- structuring parallel computations for a work-station cluster. Proceedings of Distributed Computing 1986 (1986).
- 11. Digital Equipment Corporation, Intel Corporation and Xerox Corporation, *The Ethernet: A Local Area Network-Data Link Layer and Physical Layer Specification* Version 2.0 (1982).
- J. Crowcroft and K. Paliwoda, A multicast transport protocol. In SIGCOMM '88 Symposium on Communications Architectures and Protocols, pp. 247–256. ACM SIGCOMMS (1988).
- 13. S. E. Deering, *Host Extensions for IP Multicasting*. Technical Report RFC 988, DARPA (1986).
- A. Erramilli and R. P. Sigh, A reliable and efficient multicast protocol for broadband broadcast networks. In SIGCOMM '87 pp. 343-352. ACM SIGCOMMS (1987). SIGCOMMS (1987).
- H. Forsdick et al., Initial experience with multimedia documents in Diamond. In Computer-Based Message Service, edited H. T. Smith, pp. 99-113. IFIP, Elsevier-North-Holland Amsterdam (1984).
- J. J. Garcia-Luna-Aceves. A hierarchical architecture for computer-based message systems. *IEEE Transactions on Communications* 30 (1), 37–45 (1982).
- J. J. Garcia-Luna-Aceves, Towards computer-based multimedia information systems. In *Computer Message* System – 85, edited R. Uhlig, pp. 61–77. IFIP, Elsevier– North-Holland, Amsterdam (1985).
- 18. W. Horak, Office document architecture and office document interchange formats: current status of international standardization. *IEEE Computer* 18 (10), 50–62 (1985).
- L. Hughes, Multicast Communications in Distributed Systems. *PhD thesis*, University of Newcastle upon Tyne, England (1986).
- F. F. Kuo and J. J. Garcia-Luna-Aceves, Issues in multimedia computer based message system design and standardisation. In *Information Technology and the Com*puter Network, edited K. G. Beauchamp, pp. 43–52. NATO ASI Series, Springer, Heidelberg (1984).
- 21. Y. Lui et al., A session layer design of a reliable IPC system

- in the Unix 4.2 environment. In *Proceedings of the Computer Networking Symposium*, pp. 120-9. IEEE Computer Society Press, New York (1986).
- P. V. Mockapetris. Analysis of reliable multicast algorithms for local networks. In *Proceedings of Eighth Data Communications Symposium*, pp. 150–157. IEEE Computer Society Press, New York (1983)
- 23. L. H. Ngoh, An investigation of the development of computer-based distributed multimedia information systems. *Master's thesis*, Department of Computer Science, University of Manchester, England (1987).
- 24. E. Nordmark, VMTP Implementation Notes. Technical report, Stanford University (1987).
- A. Poggio et al., CCWS: a computer-based, multimedia information system. *IEEE Computer* 18 (10), 92–105 (1985). (1985).
- J. Postel, Transmission Control Protocol. Technical report RFC 791, DARPA (1981).
- 27. J. K. Reynolds *et al.*, The DARPA experimental multimedia mail system. *IEEE Computer* **18** (10), 82–91 (1985).
- 28. J. K. Reynolds et al., Voice File Interchange Protocol (VFIP). Technical report RFC 978, DARPA (1986).
- S. K. Sarin, Interactive On-Line Conference. *PhD thesis*, M.I.T. Department of Electrical Engineering and Computer Science (1984).
- D. W. Wall, Mechanisms for Broadcast and Selective Broadcast. Technical report DSL-TR-190, Stanford University (1980).
- 31. R. W. Watson, IPC interface and end-to-end (transport) protocol design issues. In Lecture Notes in Computer Science, Vol. 105, pp. 140–174. Springer, Berlin (1981).
- 32. Xerox, *Internet Transport Protocols (XSIS 028112*). Xerox System Integration Standard (1981).
- 33. H. Zimmermann, OSI reference model the ISO model of architecture for open systems interconnection. *IEEE Transactions on Communications* **COM-28** (4), 425–432 (1980).

Announcement

Information Management Study Group

The Institute of Administrative Management has recently taken responsibility for convening a small group of senior college tutors to discuss what was loosely referred to as 'The creative use of management information' or latterly 'Managing Information as a Resource'.

There was a large measure of agreement within the group that the greater, and hoped for, use of information in many organisations was inhibited by several important factors, including the following:

- (1) Lack of understanding, at middle or senior levels of management, of the handling and accumulation of information through the normal administrative processes.
- (2) The lack of information personnel with the necessary business and technical background to progress development within the organisation.
- (3) The need to reorganise and reorientate the administrative structure within organisations to allow the growth and use of information as a resource.

As a first step in a programme of investigation and research, the group has decided to hold a one-day workshop in London in the autumn of 1989. It is hoped that some 50 employers and those involved in education and training will come together to make a preliminary survey of the situation as they see it. If, as a result of this gathering, certain problems can be identified, further activities will be arranged.

Further details of the workshop will be announced shortly.