

Richard J. Brooks

Objective Provide the maximum potential benefits and accomplishments for my employer from my knowledge, technical and leadership skills

Experience **2018-present Reliable Energy Analytics**

Founder and Senior Consultant

- Provide clients with technical guidance and implementation strategies for advanced data analytic platforms. i.e. Business Intelligence systems, using Oracle's OBIEE software and Oracle database technologies
- Design and develop statistical analysis using the R language
- Represent clients in industry wide standards development initiatives and rule making committee activities
- Conduct research and write research reports
- [NAESB](#) Executive Committee member and co-chair of FERC e-form and Business Practices subcommittees of the Wholesale Electric Quadrant

2004-2018 ISO New England (ISO-NE)

Enterprise Architect

- Responsible for the Enterprise Architecture Program across the Company
- Designed and developed Enterprise Integration Architecture and Business Activity Reporting solutions that included introduction of a Common Information Model in XML
- Primary Researcher and Author of ISO New England's Smart Grid Research Report published in February 2009 (https://www.iso-ne.com/static-assets/documents/committees/comm_wkgrps/prtcpnts_comm/pac/mtrls/2009/may202009/a_smart_grid_report.pdf)
- Primary Researcher and Author ISO New England's Demand Response Research Report issued February, 2008
- Technical/Security liaison from ISO New England to the Tiverton, Rhode Island New Hope PHEV/V2G pilot project for regulation services
- Software Architect for ISO-NE's Forward Capacity Market Clearing Engine
- Developed ISO New England's Enterprise Architecture based on a Service Oriented Architecture
- Developed ISO New England's Enterprise Architecture Governance Program and Policies
- Led development of ISO New England's Operations Department Strategic Plan for 2010-2015
- Led an inter-ISO collaboration (CAISO, NYISO, MISO, PJM, IESO, ISO-NE) to develop Enterprise Architecture standards for the ISO community.
- Led the development of a FERC initiated private-public collaborative to develop technical standards for Electronic Tariff Filing (eTariff) within North American Energy Standards Board (www.NAESB.org) to enable XML submission of industry tariff documents to FERC from the Natural Gas, Oil and Electric industries
- Organized a joint ISO/RTO team consisting of ISONE, PJM, NYISO and SPP to share development

costs for an etariff solution, that is still in use throughout industry today

- Represent ISO New England within the NIST Smart Grid standards initiatives underway within NAESB and the IEC.
- Represented ISO New England in the NAESB Public Key Infrastructure (PKI) standardization process of the cybersecurity subcommittee. WEQ-012
- Active participant in NIST H2H, B2G, I2G and T&D Smart Grid Domain Expert Working Groups
- Provided architectural design for Demand Response Signaling and Dynamic Pricing for NIST Smart Grid Priority Action Plans developed under the NAESB Smart Grid Task Force
- Frequent speaker on Smart Grid standards and cybersecurity to industry groups such as the IEEE
- Numerous speaking engagements related to ISO New England's Smart Grid strategy and general state of Smart Grid across industry
- Co-author of a winning proposal for \$18.9 million from the DOE Smart Grid Investment Grants program to implement a Synchrophasor Measurement infrastructure across New England. Ref: https://www.iso-ne.com/static-assets/documents/nwsiss/pr/2010/final_sgig_07012010.pdf

Principal Information Architect

- Planned and developed ISO New England's Business Intelligence (BI) platform including vendor software selection through first deployment
- Built ISONE's Business Intelligence platform from prototype to fully scaled out analytics platform supporting Settlement, Operations, Finance, Risk Management and Market Monitoring business functions, using Oracle OBIEE versions 11g and 12C, over an 8-year period
- Technical Lead responsible for design, development and delivery of BI and Data Analytics solutions across the Company
 - Primary point of contact with end users for setting/meeting expectations for project deliverables
 - Lead teams consisting of data architects, DBA's, OBIEE developers, ODI developers and Data Governance personnel
 - Set project schedules, manage delivery milestones and status reporting to Executive management
- Developed Common Enterprise Information Model to drive all internal BI reporting and analysis
- SCRUM Master/Technical Lead for Advanced Analytics Platform supporting Market Monitoring and Mitigation operations utilizing SAS client software and SAS Enterprise Guide
- Utilized Atlassian JIRA and Confluence applications for agile development and management of Sprints using a combination of SCRUM software development methodology and an orchestrated, iterative, spiral software development process
- Introduced the R language into the company and supported its expansion and use by business users
- Successfully migrated OBIEE 11g clustered platform with 6TB of analytics data to the OBIEE 12C platform
- Designed and developed the most widely utilized BI data analysis used in the Company, FPA Viewer
- Designed and developed an advanced security Login Module and data sentry to enable external access to the OBIEE platform and restrict data access to only those parties that own the data.
- ISO-NE representative to NAESB Cybersecurity Subcommittee; co-author of WEQ-012 standard
- Co-chair of NAESB/FERC electronic filing standard (e-forms)

2001-2004 Independent Consultant, Dick Brooks Consulting

- Project Architect for ERCOT's FTP Replacement Project, to address a security vulnerability

- Project Architect for the Electricity Supply Board of Ireland's (EirGrid) Enterprise and Cybersecurity Architectures

1996-2001 Group 8760 (<http://www.8760.com>) Birmingham, AL

Founder and Chief Technical Officer

- Responsible for a team of 23 software engineers and professional support specialists
- Responsible for the company's product strategy, product development, quality assurance and customer implementation services
- The Inside Agent software product line is the market share leader for B2B ecommerce software within the deregulated electric retail energy markets for date exchange using the NAESB EDM standard with customers such as El Paso Energy, Duquesne Light Company, First Energy, and many others since 1998.
- Lead product development efforts from conception through manufacture of several Web based E-commerce products deployed on several platforms (Windows NT, AIX, HP-UX, SUN Solaris, DEC Unix and Linux) using, Java, C++, C, ORACLE and SQL Server
- The Company's B2B software was one of 3 finalist for the E-Commerce World 2000 EC*CO Award in the Enterprise Application Integration category and was nominated for DISA's E-Business Enterprise award 2001
- Assist Sales and Marketing in promoting the company's product and service offerings
- Assist in development of marketing and sales strategies
- NAESB representative and technical expert on a Sandia National Laboratory red team surety analysis of the Gas Industry B2B E-commerce standard (EDM) as part of a critical infrastructure surety program initiated by President Clinton, ref: <https://naesb.org/pdf/edm051701w1.pdf>
- Performed numerous speaking engagements on topics relating to E-commerce standards, security and implementation before several groups, including:
 - DISA
 - Gas Industry Standards Board
 - Utility Industry Group
 - Health Level 7 (HL7)
 - ebXML Initiative
 - World Wide Web Consortium
 - XML DevCon
 - WEDI (advisory committee to HHS on HIPAA implementation issues)
- Influenced the development of international B2B standards by serving in the following capacities:
 - Architect of the OASIS/United Nations ebXML Messaging Service Specification
 - Lead the effort to converge SOAP and ebXML into a single industry standard
 - Official liaison to the World Wide Web Consortium XML Protocol Activity (SOAP) for ebXML
 - Co-author of the Internet Engineering Task Force EDIINT AS2 Draft business-to-business specification that has been adopted by the Energy Industry
 - Advisor to HL7 and HISB on the multi-SDO Digital Signature Project
 - Chairman, Internet Data Transport committee of the Utility Industry Group (electric industry standards body responsible for developing E-commerce standards)
 - Co-chair of the Gas Industry Standards Board, Electronic Delivery Mechanism committee, responsible for developing B2B standards within the Natural Gas Industry
- ANSI Meritorious Award winner 2001 for standards development work in the Energy Industry, ref: <https://www.naesb.org/pdf/082801pr.pdf>

1994-1996 TECH-COMM Inc. Birmingham, AL

Founder and Chief Technical Officer

- Architect for the company's E-Commerce Web based products
- Responsible for the company's product strategy and development
- Lead the product development efforts from conception through manufacture
- First Company to receive certification by VISAnet to provide secure credit card processing for the Internet (October 1995)
- Programmed a significant portion of the software used in the company's products
- Architected and developed a strong cryptographic software solution using PKCS-1 RSA cryptographic software to secure credit card processing information over the Internet.
- The company's secure credit card processing software became the first commercial offering to be certified by VISA for real-time credit card processing on the Internet, which was used during the 1996 Summer Olympics to process credit card orders on the Internet

1977-1994 Digital Equipment Corporation Maynard, MA

Various Technical Positions

- Served as a Senior Consultant to the Utility Business Unit primarily assigned to Southern Company; performed many roles including project management, system architect and consulting
- Lead development of DEC's ALL-IN-ONE file Cabinet Bridge product which provided secure, remote cabinet level access to a VAX/VMS server ALL-IN-ONE file cabinet for PC based clients running MS-DOS
- Software Engineer responsible for developing session layer communication protocols (DASL) on DECnet and TCP/IP; used in VTX and other DEC products
- Represented DEC on the IETF initiative to define a standard for "EDI over the Internet", RFC 1767

Certification

2006 Carnegie Mellon University, Software Engineering Institute;

Certified Professional Software Architect

Education

1975-1985 University of Massachusetts Lowell, MA

- Majored in Computer Science

1977-1994 Numerous courses provided by Digital Equipment Corp.

- 13 week course on Artificial Intelligence provided by instructors from MIT and CMU
- 10 week course on Computer Networks, in depth study of DECnet and TCP/IP
- 4 week course on Systems Integration Strategies provided by Babson College, Wellesley, MA.
- Courses on C, C++, Object Oriented programming, relational databases, software project management, product marketing

2012-present Online courses (MOOC)

- Coursera
 - Building an Information Risk Management Toolkit, University of Washington
 - Financial Markets, Yale University
 - Startup Engineering, Stanford University
 - Data Analysis, Johns Hopkins University

- University of Texas
 - Introduction to Infographics and Data Visualization
- Udemy
 - [Master the Concepts of Digital Circuit Design](#)
 - [Learn VHDL and FPGA Development](#)
 - [The Ultimate Python Programming Tutorial](#)
- edX
 - [Energy Systems Integration: A Trend or a Revolution?](#)

Other

- Member of the IEEE since 1988 and the ACM since 1989
- GitHub Repository: <https://github.com/rjb4standards>
- Maker Movement: <https://www.theatlantic.com/business/archive/2016/06/why-the-maker-movement-matters-part-1-the-tools-revolution/485720/>
- ANSI Meritorious Service Award Recipient 2001;
https://www.ansi.org/meetings_events/all_awards/meritorious_award