PAUL C. CLARK
4705 Broad Brook Drive, Bethesda, Maryland, 20814
703.628.9500
paul@securemethods.com

SKILLS SUMMARY

A senior executive with extensive IT design, development and deployment experience, Dr. Clark has twenty five years of direct technical and management experience in the computer and systems engineering environment. He is the President of Paul C. Clark LLC. His specialties include complex commercial development and deployment of scalable secure network and data processing systems. He has served as keynote speaker, expert witness for high profile commercial clients and before Congress. He has served on federal advisory committees and as an adjunct professor at The George Washington University.

EMPLOYMENT

President and CTO July 1999 – Present
SecureMethods Inc. / Paul C. Clark LLC
Bethesda, MD

- Serves as Managing Director
- Manages operations and sales staff.
- Manages commercial product development staff.
- Provides product design, development and deployment guidance.
- Provides sales engineering support and collected customer feedback.
- Defines and communicates strategic technical vision.
- Successfully directed the development and deployment of commercial products on multiple Windows and Unix Platforms

Chief Scientist Jan. 1995 – July 1999
DynCorp Network Solutions
Fairfax, VA

- Managed technical staff and deliverables for multiple large projects.
- Provided project design, development and troubleshooting guidance.
- Provided customer technical interface and problem resolution.
- Designed and deployed next generation architecture for high volume network database and storage systems.
- Created a suite of secure products marketed and sold to DoD and the Federal Government.
- Provided corporate-wide technical consultation and support.

Senior Security Engineer Sept. 1990 – Jan. 1995
Trusted Information Systems
Glenwood, Maryland

- Participated in the design and implementation of the reference implementation of Privacy Enhanced Mail (PEM) with public and secret key encryption to provide security services for electronic transmissions.
- Designed NIST's Smartcard API (SCAPI). Implemented the SCAPI for the NIST 250 and utilized it to perform cryptographic operations for PEM.
- Implemented X.500 Certification and Distinguished Naming support for PEM. Functions supported included: CA and user registration, revocation, and high speed database for certificate storage and retrieval.
- Systems design and programming, including the TCB, for the Trusted Xenix and Trusted Mach MLS operating systems. Tasks included MAC labeling and audit strategies, as well as application development.
- Designed and implemented multilevel electronic mail and HTTP proxy for Trusted Mach. Task included cryptographic support for the TCB as well as application specific validation and semantic checking for up/downgrade.
- Inventor of the Boot Integrity Token System (BITS), which provides hardware, enforced authentication within the boot sequence and guarantees operating system integrity using smart tokens. U.S. Patent Nos. 5,448,045; 5,892,902; 8,695,066; 9,391,957 and 10,129,214

Technical Lead Nov 1989 – Sept 1990
GTE Government Systems
Rockville, MD

- Managed the SAFE91 testbed effort with responsibilities including: budgets, schedules, customer negotiations, briefings, training, and tasking of technical staff. The testbed was created to simulate the client environment for the purpose of evaluating software packages and platforms for use by the client.
- Developed network load simulations for OS/2 LAN Manager to determine performance characteristics during periods of heavy traffic. This task included the design and development of a multi-threaded connection server under OS/2 version 1.0
- Designed and implemented an X Windows interface for the Minstrel System. This included the individual development of 20,000 lines of code in less than two months.
- Developed and taught DEC Windows and X Windows classes for GTE technical personnel. Responsible for instruction and problem solving throughout the subsequent development cycle.

Systems Engineer May 1985 – Nov. 1989
Ultrasystems Defense and Space

- Redesigned the Morse Mission Trainer while coordinating and tasking a team of programmers. During this time, received the President's quarterly award for outstanding performance. Task included systems and network and kernel level programming on SCO Xenix.
- Designed and implemented a database file server, benchmarked at over 100 retrievals per second on a million entry database. System implemented B* trees in C and ran on a Sun 3/260 workstation.
- Designed and implemented a satellite mission scheduler for multiple vehicles with multiple resources. Task included defining areas of interest (AOIs), flight paths, and optimal time allocation of resources.
- Designed and implemented the Ultraplot graphics tool to produce line and scatter plots, as well as bar graphs and histograms from large datafiles. This utility was implemented utilizing the DI3000 (device independent) graphics package.

HARDWARE Mainframe, Workstation, PC, including: IBM, DEC, Sun, HP, SGI, Intel

SOFTWARE UNIX (Linux, System V, BSD, Solaris, AIX, IRIX, Xenix), MS DOS/Windows, VMS, OS/2, X Windows, DEC Windows, Presentation Manger, TCP/IP, X25, Xenix Net, IBM LAN, DEC Net, Ethernet, Token Ring

EDUCATION

DSc. in Computer Science
Concentration in Security, Graphics, Intellectual Property Law
The George Washington University, 1994

M.S. in Electrical Engineering and Computer Science
University of Southern California, 1988

B.S. in Mathematics
University of California Irvine, 1986

Graduate level study in all major areas of computer science

REPRESENTATIVE PUBLICATIONS

"BITS – A Smartcard Protected Operating System," with Lance Hoffman, Communications of the ACM, November 1994.

"Service Layering Promotes Secure Data Exchange in Diverse Environments," Computer News, October 23, 1995

"Threats Posed to Cryptographic Applications by Random Numbers," presented to the RSA Data Security Conference, January 1996.

"A Reference Model for Electronic Commerce," with Daniel J. Blum and John Jauregui, Messaging Magazine, December 1996, Volume 2, Number 7.

"Secure Compartmented Data Access over an Untrusted Network Using a COTS-based Architecture," with Marion C. Meissner, and Karen O. Vance, Presented to the Annual Computer Security Applications Conference (ACSAC'00), New Orleans, December, 2000. Later published in "Statistical Methods in Computer Security," Marcel Dekker, ISBN 0-8247-5939-7, edited by William W. S. Chen, 2005

ADDITIONAL INFORMATION

(1) Dr. Clark was a member of the Federal Advisory Committee for Key Management Infrastructure (KMI); he was Chairman of the Interoperability Working Group for Cryptographic Key Recovery.

(2) Dr. Clark served as a Cooperative Research and Development Agreements (CRADA) partner, which is a joint effort between the National Institute of Standards and Technology (NIST) and several companies formed to begin development of the elements of a Public Key Infrastructure (PKI). A core element of this effort is the development of a Minimum Interoperability Specification for PKI components MISPC.

(3) Dr. Clark serves as an adjunct professor in the Electrical Engineering and Computer Science Department at The George Washington University. He teaches doctoral level cryptography and computer security courses.

(4) Speaker at The Federal Information Security Conference; presented "Embedded Security Deployment," Colorado Springs, CO, March 31, 2006

(5) Keynote Speaker for the Washington DC Bar Association; presented "Security for the Networked Computing Environment," August 8, 2005

(6) Appeared before Congressional committee to provide expert testimony; presented "Advanced Technology for Border Control," July 23, 1998.

(7) Keynote speaker at Mass Storage Conference; presented "Secure Data Access Over Public Networks," New Orleans, LA, October, 1996

(8) Keynote speaker at health care convention, presented "Security for Health Care Records," Nashville, TN, May, 1997.

(9) Keynote speaker at the USDA Plant and Genome Conference; presented "A Secure Architecture for Data and Systems," Nimes, France, October, 1997

(10) Speaker at IEEE Technical Meeting; presented "A Comprehensive Security Architecture," Virginia, June, 1996.

LEGAL CASES

Testifying expert for Google et al – ContentGuard v Google – Verdict for Google

Testifying expert for TransPerfect v MotionPoint – Verdict for Transperfect

Testifying expert for Cisco – VirNetX v Cisco – Verdict for Cisco

Testifying expert for CME – RealTime v CME – Summary judgment for CME

Testifying expert for IBM et al – Tecsec v IBM – Summary judgment for IBM

Testifying expert for Netflix et al – Parallel Networks v Netflix – Case dismissed

Testifying expert for Oracle - EpicRealm v Oracle – Summary judgment for Oracle

Testifying expert for Lucent - Microsoft v Lucent –Verdict for Lucent

Testifying expert for Oracle - Mangosoft v Oracle – Summary judgment for Oracle

Testifying expert for RSA Data Security – Digital Privacy v RSA – Summary judgment for RSA at the Markman