

Jay S. Bayne

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Education

PhD, University of California, Santa Barbara 1976 EE/CS
MSEE, University of California, Santa Barbara 1971 EE/CS
BSEE, University of California, Santa Barbara 1970 EE
NAUI Advanced SCUBA Certificate, 1972
FAA Instrument Rated Pilot License, 1980

Research Interests

Distributed real-time systems, enterprise command and control, cyberphysical systems, cybernetics

Professional Experience

2006 – Adjunct Professor, Comp Sci, U of Wisconsin Milwaukee (UWM)
2003 – President, Meta Command Systems, Inc. (MCSI);
1998 – 2002 VP Technology, Johnson Controls, Inc (JCI)
1991 – 1998 VP Technology, Eltag Bailey Process Automation (EBY, now ABB)
1989 – 1991 VP Systems Technology, Asea Brown Boveri (ABB)
1984 – 1989 VP Technology, Combustion Engineering (CE, now ABB)
1973 – 1984 Professor, Comp Sci, California Polytechnic State University, San Luis Obispo; President, Protocol Solutions, Inc (PSI)

Awards & Honors

Best Paper: 1998 AIRTC, 2003 JSCI, 2005 CCRTS, 2006 CCRTS

US Patents

Two applications (10/678,297 dated 10.03.03 with 24 claims and 11/149,965 dated 06.05.05 with 64 claims) covering core aspects of a unified theory of enterprise C2. The first 12 claims of 10/678,297 were granted in December, 2006, all others remain pending.

Selected Publications

1. Bayne, J. and Diggs, D., "Command and Control in the Joint Task Force Enterprise," 11th Command and Control Research and Technology Symposium (CCRTS), San Diego, CA, June 2006, Best Paper
2. Bayne, J. and Paul, R., "Policy Based Command and Control," 10th International Command and Control Research and Technology Symposium, June 2005
3. Bayne, J. and Paul, R., "Scale Free Command and Control," 10th International Command and Control Research and Technology Symposium, June 2005, Best Paper
4. Bayne, J., "A Software Architecture for Control of Value Production in Federated Systems," World Multi-Conference on Systemics, Cybernetics & Informatics, Orlando, July 28th, and published in the Journal of Systemics, Cybernetics & Informatics, Vol. 1, No. 8, August 2003, Best Paper

5. Bayne, J., "Theory of Enterprise Command and Control," Military Communications Conference (MILCOM) 2006 Conference Proceedings, Washington, DC, October 2006
6. Bayne, J., "A Theory of Software-Mediated Enterprise Governance," 2006 Computer Systems and Applications Conference (COMPSAC), International Workshop on Software Cybernetics (IWSC'06), Chicago, IL, September 2006.
7. Bayne, J., "Architecture of Federated Enterprise," ISA Expo Conference, Houston, TX October 2003
8. Bayne, J., "Automation & Control in Grid-Connected Systems," 3rd IEEE Electro-Information Technology Conference, Indianapolis, IN, June 2003
9. Bayne, J., "Automation & Control in Large-scale Interactive Systems," Proc IEEE International Symposium on Object-Oriented Real-time Computer Systems (ISORC), 2002
10. Bayne, J., Creating Rational Organizations—Theory of Enterprise Command and Control, Café Press, 234 pages, available online at www.cafepress.com/mcsi, September, 2006
11. Bayne, J., "Distributed Real-time Enterprise," 2002, available at www.metacomsys.com, submitted to the IEEE Transactions on Systems, Man and Cybernetics, 2005
12. Bayne, J., "Feasibility of Grid-based Distributed Real-time Command & Control," Volume 1, Phase I Proposal, Topic AF03-094, Proposal No. F031-0494, January 6, 2003
13. Bayne, J., "Feasibility of Grid-based Distributed Real-time Command & Control," Volume 2 Concept Specification V1.0, AFRL SBIR Contract F30602-03-C-0154, September 2003
14. Bayne, J., "Feasibility of Grid-based Distributed Real-time Command & Control," Volume 3 Architecture Specification V1.1, AFRL SBIR Contract F30602-03-C-0154, October 2003
15. Bayne, J., "Industrial Automation & Control in a Networked Economy," invited paper, IEEE Workshop on Object-oriented Real-time Distributed Systems (WORDS), Santa Barbara, CA, 1996
16. Bayne, J., "MetaSystems," Proceedings of the Instrumentation, Systems, and Automation (ISA) Society, 1998
17. Bayne, J., "Performance Measurement in C2 Systems," Proceedings of the 8th International Command and Control Research and Technology Symposium, National Defense University, Ft. McNair, Washington DC, June 2003
18. Bayne, J., "Scalability of Performance in High Volume Commercial Control Systems," Proc IEEE International Symposium of Object-Oriented Real-time Systems (ISORC), 1999
19. Bayne, J., Seem, J., Drees, K., "Adaptive Industrial Controls," 7th International Symposium on Artificial Intelligence in Real-time Control (AIRC'98), October 1998, winner "Best Paper Award"
20. Bayne, J., "The Architecture of Enterprise," an unpublished essay, available at www.metacomsys.com, 2002
21. Bayne, J., "The ELBA Object Model," Ada Runtime Environment Working Group (ARTWEG), ACM SIG Ada, Santa Barbara, CA, 1995