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AREAS OF EXPERTISE

- Information Security Essential Practices
- Information Security Policies, Standards and Guidelines
- Information Security Operational Procedures and Metrics
- Compliance and Audit Compliance Management
- SOX – JSOX – HIPAA
- Regulatory and Data Protection Requirements
- Security and Privacy Requirements Analysis
- Security Risk Assessments
- Remote Data Access Policies
- Security Product and Services Evaluations/Adoption
- Corporate Security Strategic Planning
- Security and Control Frameworks (ISO 2700x, COBIT)
- Threat and Vulnerability Management
- Technology Trends and Developments
- LAN/WAN Communications Technologies and Protocols
- Internet Technology
- Optical Fiber Communications Technologies

EDUCATION & CERTIFICATION

Cornell University, Ithaca, NY
Ph.D., Electrical Engineering, 1974
Bachelor of Science, Electrical Engineering, 1969

Harvard University, Cambridge, MA
Internet Law Program, 2001

CISM Certification

CISSP Certification

CHP Certification

RECENT INDUSTRY ACCOMPLISHMENTS

SECURITY COMPLIANCE REMEDIATION

Client received 200+ JSOX (Japanese Sarbanes Oxley) audit findings with deadline to remediate within 6 months. Built and program managed remediation team of 32 professionals across US, Canada and Mexico, including outside consultants and outsource vendors. Received internal approval for \$5M budget; met project schedule and compliance goals. Result: Put in place controls that successfully met JSOX compliance.

COST SAVING THROUGH IMPROVED SECURITY CONTROLS

Client was spending \$1M+/year on excess auditing fees to manage risks to financial statements. These risks resulted from outsource vendor access to critical servers and systems. Solution implemented was to develop enterprise SIM and platform monitoring controls and processes for mainframe, AS400 and UNIX platforms. Result: Excess audit fees eliminated.

SECURITY AWARENESS PROGRAM FOR GLOBAL FIRM

Firm had no information security awareness program. Requirements were created for multi-lingual, externally hosted e-learning program with customizable content serving 14,000 users. RFP bid out and solution implemented for \$1/seat. Solution was then adopted by client users in Europe, Japan and Mexico.

WEB APPLICATION AVAILABILITY

Major news publishing company help desk was getting customer complaint calls regarding slow page download times. Internal company staff had measured average download time of three seconds, within range of acceptability. Our solution was to set up simulated user test site, create scripts simulating user behavior and analyze resulting page download time. Results showed intermittent download times of 15-20 seconds, which were causing user complaints. Further work identified overloaded gateway server at client site. This server was removed and complaint calls were eliminated.

STANDARDS DEVELOPMENT

Led the global IEEE engineering standards team that developed the first optical fiber standard for Ethernet data communications. Team members comprised most major data communications vendors. Spearheaded efforts to define common standard and facilitated final drafting and ratification. Standard was adopted worldwide and has continued to support new requirements for high speed optical communication.

INDUSTRY CLIENTS

Manufacturing	<ul style="list-style-type: none"> • United Technologies • Nissan • Union Switch & Signal
Professional Services	<ul style="list-style-type: none"> • Skadden Arps • Russell Reynolds • Ruder Finn • Flack + Kurtz
Publishing	<ul style="list-style-type: none"> • McGraw-Hill • Dow Jones • Bureau of National Affairs
Finance	<ul style="list-style-type: none"> • JP Morgan • AXA Equitable • Merrill Lynch
Healthcare	<ul style="list-style-type: none"> • Schering Plough • Quest Diagnostics • Healthways

CLIENT REPORTS

- “FY2010 Information Security Plan”, for Healthways, September, 2009
- “LTU Due Diligence Analysis”, for Jastec International, February, 2005
- “Information Security Policy”, for Bureau of National Affairs, August, 2004
- “Network Guidelines for Deploying Active Directory”, for UTC, March, 2001
- “UTC Intranet Architecture”, for United Technologies Corporation, April, 2001
- “Profiling Peoplesoft Application Network”, for JP Morgan Chase, September 2000
- “Internet Access Testing”, for Ruder Finn, March, 2000
- “Guidelines for Deploying Streaming Media”, for UTC, April, 2000
- “RRAccess and WAN Testing”, for Russell Reynolds, March, 2000
- “Network Performance of SMS for Software Distribution”, for Soros Foundation, August, 2000
- “Network Performance of Exchange”, for Soros Foundation, August, 2000
- “Network Performance of GrantSQL”, for Soros Foundation, August, 2000
- “Design Guidelines for Planning Application Aware Frame Relay Network”, for Skadden, Arps, Slate, Meagher & Flom, June, 1999
- “Payment Requisition System Security Evaluation”, for Soros Foundation, July, 1999
- “Network Security Evaluation”, for Soros Foundation, July, 1999
- “Internet Site Performance Testing”, for Dow Jones, August, 1998

- “Carevision Application Performance”, for Memorial Sloan Kettering Cancer Center, July, 1998
- “Network Planning and Design”, for Tiger Management, July, 1998
- ”WWW Server Capacity Planning”, for Primedia, May, 1998
- “Network Planning and Design”, for MeesPierson, March, 1998
- “FMS Testing”, for Chase Manhattan Bank, January, 1998
- “Peoplesoft Network Testing”, for Equitable Insurance, December, 1998
- “LAN Architecture Standards”, for McGraw-Hill, July, 1997
- “Capacity Planning Services for DHCP”, for PSE&G, March, 1997
- “Teleres Traffic Modeling”, for Dow Jones, October, 1996
- “Network Audit and Simulation”, for Panama Canal Commission, September, 1996
- “Application Performance Management for Check Clearing Operation”, for Chemical Bank, July, 1996
- “Comparing the Performance of Switched and Shared Ethernet LAN Segments”, for Chipcom, October, 1995
- “Chicago General Mail Facility Network Simulation”, for IPC, October, 1995
- “Traffic Modeling for Frame Relay Network”, for Merrill Lynch, May, 1995
- “Central Database Server Performance Management” for Dow Jones, November, 1994
- “Performance Modeling”, for Salomon, Inc., July, 1994
- “DowVision Testing”, for Chemical Bank, September, 1993
- “Network Systems and Network Management System”, for Union Switch & Signal, July, 1993
- “Network Modelling and Simulation”, for Bureau of National Affairs, April, 1993
- “Backbone Traffic Measurements”, for Chemical Bank, October, 1992 and January, 1993

PATENTS

13 Patents Granted in the Fields of Network Technology and Fiber Optics

- US Patent # 4,561,091, “Data Receiver”
- US Patent # 4,544,938, “Wavelength Selective Photodetector”
- US Patent # 4,590,501, “Edge Emitting LED”
- US Patent # 4,578,799, “Method and Apparatus for Recovering Data and Clock Information from a Self-Clocking Data Stream”
- US Patent # 4,560,984, “Method and Apparatus for Detecting the Collision of Data Packets”
- US Patent # 4,236,296, “Etch Method of Cleaving Semiconductor Diode Laser Wafers”
- US Patent # 4,110,661, “Light Emitting Device for Optical Communications”
- US Patent # 4,766,470, “Edge Emitting Light-Emitting Diode”
- US Patent # 4,544,938, “Wavelength Selective Photodetector”
- US Patent # 4,888,763, “Method and Apparatus for Detecting the Collision of Data Packets Utilizing a Preassigned Transceiver Code in the Preamble”
- US Patent # 4,347,655, “Mounting Arrangement for Semiconductor Optoelectronic Devices”
- US Patent # 4,500,165, “Method and Apparatus for Aligning Optical Fibers”

PROFESSIONAL EXPERIENCE

MONARCH INFORMATION NETWORKS, Brentwood, TN
President and Founder

1991-Present

- Create, market and provide unique services to audit application performance, reliability and security for Fortune 500 clients.
- Developed business with: Merrill Lynch, Dow Jones, JP Morgan Chase, Solomon Smith Barney, McGraw-Hill, Union Switch & Signal, AXA/Equitable, Skadden Arps and United Technologies.
- Specific project accomplishments:
 - Developed strategic network design for Skadden, Arps
 - Diagnosed response time problems and improved collections volume for \$5M/day application at AXA Equitable
 - Identified web site response time problem for Dow Jones' www.wsj.com
- Created network forensics service in support of large civil litigation matters.
- Built client relationships with Sullivan & Cromwell, Fish & Richardson, Reed Smith and other major law firms.
- Specific project accomplishments:
 - Identified unauthorized use of network resources by 10,000+ employees of Fortune 500 firm
 - Undercover investigation of performance of Internet backbone for large cable ISP

NISSAN AMERICAS, Franklin, TN
Senior Manager, IS Security and Control

2006-2008

- Hired to establish the facility's first Enterprise Security Program, eliminate IS problems stemming from an audit, and create best practices to resolve critical security issues.
- Directed 6-person IT Security and Compliance Team in charge of safeguarding IT assets including 19,000+ PCs for an organization that designs, manufactures, sells, and finances over 1.5 million automobiles each year across the US, Mexico, and Canada.
- Piloted an enterprise-wide security event monitoring technology initiative which will ensure tight security controls and allow Nissan to use affordable outsourced vendors while meeting security needs.
- Created and led a new security awareness program which has already been completed by 4,000 staff members. E-learning solution developed by NNA is being adopted by Nissan Europe, Nissan Mexico and Japan organizations.
- Teamed with counterparts in Japan to develop a Global Information Security Policy. Developed comprehensive regional security policy which decreased local policies from 4 to 1.
- Designed an application security development practice that was integrated into Nissan SDLC. Effort will accelerate security improvements for new business applications and decrease rework costs for security controls.

CODENOLL TECHNOLOGY CORPORATION, Yonkers, NY
Co-Founder, SVP and Board Member

1980-1991

- Built engineering and manufacturing departments from scratch to \$10M+ international business.
- Helped take company public on NASDAQ.
- Engineered the first commercial fiber optic local area network system.
- Developed first 10 Mbps Ethernet network using plastic optical fiber.
- Developed first high speed red LEDs for plastic optical fiber transmission.
- Created Fiber Optic LAN Handbook, which became industry “bible.”
- Firm listed in Inc. 100

EXXON ENTERPRISES, Elmsford, NY

1977-1979

Optical Information Systems

Co-Founder and Manager of Engineering and Manufacturing Departments

- Built and ran engineering and manufacturing operations.
- Firm was one of the first worldwide to manufacture commercial semiconductor lasers.

ROCKWELL INTERNATIONAL, Thousand Oaks, CA

1974-1977

Science Center

Member of Technical Staff

- Fabricated first avalanche photodiodes for long wavelength fiber transmission.
- Rescued government contract by 6x improvement in GaAsSb 1.06 micron avalanche photodiode gain.
- Invented and patented high intensity LED for fiber optic communication.
- Improved performance of: AlGaAs solar cells, GaAsSb photoemitters.

HONORS & PROFESSIONAL ACTIVITIES

Member, The Advisory Council (www.tacadvisory.com), 2004-Present

Adjunct Professor, Computer Science, Polytechnic University, 2004-2006

Community Outreach Director, Middle Tennessee ISSA Chapter, 2009

Advisory Board Member, Pace University for Advance Media, 2001-2006

Technology Advisory Committee, Rye City School District, 2004-2006

Adjunct Professor of Electrical Engineering, Polytechnic University, 1980-1985

Research Scientist, Columbia University, 1979-1980

Tau Beta Pi

Outstanding Young Men of America, 1980

Who's Who in Frontiers of Science and Technology, 1985

Who's Who in the World, 1987

International Who's Who in Optical Science and Engineering, 1985

Member & Chairman, IEEE 802.3 10BASE-F Standards Committee, 1987-1993

Institute of Electrical and Electronics Engineers

Information Systems Security Association

American Bar Association (Associate)

Society for Information Management

ISACA

PRESENTATIONS & PUBLICATIONS

- ❖ “How to Prepare for HIPAA Security & Privacy Enforcement”, HealthCamp Nashville, May 30, 2009
- ❖ “In Security, Constant Monitoring Counts”, CRN, October 18, 2004
- ❖ “Network Security and Forensics”, Urban Security Certificate Course, Polytechnic University, October 18, 2003
- ❖ “Data Privacy and Security: Understanding and Meeting Today's Business Requirements”, Short Course with Professor Roy Girasa, Esq. at Polytechnic University, May 23, 2003
- ❖ “The Changing Privacy and Security Landscape”, Business Communications Review, May 2003
- ❖ “Marketing Your Small Business”, Pace University Seminar, February, 2003
- ❖ “Network Forensics”, IEEE Communications Society Seminar, November 14, 2002
- ❖ “Network Forensics”, Presentation to InfraGard, New York City, September 2002
- ❖ “Performance Strategies”, Network Magazine, November, 1997
- ❖ “Intranet/Extranet Performance and Security in the Financial Markets”, Waters Information Services Seminar, Fall, 1997

- ❖ “Planning for Multimedia”, Network Magazine, June, 1997
- ❖ “Upgrading Your Network Backbone”, Network Magazine, May, 1997
- ❖ “Where are Your Users?”, LAN Magazine, November, 1996
- ❖ “ABC’s of Capacity Planning”, LAN Magazine, December, 1996
- ❖ “Client-Server Performance Management”, Handbook of Local Area Networks, edited by John Sloan, Auerbach, 1995
- ❖ “Proactive Network Management”, Hewlett-Packard Peer to Peer Journal, Summer, 1995
- ❖ “Optical Fiber Standards for Ethernet LANs”, Handbook of Local Area Networks, edited by John Sloan, Auerbach, 1994
- ❖ “Performance Management in the 1990’s”, Keynote Presentation, CACI Simulation Conference 20, August 1994
- ❖ “Multimedia Applications and Fiber Optic Networks”, Fiber Optic Product News, June, 1994
- ❖ “Multimedia: Applications and New Technology”, 16th Annual Newport Conference on Fiber Optics Markets, October, 1993
- ❖ “10 Base-F Stretches the Ethernet Backbone”, Data Communications, October, 1993
- ❖ “*Multimedia Network Planning Guide*”, September, 1993
- ❖ “Traffic Capacity Planning for Multimedia Networks”, Comdex, 1993
- ❖ “Multimedia LAN Infrastructures”, Forum in Telecommunications Practice, Polytechnic University, June 1993
- ❖ “End User Guide to Wireless Local Area Networks”, Forum in Telecommunications Practice, Polytechnic University, December, 1991
- ❖ “Why a Standard for Fiber Optics in Premises Networks?”, IEEE Transactions on Consumer Electronics, May, 1991
- ❖ “FDDI Components for Workstation Interconnection”, SPIE Conference, September 19, 1990
- ❖ “Implementation of a Passive Star Based Fiber Optic Network for Full Vehicle Control”, SAE International Congress, February 27, 1989
- ❖ “AlGaInP/GaAs Red Edge-Emitting Diodes for Polymer Optical Fiber Applications”, Applied Physics Letter, 53, pp. 2091-2092, 1988

- ❖ “Applications of Plastic Optical Fiber to Local Area Networks”, FOC/LAN '88, Atlanta, GA, September, 1988
- ❖ “Fiber Optic LANs for the Manufacturing Environment”, IEEE Network Magazine, vol. 2, #3, pp 70-74, 1988
- ❖ “Passive Optical Star Systems for Fiber Optical Local Area Networks”, IEEE Journal on Selected Areas in Communications, vol. 6, #6, pp. 913-923, 1988
- ❖ “Fiber Optic Edge Emitting LED Package for Local Area Network Applications”, SPIE O-E Fiber Laser, Boston, MA, September, 1988
- ❖ “Fiber Optic Ethernet in the Factory Automation Environment”, SPIE Conference, San Diego, CA, August, 1987
- ❖ “Optical Receiver Preamplifier with Wide Dynamic Range for LAN Applications”, FOC/LAN 1986, Orlando, FL, October, 1986
- ❖ “Reliability of Fiber Optic LANs”, Proc. SPIE, vol. 717, p. 147, 1986
- ❖ “Reliability of Components for Use in Fiber Optic LANs”, Proc. SPIE, vol. 717, pp. 108-117, 1986
- ❖ “The ABCs of LANs”, Photonics Spectra, Volume 17, Issue 8, August, 1983
- ❖ “Implementation of Fiber Optic Ethernet Local Area Network”, Techn. Symp. East of SPIE, April, 1983
- ❖ “Communications, Tracking and Docking on the Space Station”, National Telesystems Conference, November, 1982, Galveston, TX
- ❖ “A Prototype CSMA/CD Local Network Using Fiber Optics”, Local Area Networks 1982, September 1982, Los Angeles, CA
- ❖ “High Flux Budget System for High Speed Computer Interfaces and Local Area Networks”, International Conference on Optical Communications, September, 1982, Raleigh, NC
- ❖ “Fiber Optic Link for Tactical Military Applications”, International Conference on Applications of Lasers and Electro-Optics, September, 1982, Boston, MA
- ❖ “Optical Computing”, Optical Spectra, January, 1981, p. 48
- ❖ “Spatially Resolved Photoconductivity of Polycrystalline Silicon”, Journal of Applied Physics, 52, 3439 (1981)
- ❖ “Scanning Systems for Semiconductor Lasers”, SPSE International Conference of Electronic Imaging, Washington, DC, November 1980
- ❖ “Transient Photoconductivity Apparatus”, Rev. Sci. Instr., 51, 1418 (1980)

- ❖ “High Speed GaAs Avalanche Photodiode”, Device Research Conference, Ithaca, NY, 1977
- ❖ “AlGaSb Alloys for 1.1-1.8 Micron Heterojunction Devices”, Inst. Phys. 33b, 346 (1977)
- ❖ GaAs_{1-x}Sb_x 1.06 Micron Avalanche Photodiodes”, IEDM Proceedings, 424 (1976)
- ❖ “Preparation and Properties of ZnGeAs₂”, Materials Research Bulletin, 1511 (1974)
- ❖ “Nonlinear Optical Properties of II-IV-V₂ Semiconductors”, Phys. Rev. B8, 4607 (1973)