

## *Curriculum Vitae*

*Alfred C. Weaver*

### **1. EDUCATION, EMPLOYMENT, AND PROFESSIONAL ACTIVITIES**

#### **1.1 Education:**

Ph. D. (computer science)	University of Illinois, 1976
M. S. (computer science)	University of Illinois, 1973
B. S. (engineering science)	University of Tennessee, 1971

#### **1.2 Professional Employment History**

University of Virginia, Charlottesville, Virginia  
Lucian Carr III Professor of Engineering and Applied Science, 2002--2005  
Professor of Computer Science, 1992--  
Associate Professor of Computer Science, 1983-92  
Chairman, Department of Computer Science, 1984-85  
Assistant Professor of Computer Science, 1977-1983

Virginia's Center for Innovative Technology, Herndon, VA  
Program Consultant, 1996-97 (sabbatical)

NASA--Johnson Space Center, Houston, Texas  
Computer scientist, August 1986--June 1987 (sabbatical)

Department of Computer Engineering, Lund University, Lund, Sweden  
Visiting Associate Research Professor of Computer Science, May-June 1983

Technical University of Denmark, Lyngby, Denmark  
Visiting Instructor, summer 1975

Department of Computer Science, University of Illinois, Urbana, Illinois  
Graduate Teaching Assistant, 1971-1975

IBM Graduate Fellow in Computer Science, 1975-1976  
Visiting Assistant Professor of Computer Science, 1976-1977

Tennessee Valley Authority, Knoxville, Tennessee  
Engineer, Division of Research and Development, 1970-1971

Department of Computer Science, University of Tennessee, Knoxville, Tennessee  
Undergraduate Teaching Assistant, 1969-1970

### 1.3 Consultant Positions

Sitara Networks, Inc. 1997-98  
Design of high-speed Internet access protocols

Infocus Communications, Inc. 1996-97  
Business plan development for web hosting services

MITRE Corporation, 1995  
Design review of Pentagon ATM Communications Systems

Institute for Defense Analyses, 1990-95  
Design of real-time distributed computing systems

Honeywell, Inc., Space Systems Division, 1990-91  
Design of high-performance network interface unit

Honeywell, Inc., Sensor and Systems Development Division, 1988-92  
Design of networked industrial automation systems

E-Systems, 1990-91  
Design of very high-speed computer networks

Federal Emergency Management Agency, 1990  
Computer network design for FEMA

Lockheed Engineering and Management Company, Houston, Texas, 1986-89  
Local area network design for the NASA space station

Johnson Controls, Inc., Milwaukee, Wisconsin, 1986-87  
Local area networks for building automation

Sperry Marine Inc., Charlottesville, Virginia, 1986--  
Shipboard local area network design

Johnson & Johnson, New Brunswick, New Jersey, 1983-84  
Industrial controls and computer networks

Dallas/Fort Worth Airport, 1982-83  
Microprocessor-based environmental controls

Reliance Oil Company, Charlottesville, Virginia, 1981-83  
Microcomputer-based financial management systems

Salley-Weissinger and Co., Charlottesville, Virginia, 1980-81  
Microcomputer-based financial management/analysis systems

General Electric Company, Charlottesville, Virginia, 1980-82  
Design of numerical and programmable controls

Struthers-Dunn, Inc., Bettendorf, Iowa, 1973-84  
Microprocessor-based industrial process controller design

### 1.4 Professional Activities

#### 1.4.1 Professional Societies and Activities

Phi Eta Sigma  
Tau Beta Pi  
Phi Kappa Phi  
Sigma Xi  
Association for Computing Machinery, 1974 --  
Institute of Electrical and Electronics Engineers (IEEE), 1978 --  
IEEE Industrial Electronics Society Administrative Committee, 1982 --  
Associate Editor, IEEE *Transactions on Industrial Electronics*, 1995 --  
Area editor (networks and electronic commerce), IEEE *Computer*, 1999 --  
Vice-President, IEEE Industrial Electronics Society (IES), 1992-93  
President, IEEE Industrial Electronics Society (IES), 1994-95  
Chairman, IEEE IES Technical Committee on Factory Communication  
U.S. Army Advisory Committee for Basic Research  
Chairman, Intel 432 University Users Group  
ACM (Association for Computing Machinery) National Lecturer

Member, CSNet Executive Committee  
 General Chairman, IEEE IES Workshop on Factory Communications, March 1987  
 Tutorial Chairman, IEEE IES IECON, 1983-1988  
 Program Committee, IEEE Workshop on Languages for Factory Automation, August 1987  
 Technical Program Committee, IEEE Workshop on Local Area Networks, October 1987  
 Technical Program Committee, 13th Local Computer Networks Conference, October 1988  
 Technical Program Committee, 14th Local Computer Networks Conference, October 1989  
 Technical Program Committee, 15th Local Computer Networks Conference, October 1990  
 Organizing Committee, 16th Local Computer Networks Conference, October 1991  
 Organizing Committee, 17th Local Computer Networks Conference, September 1992  
 Organizing Committee, 18th Local Computer Networks Conference, September 1993  
 Organizing Committee, 19th Local Computer Networks Conference, October 1994  
 Technical Program Chairman, IEEE IECON'89, Philadelphia, Pennsylvania, November 1989  
 Technical Program Chairman, IEEE IECON'90, Monterey, California, November 1990  
 Technical Program Co-Chairman, IEEE IECON'91, Kobe, Japan, November 1991  
 Technical Tours Chairman, IEEE IECON'92, San Diego, California, November 1992  
 Technical Tutorials Chairman, IEEE IECON'93, Maui, Hawaii, November 1993  
 Advisor, IEEE IECON'94, Bologna, Italy, September 1994.  
 Tutorials Chairman, IEEE IECON'95, Orlando, Florida, November 1995.  
 Technical Program Committee, IEEE IECON'96, Taipei, Taiwan  
 Treasurer, IEEE IECON'97, New Orleans, LA, November 1997  
 Technical Program Committee, Submissions Chairman for North and South America, IECON'98, Hamburg, Germany, November 1998  
 Technical Program Committee, International Workshop on Advanced Communications and Applications for High Speed Networks, March 1992  
 Vice-Chairman, Workshop on Emerging Technologies and Factory Automation, August 1992  
 Advisory Committee, Industrial Electronics Symposium, June 1993  
 Administration Chairman, ETFA'93 Emerging Technologies and Factory Automation, Cairns, Queensland, Australia, September 1993  
 Vice-Chairman, ETFA'94 Emerging Technologies and Faculty Automation, Tokyo, Japan, November 1994.  
 Technical Program Chairman, ETFA'95: Emerging Technologies and Factory Automation, Paris, France, October 1995.  
 Organizing Committee, IWACA'92: International Workshop on Advanced Communications and Applications of High Speed Networks, Munich, Germany, March 1992.  
 Organizing Committee, IWACA'94: International Workshop on High Speed Teleservices and Applications, Heidelberg, Germany, September 1994.  
 Advisor, ISIE'94: International Symposium on Industrial Electronics, Santiago, Chile, May 1994.  
 Advisor, ISIE'95: International Symposium on Industrial Electronics, Athens, Greece, July 1995.  
 Advisor, ICIT'94: International Conference on Industrial Technology, Guangzhou, China.  
 Steering Committee, ACCE: AFCEA Computing Conference and Exposition, Arlington, Virginia, February 1995.  
 Program Chairman, IEEE International Workshop on Factory Communications Systems, Leysin, Switzerland, October 1995.  
 Technical Program Committee, IEEE International Workshop on Emerging Technologies and Factory Communications, Paris, France, October 1995.  
 Co-Chairman, IEEE International Workshop on Factory Communications, Barcelona, Spain, September 1997.  
 Treasurer, IEEE IECON'97 International Conference on Industrial Electronics, Control, and Instrumentation, New Orleans, LA, November 10-14, 1997.  
 Program Chairman, IEEE IECON'98 International Conference on Industrial Electronics, Control, and Instrumentation, Aachen, Germany, November 1998.  
 Program Committee, IEEE International Conference on Industrial Electronics ICIE'98, People's Republic of China, 1998.  
 Program Co-Chair, Workshop on Factory Communications Systems WFCS'99, May 1999.  
 Steering Committee, 7th International Conference on Emerging Technologies and Factory Automation, October 18-22, 1999, Barcelona, Spain.  
 Technical Program Co-Chair, IEEE IECON'99 Industrial Electronics, Control, and Instrumentation, December 1999.  
 Co-organizer, A Totally Networked Industry Environment, special theme of IECON'99, December 1999.

Publicity Committee, IECON2000, Nagoya, Japan, October 2000.  
Committee Chair, IEEE IES Industrial Information Technology Committee, March 2001 –  
Track Chair for Industrial Information Technology, IECON'03, Roanoke, Virginia, Nov. 2003  
Organizer and Technical Program Chair, IEEE International Conference on Industrial Informatics (INDIN'03), Banff, Alberta, Canada, August 21-24, 2003  
Organizer and Technical Program Co-Chair, IEEE International Conference on Industrial Informatics (INDIN'04), Berlin, Germany, June 24-26, 2004.  
Industrial Electronics Society liaison to Workshop on Factory Communications, Vienna, Austria, September 2004.  
Technical Program Co-Chair, Industrial Informatics track, IECON'05, Raleigh, NC, November 2005.  
Technical Program Co-Chair, Industrial Informatics track, ICIT'05, Hong Kong, December 2005.

#### **1.4.2 Honors**

Fellow of the IEEE, January 1996--

Weaver, A.C., "Enforcing Data Security with Web Services," IEEE International Conference on Industrial Technology (ICIT'05), Hong Kong, December 2005 (keynote speaker).

Weaver, A.C., "A Security Architecture for Distributed Data Security," IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'05), Catania, Sicily, Italy, September 2005 (keynote speaker).

Keynote Speaker, "Industrial Informatics," IEEE Industrial Electronics Society Annual Conference (IECON'03), Roanoke, VA, November 2003.

Distinguished Lecturer, IEEE Industrial Electronics Society, 1999--

Keynote Speaker, "Electronic Commerce on the Internet," IEEE Industrial Electronics Annual Conference IECON'96, Kauai, Hawaii, December 1996.

American Men and Women of Science, 1988--

#### **1.4.3 Reviewer for Professional Journals and Research Proposals**

IEEE *Computer* Magazine Editorial Board  
Editor, *Computer* Magazine column "How Things Work"  
Area Editor (networks and electronic commerce), IEEE *Computer*  
Assoc. Editor, *World Wide Web Journal*  
Assoc. Editor, *IEEE Transactions on Industrial Electronics*  
*Journal of Internetworking Research and Experience*  
IEEE *Computer*  
IEEE *Spectrum*  
IEEE *Transactions on Industrial and Process Control*  
IEEE *Micro*  
IEEE Robotics and Automation  
ACM *Computing Reviews*  
SOFTWARE - Practice & Experience  
National Science Foundation  
U. S. Army Research Office  
Office of Naval Research  
Virginia's Center for Innovative Technology  
Iranian Journal of Electrical and Computer Engineering

## **1.5 Patents and Copyrights:**

### Patents:

*Process Control System That Controls Its Outputs According to the Results of Successive Analysis of the Vertical Columns of a Hypothetical Ladder Diagram*, filed July 25, 1977, U. S. Patent Office, granted October 1980, number 4,217,658.

### Copyrights:

*A Graphically-Programmed, Microprocessor-Based Industrial Controller*, published April 15, 1977, copyright registration no. A868730.

## 2. PUBLICATIONS AND LECTURES

### 2.1 Publications

#### 2.1.1 Books and Book Chapters

- Dwyer III, S. J., Weaver, A. C., and Hughes, Kristen, "Health Insurance Portability and Accountability Act," chapter two of Security Issues in the Digital Medical Enterprise, Society for Computer Applications in Radiology, May 2004, pp. 9-18.
- Weaver, A. C., "Xpress Transport Protocol," High Performance Cluster Computing, Prentice Hall, 1999, pp. 301-316.
- Weaver, A. C., "Factory Communications" section editor, chapters 16-20 of CRC Handbook of Industrial Electronics, June 1997, pp. 385-438, ISBN 0-8493-8343-9.
- Weaver, A. C., "Ethernet and IEEE 802.3 Contention Bus", CRC Handbook of Industrial Electronics, June 1997, pp. 394-396.
- Weaver, A. C., "IEEE 802.4 Token Bus," CRC Handbook of Industrial Electronics, June 1997, pp. 400-403.
- Strayer, W.T., Dempsey, B.J., and Weaver, A. C., XTP: the Xpress Transport Protocol, Japanese language edition, Addison Wesley, 1996, ISBN 4-8101-8071-9.
- Sublett, J.W., Dempsey, B.J., and Weaver, A. C., "Design and Implementation of a Digital Teleultrasound System for Real-Time Remote Diagnosis," Computer-Based Medical Systems, IEEE Computer Society Press, 1995, pp. 292-298.
- Dempsey, Bert J., Lucas, Matthew T., and Weaver, A. C., "Design and Implementation of a High-Quality Video Demonstration System using XTP Reliable Multicast, " Multimedia: Advanced Teleservices and High-Speed Communication Architectures, Ralf Steinmetz (Ed.), Springer-Verlag, 1994, pp. 376-387.
- Weaver, A. C., "XTP: A New Communications Protocol for Factory Automation," in Modern Tools for Manufacturing Systems, Richard Zurawski, editor, Elsevier, 1993, pp. 439-450.
- Strayer, W.T., Dempsey, B.J., and Weaver, A. C., XTP: The Xpress Transfer Protocol, Addison-Wesley, 1992, ISBN 0-201-56351-7, 272 pages.
- Weaver, A. C., "XTP for the NASA Space Station," in Protocols for High Speed Networks, Harry Rudin and Robin Williamson, editors, North Holland, 1989, pp. 35-42.
- Weaver, A. C., "Intel 8085 Microprocessor Experiments," Lund University, Lund, Sweden, 1985.
- #### 2.1.2 Refereed Journal Publications
- Bassignani, M.J., Dwyer III, S.J., Ciambotti, J.M., Olazagasti, J.M., Moran, R., Moynihan ,S., Weaver, A.C., Snyder, A.M., "Review of Technology: Planning for the Development of Telesonography," *Journal of Digital Imaging* 17(1), 18-27, 2004.
- Weaver, Alfred C., and Condry, Michael W., "Distributing Internet Services to the Network's Edge," *Transactions on Industrial Electronics*, vol. 50, no. 3, pp. 404-411, June 2003.
- Weaver, Alfred C., Vetter, R. J., Whinston, A. B. and Swigger, K, "The Future of E-Commerce, " *Computer*, vol. 33, no. 10, October 2000.

- DeAngelis, Gia A., Dempsey, Bert J., Berr, Stuart, Fajardo, Laurie L., Sublett, John W., Hillman, Bruce J., Weaver, Alfred C., Berbaum, Kevin, and Dwyer, Samuel J., "Diagnostic Efficacy of Compressed Digitized Real-time Sonography of Uterine Fibroids," *Academic Radiology*, Volume 4, 1997, pp. 83-89.
- Dempsey, B.J., Liebeherr, J., and Weaver, A. C., "On Retransmission-Based Error Control for Continuous Media Traffic in Packet-Switching Networks", *Computer Networks and ISDN Systems*, Vol. 28, No. 5, March 1996, pp. 719-736.
- DeAngelis, Gia A., Dempsey, Bert J., Berr, Stuart, Fajardo, Laurie L., Sublett, John W., Hillman, Bruce J., Weaver, Alfred C., Berbaum, Kevin, and Dwyer, Samuel J., "Digitized Real-Time Ultrasound: Signal Compression Experiment," *Radiology*, Vol. 197(P), November 1995, p. 336.
- Sublett, J.W., Dempsey, B.J., and Weaver, A. C., "Design and Implementation of a Digital Teleultrasound System for Real-Time Remote Diagnosis," *Computer-Based Medical Systems*, IEEE Computer Society Press, 1995, pp. 292-298.
- Weaver, A. C., "The Xpress Transfer Protocol," *Journal of Computer Communications*, Vol. 17, No. 1, January 1994.
- Weaver, A. C., and Cerf, V., "Viewpoint: Computer Networks," *IEEE Computer*, September 1991 (invited).
- Howes, N. R., and Weaver, A. C., "Performance Bounds on OSI Protocols When Implemented in Ada," *Transactions on Software Engineering*, December 1989.
- Strayer, W. T., and Weaver, A. C., "Performance Measurement of Data Transfer Services in MAP," *IEEE Networks*, May 1988.
- Peden, J. H., and Weaver, A. C., "Are Priorities Useful on an IEEE 802.5 Token Ring?," *IEEE Transactions on Industrial Electronics*, Vol. IE-35, No. 3, August 1988, pp. 361-365.
- Gorur, R. M., and Weaver, A. C., "Setting Target\_Rotation\_Times in an IEEE 802.4 Network," *IEEE Transactions on Industrial Electronics*, Vol. IE-35, No. 3, August 1988, pp. 366-371.
- Weaver, A. C., and Summers, C.F., "The IEEE 802.4 TokenBus -- A Performance Bound on GM MAP," *IEEE Transactions on Industrial Electronics*, Vol. IE-35, No. 1, February 1988.
- Weaver, A. C., and Colvin, M. A., "A Real-Time Messaging System for Token Ring Networks," *SOFTWARE - Practice and Experience*, Vol. 17(12), December 1987, pp. 885-897.
- Colvin, M. A., and Weaver, A. C., "Performance of Single Access Classes on the IEEE Token Bus," *IEEE Transactions on Communications*, Vol. COM-34, Number 12, December 1986, pp. 1253-1256.
- Weaver, A. C., "A Highly Reliable LAN Protocol," *IEEE Journal on Selected Areas in Communications*, Vol. SAC-4, Number 7, October 1986, pp. 1181-1183.
- Weaver, A. C., and Butler, D. W., "A Fault-Tolerant Network Protocol for Real-Time Communications," *IEEE Transactions on Industrial Electronics*, Vol. IE-33, No. 3, August 1986, pp. 207-211.
- White, C. C., Wilson, E. C., and Weaver, A. C., "Decision Aid Development for Use in Ambulatory Health Care Settings," *Operations Research*, Vol. 30, No. 3, May-June 1982, pp. 446-463.
- Faiman, M., Weaver, A. C., and Catlin, R. W., "MUMS--A Reconfigurable Microprocessor Architecture," *IEEE Computer*, Vol. 10, No. 1, January 1977, pp. 11-17.

### 2.1.3 Refereed Proceedings Publications

- Wu, Zhengping, and Weaver, A.C., "Bridging Trust Relationships with Web Service Enhancements," IEEE International Conference on Web Services (ICWS'06), Chicago, IL, September, 2006 (submitted).
- Wu, Zhengping, and Weaver, A.C., "Requirements of Federated Trust Management for Service-Oriented Architectures," IEEE International Conference on Services Computing, Chicago, IL, September 2006 (submitted).
- Calandrino, Joseph A., and Weaver, Alfred C., "Identity-Based Cryptosystem Privacy," 3<sup>rd</sup> Symposium on Networked Systems Design and Implementation (NDSI'06), San Jose, CA, May 2006 (submitted).
- Calandrino, Joseph A., and Weaver, Alfred C., "Private Resource Pairing," Networked and Distributed Systems Security Symposium (NDSS'06), San Diego, CA, February 2006 (submitted).
- Weaver, A.C., "Enforcing Data Security with Web Services," IEEE International Conference on Industrial Technology (ICIT'05), Hong Kong, December 2005.
- Weaver, Alfred C., "Experience with Teaching Electronic Commerce," Frontiers in Education (FIE 2005), Indianapolis, IN, October 2005.
- Wu, Zhengping, and Weaver, Alfred C., "A Privacy Preserving Enhanced Trust Building Mechanism for Web Services," Third Annual Conference on Privacy, Security, and Trust (PST'05), New Brunswick, Canada, October 2005.
- Weaver, A.C., "A Security Architecture for Distributed Data Security," IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'05), Catania, Sicily, Italy, September 2005.
- Wu, Zhengping, and Weaver, Alfred C., "Dynamic Trust Establishment with Privacy Protection for Web Services, 3<sup>rd</sup> IEEE International Conference on Web Services, Orlando, FL, July 2005.
- Wu, Zhengping, and Weaver, Alfred C., "Token-Based Dynamic Trust Establishment for Web Services, 43<sup>rd</sup> ACM Southeast Conference, Atlanta, GA, vol. 2, pp. 217-222, March 2005.
- Weaver, Alfred C., "A Programming Laboratory for Electronic Commerce," Frontiers in Education, Savannah, GA, October 2004.
- Weaver, Alfred C., "Enforcing Distributed Data Security via Web Services," IEEE Workshop on Factory Communications Systems, Vienna, Austria, September 2004.
- Hu, Junzhe, and Weaver, Alfred C., "Dynamic, Context-Aware Access Control for Distributed Healthcare Applications," Workshop on Pervasive Security, Privacy, and Trust (PSPT'04), Boston, MA, August 2004.
- Gay, S.B., Snyder, A.M., Weaver, A.C., Bassignani, M.J., Dwyer III, S.J., "Evaluation of HIPAA Security Requirements on Encryption for Radiology Throughput Rates," SCAR 21<sup>st</sup> Meeting, Vancouver, British Columbia, May 2004.
- Weaver, Alfred C., "Electronic Commerce Software Laboratory," ACM SIGCSE, Norfolk, VA, March 2004.
- Weaver, A.C., Dwyer III, S.J., Snyder, A.M., Van Dyke, J., Hu, James, Chen, Xiaohui, Mulholland, Timothy, Marshall, Andrew, "Federated, Secure Trust Networks for Distributed Healthcare IT Services," IEEE International Conference on Industrial Informatics, Banff, Alberta, Canada, August 2003.
- Snyder, A.M., and Weaver, A.C., "The e-Logistics of Securing Distributed Medical Data," IEEE International Conference on Industrial Informatics, Banff, Alberta, Canada, August 2003.



- Gay, Spencer B., Dwyer III, Samuel J., and Weaver, A.C., "Modeling of Workflow in Diagnostic Radiology Departments," 20<sup>th</sup> Symposium for Computer Applications in Radiology, Boston, MA, June 2003.
- Bassignani, Matthew J., Dwyer III, Samuel J., and Weaver, A.C., "Planning for the Development of Telesonography," 20<sup>th</sup> Symposium for Computer Applications in Radiology, Boston, MA, June 2003.
- Weaver, A.C., and Condry, M. W., "Distributed Computing at the Internet's Edge," IECON'02, Seville, Spain, November 2002.
- Weaver, A.C., and Talbert, Scott, "Real-Time Event Channel Performance on a Submarine Communications Network," IECON'02, Seville, Spain, November 2002.
- Weaver, A. C., "Factory Monitoring and Control Using the Internet," IECON'01, Denver, CO, December 2001.
- Weaver, A. C., "Survey of Industrial Information Technology," IECON'01, Denver, CO, December 2001.
- Weaver, A. C., "Internet-based Factory Monitoring," IECON'01, Denver, CO, December 2001.
- Weaver, A. C., Van Dyke, James, "Multicast Distribution and Control of Streaming Multimedia," IECON'01, Denver, CO, December 2001.
- Weaver, A. C., Lu, Pinchao, "Intelligent Internet Search Agents," IWATIC'2001, Las Vegas, NV, July 2001.
- Weaver, A. C., "Monitoring and Control Using the Internet and Java," IECON'99, December 1999.
- Lucas, Matthew T., Dempsey, Bert J., and Weaver, Alfred C., "MESH-R: Large-Scale, Reliable Multicast Transport," IEEE International Conference on Communication (ICC99), Vancouver, BC, June 1999.
- Weaver, A. C., "Network Communications for Cluster Computing," Local Computer Networks '98, October 1998.
- Weaver, A. C., "Profiting from the Internet and the World Wide Web," IECON'98, Aachen, Germany, September 1998.
- Lucas, Matthew T., Wrege, Dallas E., Dempsey, Bert J., and Weaver, Alfred C., "Statistical Characterization of Wide-Area IP Traffic," Sixth International Conference on Computer Communications and Networks (IC3N'97), Las Vegas, NV, September 1997.
- Lucas, Matthew T., Dempsey, Bert J., Wrege, Dallas E., and Weaver, Alfred C., "(M,P,S) -- An Efficient Self-Similar Traffic Model for Wide-Area Network Simulation," IEEE Globecom '97, Phoenix, AZ, November 1997.
- Lucas, Matthew T., Dempsey, Bert J., and Weaver, Alfred C., "MESH: Distributed Error Recovery for Multimedia Streams in Wide-Area Multicast Networks," IEEE International Conference on Communications (ICC'97), Montreal, Canada, June 1997, pp. 1127-1133.
- Weaver, A. C., "The Internet and the World Wide Web," IECON'97, New Orleans, LA, November 1997.
- Weaver, A. C., "Xpress Transport Protocol Version 4," IEEE International Workshop on Factory Communications Systems, Leysin, Switzerland, October 1995.
- Bert J. Dempsey, Matthew T. Lucas, and Alfred C. Weaver, "Design and Implementation of a High Quality Video Distribution System Using XTP Reliable Multicast," IWACA'94, Heidelberg, Germany, September 1994.
- Dempsey, Bert J., Liebeherr, Jorg, and Weaver, Alfred C., "On Retransmission-Based Error Control for Continuous Media Traffic in Packet-Switching Networks," SIGCOMM'94, London, England, August 30-September 2, 1994.

- Dempsey, Bert J., Lucas, Matthew T., and Weaver, Alfred C., "An Empirical Study of Multimedia Distribution over a Campus-Wide Network," 19th Local Computer Networks Conference, Minneapolis, MN, October 2-5, 1994, pp. 376-387.
- Dempsey, Bert J., Lucas, Matthew T., and Weaver, Alfred C., "An Empirical Study of Packet Voice Distribution over a Campus-Wide Network," IWACA'94, Heidelberg, Germany, September 26-28, 1994.
- Weaver, A. C., "XTP: A Communications Protocol for Real-Time Distributed Systems," IECON'93, Maui, Hawaii, November 1993.
- Weaver, A. C., "Teleradiology, Teleconferencing, and Teleconsultation," High Performance Communication Subsystems, Williamsburg, VA, September 1993.
- Street, F., and Weaver, A. C., "Video Mail for Networked Personal Computers," High Performance Communication Subsystems, Williamsburg, VA, September 1993.
- Dempsey, B., Liebeherr, J., and Weaver, A. C., "A Delay-Sensitive Error Control Scheme for Continuous Media Communications," High Performance Communication Subsystems, Williamsburg, VA, September 1993.
- Michel, J., Waterman, A., and Weaver, A., "Performance Evaluation of an Off-Host Communications Architecture," High Performance Communication Subsystems, Williamsburg, VA, September 1993.
- Dempsey, B., Liebeherr, J., and Weaver, A. C., "A New Error Control Scheme for Packetized Voice over High Speed Local Area Networks," 18th Local Computer Networks Conference, Minneapolis, MN, September 1993, pp. 91-100.
- Street, F., and Weaver, A. C., "A Video Mail System for Networked Personal Computers," 18th Local Computer Networks Conference, Minneapolis, MN, September 1993.
- Michel, J., Waterman, A., and Weaver, A. C., "Performance Evaluation of an Off-Host Communications System," 18th Local Computer Networks Conference, Minneapolis, MN, September 1993.
- Weaver, A. C., and Simoncic, R., "A High Speed Communications Protocol for Distributed Applications," IEEE International Symposium on Industrial Electronics, Budapest, Hungary, June 1993.
- Weaver, A. C., "Computer Communications for Factory Automation," IEEE International Symposium on Industrial Electronics, Budapest, Hungary, June 1993.
- Weaver, A. C., and McNabb, James F., "Digital Voice Distribution Using XTP and FDDI," 17th Local Computer Networks Conference, Minneapolis, MN, September 1992.
- Weaver, A. C., "XTP: A New Transport Protocol for Factory Automation," IEEE International Workshop on Emerging Technologies and Factory Automation, Cairns, Australia, August 1992.
- Weaver, A. C., "High Speed Communications for Distributed Applications," IEEE International Workshop on Emerging Technologies and Factory Automation, Melbourne, Australia, August 1992.
- Weaver, A. C., "The Xpress Transfer Protocol: A Fast Transport Protocol for High Speed Networks," International Workshop on Advanced Communications and Applications for High Speed Networks, Munich, Germany, March 1992.
- Strayer, W.T., and Weaver, A. C., "Is XTP Suitable for Real-Time Distributed Systems?," International Workshop on Advanced Communications and Applications for High Speed Networks, Munich, Germany, March 1992.

- Dempsey, B.J., and Weaver, A. C., "Controlled Message Loss under Connection-Oriented Service," International Workshop on Advanced Communications and Applications for High Speed Networks, Munich, Germany, March 1992.
- Dempsey, B.J., Strayer, W. T., and Weaver, A. C., "Adaptive Error Control for Multimedia Data Transfers," International Workshop on Advanced Communications and Applications for High Speed Networks, Munich, Germany, March 1992.
- Weaver, A. C., "The Xpress Transfer Protocol," TriComm'92, North Carolina State University, Raleigh, NC, February 1992.
- Weaver, A. C., "Making Transport Protocols Fast," 16th Local Computer Networks Conference, Minneapolis, MN, October 1991.
- Harvey, J. D., and Weaver, A. C., "Experience with the Abstract Syntax Notation One and the Basic Encoding Rules," 16th Local Computer Networks Conference, Minneapolis, MN, October 1991.
- Simoncic, R., Weaver, A. C., and Colvin, M. A., "Experience with the Xpress Transfer Protocol," 15th Local Computer Networks Conference, Minneapolis, MN, October 1990.
- Dempsey, B.J., Fenton, J.C., and Weaver, A. C., "The Multidriver: A Reliable Multicast Service for the Xpress Transfer Protocol," 15th Local Computer Networks Conference, Minneapolis, MN, October 1990.
- Weaver, A. C., and McNabb, James F., "A Real-Time Monitor for Token Ring Networks," MILCOM'89, Boston, MA, October 1989.
- Weaver, A. C., and Simoncic, R., "Communications for the NASA Space Station," 14th Local Computer Networks Conference, Minneapolis, MN, October 1989.
- Strayer, W. T., and Weaver, A. C., "An Argument for Judicious Use of Error Correction Mechanisms in LANs," 14th Local Computer Networks Conference, Minneapolis, MN, October 1989.
- Weaver, A. C., "Thoughts on Fast Protocols," 14th Local Computer Networks Conference, Minneapolis, MN, October 1989.
- Simoncic, R., Weaver, A. C., Cain, B. G., and Colvin, M. A., "SEANET: A Real-Time Communications Network for Ships," International Conference on Mini and Microcomputers, Miami Beach, FL, December 1988.
- Strayer, W. T., Mitchell, M., and Weaver, A. C., "ISO Protocol Performance Measurements," International Conference on Mini and Microcomputers, Miami Beach, FL, December 1988.
- Minnich, D. W., and Weaver, A. C., "Performance Analysis of the SAE HSRB Token Ring Network," International Conference on Mini and Microcomputers, Miami Beach, FL, December 1988.
- Simoncic, R., Weaver, A. C., Cain, B. G., and Colvin, M. A., "SHIPNET: A Real-Time Local Area Network for Ships," 13th Annual Conference on Local Computer Networks, Minneapolis, MN, October 1988.
- Peden, Jeffery H., and Weaver, A. C., "The Utilization of Priorities on Token Ring Networks," 13th Annual Conference on Local Computer Networks, Minneapolis, MN, October 1988.
- Strayer, W. T., and Weaver, A. C., "Performance Measurements of Motorola's Implementation of MAP," 13th Annual Conference on Local Computer Networks, Minneapolis, MN, October 1988.
- Howes, N. R., and Weaver, A. C., "On Implementing the OSI Model in Ada via Tasking," Washington Ada Conference, Washington, D.C., June 1988.

- Peden, J. H., and Weaver, A. C., "Performance of Priorities on an 802.5 Token Ring," ACM SIGCOMM, Stowe, Vermont, August 1987.
- Weaver, A. C., "An Experimental Real-Time Messaging System," IEEE/ISA Joint Conference, Houston, Texas, March 1987.
- Gorur, R. Mangala, and Weaver, A. C., "Setting Target Rotation Times for the IEEE 802.4 Token Bus," IEEE Workshop on Factory Communications, National Bureau of Standards, Gaithersburg, Maryland, March 1987.
- Peden, Jeffery H., and Weaver, A. C., "Are Priorities Necessary on an IEEE 802.5 Token Ring?," IEEE Workshop on Factory Communications, National Bureau of Standards, Gaithersburg, Maryland, March 1987.
- Weaver, A. C., "An Evaluation of Priorities on the IEEE 802.5 Token Ring," International Symposium on Mini and Microcomputers, Austin, Texas, November 1986.
- Bennett, Ross, and Weaver, A. C., "Shipboard Data Network -- A Proposal," Proceedings of the National Marine Electronics Association, Braintree, Massachusetts, October 1986.
- Summers, C. F., and Weaver, A. C., "Performance of IEEE 802.4 -- the Basis of MAP," Proceedings of the IEEE Industrial Electronics Society IECON '86, Milwaukee, Wisconsin, October 1986.
- Weaver, A. C., "A Fault-Tolerant Protocol for Local Area Networks," Proceedings of the IEEE Industrial Electronics Society IECON '84, Tokyo, Japan, October 1984.
- Weaver, A. C., "A High-Performance Fault-Tolerant Local Area Network," Proceedings of the IEEE International Conference on Computers and Applications, Beijing, China, June 1984.
- Weaver, A. C., Albrecht, D. C., Colvin, M. A., and Smith, M. J., "High-Performance Real-Time Communication Network Protocols," Proceedings of the IEEE SOUTHEASTCON, Orlando, Florida, April 1983.
- Weaver, A. C., and Hall, K. B., "MEDIC: A Microcomputer Aid for Medical Diagnosis and Treatment," Hawaii International Conference on System Sciences, Honolulu, Hawaii, January 1982.
- Weaver, A. C., "A Microcomputer-based Model of Medical Decision Making in Ambulatory Care," Twelfth Annual Modeling and Simulation Conference, University of Pittsburgh, Pittsburgh, Pennsylvania, April 1981.
- Weaver, A. C., "Design of a Microcomputer Laboratory for Teaching Computer Science," Proceedings of the Computer Science Education Symposium, St. Louis, Missouri, February 1981.
- Weaver, A. C., "A Dynamically Reconfigurable Multiprocessor Network," Proceedings of the ACM Computer Science Conference, St. Louis, Missouri, February 1981.
- White, C. C., Wilson, E. C., and Weaver, A. C., "Computer-aided Diagnosis for Common Ambulatory Complaints," Fourth Annual Symposium on Computer Applications in Medical Care, Washington, D. C., November 1980.
- Weaver, A. C., White, C. C., and Wilson, E. C., "A Microcomputer-based Medical Decision Aid for Ambulatory Care," Proceedings of the Twelfth Annual Conference of the Society for Advanced Medical Systems, Bethesda, Maryland, November 1980.
- White, C. C., and Weaver, A. C., "Decision Aid Development for a Common Problem in Medical Diagnosis," Proceedings of the International Conference on Systems Science in Health Care, Montreal, Quebec, Canada, July 1980.
- Henry, Robert W., and Weaver, A. C., "Computational Procedures for Vector Criterion Markov Processes," Proceedings of the 19th Annual Technical Symposium, National Bureau of Standards, Gaithersburg, Maryland, June 1980.

- Taylor, John R., and Weaver, A. C., "A Checker-playing Algorithm for Multi-microprocessors," Proceedings of the 19th Annual Technical Symposium, National Bureau of Standards, Gaithersburg, Maryland, June 1980.
- Carson, Scott D., and Weaver, A. C., "STARNET: A Distributed Network for Resource Sharing and Parallel Processing with Microcomputers," Proceedings of the 19th Annual Technical Symposium, National Bureau of Standards, Gaithersburg, Maryland, June 1980.
- Weaver, A. C., "Distributed Process Control Architectures Using Microprocessors," Proceedings of the 3rd Rocky Mountain Symposium on Microprocessors, Fort Collins, Colorado, August 1979.
- Weaver, A. C., "Using Microcomputers to Teach Computer Science," SIGCSE Bulletin, Vol. 11, No. 1, February 1979, pp. 141-44.
- Weaver, A. C., "The Impact of Microprocessors on Industrial Process Control," Proceedings of the Republic of China--Republic of Korea Workshop on Microprocessor Devices and Applications, National Science Council of the Republic of China, Taipei, Taiwan, December 1978.
- Weaver, A. C., "A Real-time, Multi-task Programming Language for Microprocessor-Based Industrial Process Control," Proceedings of the ACM, Washington, D. C., December 1978.
- Weaver, A. C., "Microcomputer Architecture for Industrial Controls," Proceedings of the 2nd Annual Rocky Mountain Symposium on Microcomputers, Fort Collins, Colorado, August 1978.
- Weaver, A. C., "Microprocessors, Languages, and Industrial Control," Proceedings of the National Bureau of Standards 17th Annual Technical Symposium, Gaithersburg, Maryland, June 1978.
- Weaver, A. C., "Microcomputers in the Computer Science Curriculum," SIGCSE Bulletin, Vol. 10, No. 1, February 1978.
- Weaver, A. C., "A First Course in Microcomputers," Proceedings of the IEEE Workshop on Microprocessor Education, College Park, Maryland, November 1977.
- Weaver, A. C., "A Graphically-programmed, Microprocessor-based Industrial Controller," Proceedings of the Rocky Mountain Symposium on Microcomputers, Fort Collins, Colorado, August 1977, pp. 240-60.
- Weaver, A. C., "Process Control with Microprocessors," Proceedings of the North Central Regional ACM Conference, Urbana, Illinois, March 1977, pp. 38-43.
- Faiman, M., Catlin, R. W., and Weaver, A. C., "A Modular, Unified Microprocessor System (MUMS)," Proceedings of the DISE Workshop on Microprocessors and Education, Fort Collins, Colorado, August 1976, pp. 1-5.
- Weaver, A. C., "An Interactively Programmed Process Control System," Proceedings of the ACM Computer Science Conference, Washington, D. C., February 1975, p. 7.
- Weaver, A. C., "Intelligent Remote Terminals," Proceedings of the ACM Computer Science Conference, Detroit, Michigan, February 1974, p. 87.
- Weaver, A. C. "VIPTRAN--A Programming Language and Its Compiler for Boolean Systems," Proceedings of the ACM, Atlanta, Georgia, August 1973, p. 428.

#### **2.1.4 Technical Reports and Other Publications**

- Alfred C. Weaver, "Medical Data Privacy and Security," Virginia Conference on Reliability and Dependability, University of Virginia, Charlottesville, VA, April 2005.

- Weaver, Alfred C., "A Virtual Tour of the Internet," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, Alfred C., "Electronic Payment Models," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, Alfred C., "Privacy and Security on the Internet," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, Alfred C., "Future of the Internet," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, Alfred C., and Hirst, Kevin R., "Regional Issues Affecting Internet Usage," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, Alfred C., and Hirst, Kevin R., "Global Issues Surrounding Internet Usage," University of Virginia Darden Professional Seminars, summer 1999.
- Weaver, A. C., "The Internet and Electronic Commerce," IECON2000, Nagoya, Japan, Oct/Nov 2000.
- Lucas, Matthew T., Wrege, Dallas E., Dempsey, Bert J., and Weaver, Alfred C., "Statistical Characterization of Wide-Area Self-Similar Network Traffic," University of Virginia Technical Report CS96-21, 1996.
- Lucas, Matthew T., Dempsey, Bert J., and Weaver, Alfred C., "Distributed Error Recovery for Continuous Media in Wide-Area Multicast Networks," University of Virginia Technical Report CS95-52, 1996.
- Weaver, Alfred, French, James, Batson, Alan, Simoncic, Robert, Robins, Gabe, Dempsey, Bert, and Pausch, Randy, "Surfing the Internet," Community Information Report, 1995.
- Weaver, Alfred C., "The Jessica Project: Computing at UVa in the 21<sup>st</sup> Century," University Committee on Information Technology, 1995.
- Weaver, A. C., "High Performance Protocols for Factory Communications," IEEE Industrial Electronics Society Newsletter, September 1994.
- Grimshaw, Andrew. S., Wulf, William A., French, James C., Weaver, Alfred C., Reynolds, Paul R., "Legion: The Next Logical Step Toward a Nationwide Virtual Computer," University of Virginia Technical Report CS-94-21, June, 1994.
- Street, Fraser, and Weaver, A. C., "A Video Mail Distribution System for Networked Personal Computers," Transfer, November/December 1993.
- Weaver, A. C., "Teleradiology Using XTP over ATM," Transfer, May/June 1993.
- Michel, J., Waterman, A.S., and Weaver, A. C., "Performance Evaluation of an Off-Host Communications Architecture," Transfer, March/April 1993.
- Dempsey, Bert, Fenton, John, Michel, Jeff, Waterman, Alex, and Weaver, Alfred. "SAFENET Internals," University of Virginia Technical Report CS-93-05, January 7, 1993.
- Dempsey, Bert J., Fenton, John C., Michel, Jeffrey R., Waterman, Alexander S., and Weaver, Alfred C., "A Performance Evaluation of the SAFENET Lightweight System," University of Virginia Technical Report CS-93-03, February 9, 1993.
- Dempsey, Bert J., Fenton, John C., Michel, Jeffrey R., Waterman, Alexander S., and Weaver, Alfred, "Ada Binding Reference Manual - SAFENET Lightweight Application Services," University of Virginia Technical Report CS-93-02, January 7, 1993.

Dempsey, Bert J., Michel, Jeffrey R., and Weaver, Alfred C., "Tutorial on UVA SAFENET Lightweight Communications Architecture," University of Virginia Technical Report CS-93-01, January 7, 1993.

Weaver, A. C., "Digitized Voice Distribution Using XTP and FDDI," Transfer, November/December 1992.

Weaver, A. C., "High Speed Communication for Distributed Applications," Transfer, September/October 1992.

Weaver, A. C., "XTP Platforms, Performance, User Interface, and Testing," Transfer, July/August 1992.

Chesson, G., Weaver, A. C., and Dempsey, B. J., "Communications Requirements for Technical Workstations," Transfer, May/June 1992.

Weaver, A. C., "XTP 3.6 Available," Transfer, September/October 1991.

Weaver, A. C., "Lessons Learned from Transport Protocol Design," Transfer, July/August 1991.

Weaver, A. C., "XTP 3.5 Available," Transfer, January/February 1991.

Weaver, A. C., "Xpress Transfer Protocol Summary," Transfer, September/October 1990.

Weaver, A. C., Simoncic, R., and Fenton, J.C., "XTP Demonstrations," Transfer, July/August 1990.

Dempsey, B.J., and Weaver, A. C., "Reliable Multicast for XTP," Transfer, May/June 1990.

Weaver, A. C., and Simoncic, R., "Experience with XTP," Transfer, May/June 1990.

Weaver, A.C., "XTP Status Report," Transfer, March/April 1990.

Weaver, A. C., Dempsey, B.J., and Strayer, W.T., "Evaluation of Reliable Multicast Protocols," Transfer, January/February 1990.

Weaver, A. C., Dempsey, B.J., and Strayer, W.T., "XTP Multicast Mechanisms," Transfer, November/December 1989.

Weaver, A. C., "Thoughts on Fast Protocols," Transfer, September/October 1989.

Weaver, A. C., Dempsey, B.J., and Strayer, W.T., "XTP Multicast Group Management," Transfer, September/October 1989.

Weaver, A. C., Dempsey, B.J., and Strayer, W.T., "Introduction to Multicast," Transfer, July/August 1989.

Weaver, A. C., and Simoncic, R., "Implementing XTP for the NASA Space Station," Transfer, March/April 1989.

Strayer, W. T., Mitchell, M., and Weaver, A. C., "ISO Protocol Performance Measurement," Transfer, January/February 1989.

Peden, J. H., and Weaver, A. C., "An Intuitive Approach to Priorities on Token Rings," Transfer, September/October 1988.

Simoncic, Robert, and Weaver, A. C., "SEANET: Real-Time Communications for Ships," Transfer, July/August 1988.

Weaver, A. C., Strayer, W. T., and Mitchell, M., "Why the World Needs Fast Transport," Transfer, May/June 1988.

Strayer, W. T., and Weaver, A. C., "Performance Comparison of MAP and EPA," Transfer, March/April 1988.

Weaver, A. C., "Communications for the NASA Space Station," Transfer, January/February 1988.

Strayer, W. T., and Weaver, A. C., "Performance Analysis of Data Transfer in GM MAP," Department of Computer Science technical report, University of Virginia, October 27, 1987.

Weaver, A. C., "A Real-Time Messaging System for Token Ring Networks," IEEE/ISA Joint Workshop, Houston, TX, March 1987.

Weaver, A. C., "Local Area Networks and Busses: An Analysis," Flight Data Systems, NASA--Johnson Space Center, Houston, Texas, January 1987.

Summers, C. F., and Weaver, A. C., "Performance of IEEE 802.4 -- the Basis of MAP," Department of Computer Science technical report TR-86-10, University of Virginia, April 28, 1986.

Colvin, M. A., and Weaver, A. C., "Performance of Single Access Classes on the IEEE 802.4 Token Bus," Department of Computer Science technical report TR-86-09, April 23, 1986.

Weaver, A. C., "A Highly Reliable LAN Protocol," Department of Computer Science technical report TR-86-08, University of Virginia, April 21, 1986.

Colvin, M. A., Donnelly, T., Simoncic, R., and Weaver, A. C., "Ethernet Performance Analysis," Department of Computer Science research memo RM-86-01, University of Virginia, March 14, 1986.

Weaver, A. C., "Local Area Computer Networks," Department of Computer Science research memo RM-85-07, University of Virginia, November 18, 1985.

Summers, C. F., and Weaver, A. C., "Performance Analysis of the IEEE 802.4 Token Bus," Department of Computer Science research memo RM-85-06, University of Virginia, November 1985.

Weaver, A. C., and Summers, C. F., "Performance Measurement for Local Area Networks," Department of Computer Science research memo RM-85-05, University of Virginia, November 8, 1985.

Colvin, M. A., and Weaver, A. C., "Performance of Single Access Classes on the IEEE 802.4 Token Bus," Department of Computer Science technical report TR-85-21, University of Virginia, September 18, 1985.

Summers, C. F., and Weaver, A. C., "The IEEE 802.4 Token Bus -- An Introduction and Performance Analysis," Department of Computer Science technical report TR-85-19, University of Virginia, August 26, 1985.

Weaver, A. C., and Smith, M. J., "Communication on CSMA/CD Networks," Department of Computer Science report, University of Virginia, December 1984.

Scott, J. A., and Weaver, A. C., "A Testbed for Distributed Operating System Development," Department of Computer Science technical report, University of Virginia, September 1984.

Butler, D. W., and Weaver, A. C., "Fault-tolerant Protocols for Real-time Local Area Networks," Department of Computer Science technical report no. 84-04, University of Virginia, June 1984.

Colvin, M. A., and Weaver, A. C., "Modeling the IEEE Token Bus," Department of Computer Science technical report no. 84-03, University of Virginia, May 1984.

Weaver, A. C., "A High-Performance Fault-Tolerant Local Area Network," Department of Computer Science technical report no. 83-15, University of Virginia, October 1983.

Albrecht, D. C., and Weaver, A. C., "Network Protocol Design: A Simulation Approach," Department of Computer Science technical report No. 82-09, University of Virginia, November 1982.



- Weaver, A. C., Albrecht, D. C., and Fischer, A. B., "NAPS: Network Access Protocol Simulator," Department of Computer Science technical report No. 82-06, University of Virginia, May 1982.
- Weaver, A. C., Lacy, A. M., and Stock, D. B., "High Level Languages for Process Control," Department of Computer Science technical report No. 82-01, University of Virginia, March 1982.
- Weaver, A. C., Fischer, A. B., and Albrecht, D. C., "Collision-free and Limited-contention Communications Protocols," Department of Computer Science technical report No. 81-18, University of Virginia, December 1981.
- Weaver, A. C., and Lacy, A. M., "On the Design of Programmable Controllers for Industrial Automation", Department of Computer Science technical report No. 81-17, University of Virginia, November 1981.
- Weaver, A. C., and Fischer, A. B., "A Survey of Contention-based Communications Networks," Department of Computer Science technical report No. 81-14, University of Virginia, August 1981.
- Weaver, A. C., and Lacy, A. M., "A Comparison of Five Microcomputer PASCAL Systems," Department of Computer Science technical report No. 81-10, University of Virginia, April 1981.
- Weaver, A. C., "Industrial Controller Software Meets Difficult Systems Needs," *Electronic Data News*, March 5, 1978, pp. 111-115.
- Conn, R. L., and Weaver, A. C., eds., "The Monitor Command System User's Manual," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-78-912, February 1978.
- Weaver, A. C., "A Graphically-programmed, Microprocessor-based Industrial Controller," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-77-865, May 1977.
- Weaver, A. C., "On-line Character Recognition," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-74-660, August 1974.
- Weaver, A. C., "Data Compression for Character Strings," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-74-659, July 1974.
- Weaver, A. C., Tindall, M. H., and Danielson, R. L., "A BASIC Language Interpreter for the Intel 8008 Microprocessor," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-74-658, June 1974.
- Weaver, A. C., "VIPTRAN2--An Improved Programming Language and Its Compiler for Process Control Equations," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-74-643, May 1974.
- Weaver, A. C., "VIPTRAN--A Programming Language and Its Compiler for Boolean Systems of Process Control Equations," Department of Computer Science, University of Illinois, Report No. UIUCDCS-R-73-603, November 1973.

## **2.2 Invited Lectures**

### **2.2.1 Meetings**

Weaver, A.C., Microsoft Tablet PC Initiative, Seattle, WA, July 20-21, 2005.

Weaver, A.C., Microsoft Faculty Summit, Redmond, WA, July 18-20, 2005.

Weaver, A.C., Microsoft Trustworthy Computing Initiative, Redmond, WA, January 2005.

Weaver, A.C., Chen, X., and Van Dyke, J., DemoFest 2004, Microsoft Faculty Summit, August 2004.

Weaver, A.C., Hu, J., Snyder, A.M., and Van Dyke, J., DemoFest 2003, Microsoft Faculty Summit, August 2003.

Weaver, A. C., "Reliable Multicast and Reliable Group Management," Sun Microsystems, Palo Alto, California, July 20, 1999.

Weaver, A. C., Keynote Speaker, "Electronic Commerce on the Internet," IEEE Conference Emerging Technologies and Factory Automation, ETFA'96, Kauai, Hawaii, December 1996.

Weaver, A. C., "Xpress Transport Protocol," General Electric Research and Development Laboratory, Schenectady, New York, December 1996.

Weaver, A. C., "The Protocol Engine," MITRE Corporation, McLean, Virginia, May 26, 1988.

Weaver, A. C., "Computer Networks Research at the University of Virginia," Contel, Fairfax, Virginia, May 25, 1988.

Weaver, A. C., "Protocol Engine Project," TCP/IP Conference, Washington, D.C., December 1987.

Weaver, A. C., "An Experimental Real-Time Messaging System for Computer Networks," NASA-Johnson Space Center, December 12, 1986.

Weaver, A. C., "The IEEE Local Area Network Standards," Midwest Workshop on Communications Systems, Washington University, St. Louis, Missouri, November 20-21, 1986.

Weaver, A. C., "The ISO OSI Model for Computer Networks," Flight Data Systems, NASA-Johnson Space Center, August 23, 1986.

Weaver, A. C., "Computer Networking," ACM SIGMALL 81, Orlando, Florida, October 12-13, 1981.

Weaver, A. C., "Microcomputer Architecture for Distributed Processing," U. S. Army Research Office Symposium on Microcomputer Architecture, Wrightsville Beach, North Carolina, May 21-22, 1981.

Weaver, A. C., "Distributed Process Control Architectures Using Microprocessors," Rocky Mountain Symposium on Microcomputers, Fort Collins, Colorado, August 1979.

Weaver, A. C., "Teaching Computer Science with Microprocessors," East Central Region of the ACM Special Interest Group in Computer Science Education, University of Louisville, Louisville, Kentucky, May 1979.

Weaver, A. C., "The Impact of Microprocessors on Industrial Process Control," Republic of China - Republic of Korea Workshop on Microprocessor Devices and Applications, National Science Council of the Republic of China, Taipei, Taiwan, December 18-22, 1978.

### **2.2.2 Tutorials**

- Weaver, A.C., "Computer Applications to Medicine," National Science Foundation Research Experiences for Undergraduates, Charlottesville, VA, June 2005.
- Weaver, A.C., "Industrial Informatics," IECON'03, Roanoke, VA, November 2003.
- Weaver, A. C., "Factory Monitoring and Control Using the Internet," IECON'01, Denver, CO, December 2001.
- Weaver, A.C., "Internet Commerce," NATO Fellowship, Bogazici University, Istanbul, Turkey, May 29, 2000.
- Weaver, A.C., "Internet Privacy and Security," NATO Fellowship Lecture, Bogazici University, Istanbul, Turkey, May 30, 2000.
- Weaver, A.C., "Critical Factors in Electronic Commerce," NATO Fellowship Lecture, Bogazici University, Istanbul, Turkey, June 1, 2000.
- Weaver, A. C., "The Internet, Electronic Commerce, and Factory Automation," IECON2000, Nagoya, Japan, Oct/Nov 2000.
- Weaver, A. C., "The Internet and Electronic Commerce," IECON2000, Nagoya, Japan, Oct/Nov 2000.
- Weaver, A. C., "Profiting from the Internet and the World Wide Web," IECON'98, Aachen, Germany, September 1998.
- Weaver, A. C., "The Internet and the World Wide Web," IECON'97, New Orleans, LA, November 1997.
- Weaver, A. C., "Electronic Commerce on the Internet," IECON'96, Taipei, Taiwan, August 1996.
- Weaver, A. C., "The Xpress Transport Protocol--Past, Present, and Future," Distributed Technology Exchange, NCCOSC RDT&E Division (NRaD), San Diego, CA, March 13-17, 1995.
- Weaver, A. C., Simonic, R., and McNabb, J., "Protocols for Multimedia Applications," IEEE International Conference on Advanced Teleservices and High Speed Communications Architectures, Heidelberg, Germany, September 26-28, 1994.
- Weaver, A. C., Simonic, R., and McNabb, J., "XTP: the Xpress Transfer Protocol," NCCOSC NRaD Workshop on Real-Time Distributed Systems, San Diego, CA, February 24, 1994.
- Strayer, W.T., Dempsey, B.J., and Weaver, A. C., "XTP: The Xpress Transfer Protocol," Navy Distributed Command and Control Meeting, University of Virginia, Charlottesville, VA, December 7, 1992.
- Strayer, W.T., Dempsey, B.J., and Weaver, A. C., "XTP: The Xpress Transfer Protocol," Local Computer Networks Conference, Minneapolis, MN, September 1992.
- Weaver, A. C., "XTP: The Xpress Transfer Protocol, " Real Time Systems Symposium, Carnegie Mellon University, Pittsburgh, PA, August 1992.
- Strayer, W.T., Dempsey, B.J., and Weaver, A. C., "XTP: The Xpress Transfer Protocol," IEEE International Workshop on Advanced Communications, Munich, Germany, March 1992.
- Weaver, A. C., "High Speed Transfer Protocols," Wang Institute of Boston University, Boston, MA, May 17, 1991.
- Weaver, A. C., "Local Area Networks," Society of Photo-Optic and Instrumentation Engineers, Dallas, TX, May 9, 1991.
- Weaver, A. C., "Local Area Networks," IEEE Industrial Electronics Society IECON '89, Philadelphia, Pennsylvania, November 6, 1989.

- Weaver, A. C., "Local Area Networks," Society of Photo-Optic Instrumentation Engineers, Boston, Massachusetts, September 5, 1989.
- Weaver, A. C., "Local Area Networks," IEEE Industrial Electronics Society IECON '88, Singapore, October 24, 1988.
- Weaver, A. C., "Local Area Networks," Society of Photo-optic Instrumentation Engineers, Boston, Massachusetts, September 6, 1988.
- Weaver, A. C., "Local Area Networks," Society of Photo-optic Instrumentation Engineers, Detroit, Michigan, June 28, 1988.
- Weaver, A. C., "Local Area Networks," IEEE Industrial Electronics Society IECON '87, Cambridge, Massachusetts, November 2-6, 1987.
- Weaver, A. C., "Computer Networks," five Professional Development Seminars, Lockheed Engineering and Management Services Corporation, Houston, Texas, November-December 1986, and March-April, 1987.
- Weaver, A. C., "Computer Networks," IEEE ENIX-ASIA, Singapore, October 21, 1986.
- Weaver, A. C., "Computer Networks for Factory Communications," IEEE Industrial Electronics Society IECON '86, Milwaukee, Wisconsin, September 29, 1986.
- Weaver, A. C., "The OSI Reference Model for Computer Networks," NASA--Johnson Space Center, Houston, Texas, August 5, 1986.
- Weaver, A. C., "Local Area Networks," Sperry Corporation, Marine Systems Group, February 12-17, 1986.
- Weaver, A. C., "ISO and IEEE Models for Local Area Networks," NASA-Lewis Research Center, December 13, 1985.
- Weaver, A. C., "Local Area Computer Networks," IEEE Industrial Electronics Society IECON '85, San Francisco, California, November 18, 1985.
- Weaver, A. C., "Advanced Computer Networking," NASA-Lewis Research Center, Cleveland, Ohio, October 7, 1985.
- Weaver, A. C., "Computer Networks," NASA-Lewis Research Center, Cleveland, Ohio, July 24, 1985.
- Weaver, A. C., "Computer Networks for Beginners," NASA-Lewis Research Center, Cleveland, Ohio, July 2, 1985.
- Weaver, A. C., "Real-Time Local Area Networks," NASA-Lewis Research Center, Cleveland, Ohio, July 9, 1984.
- Weaver, A. C., "Local Area Computer Networks," NASA-Lewis Research Center, Cleveland, Ohio, April 8, 1984.
- Weaver, A. C., "Computer Networks," IEEE Industrial Electronics Society IECON '83, San Francisco, California, November 1983.
- Weaver, A. C., "Microcomputer Interfaces for Process Control," IEEE Industrial Electronics Society IECON '82, Palo Alto, California, November 19, 1982.
- Weaver, A. C., "Microcomputer Applications in Otolaryngology," Society of University Otolaryngologists, Washington, D. C., November 12, 1982.
- Weaver, A. C., "Industrial Control Using Microprocessors," IEEE Industrial Electronics Society IECON '81, San Francisco, California, November 1981.

### **2.2.3 Colloquia**

Weaver, A. C., "Distributed Computing at the Edge of the Internet," University of North Carolina at Wilmington, Wilmington, NC, April 12, 2002.

Weaver, A. C., "Building a Successful and Secure Enterprise," RRTC Seminar 2000.

Weaver, A. C., "Transitioning to Electronic Commerce: The EC Revolution," NATO Seminar, Istanbul, Turkey, June 2000.

Weaver, A. C., Allen, Brandt R., Simoncic, Robert, "Electronic Commerce on the Internet," CIT Headquarters, Herndon, VA, December 1, 1995.

Weaver, A. C., and Christie, R.W., "Design of an XTP-aware IP Router," Distributed Technology Exchange, NCCOSC, RDT&E Division (NRaD), San Diego, CA, March 13-17, 1995.

Weaver, A. C., Simoncic, R., and Dreke, C., "LynxOS and XTP Integration," Distributed Technology Exchange NCCOSC, RDT&E Division (NRaD), San Diego, CA, March 13-17, 1995.

Weaver, A. C., "Teleultrasound for the UVA Hospital," Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, February 24, 1995.

Weaver, A. C., "High Speed Transport Protocols," Department of Systems Engineering, University of Virginia, October 1992.

Weaver, A. C., "The Xpress Transfer Protocol," MCNC, Research Triangle Park, NC, September 16, 1991.

Weaver, A. C., "Local Area Networks for Real-time Systems," Department of Computer Science, Virginia Tech, Blacksburg, Virginia, November 9, 1988.

Weaver, A. C., "The IEEE Local Area Network Standards," Department of Computer Science, Washington University, St. Louis, Missouri, October 23, 1985.

Weaver, A. C., "Local Area Networks," Institute for Defense Analyses, Alexandria, Virginia, July 9, 1985.

Weaver, A. C., "Trends in Local Area Network Design," Distinguished Lecturer Series, Florida Atlantic University, Boca Raton, Florida, November 15, 1984.

Weaver, A. C., "Real-Time Computer Communication Networks," Department of Computer Science, Washington University St. Louis, Missouri, April 1983.

Weaver, A. C., Knight, J. C., Pratt, T. W., and Reynolds, P. F., "The Critical Real-Time Systems Laboratory," NASA-Langley Research Center, Hampton, Virginia, November 5, 1982.

Weaver, A. C., Knight, J. C., Pratt, T. W., and Reynolds, P. F., "The Critical Real-Time Systems Laboratory," General Electric Co., Charlottesville, Virginia, October 29, 1982.

Weaver, A. C., "Microcomputer Networks," Department of Biomedical Engineering, University of Virginia, Charlottesville, Virginia, October 1982.

Weaver, A. C., "Microcomputer Applications," Junior Science and Humanities Symposium, University of Virginia, Charlottesville, Virginia, March 1, 1982.

Weaver, A. C., "Issues in Computer Communication Network Design," General Instruments Corporation, Baltimore, Maryland, July 23, 1981.

- Weaver, A. C., "Medical Decision Making Using Microcomputers," Department of Electrical Engineering and Computer Science, University of Santa Clara, Santa Clara, California, May 29, 1980.
- Weaver, A. C., "Quantitative Medical Decision Aids Utilizing Microprocessors," Department of Computer Science, Washington University, St. Louis, Missouri, April 1979.
- Weaver, A. C., "Fundamentals of Computer Science," Bath County Program for the Gifted, Hot Springs, Virginia, March 9-10, 1979.
- Weaver, A. C., "Microprocessors and Industrial Process Control," NASA-Langley Research Center, Hampton, Virginia, February 1979.
- Weaver, A. C., "Industrial Control and Microprocessor Technology," Department of Computer Science, Pennsylvania State University, University Park, Pennsylvania, January 1979.
- Weaver, A. C., "Microprocessors and Microcomputers," Department of Management Analysis and Systems Development, Office of the Governor, Richmond, Virginia, December 1978.
- Weaver, A. C., "Using Microcomputers to Teach Computer Science," Virginia Association of Educational Data Systems, Richmond, Virginia, September 1978.

#### **2.2.4 ACM National Lectures -- 1986-1989**

University of Houston  
 University of Houston at Clear Lake  
 Houston ACM Chapter  
 Old Dominion University  
 Milwaukee ACM Chapter  
 University of Wisconsin at Eau Claire  
 Chicago ACM Chapter  
 Cincinnati ACM Chapter  
 Columbus ACM Chapter  
 Dayton ACM Chapter  
 Tulane University  
 Louisiana State University  
 Vanderbilt University  
 Colorado State University  
 Pikes Peak Colorado Chapter  
 Wright State University  
 Indiana University  
 Purdue University  
 Central Indiana Chapter  
 Baltimore ACM Chapter  
 University of Wisconsin at La Crosse  
 University of Wisconsin at Platteville  
 Clarke College  
 College of William and Mary  
 Old Dominion University

### **3. UNIVERSITY SERVICE (University of Virginia)**

#### **3.1 Administrative**

Chairman, Department of Computer Science, 1984-85

Director, Computer Science Corporate Partners Program, Department of Computer Science, 2000—2005

#### **3.2 Committees**

University Committee on Promotion and Tenure, 2003-06

Chair, Computing Equipment and Professional Staff, 2005-

Chair, Faculty Search Committee, 2004-05

UVA Faculty Senate, 2001-06

Chair, SEAS Faculty Council, 2002-06

Computer Science Program at the UVA-Wise, 2004-

University Committee on Information Technology, 2003-

Chair, SEAS Promotion and Tenure Committee, 1998-99

SEAS Promotion and Tenure Committee, 1996-1999.

Whitaker Executive Committee, Biomedical Engineering, 1998-2000.

UVA Digital Directions Speaker's Series, 1997-2000.

Biomedical Engineering Chair Review, 1997.

University Committee on Information Technology (UCIT), 1995-2000.

UCIT Subcommittee Chair on Multimedia Technology, 1995-1996.

Vice-President's Committee on UVA Networking, 1995-1999.

Graduate Studies Committee, 1994-1997.

Graduate Admissions Committee, 1991-1993.

University Computer Policy Committee, 1988-1991.

Computer Facilities Committee, 1989-1995.

Chairman, Computer Science Computer Policy Committee, 1987-1988.

Dean's Research Advisory Committee, 1986-1988.

Research Director, Department of Computer Science, 1985-1987.

Faculty Forum for Scientific Research, 1983-1984.

SEAS Ad Hoc Committee on Computing, 1978-1981.

SEAS Computers and Engineering Advisory Committee, 1978-1981.

SEAS Open House Committee, 1978-1982.

Academic Computing Center Committee for Hardware Evaluation, 1981-1982.

Academic Computing Center Committee on Local Data Networks, 1980-1981.

Vice-President's Committee on Office Automation, 1980.

University Committee on Microcomputer Selection, 1982.

University Committee on Computers, 1978-82.

#### **3.3 Instruction**

Computer Science 101 - Introduction to C++ Program Design

Computer Science 120 - Introduction to Business Computing

Computer Science 270 - Pascal Programming

Computer Science 352 - Advanced Programming and Data Structures

Computer Science 361 - Computer Organization and Assembly Language Programming

Computer Science 384 - Microcomputer Laboratory

Computer Science 453 - Electronic Commerce Technologies

Computer Science 454 - Operating Systems

Computer Science 484 - Digital Computer Systems Laboratory

Computer Science 457 - Computer Networks

Computer Science 551 - Electronic Commerce

Computer Science 551 - Federated Trust Systems

Computer Science 551 - Trustworthy Computing

Computer Science 584 - Microcomputer Systems Design  
Computer Science 651 - Federated Trust Systems  
Computer Science 651 - Trustworthy Computing  
Computer Science 656 - Operating Systems  
Computer Science 755 - Operating Systems  
Computer Science 757 - Computer Networks  
Computer Science 851 - Local Area Networks  
Computer Science 851 - Advanced Computer Networks  
ENGR 390 - Electronic Commerce (Rodman Scholars Seminar Series)

#### **4. SPONSORED RESEARCH**

##### **4.1 Government- and Industry-Sponsored Research**

Weaver, A.C., "Data Delivery Optimization and Security," Aerospace Corporation, \$100,000, 2006-07.

Weaver, A.C., "Trustworthy Computing: A Deep Dive into Medical Data Privacy and Security," Microsoft Research, \$50,000, 2006-07.

Weaver, A.C., "A Comparison of Learning Outcomes When Using the Tablet PC," Microsoft Research, \$50,000, 2004-06.

Weaver, A.C., "Trustworthy Computing," Microsoft Research, \$50,000, 2004-06.

Weaver, A.C., "Advancing Cyber Security via .NET," Microsoft Research, \$200,000, 2004-06.

Weaver, A.C., "REU Site: Creating Computer Applications for Medicine," National Science Foundation, Research Experience for Undergraduates, \$298,775, 2005-07.

Weaver, A.C., "Digital Government," Internet Technology Innovation Center, \$10,000, 2004.

Weaver, A.C., "IT Education in Virginia," National Science Foundation, subcontract to Virginia Community College System, \$33,113 (\$200,000 total), 2003-04, PI: Michael Peterson, VCCS.

Weaver, A. C., "Wireless Devices and Web Services in the CS Curriculum," Microsoft Research, \$30,000, 2003-04.

Weaver, A.C., "Federated, Secure Trust Networks for Distributed Healthcare IT Services," Microsoft Research, \$200,000, 2002-04.

Weaver, A.C., Teaching + Technology Initiative: A Virtual Laboratory for Electronic Commerce, U.Va., 8/26/02—8/25/04, \$20,000.

Weaver, A. C., "Laboratory for Electronic Commerce," National Science Foundation, 12/1/01 - 11/30/03, \$75,000.

Weaver, A. C., "MatchMaker 2002," Virginia's Center for Innovative Technology, 12/1/01 - 11/30/02, \$30,000.

Weaver, A. C., French, J.C., "Internet Technology Innovation Center," Virginia's Center for Innovative Technology, 9/1/98—6/30/04, \$2,500,000.

Weaver, A. C., "Common Infrastructure Design and Benchmarking," Lockheed Martin, 3/1/01 - 2/28/02, \$50,000.

Weaver, A. C., "Web-based Employee Training," American Woodmark, 8/1/00 - 7/31/01, \$5,000.

Weaver, A. C., "Benchmarking Industry Best Practices," NetGuilds, Inc., 3/1/01 - 2/28/02, \$50,000.

Weaver, A. C., French, J.C., "Internet Visioning for Advance Auto," Advance Auto, 1/7/00 - 12/29/00, \$18,000.



Weaver, A. C., "Porting Matchmaker to SQL/ Matchmaker Enhancements," Virginia's Center for Innovative Technology, 12/1/00 -01/30/01, \$50,000.

Weaver, A. C., "Intelligent Internet Search Agent," Pete Brothers, 06/30/00 - 05/31/01, \$6,000.

Weaver, A. C., "Intelligent Internet Search Agent," Virginia's Center for Innovative Technology, 06/30/00 - 05/31/01, \$24,000.

Weaver, A. C., "Outreach Virginia," Office of the Vice-President for Research and Public Service, 7/26/99 - 6/30/00, \$12,000.

Weaver, A. C., "MatchMaker2000," Virginia's Center for Innovative Technology, 03/01/00 - 02/28/01, \$30,000.

Weaver, A. C., "MatchMaker," Virginia's Center for Innovative Technology, 7/1/99 - 6/30/00, \$30,000.

Weaver, A. C., "Virginia IT&T Resources Database," Virginia's Center for Innovative Technology, 7/1/99 - 12/31/00, \$30,000.

Weaver, A. C., "Brainpower for Business Market Study," Virginia's Center for Innovative Technology, 6/1/99--5/31/00, \$10,000.

Weaver, A. C., "Aerospace and Transportation Technologies Website," Virginia's Center for Innovative Technology, 12/1/98--11/30/99, \$6,000.

Weaver, A. C., "Web Enabled Corporate Database Design," Virginia's Center for Innovative Technology, 6/1/98--5/31/00, \$20,000.

Weaver, A. C., "Implementation of the CIT Corporate Database," Virginia's Center for Innovative Technology, 6/1/98--5/31/00, \$55,000.

Weaver, A. C., "Corporate Database Implementation on the WWW," Virginia's Center for Innovative Technology, 6/1/98--5/31/00, \$55,000.

Weaver, A. C., "Client Registration System," Virginia's Center for Innovative Technology, 6/1/98--12/31/99, \$30,000.

Weaver, A. C., "Internet Software Laboratory," Virginia's Center for Innovative Technology, 7 /1/98--12/31/99, \$49,738.

Weaver, A. C., "Electronic Survey of CIT's Economic Impact," Virginia's Center for Innovative Technology, 5/1/98--4/30/99, \$21,985.

Weaver, A. C., "Expansion of Brainpower for Business," Virginia's Center for Innovative Technology, 5/1/97--12/31/98, \$13,700.

Weaver, A. C., "BusinessBuilder: Tools for Electronic Commerce," Virginia's Center for Innovative Technology, 7/1/97--6/30/99, \$95,000.

Weaver, A. C., "MatchMaker: Expanding the Technology Workforce," Virginia's Center for Innovative Technology, 7/1/97--6/30/99, \$95,000.

Weaver, A. C., "WWW Business Innovations Contest," Virginia's Center for Innovative Technology, 7/96--6/97, \$40,000.

Weaver, A. C., "Establishing a Regional IT&T Economy for Central Virginia," Virginia's Center for Innovative Technology, 11/1/96--5/31/97, \$1,200.

Weaver, A. C., "Focus Group on Workforce Education," Virginia's Center for Innovative Technology, 11/16/96--5/31/97, \$500.

Weaver, A. C., "CIT Technology Institute, " Virginia's Center for Innovative Technology, 7/96--6/97, \$58,500.

Weaver, A. C., and Grimshaw, A.S., "Real-Time Communications for Distributed Systems," Office of Naval Research, 9/95--9/96, \$200,000.

Jokl, James A., Grimshaw, A.S., Liebeherr, J., and Weaver, A. C., " Networks, Middleware, and Applications for Next Generation Metasystems," National Science Foundation, 2/1/97--1/31/99, \$350,000.

Weaver, A. C., "Brainpower for Business," Virginia's Center for Innovative Technology, 5/1/97--4/30/98, \$40,000.

Weaver, A. C., "Information Powersource," Virginia's Center for Innovative Technology, 02/01/97- 01/31/98, \$41,932.

Weaver, A. C., "InterCom - The Internet Commerce Project," Virginia's Center for Innovative Technology, 6/1/96-5/31/97, \$84,724.

Weaver, A. C., French, J.C., and Liebeherr, J., "Virginia Business Intellectual Resources Guide, "Virginia's Center for Innovative Technology, 2/1/96--1/31/97, \$50,828.

Grimshaw, A.S., Wulf, W., Weaver, A. C., and French, J.C., "Legion: the Next Logical Step Toward a Nationwide Virtual Computer," Advanced Research Projects Agency, 7/1/96--6/30/99, \$2,414,473.

Weaver, A. C., and Grimshaw, A., "Distributed Computing and Communications," Office of Naval Research, 4/1/95--9/30/96, \$200,000.

Weaver, A. C., "Secure Electronic Commerce," Crutchfield Corporation, 2/8/96--2/7/97, \$27,500.

Weaver, A. C., "Institute of Information Technology and Telecommunications," Virginia's Center for Innovative Technology, 1/1/96--6/30/96, \$23,000.

Weaver, A. C., "Institute of Information Technology and Telecommunications," Virginia's Center for Innovative Technology, 7/1/95--12/31/95, \$20,000.

Weaver, A. C., "Developing a WWW Presence for CIT," Virginia's Center for Innovative Technology, 9/1/95--3/30/96, \$12,000.

Weaver, A. C., "Virginia Technology Resources," Virginia's Center for Innovative Technology, 9/1/95--3/30/96, \$6,500.

Weaver, A. C., "Communications Support for Telemedicine," Virginia's Center for Innovative Technology, 7/1/94--6/30/95, \$50,000.

Weaver, A. C., "Communications Support for Telemedicine," Mystech Inc. and U.S. Army, 5/1/94--8/30/95, \$263,000.

Weaver, A. C., "Real-Time Communications for Distributed Systems," NCCOSC NRad and Office of Naval Research, 6/1/94--9/30/95, \$330,000.

Weaver, A. C., "Video Mail System for Personal Computers," Virginia's Center for Innovative Technology, 1/1/93--12/31/93, \$40,000.

Weaver, A. C., "Developing the Xpress Transfer Protocol for the IBM RISC System 6000," Virginia's Center for Innovative Technology, 1/1/93--12/31/93, \$70,000.

Weaver, A. C., "Video Mail System," SAIC, 9/1/92--1/31/93, \$40,000.

Weaver, A. C., "Development of an Ada User Interface and the Xpress Transfer Protocol for DTC-2 and SAFENET II," Office of Naval Research, 9/1/91--9/30/93, \$368,500.

Weaver, A. C., "A Feasibility Study of Digitized Voice Distribution via the Xpress Transfer Protocol," Virginia Center for Innovative Technology, 11/1/91--10/31/92, \$29,025.

Weaver, A. C., "A Feasibility Study of Digitized Voice Distribution via the Xpress Transfer Protocol," E-Systems, Inc., 7/18/91--11/30/91, \$45,000.

Weaver, A. C., "Developing the Xpress Transfer Protocol for the IBM RISC System 6000," International Business Machines, 7/18/91--7/31/93, \$140,000.

Weaver, A. C., "Communications Services for Real-Time Systems," Office of Naval Research, 4/1/91--3/31/92, \$118,000.

Weaver, A. C., "Enhancing the Xpress Transfer Protocol for Use in SAFENET," Office of Naval Research, 10/1/90--9/30/91, \$50,000.

Jones, A. K., et al., "End-to-End Systems Design," National Science Foundation, 7/1/90--6/30/94, \$5,600,000.

Weaver, A. C., "SAFENET: A Real-Time Local Area Network for Military and Commercial Ships," Sperry Marine Inc., 4/1/90--3/31/91, \$40,000.

Weaver, A. C., "Design of a SeaNET-to-SAFENET Bridge," Virginia Center for Innovative Technology, 8/1/90--7/31/91, \$26,316.

Weaver, A. C., "Design, Implementation, and Performance Measurement of the Xpress Transfer Protocol for SAFENET," Office of Naval Research, 10/1/89--9/30/90, \$120,882.

Weaver, A. C., "SAFENET: A Real-Time Communications Network for Military Ships," Virginia Center for Innovative Technology, 6/1/89--5/30/90, \$71,858.

Weaver, A. C., "SAFENET: A Real-Time Communications Network for Military and Commercial Ships," Sperry Marine Inc., 4/1/89--3/31/90, \$99,859.

Cook, R. P., Son, S. H., and Weaver, A. C., "The Starlite Project: Prototyping Real-time Software - Operating Systems, Communications Networks, Database Systems," Office of Naval Research, 10/1/88--9/30/90, \$322,512.

Weaver, A. C., "Real-Time Communications Using Local Area Networks," Naval Surface Warfare Center, 5/1/89--9/30/89, \$25,900.

Weaver, A. C., "Evaluation of the Xpress Transfer Protocol," Naval Surface Warfare Center, 2/16/89--9/30/89, \$45,494.

Weaver, A. C., "High-Speed Local Area Networks," Proteon Corporation, equipment donation, \$10,000.

Brown, D. E., Weaver, A. C., and Wiener, D. F., "Data Fusion Systems," Virginia Center for Innovative Technology, 1/1/89--12/31/89, \$19,084.

Brown, D. E., Weaver, A. C., and Wiener, D. F., "Data Fusion Systems," Ford Aerospace, 1/1/89--12/31/89, \$25,000.

Pausch, R. A., and Weaver, A. C., "Performance Analysis Tools for Local Area Networks," Virginia Center for Innovative Technology, 10/1/88--9/30/91, \$20,184.

Weaver, A. C., "Performance Analysis Tools for Local Area Networks," Contel Federal Systems, Fairfax, Virginia, 10/1/88--9/30/91, \$30,074.

Weaver, A. C., "SHIPNET: Real-time Communications for Ships," Institute for Information Technology, Virginia Center for Innovative Technology, 6/1/88--5/31/89, \$64,000.

Weaver, A. C., "Performance Analysis of Intel MAP," Intel Corporation, equipment donation, 2/1/88--1/31/89, \$26,900.

Weaver, A. C., "A Fiber Optic Token Ring Local Area Network to Support Real-Time Control Systems for Aircraft," NASA-Lewis Research Center, 2/1/88--1/15/89, \$40,000.

Weaver, A. C., "A Prototype Network for Ships," Sperry Marine Inc., 1/1/88--3/31/89, \$54,868.

Weaver, A. C., "Requirements and Specifications for a Real-Time Transport Protocol," National Bureau of Standards, 12/1/87--12/31/88, \$50,000.

Weaver, A. C., "A Token Ring Network for Ships," Institute of Information Technology, Virginia Center for Innovative Technology, 9/1/87--12/31/88, \$27,030.

Pratt, T. W., Reynolds, P. F., Brown, D., Cohoon, J. P., Davidson, J. W., Ortega, J. M., Pfaltz, J. L., Richards, D. S., Wartik, S. P., and Weaver, A. C., "Development Plans for an Institute for Parallel Computation," Jet Propulsion Laboratory, 7/1/87--6/30/88, \$999,999.

Weaver, A. C., "A Prototype Network for Ships," Sperry Marine, Inc., 4/1/87--12/31/87, \$27,030.

Weaver, A. C., "Performance Measurement of the GM MAP Protocol," Intel Corporation, computer equipment, 11/1/86--10/30/88, \$78,000.

Pratt, T., Reynolds, P. F., Weaver, A. C., et al, "A Research Center for Parallel Computing at the University of Virginia," Joint Tactical Fusion Office, Department of Defense, 9/1/86--1/15/87, \$99,000.

Weaver, A. C., "Developing a Token Ring Network for Ships," Proteon, Inc., Natick, Massachusetts, 7/1/86--8/31/87, \$43,925.

Weaver, A. C., "A Shipboard Local Area Network," Institute of Information Technology, Virginia Center for Innovative Technology, 7/1/86--8/31/88, \$50,476.

Weaver, A. C., "A Prototype Network for Ships," Marine Systems Division, Sperry Corporation, 5/1/86--3/31/87, \$54,101.

Weaver, A. C., "A Computer Science Laboratory for Operating Systems Design," Academic Computing Center Support Program, University of Virginia, 7/1/86--6/30/87, \$60,709.

Cook, R. P., Cohoon, J. P., Davidson, J. W., Knight, J. C., Pratt, T. W., Reynolds, P. F., and Weaver, A. C., "Equipment for Computer Science," National Science Foundation, 9/1/85--8/31/86, \$315,910.

Weaver, A. C., "Experiments in Distributed Computing," Institute for Defense Analyses, 5/28/85--12/31/85, \$20,000.

Weaver, A. C., "Local Area Network Performance Modeling," Naval Surface Weapons Center, 4/1/85--5/31/86, \$37,231.

Weaver, A. C., "A Research Center for Automated Local Area Network Performance Measurement," Virginia Center for Innovative Technology, Institute for Information Technology, 7/1/85--12/31/86, \$136,604.

Weaver, A. C., "A Research Center for Automated Local Area Network Performance Measurement," computer equipment, Intel Corporation, 7/1/85--6/30/87, \$123,280.

Weaver, A. C., "Fault-Tolerant Real-Time Communications Systems," NASA-Lewis Research Center, 6/16/85--6/15/86, \$45,000.

Weaver, A. C., "Computer Communication Networks for Hierarchical Control," NASA-Lewis Research Center, 4/1/85--5/31/86, \$60,000.

Weaver, A. C., "Real-Time Computer Network Communications Protocols," Virginia Center for Innovative Technology, Institute for Information Technology, 12/1/84--5/31/86, \$60,600.

Weaver, A. C., "Modeling the IEEE 802.5 Token Ring," Fairchild Communications and Electronics Company, 3/1/85--12/31/85, \$50,000.

Weaver, A. C., "Real-Time Fault-Tolerant Local Area Networks," computer equipment, Intel Corporation, 1/1/85--12/31/85, \$20,000.

Weaver, A. C., "Real-Time Communications for Control Systems," Dynamics and Controls Branch, NASA-Lewis Research Center, 4/1/84--5/31/85, \$68,993.

Weaver, A. C., "Modeling the IEEE 802.4 Token Bus Protocol," General Electric Company, 1/1/84--12/31/84, \$50,000.

Weaver, A. C., "Fault-Tolerant Communications Protocols," Fairchild Communications and Electronics, 1/1/84--12/31/84, \$50,000.

Weaver, A. C., "Performance Measurement of Ada on the Intel 432," Fairchild Communications and Electronics Company, 7/1/83--12/31/83, \$14,500.

Weaver, A. C., "Real-time Computer Systems for Industrial Automation," General Electric Company, 1/1/83-12/31/83, \$25,000.

Weaver, A. C., "Intel iAPX 432 Research Equipment," computer equipment, Intel Corporation, March 1983, \$136,000.

Weaver, A. C., "Communications Protocols for Avionics Busses," Fairchild Space and Electronics Company, 1/1/83-12/31/83, \$67,500.

Weaver, A. C., "Microcomputer Architecture and Programming Languages for Industrial Process Controllers," General Electric Company, 5/1/82-12/31/82, \$25,000.

Weaver, A. C., "Data Communications for Avionics Buses," Fairchild Space and Electronics Company, 5/1/82-12/31/82, \$45,000.

Weaver, A. C., "Microcomputer Architectures for Industrial Control," General Electric Company, 6/15/81-5/31/82, \$25,000.

Weaver, A. C., "Data Communications for Multi-microprocessors," Fairchild Space and Electronics, 3/1/81-5/31/82, \$50,000.

Weaver, A. C., "Teaching Computer Organization and Assembly Language Programming with Microcomputers," National Science Foundation, 4/1/80-9/30/82, \$29,960.

Weaver, A. C., "Quantitative Medical Decision Analysis," National Center for Health Services Research, 9/1/79-8/31/80, \$8,959.

Weaver, A. C., "A Microcomputer-based Teaching Laboratory for Computer Science," National Science Foundation, 10/1/79-3/31/82, \$38,000.

White, C. C., and Weaver, A. C., "The Application of Quantitative Medical Decision Aids to Medicine," National Institute for Health Services Research, 8/1/78-8/31/79, \$10,000.

#### **4.2 Industry Gifts**

Weaver, A.C., HP tc4200 Tablet PC, Hewlett-Packard, \$2000, summer 2005.

Weaver, A. C., "NetEdge Computing," Intel Corporation, \$60,000, fall 2002.

Weaver, A. C., computing equipment from Microsoft Corporation, \$10,000, fall 2002.

Weaver, A. C., IBM T23 laptop to support .NET computing, Microsoft Corporation, \$5,000, February 2002.

## 5. GRADUATE STUDENT DIRECTION

### 5.1 Ph.D. dissertations directed:

- Calandrino, Joseph A., *Identity-Based Cryptosystem Privacy* (in progress).
- Wu, Zhengping, *Trust Establishment and Management in Federated Systems* (in progress).
- Lucas, Matthew T., *Efficient Data Distribution in Large-Scale Multicast Networks*, May 1998.
- Dempsey, Bert J., *Retransmission-Based Error Control for Continuous Media Traffic in Packet-Switched Networks*, May 1994.
- Strayer, W. Timothy, *Function-based Scheduling Theory*, May 1992.
- Peden, Jeffery H., *Queueing Models for Token and Slotting Ring Networks*, August 1991.
- Schult, Nancy L. (co-advisor with T. M. Sigmon), *Analytic Models of Token Ring Networks*, January 1989.
- Pennell, James, *Message Value Metrics: A Technique for Flow Control in Computer Networks*, January 1988.
- Yancey, John, *Object Allocation in Distributed Real-Time Systems*, May 1986.

### 5.2 Master of Science theses directed:

- Snyder, Andrew M., *Performance Measurement and Workflow Impact of Securing Medical Data Using HIPAA Compliant Encryption in a .NET Environment*, August 2003.
- Sublett, John, *Design of a Teleultrasound System*, May 1996.
- Michel, Jeffrey, *Off-Host Communications Architectures*, August 1993.
- Dempsey, Bert J., *Design and Analysis of Reliable Transport Multicast*, January 1991.
- Fenton, John C., *User Interface for the Xpress Transfer Protocol: Design and Analysis*, January 1991.
- Harvey, James D., *An Implementation and Analysis of Abstract Syntax Notation One and Basic Encoding Rules*, August 1989.
- Minnich, David W., *Performance Analysis of SAE AE-9B High Speed Ring Bus*, August 1988.
- Simonson, Randy H., *Performance Analysis of FDDI*, May 1988.
- Strayer, W. Timothy, *Performance Analysis of GM MAP*, January 1988.
- Peden, Jeffery, *Performance Evaluation of the IEEE 802.5 Token Ring*, January 1987.
- Gorur, R. Mangala, *Performance Analysis of the IEEE 802.4 Token Bus*, January 1987.
- Summers, Catherine F., *Performance Analysis of the IEEE 802.4 Token Bus Protocol*, May 1985.
- Scott, John, *A Testbed for Distributed Operating System Development*, September 1984.
- Butler, David, *Fault-Tolerant Protocols for Real-Time Local Area Networks*, May 1984.

Colvin, M. Alex, *Modeling the IEEE Token Bus*, May 1984.

Smith, Mark J. A., *Microcomputer Network for Communications Protocol Experiments*, January 1984.

Holford, John P., *Optimal Compilation of Relay Ladder Diagrams*, June 1983.

Albrecht, David C., *Network Protocol Design - A Simulation Approach*, December 1982.

Hall, Kenneth B., *A Quantitative Medical Decision-Making Aid for the Prototypical Complaint Diarrhea*, December 1981.

Methvin, David W., *A Unified Network Operating System*, May 1981.

Carson, Scott D., *A Microcomputer STAR Network*, January 1981.

Wyatt, Joseph, R., *Computer Automation in the Nuclear Manufacturing Industry*, January 1980.

Greiner, Mark A., *Hardware/Software Tradeoffs in Industrial Process Controller Design*, University of Illinois, October 1979 (co-directed with T. A. Murrell).

Bryant, Robert M., *A Real-time, Multi-tasking Sequence Controller for Industrial Processes*, University of Illinois, May 1979 (co-directed with T. A. Murrell).

Beiser, Paul S., *Finite Segment P-adic Arithmetic*, December 1978.

Conn, Richard L., *ARIAN - An Operating System for Microcomputers*, University of Illinois, May 1978.

Blanton, Robert E., *A Cross-Assembler/Simulator for a Microprocessor-based Industrial Controller*, University of Illinois, July 1977.

### **5.3 Master of Computer Science projects directed:**

Hutton, Shaun, *Security Techniques for National Intelligence Data* (in progress).

Kurtz, Ryan, *Optimization of Distributed Data Transport and Update* (in progress).

Bui, Paul, *Smartcard Authentication* (in progress).

Garback, Brian, *XACML for RBAC and CaDABRA: Constrained Delegation and Attribute-based Role Assignment*, December 2005.

Calandrino, Joseph, *Private Resource Pairing*, August 2005.

Chen, Xiaohui, *Identity Federation in Healthcare Networks*, January 2005.

Hu, Junzhe, *Dynamic, Context-Aware Access Control*, August 2004.

Talbert, Scott, *Performance of the Real-Time Event Channel of the TAO ORB for Combat Networks*, May 2002.

Nguyen, Quang, *Data Encryption Standard Animation*, January 2000.

Viswanathan, Arvind, *Teleultrasound*, May 1997.

Lucas, Matthew T., *An Empirical Study of Packetized Voice Distribution Over a Campus Network*, May 1995.

Dreke, Christopher, *Xpress Transport Protocol*, August 1994.



Christie, Robert, *An XTP-Aware IP Router*, May 1994.

Hines, Robert, *Telemedicine Workstation Using ATM Networks*, August 1994.

Street, Fraser, "*Design and Implementation of a Video Mail System*", May 1994.

Werme, Paul, *Navy Combat Simulation System*, May 1992.

Sanders, Robert, *Performance Analysis of the Xpress Transfer Protocol*, M. C. S. project, Department of Computer Science, University of Virginia, January 1990.

Davis, Timothy, *Video Image Distribution Using Local Area Networks* August 1989.

Phillips, Kelly, *Graphics Interface for the FDDI Simulation System* May 1989.

Mitchell, Melinda, *Performance Measurements of MAP and TOP*, May 1989.

Cain, Brendan G., *A Real-Time Local Area Network for On-board Aircraft Control*, August 1988.

Garland, Douglas, *Analytic Models of Hierarchical Local Area Networks*, August 1987.

Wilson, Patricia A., *Performance Evaluation of the Intel iAPX 432*, May 1984.

Ivie, Mark, *A Parametric Study of Hybrid Communications Protocols*, August 1983.

Fischer, Anna B., *Analytic Models for Hybrid Communications Protocols*, May 1983.

Schramm, D. M., *A Graphic Compiler for Relay Ladder Diagrams*, January 1983.

Hartley, J. B., *A Retargetable Translator for a Virtual Process Control Computer*, January 1983.

Stock, Donald B., *A Survey of High-Level Languages for Process Control*, January 1982.

Wellons, Steven O., *A Microcomputer-based Accounting System*, May 1980.

Updated February 2006