

Michelle A. Ruppel

Saffire Systems

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SUMMARY:

Experienced engineer in security certifications (including Common Criteria (CC) v3.1 and FIPS 140-2), public key infrastructure (PKI), cryptography, systems security, and UNIX and Windows development.

Providing evaluator and/or evidence development tasks for Common Criteria testing laboratories certified by the U.S. National Information Assurance Partnership's (NIAP)'s Common Criteria Evaluation and Validation Scheme (CCEVS), the Communications Security Establishment Canada (CSEC), German Federal Office for Information Security (Bundesamt für Sicherheit in der Informationstechnik, BSI), and Swedish Certification Body for IT Security (FMV/CSEC).

PROFESSIONAL EXPERIENCE:

1996 - Present SAFFIRE SYSTEMS

Owner/President:

- * Experience with the NIAP-approved Protection Profiles, including the collaborative PP for Network Devices, the collaborative PP for Stateful Traffic Filter Firewalls, and the collaborative Protection Profile Extended Package MACsec Ethernet Encryption.
- * Experience performing EAL2, EAL3, and EAL4 CC v3.1 certifications in the US, Canada, Germany, France, and Sweden schemes. The product types include OSs, firewalls, antivirus products, intrusion detection systems, and miscellaneous product types.
- * Developed FIPS 140-2 vendor evidence for 2 cryptographic modules and performed CAVS testing.
- * Passed the Communications Security Establishment Canada (CSEC) Evaluator exam required to participate as a CC evaluator for the Canadian CC Scheme CSEC.
- * Assisted with the development of FIPS 140-2 training materials.
- * Completed ST and ADV evidence for a CC v3.1R2 EAL4 evaluation of a VPN firewall product developed by a Fortune 100 company. Also completed final drafts of the remaining EAL4 evidence.
- * Perform Senior Evaluator and Team Lead tasks for CC testing laboratories accredited by the U.S. NIAP's CCEVS. Perform responsibilities in accordance with the CC laboratory quality manual. Review Security Targets (STs) for submission into NIAP. Review evaluation evidence documentation. Document and review evaluation verdicts and assist in authoring the evaluation technical report (ETR). Manage evaluation project plans and create status reports. Collaborate with the CC testing laboratory, evaluation team, product vendor, validator, and relevant partners involved in the evaluation.
- * Perform CC evidence (documentation) development tasks at EAL2 - EAL4 directly for product vendors and as a subcontractor to four CC testing laboratories contracted to perform the development for the product vendors. Develop Security Targets, guidance documentation, design documentation, test documentation, configuration management documentation, delivery documentation, life-cycle documentation, informal security policy models, and vulnerability analysis. Collaborate with the CC testing laboratory, evaluation team, product vendor, validator, and relevant partners involved in the evaluation.
- * Assisted in the development of CC evidence (documentation) for an EAL 4 evaluation augmented with Covert Channel Analysis.
- * Conducted a risk assessment for an organization. The scope of the risk assessment included physical security, personnel security, administration security, and computer/network security.

- * Provided security consulting services to a large insurance organization with special emphasis on encryption, digital signing, and PKIs. Developed test cases for encryption and PKI applications. Developed multiple PKI policy documents, including Certification Practice Statement (CPS), Certificate Policy (CP), registration and account administration policies and processes, encryption and digital signature policies, operational policies and procedures. Assisted with the PKI architecture, design, and test plan development. Developed business and design requirements for custom applications, architecture and design documentation, and testing documentation. Provided guidance on program and project planning and direction.
- * Provided security consulting services to a large international financial institution with special emphasis on encryption, public key infrastructures, firewalls and multilevel systems. Acted as the manager and system architect for multilevel systems. Acted as manager and technical lead for the initial international PKI deployment and encryption project.
- * Provided consulting services to operating system (OS) vendors. Developed security analysis, test coverage analysis, and high level design specifications for the security features of an OS. Designed, documented, implemented, and prepared test cases for enhancements to an Identification and Authentication mechanism. Acted as technical lead on the implementation. Reviewed system architecture and design documentation. Debugged and tested secure TCP/IP networking protocols, including TSIX(RE).
- * Designed, implemented, documented, and tested enhancements and bug fixes to a network GUARD running on the Harris CX/SX secure OS.
- * Developed and presented Security Administrators courses for Windows NT. Developed a Security Policy for a commercial business.

1995 - 1996 GLOBAL INTERNET SOFTWARE GROUP, INC.

Director:

- * Managed a software development group. Acted as technical lead on development and consulting security projects. Provided sales engineering support for products and negotiated product sales.
- * Conducted technical training and sales presentations. Performed sales and marketing activities and acted as project lead on a secure networking product. Performed consulting services for a network GUARD.

1993 - 1995 BLUE RIDGE SOFTWARE, INC.

Vice President:

- * Developed marketing literature, pursued consulting contracts, negotiated product sales, supported product customers.
- * Designed, implemented, documented, and tested enhancements to a network GUARD running on the Harris CX/SX secure OS. These enhancements included adding support for imagery transactions.
- * Provided security consulting services for Sybase, Inc. and other commercial companies developing security products. This work included writing a configuration management plan, a test plan and test procedures.
- * Designed and implemented an administrative interface for a trusted networking product on Windows NT™ using the Win32 programming interface.
- * Provided security consulting services for the Addamax CMW (ACMW) evaluation. Attended and presented at the ACMW IPAR TRB.

1988 - 1993 ADDAMAX CORPORATION.

Manager, Trusted Systems Group:

- * Managed a team of 5-6 engineers, responsible for meeting project deadlines and for the ACMW product development and testing. Represented the company at conferences and workshops.

- * Ported the Addamax Secure X Windows System to the NCD X-terminal. Required a port from X11R4 to X11R5 and fixing major bugs in the X display manager.
- * Served as technical point of contact for the ACMW evaluation, including defending the design and implementation of the ACMW to a government evaluation team. Served as the first vendor representative on an evaluation team.
- * Responsible for writing, reviewing, and editing design specifications, test specifications, security semantics, manual pages, a security policy model, user guides, and other forms of documentation.
- * Provided release engineering services, including testing and debugging the ACMW.
- * Acted as the team leader for integration of TCSEC C2 level security software into a customer's OS.
- * Lectured at a UCLA short course in computer security.

Senior Trusted Systems Engineer:

- * As team leader, designed, developed, documented, and tested the secure enhancements to X Windows portion (both X server and X clients) of the ACMW.
- * Designed a trusted path mechanism, which assures system users that they are dealing with the secure system software and that they are not being spoofed.
- * Designed and developed several UNIX commands and X Window applications to provide system administrators and operators with an interface to administer their trusted computer system.
- * Developed and maintained a *Test Plan, Rating Maintenance Plan, and Informal Security Policy Model*.
- * Provided customer support services for Addamax products.

Trusted Systems Engineer:

- * Designed, implemented, maintained, and documented a configuration management system.
- * Designed, developed, documented, and tested new security-relevant OS components for both BSD and System V UNIX OSs. Implemented object-related auditing in a B1 kernel audit subsystem.
- * Integrated B1 level UNIX security modifications into customer OSs.

1987 - 1988 DEPARTMENT OF MATHEMATICS, UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN.

Teaching Assistant:

- * Taught first and second semester calculus and linear algebra. Prepared and conducted lectures. Developed exams, quizzes, and homework assignments for mathematics courses.

EDUCATION:

1987-1988 University of Illinois, Urbana, Illinois. M.S., Mathematics.
 1985-1986 University of Illinois, Urbana, Illinois. B.S., Computer Science and Mathematics.
 1983-1984 Vincennes University, Vincennes, Indiana.

PROFESSIONAL AFFILIATIONS:

1990: Attended National Computer Security Center (NCSC) Vendor Security Analyst (VSA) training.
 1991-1993: Addamax Representative, TPEP Vendor Workshop.
 2008: Passed the CSEC evaluator exam for the Canadian Common Criteria Scheme.
 2015: Passed the BSI evaluator exam for the German Common Criteria Scheme.

AWARDS:

1990 Vincennes University Recent Outstanding Alumni, Science and Mathematics.