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SUMMARY

Highly experienced systems and networking engineer in systems architectures, specializing in security design and assessment and customer interfacing. Proven at technical and project leadership on large and complex projects. Organizational evangelist of security, privacy and system issues on distributed and heterogeneous platforms and environments.

PROFESSIONAL EXPERIENCE

TECHNICAL LEADERSHIP

- Technical Lead / Architect of multiple Digi Wireless Design Services projects include GE WDNU-II with a team of over 30
- Systems Engineering Organizational lead at Digi Wireless Design Services
- Manager of Software Engineering at Digi WDS
- Managed a distributed 6 person technical service delivery group for 4 years (DoD)
- Technical leader on a NRC cross organizational project from inception to operations turnover (3 years)
- Technical lead / liaison for cross functional / cross organizational areas at USDoJ for more than 6 years

SYSTEMS ENGINEERING AND IT ARCHITECTURES

- Expert in NIST C&A Policy, Processes & Risk Management
- Knowledgeable in Windows / Linux platforms and Security Architectures

IT SECURITY

- Skilled in NIST Mobile Security / Systems Security / C&A Processes
- Skilled in Internet / Network Security Architectures, Assessment and Mitigation

RF / ELECTRONICS ENGINEERING

- Design lead in switchmode power supply design, RF Power delivery engineering for 10 years
- Design lead for RF modulators, filters and matching circuits for over 5 years.
- Expert in linear and mixed mode analog/digital circuit design and simulation for over 10 years

SOFTWARE

- **NETWORKING / INFORMATION ASSURANCE (IA):** PKI Architectures, Multi Layer / Multi Domain Network Security (MLS), Discretionary Access Control (DAC) Architectures, Mandatory Access Control (MAC) Architectures
- **OPERATING SYSTEMS / PLATFORMS:** Ubuntu Linux, Redhat / Centos SE-Linux (NSA Security Enhanced Linux), Android / SEAndroid (NSA Security Enhanced Android), VMWare, VirtualBox
- **MISCELLANEOUS:** Arduino / Raspberry PI, RF Digital Links / Protocols, 802.15.4/XBee Protocols

CERTIFICATIONS

- Certified Information Systems Security Professional (CISSP) #112841, current since 2007
- US FCC Licensed Amateur Extra Operator, KB9PSS

EDUCATION

- MS Computer Science, Nova Southeastern University, pending
- BS Electrical Engineering, Rose Hulman Institute of Technology

CLEARANCES

- Department of Defense
- Nuclear Regulatory Commission
- Department of Justice

PUBLICATIONS

- Numerous practical and systems engineering security blog posts at tomwwolf.com

EMPLOYMENT HISTORY

Digi Wireless Design Services (WDS) [formerly Etherios WDS, formerly Spectrum Design Services]
Feb, 2014 - Current, Minneapolis, MN
Senior Principal Systems Engineer / Manager of Software Engineering

Organizational Systems Engineering lead for the site, and Technical Lead / Architect for multiple projects include the GE WDNU-II project. Manager of Software Engineering in a matrix organization.

This role requires significant interaction and interoperability with customers, the development teams, outside vendors, and Digi internal groups. In addition activities need to be tightly coordinated with project management and the business stakeholders to ensure that technical execution does not compromise the financial and business goals, all while striving for customer success through undercommiting and overdelivering.

Select projects include:

Systems Engineer / Project Lead - EGear Gateway
March 2014 - June 2014
The E-Gear Gateway is the functional centerpiece to an integrated Solar Power (PV) system, local battery storage and managed grid power allocation. Within this gateway we integrate active control of the storage system to optimize power power flow back to the grid for optimal use / value to the local utility, a cellular modem, a Wi-Fi modem, Ethernet and RS-485.

Systems Architect / Project lead - GE Aviation Wireless Data Networking Unit (WDNU) II
May 2014 - Present
The GE WDNU is an avionics gateway that bridges from the airframe data systems to ground systems (when on the ground) through hangar or gate Wi-Fi / Cellular connections. As an avionics device the environmental, operational and performance requirements are much more demanding with a higher level of customer engagement/expectations than most projects.

DYNAMICS RESEARCH CORPORATION (DRC) ***[FORMERLY HIGH PERFORMANCE TECHNOLOGIES (HPTi)]***
August, 2001 - February, 2014, Eau Claire, WI
Technical Director

High level senior systems architect overseeing assessment, development, design and implementation of “to-be” architectures based on Systems Engineering best practices using Agile Methodologies.

Worked on a project basis, including assessing customer needs against expected requirements, assessing current legacy as-is solutions against customer needs, developing a technical and organizational solution for an implementation path. Operate as liaison between system owner and stakeholders.

Selected projects include:

Senior Auditor and Systems Subject Matter Expert - FedRamp Third Party Assessment Organization (3PAO)
General Services Administration (GSA)
Redmond, WA, March, 2013 - current

Senior auditor for the DRC Third Party Assessment Organization (3PAO) audit team for Federal Cloud Service providers. Reviewed Certification and Accreditation (C&A) artifacts, conducted onsite interviews and assessments, and developed the resulting report elements a potential Cloud Service Provider (Microsoft O365 MT offering) to the Federal Government. Performed cloud service vulnerability scanning as part of the Penetration Testing element of the System Audit. Led informal training sessions for junior auditors, based on recognition of superlative auditing skill set.

Systems Architect - Secure LAN and Electronic Safe Network (SLES Network)
Office of Nuclear Security and Incident Response (NSIR), Nuclear Regulatory Commission (NRC)
Rockville, MD, Jan 2009 - Aug 2011

Evaluated existing secure network and thin client system to identify weaknesses, flaws, and limitations in the system

that protected NRC's classified information. Confirmed and articulated how the network security architecture was completely inadequate, fragile, could not scale and could not be centrally managed, and led the team that redeveloped the network. *Project was brought in well ahead of schedule and under budget, while significantly over delivering performance and capability.*

Highlights include:

- Led a team of four responsible for implementation and execution of the project.
- System architecture was scaled up to cover four HQ offices in the DC area, three national regional offices, and 70 site inspectors.
- System architecture was integrated with NRC production processes, LAN/WAN, HSPD-12 PKI authentication, and enterprise management tools.
- System designed, implemented and successfully completed a C&A package in less than 36 months. (under schedule and budget)
- Successfully developed enterprise security architecture and policy to support integration of classified networks over the production LAN/WAN, via collaboration with the NRC Office Information Security, NRC IT Operations, and the NRC Enterprise Architecture Office. *Due to the unusual success of this project, it was leveraged into the architecture of multiple NRC projects.*

Cybersecurity Systems Engineer - Systems Engineering and Technical Assistance (SETA)
Department of Defense (DoD)
Arlington, VA, January, 2012 - August, 2012

Responsible for assessing DoD Cybersecurity initiatives, activities and reports and effectively communicating the key and salient points to the organizational executive. Also responsible for developing and implementing cybersecurity reports, policy, and guidance. Technical Subject Matter Expert (SME) on DoD Information Sharing Program, and a technical liaison to a number of DoD Cybersecurity working groups.

Business Development / Research & Development
High Performance Technologies, Inc. (HPTi)
Eau Claire, WI, 2005 - 2007

Performed work internal to HPTi to develop policy and procedures. Projects included:

HPTi IT Policy

- Led an internal team of two to create an independently developed and unsolicited corporate root IT security policy and standard. The resulting policy and standard was ratified by the IT organization, and endorsed/adopted by the HPTi CIO. Driving issues included customer expectations and the corporate CMMI initiatives.

Laptop Encryption Implementation Architecture

- Developed a laptop encryption implementation that was piloted by other users within HPTi. Developed and delivered a short course to HPTi staff covering this implementation, including the HPTi Security Officer.
- Successfully leveraged existing Open Source product (TrueCrypt) with an enterprise aligned process within the context of a Federal / DoD consulting environment. *Recognized by DoJ Senior Architect as being "far more proactive / in advance of any other consulting firm that he was working with".*

Software and Security Subject Matter Expert - Payment Application Modernization IV&V
Department of Treasury
Kansas City, KS, Dec 2009 - Jun 2012

Assessed and provided recommendations on the quality and completeness of system artifacts and methodologies. Included source code evaluation, requirements development, and project planning methodologies requiring in-depth understanding of the application model, use cases, software development and structure, development and operations processes, as well as organizational integration.

Technical Lead, Collaborative and Distance Learning Technologies Group (CDLT) - User Productivity,

Enhancement, Technology Transfer and Training (PETTT)
High Performance Computing Modernization Program (HPCMP), Department of Defense (DoD)
Arlington, VA, 2006 - 2010

Technical Team Lead and Group Manager for a teams of up to 6 people at 5 separate sites. Responsible for the planning, delivery, archiving and presenter / user support for instructional webcasts within the PETTT program. In addition we were responsible for process development, capability development and conference presentations. Highlights include:

- Led a geographically distributed team that delivered two to four presentations a year at conferences, and delivered between 20 and 45 webcasts a year from a wide range of US locations. Converted the webcasts to recorded sessions, and supported approximately 500 users annually in these activities.
- Designed and developed a program on DoD web portal, and established 100 user accounts from the PETTT community within 50 days of award. Led team for ongoing service delivery and coordination.
- Led team that evaluated, designed, developed, and implemented a secure webcast solution for the PETTT program for the customer. Solution was based on Adobe Connect and integrated with DoD security architecture.

Security Architect
Department of Justice (DoJ)
Washington, DC, 2002 - 2008

Operated as a cross functional security architect. Coordinated three projects concurrently, including WAN security architectural development, development and ratification of DoJ IT policies and processes, and developing DoJ architectural guidance. Led teams of up to 4 people. Highlights include:

Justice Unified Telecommunication Network (JUTNet) Architectural Specification

- Met with, coordinated, and engaged with more than 25 CIOs within DoJ in order to aggregate their issues, concerns and requirements for an Enterprise LAN/WAN Shared Solution. Since the solution was not mandated, this was critical to acceptance and success.
- Developed the Enterprise LAN/WAN Shared architecture and a systems security architecture as part of a DOJ-wide infrastructure consolidation project to provide secure and technically flexible LAN / WAN services to the Department.

DoJ Security Operations Center Architecture Development

- Developed a systems architecture for a DoJ Security Operations Center as a liaison to ITSS from the USDOJ ESS (Enterprise Solutions Staff) Architects Office.
- This Security Operations Center Architecture was built on hosted service model using a Managed Security Service Provider (MSSP) model.

Pattern Based Enterprise Systems Security Architecture

- Developed a pattern-based IT security architecture for DoJ Enterprise Systems Chief Architects Office in support of the ongoing LAN / WAN development and other interconnecting projects.
- Design Pattern based architectures provided best practices and implementation guidance while still providing significant implementation latitude.

Information Technology Support Services (ITSS) Policy and Standards Development

- Developed, validated and released a comprehensive set of 16 NIST compliant Security Standards for the Department of Justice and a root security policy.
- Developed DOJ root security policy, and the development of over 700 C&A test cases.