Rick (Fredrick) Steiner
March 2014

rick@ricksteiner.net 858.260.9520

Objective	After retiring from a successful career at Raytheon in Nov 2013, **I now seek to make meaningful contributions in applied systems engineering**.
Summary of qualifications	**Systems Engineering leadership:** System architecting, model based systems engineering (**MBSE**), **SysML** & SE tool deployment, requirements analysis, functional analysis, specification and process development, system integration, test engineering, software specification-test-acceptance. **Integrated Development Environments:** Integration of 3D CAD, PDM, schedule, MRP, requirements, and process in real world environments. **Proposals:** "Book Boss" and/or Technical lead on 20 - 500 page proposals. **INCOSE ESEP** (expert systems engineering professional) certification 2014
Education	**MS Engineering** (Systems), Cal State Fullerton, 1988 **BS Engineering** (Electrical), UCLA, 1980
Summary of professional experience	**Technical Collaboration**: Manager, Raytheon Technology Networks (2007-2012); Chair, Raytheon SE Technology Network/MBSE TIG (2004-2008). *I have learned how to influence, facilitate, and encourage technical decision-making across distributed, organizationally disparate teams.* **System Modeling and Analysis:** Model Based Engineering corporate projects/IRAD lead (2011-13), Modeling Lead, Integrated Fire Control & Real Time Ref Architecture (2006-7): Co-Architect & Methodologist, Common Command & Decision (CC&D), 2000-2001; Lead developer, DD21 system architecture model (RDD-100) 1999-2000; Co-Author, OMG SysML 1.0 Specification (2004-06); Chief Engineer, RN Tomahawk launch system (1995). *I have been able to leverage and apply formal systems engineering techniques successfully on various programs, and have practical experience using system modeling concepts to focus system development activities.* **System Architecting:** Raytheon Certified Architect (2010, 2013); Architect, Raytheon BMC2 IRAD (2005); Architect, DD21 Gold Team Smart Product Model (SPM) 1998-99; Co-Architect, LPD 17 Integrated Product Data Environment (IPDE) 1998. *I have successively applied and expanded my architecting experience across a wide variety of challenging projects, including distributed combat systems and collaboration environments.* **Test and Integration:** Technical Director, AN/BSY-1 weapon launch system during initial integration, performance verification testing, EMI/EQT (1987-89). *I developed a fundamental appreciation of system integration approaches, validation & certification techniques, and the value of design documentation.* **Nuclear Trained Submarine Officer (SSBN 727G)** (Lieutenant) 1980-1984. *My nuclear training provided a practical understanding of systems thinking.*
Patents and publications	Co-author, **"A Practical Guide to SysML"** 2008, ISBN 978-0-12-374379-4 Numerous **Presentations & Tutorials** @ INCOSE & internal Raytheon symposia on Architecture and Model Based Systems Engineering topics. **US Patent 5,732,043**: 'Optimized Approach to Target Motion Analysis', 1998
Professional memberships	**International Council on Systems Engineering (INCOSE):** 1993 - present Modeling & Tools Tech Committee; Board member, San Diego Chapter **Object Management Group:** Systems Modeling Language (SysML) updates
Clearance	Top Secret BI Raytheon 2007

Supplemental information emphasizing software specification and integration experience:

- AN/BSY-1 Weapon Launch System (1987-89): This system used 20 interconnected microprocessors and custom built software to provide an extremely robust performance monitoring and fault localization capability. I served as Technical Director for standalone performance verification testing, software integration assurance testing (at IBM lab), initial factory acceptance testing, EMI and EQT testing. I led engineering teams in planning for testing, working with test leaders evaluating & resolving test anomalies, and planning for the specification and deployment of engineering changes (BCRs and ECPs) to system in production. This required not only understanding both the design and the architecture, but leading a team to develop innovative approaches to achieve the desired functionality while minimizing cost and impact to the system. I was responsible for sustaining the technical baseline, including both design and architecture, and for leveraging this baseline for future opportunities. This experience has given me insight into what an architect's role looks like later in the lifecycle. I also developed and executed a successful, cost effective response to a previously undiscovered engineering issue encountered during the initial shipboard installation, and supervised the resolution of this issue onboard a Navy ship.

- Navy OSA Demo (1994): I was given responsibility to develop a very short-reaction response for the NUWC New SSN (NSSN) Open System Architecture demonstration. I led a small team rapidly through the process of framing an approach which could leverage the existing AN/BSY-1 weapon launch interface hardware and protocols, and make weapon presetting & launch capabilities available on the OSA LAN. To do this, I recruited hardware engineering expertise from the existing product line, and software engineering expertise with open client-server systems. I formed a team that included the designer of the weapon interface CCA from WLS, and the software engineer implementing the multi-node open system software services and connection layer from the prototype Multi-static Sonar System (MSS). I led this team through development of the internal proposal, established a very aggressive schedule (including key integration milestones), briefed it to management, and received approval to spend $300K to make it happen in 5 months. This effort was very successful for both my company and for NUWC, and was completed $25K under budget.

- LPD-17 Integrated Product Development Environment System Integration Team (SIT) (1997-98): This was a challenging assignment as co-architect with Intergraph, a CAD/PDM vendor. As a representative of the shipboard electronics and overall systems engineering supplier, it was my job to ensure that the IDE solution for the alliance (Raytheon, Avondale, Intergraph) was adequate to support appropriate engineering processes. I established milestones for specifying needs, processes, and development milestones for IDE including CAD, PDM, and Requirements Management processes and tools.

- Common Command and Decision (CC&D) (2000): I served as Raytheon architect on a team with LMCO, DSR, and NSWCDD, to specify and develop common system elements for use in Aegis and SSDS naval combat systems. Because of the diversity of the team, one of the first challenges was to specify a common approach to scoping and identifying system requirements. It became my responsibility to ensure that the team was adequately understanding and addressing the system requirements. I led the effort to evaluate, select, validate, and deploy the processes and tools necessary to accomplish this, culminating in a pilot application of the Rose RT toolset and LMCO's OOSEM process. I established the goals and milestones for the pilot, limiting it to a 4 week period, and pre-defining each output product & deliverable. I hand-picked the 8 participants on the pilot team from across the participating companies, and achieved a mix of systems, software, and operational domain expertise. The results of this pilot were quite illuminating, and established a solid future direction for the program.

- Raytheon Technology Networks (2003-2011): Raytheon has established 6 internal professional collaboration networks for technologists. I served as facilitator and chair of the Systems Engineering Technology Network (2003-2007), and then as program manager for all 6 networks (2007-2011). In aggregate, these networks include nearly 7000 engineers and technologists, and host 4-6 internal symposia annually, each lasting multiple days with multiple technical tracks, with 200-500 people attending. I managed the overall budget and project planning for the networks (over $1M annually), and provided overall direction.