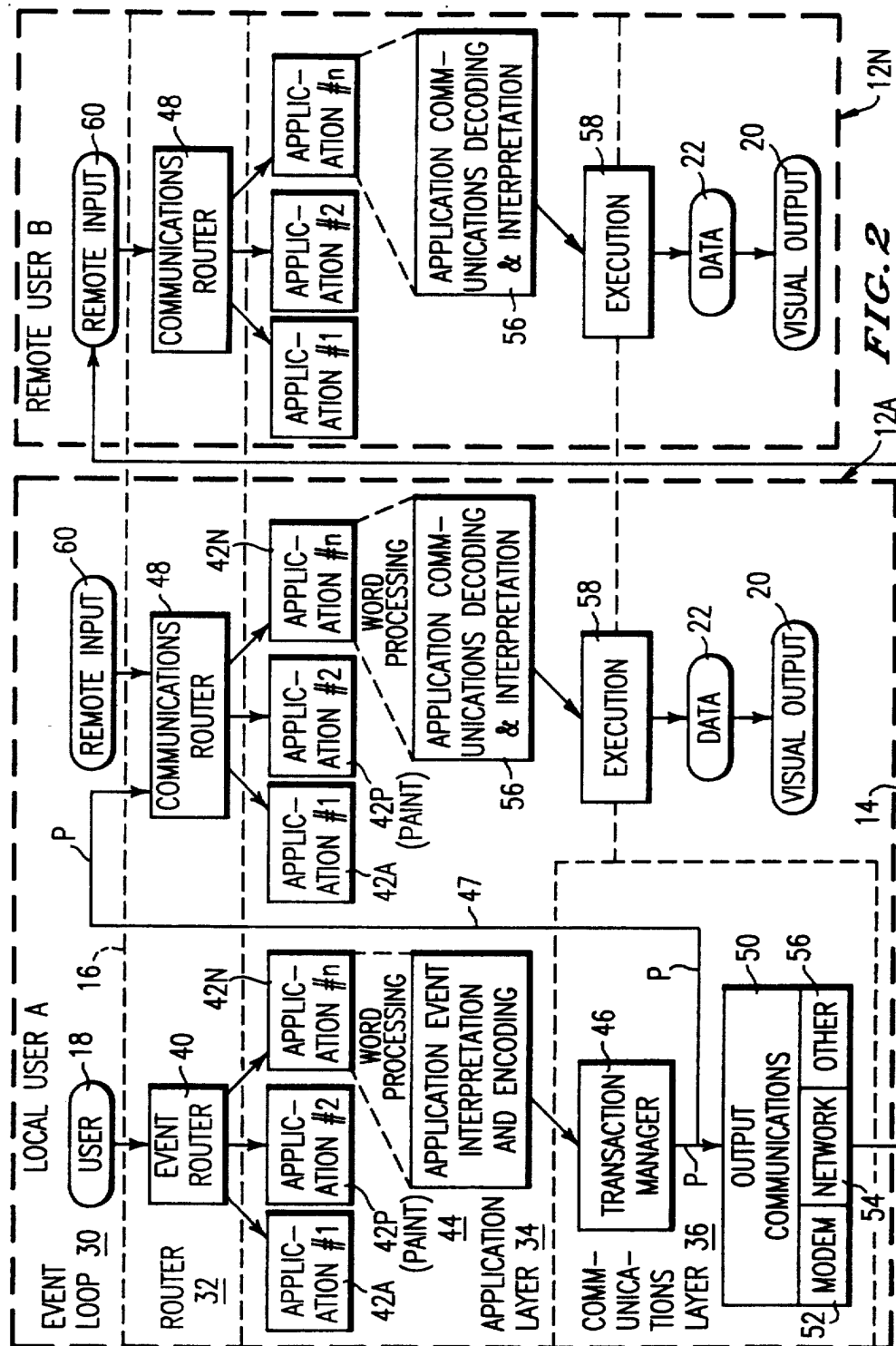
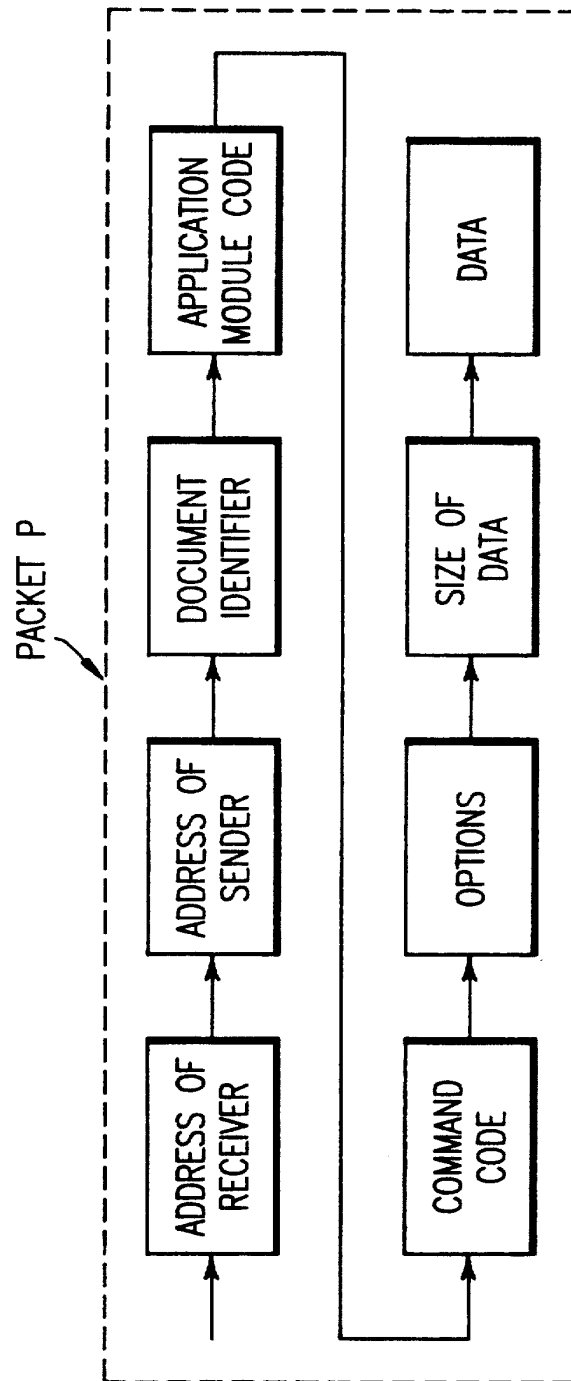
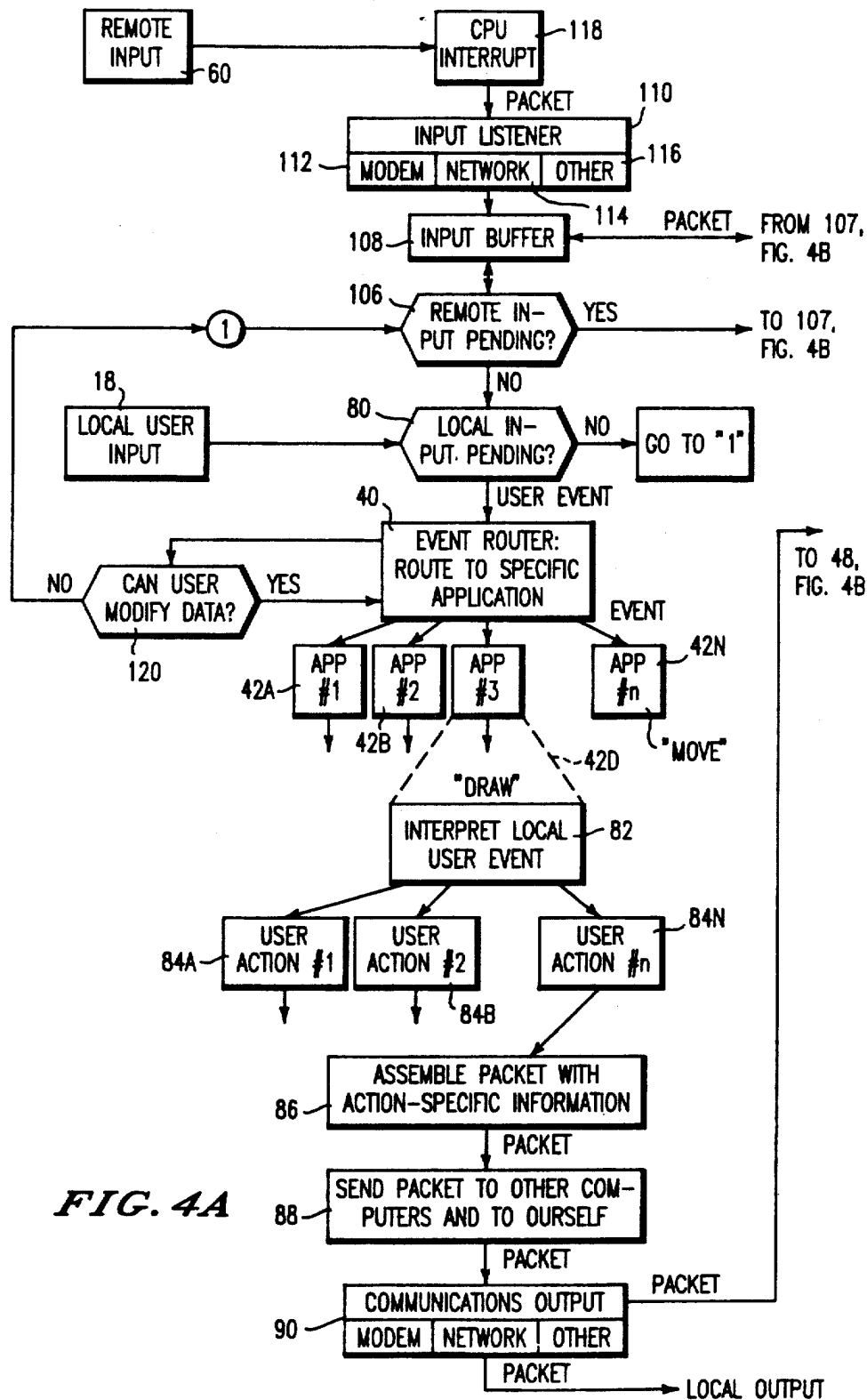


FIG. 2

*FIG. 3*



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