Jeffery Sweat
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Technical: MBSE, Agile, CONOPS, ICD, V&V, Six Sigma, Atlassian Jira and Confluence, IBM Rational
Space/Defense: Northrop Grumman, Bell Flight, Lockheed Martin, Raytheon, Rockwell Collins, Bell Helicopter
Education: B.S. Mechanical Engineering | Controls Systems Concentration, University of Texas at Arlington
Location: Little Elm, TX
Clearance: DoD Secret, Public Trust HSPD-12
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PROFESSIONAL SUMMARY

Systems and Software Engineering Consultant with an active DoD Secret clearance and Public Trust Background Investigation with 20+ years of experience across Federal Government, Aerospace, Defense, and Medical Device sectors. Proven record leading Cloud migrations, Model-Based Systems Engineering (MBSE)-driven architectures, and IV&V; designing compliant technical solutions and authoring winning RFP/RFQ responses that contributed to multi-million-dollar awards, including a $2B BPA for a Client. Develops autonomous agentic-AI workflows and leverages LLMs (Azure OpenAI, ChatGPT) to accelerate solutioning, modernization, and compliance while aligning architecture with client requirements and industry standards.

AREA of EXPERTISE

- Systems Engineering
- Software Engineering
- Model-Based Systems Engineering (MBSE)-driven architecture
- CONOPS
- Systems Architecture
- Design for Six Sigma (DFSS)
- Federal Government, Aerospace, Defense Industries

SDLC Advisors **6/2017-Present**

This is my consulting entity used to support clients on a full-time, part-time and as needed basis. Roles have included:

SDLC Advisors

Principal - Business Operations and Strategy

- Utilize Agentic AI to create autonomous workflows, enhancing business development and operational strategies with 40% improved efficiency
- Develop proof-of-concepts for proposals, integrating structured software development with innovative vibe coding techniques
- Focus on continuous process improvement to optimize operational efficiency and strategic planning
- Authored white papers and solution briefs that mapped customer objectives to MBSE-driven architectures, security controls (NIST, FedRAMP), and deployment patterns

Northrop Grumman

Systems/ Software Architect Consultant

- Defined "tactical cloud computing on the edge" and developed Quality Attributes, Viewpoints, Views, CONOPS including Use Cases with Scenarios, Block Definition and Interface Block Diagrams to support the definition as part of a Technical Reference Framework (TRF) model to be used as a template for Cameo System Modeler in support of air and ground platforms
- Using MBSE to model "real-world" example Use Cases, Functions and Activity and Sequence Diagrams to verify the Customer's technical requirements for the TRF model and validate it performs according to the Customer's Quality Attributes
- Co-developed White Paper summarizing potential use cases and requirements to be used for Virtualized Mobile Cloud Computing on the "tactical edge"

Harmonia Holdings Group, LLC

Solutions Architect Consultant

- Designed and authored compliant, innovative technical solutions for Request for Proposals (RFPs) by conducting research on emerging technologies, collaborating with cross-functional teams, and aligning architecture with client requirements and industry standards
- Developed architecture diagrams, system designs, and technical narratives to clearly communicate solutions, incorporating input from SMEs, engineering, and business development to ensure alignment with strategic objectives
- Led solutioning workshops and whiteboarding sessions, assessed RFP requirements and risks, and proposed scalable, cost-effective approaches that met security and regulatory standards such as NIST, FedRAMP, and DoD guidelines
- Managed multiple concurrent proposal efforts, engaged with vendors and technology partners to enhance solutions, and authored winning technical volumes that contributed to successful contract awards and business growth

Johnson and Johnson

Systems Engineering Consultant

- Developed Design Input Requirements via Jama Connect for Operating Room Medical Device utilizing Voices of the Customer and User and Business Needs with IEC-60601 62304, FDA 21 CFR 820.10, 20, and 30 and ISO 13485 as guidance
- Used MBSE to Model functions of Operating Room Medical Device in Sparx Enterprise Architect using Block Definition Diagrams (BDDs) and Interface Block Diagrams (IBDs)

General Services Administration (GSA)

IBM Rational Unified Process (RUP), Jira, and GitHub Consultant

- Update ClearQuest SQL Queries to Oracle SQL using LLM within a ChatGPT wrapper, ensuring they run without error in TOAD and SQL Developer.
- Conducted performance analysis and integration assessments for cloud migration readiness and ed migrations from legacy IBM Rational tools to Atlassian Jira Cloud and GitHub Enterprise suites
- Solicited feedback from Stakeholders and created detailed Migration Plan from IBM Rational ClearCase to GitHub per Business Needs, User Needs and User Requirements; Updating internal Software System Security, Software Application Configuration Management, and Software Test Plans and Procedures to reflect the new software; Tested imports of software code artifacts from ClearCase Version Object Base (VOB)s to GitHub "sandbox" repository and drafting test planning documentation
- Configured and Administered FedRamp Compliant GovCloud FISMA Low through Moderate GitHub Enterprise software-as-a-service (SaaS) Environments for Human Resources and Financial Management Systems
- Researched, created, verified, and validated new Perl code for Rational ClearQuest Schema custom updates per Software Change Proposals; Create public SQL queries in Rational ClearQuest as requested which is used in reporting Change Proposals,
- Tasks, Access Requests, etc.; Also, create filtered data dumps as requested
- Assisted Secondary Client on migration from the RUP environment to Atlassian Jira,
- Confluence, and BitBucket; Decommissioned legacy Rational Databases
- Provided input related to the IBM Rational Tools at all Production and Non-Production "Patching" and impromptu software meetings
- Conducted audits to identify security risks and compliance gaps in legacy tools
- Used Python scripts for daily job scheduler within VisualCron
- Closely worked with Citrix and Oracle Database Administrator (DBA) Teams to ensure compatibility and no issues when upgrading and maintaining Rational Tools on all Citrix Desktops and Rational Servers
- Responsible for adding/removing Active Directory groups and adding/removing users to/ from Active Directory groups within Enterprise using NetIQ Tool
- IBM Rational Upgrades and Maintenance Project (for feature enhancements and reduce cyber security vulnerabilities)
- RequisitePro 7.x and DOORS 9.x/ NG6.x - Migrated to Atlassian Tool Suite (Jira, Confluence, and

Bitbucket)
- ClearQuest Web Server Versions 7.x through 9.x- Installed, configured, and verified on production server using IBM WebSphere Application Server, IBM HTTP Server, and Apache HTTP Server
- ClearCase Version Object base (VOB) Server Versions 7.x through 9.x - Installed, configured, verified and validated on production and Citrix servers

Bell Flight (through PDS Tech Inc.) **10/2020 - 3/2022**

Systems Engineering Consultant

- Created Use Case, Functional, Logical, and Interface Models and Verification Cross Reference Matrices (VCRMs) using Digital Engineering/ Model-Based Systems Engineering (MBSE) techniques in Cameo Systems Modeler for an on-board / off-board aircraft software subsystem using the MOSA, SOSA, GARA, DO-178, DO-278, and DO-331 (Supplement) Standards as guidance
- Researched and drafted white papers for "on-premises" shared services to migrate to FedRAMP compliant cloud computing SaaS, platform-as-a-service (PaaS), and infrastructure- as-a-service (IaaS) service models
- Allocated and decomposed/ derived architectural, functional, performance, interface, and constraint requirements and business needs and user needs in Cameo Systems Modeler to develop CONOPS for the on-board / off-board aircraft subsystem of the Digital Enterprise
- Managed Product Backlog in Jira and assigned applicable issues to each Sprint
- Allocated "lessons-learn" from each Sprint to the Sprint Retro

Medtronic **2/2014 - 6/2017**

Project Manager / Senior Systems Requirements Engineer

- Taught requirements flow-down course and SME for project system and software architecture/ design issues across Business Unit
- Traveled across Business Unit to coach projects on systems architecture design, user needs, requirements, and test protocols creation
- Created and updated standard operating procedures (SOPs), Test Plans and Procedures and work instructions per ISO 13485, FDA Design Control 21 CFR 820.30, and IEC 60601
- Managed project team using the Cognition Cockpit and Agile tools to deploy requirements management system across five (5) sites
- Wrote custom Java-based software scripts via the Active Scripting Engine to customize the
- Cognition Cockpit software per stakeholders needs
- Systems engineering lead on projects to develop a 1) Requirements Management Process and tool, 2) a Failure Mode and Effects Analysis (FMEA) Management Process and Tool and 3) a Test Engineering Management Process and Tool using MBSE for the Quality Management System per FDA Guidelines

Lockheed Martin **5/2013 - 5/2014**

Systems Engineering Contractor

- Modeled and created Interface Control Documents (ICDs) of electrical signal wiring to mechanical box interface Printed Wire Assemblies (PWAs) Architectures for Technological Demonstration Army Tank Program
- Evaluated and created test plans, test design, test cases and test procedures for the "Independent" Verification and Validation (iV&V) Team for a Field Programmable Gate- Array (FPGA) based nuclear safety system per ASME Nuclear Quality Assurance (NQA- 1) Standard
- Trained team members on requirements development and traceability to test procedures using IBM Rational DOORS tool
- Documented design and process anomalies of design work products per IEEE 1012 for software verification and validation
- Wrote and reviewed requirements, work product procedures and interface control documentation for nuclear business unit

Raytheon **7/2007 – 5/2013**

Systems Engineering Test / IV&V Lead / Test Director / Senior Systems Engineer II

- Led, composed and executed embedded hardware and software test plans test descriptions, test cases, component test, unit test, acceptance test procedures (for DD-250 with Customer present), and test reports to verify and validate variants of the Ethernet-based Multi-spectral Targeting System (MTS) Electro-Optical (EO/IR) thermal sensor; ensured sensor met Customers environmental and flight control law constraints for drone aircraft
- Developed Trade Studies including Size, Weight, and Power (SWaP) analysis, CONOPs, Use Cases (with scenarios), and Technical Management plans for Tactical Data Links and EO/IR Sensors for Intelligence, Surveillance and Reconnaissance Systems (ISRS) Mission Systems Integration programs and proposal technical volumes
- Decomposed, allocated, and administered requirements in IBM Rational DOORS for $7 to
- $500 million programs and proposals
- Updated Program Technical Performance Measures (TPMs) used as inputs to verify and validate imagery and telemetry data analysis of the Distributed Common Ground System (DCGS) 10.2 using software test scripts for accuracy and completion
- Created SQL queries and collaborated with Configuration Management to create software list for each DCGS configuration
- Developed System, Subsystem, and Component-Level Hardware and Software Requirements Specifications and Supplier Statements of Work (SSOWs) guided to release via IBM Rational CM Synergy
- Directed Improved Target Acquisition System (ITAS) EO/ IR Integrated Tow Missile Launcher confidence test units through manufacturing and confidence (qualification) test flow to ensure required imagery data to sync with MILSTAR satellite cluster
- Led and trained a Systems Integration Cross-Functional Team for a developmental program for a classified customer
- Wrote trade studies / white papers to analyze potential computer, sensor, and Radio Frequency (RF) data link supplier for procurement
- Provided updates to program management for integration and test earned value cost and schedule performance indexes
- Used bidding tools to trace Customer requirements to Work Breakdown System (WBS) elements and to create Basis of Estimates (BOEs)
- Created systems architectures, statements of work, and technical specifications on time and within schedule constraints

Rockwell Collins, Inc. **2/2005 - 7/2007**

Senior Systems Engineer / Requirements Manager

- Led electronic packaging design team for the Very Low Frequency Radio Frequency (VLFRF) receiver Line Replaceable Unit (LRU)
- Created Advance Action Bill of Material (BOM) for components of Ground Element Minimum Essential Emergency Communications Network (MEECN) System (GEMS) VLF RF Receiver electronic packaging design
- Administered and allocated requirements in IBM Rational DOORS for a $360M software- defined radio communication system
- Applied MBSE to composed System-Level Use Cases (with scenarios) and Sequence Diagrams for hardware/ software integration effort using UML and SysML techniques
- Managed Cost Accounts for Requirements Management using Earned Value Management System (EVMS) principles
- Setup and administered requirements database in a DIACAP information secure environment
- Updated the Integrated Master Schedule (IMS) to reflect changes to system test milestones
- Collaborated with the Test Integrated Product Team (IPT) with system level verification method of each functional requirement
- Developed Trade Studies to analyze the functional requirements of each potential Future Combat Systems (FCS)Integrated Computer System (ICS) LRU configuration

- Created Change Package System using IBM Rational DOORS for FCS Future Force ICS reducing man-hours by 50%.

Bell Helicopter Textron, Inc. **5/2001 - 2/2005**

Systems Engineering Lead

- Used control laws to compare and summarize flight control systems MATLAB data to actual data of H-1 Helicopters
- Wrote Statements of Work (SOWs) and Performance Specifications for V-22 Program Contract Data Requirements List (CDRL) submittals
- Estimated manpower and budgeted hours for Systems Engineers in Flight Simulator Group using EVMS principles
- Submitted cost savings proposals for Systems Engineering department
- Responsible for all aspects of requirement development and management using IBM Rational DOORS for the V-22 Program
- Created Technical Compliance Matrix for MV Block A Functional Configuration Audit (FCA) using IBM Rational DOORS
- Systems Engineering Representative for Software Engineering Process Group working toward Level 4 CMMI certification
- Wrote technical configuration definition reports for software and hardware simulation systems

Abbott Laboratories **6/1998 - 5/2001**

Engineering INROADS Internship Program - Architect® Product Line Research and Development (R&D)

- Tested EO sensors for medical diagnostic robotic prototype using OMS Controller Commands
- Created and executed Design of Experiments (DOEs) and test protocols for i2000 medical diagnostic product line
- Designed DC stepper motor repeatability testing station for i1000 robotic prototype using Geometric Dimensioning and Tolerancing (GDandT)
- Developed and executed testing for barcode readers and Universal Product Codes (UPC), Interleaved 2 of 5, Code 39, 93 and 128 symbologies for clinical chemistry
- Followed ISO 13485, IEC 60601, FDA 21 CFR 820.20, 820.30, ISO 9001, OSHA, ASME,
- ANSI, and IEEE Industrial Standards for laboratory testing
- Validated protocols for Engineering Product Data Management System (EPDM).
- Created UNIX system accounts and maintained user database
- Networked UNIX servers, workstations, printers, and plotters by subnet masking and VI Editor
- Created department Intranet Webpages for internal documentation and collaboration manually via HTML

EDUCATION

- B.S. Mechanical Engineering, Controls Systems Concentration
  University of Texas at Arlington

CERTIFICATIONS

- ISO 9001:2015 Certified | International Organization for Standardization
- SBA 8(a) Certified | Small Business Administration
- Atlassian Cloud Migration Technical Delivery Accreditation
- Atlassian Cloud Migration Sales Accreditation
- Six Sigma Green Belt Certification - Design for Six Sigma (DFSS)
- Earned Value Management System (EVMS) Certification
- Six Sigma Specialist Certification
- Life Cycle Value Stream Mapping / Lean Electronics Certification

TECHNICAL SKILLS

Applications	Atlassian JIRA, Confluence (DevOps), Bitbucket, Git, GitHub Desktop, GitHub Enterprise, Trello, Loom, Dassault ENOVIA, Cameo Systems Modeler and MagicDraw, Sparx Enterprise Architect, Rational System Architect, Oracle Agile PLM, IBM WebSphere Application Server, IBM HTTP Server, Apache HTTP Server, IBM Rational ClearCase and ClearQuest 7.0-9.0.1.10, IBM

	Rational DOORS 5.1-9.7 and DOORS Next Generation 6, IBM Rational RequisitePro, IBM Rational Rhapsody 7.6-8.0, MATLAB, Simulink, Jama Connect, TOAD for Oracle Database 12c and 19c, PuTTY, Wireshark, Windchill, Agile Product Lifecycle Management (PLM), Subversion, File Transfer Protocol (FTP) Server Applications, Minitab, CodeCollaborator, CM Synergy 7.0, IBM Rational Publishing Engine (RPE), Microsoft (MS) Project 2010, MS Office 2003 – 2019/ 365, MS Visio 2003 - 2016, MS Visual Studio 2013, MS SharePoint, Documentum, VMware, Cognition Cockpit, Smartsheet, NX CAD
Scripting/ Languages	Perl, Structured Query Language (SQL), DOORS eXtension Language (DXL), Unified Modeling Language (UML), Systems Modeling Language (SysML), UNIX / LINUX Shell Scripting, Hypertext Markup Language (HTML), Active Scripting Engine (ASE), Java, C++, C, JavaScript, 8086 Assembly, Programmable Logic Controller (PLC) Ladder Logic, Hypertext Preprocessor (PHP), Python
Operating Systems	Windows Server 2003 through 2022, Windows XP through11, Sun Solaris (UNIX), HP-UX (UNIX), OpenSUSE Server (LINUX), Red Hat (LINUX), Ubuntu Server (LINUX), MAC OS
Hardware / Standards / Networks / Cloud Services / Protocols	AWS EC2 & S3, Routers, Switches, Transmission Control Protocol/Internet Protocol (TCP/IP), 802.11, Military Standard 1553 (MIL- STD-1553), MIL-STD-810, MIL-STD-498, Radio Technical Commission for Aeronautics, (RTCA) DO-178, DO-278, ARP4754A, , Electromagnetic interference (EMI), Electromagnetic Compatibility (EMC), Tactical Data Links, Anti-Tamper, Geospatial Analysis, Metadata Editing, Electro-Optical Infrared (EO/IR) Sensors, Asterisks-based Private Branch Exchange (PBX) Servers, Voice-Over-IP (VOIP), Session Initiated Protocol (SIP), VMware, Local Area Network (LAN) / Wide Area Network (WAN), Moving Picture Experts Group2 (MPEG2), H.264, Society of Motion Picture and Television Engineers (SMPTE) 292, RS-422, Modular Open Systems Approach (MOSA), Government Avionics Reference Architecture (GARA), Sensor Open Systems Architecture (SOSA), DoD Architectural Framework (DoDAF), DoD 5000, Open Systems Interconnection (OSI) Model, NIST 800-53 and 800-171, Cybersecurity Maturity Model Certification (CMMC), FedRAMP, Software-as-a-Service (SaaS), Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Anything as a Service (XaaS), RS-485, Institute of Electrical and Electronics Engineers (IEEE) 1394, IEEE 802.11, IEEE 802.3, IEEE 1012, IEEE 829,IEEE 1028, NQA-1, DNS, DoD Information Assurance Certification and Accreditation Process (DIACAP), Software Development Lifecycle (SDLC) Agile, V-Model, Waterfall, and Iterative Methodologies, International Organization for Standardization (ISO) 13485, ISO 9001, ISO 14971, International Electrotechnical Commission (IEC) 60601, 62304, Food and Drug Administration (FDA) 21 CFR 820

SECURITY CLEARANCE:

- Department of Defense (DoD) Secret Clearance 2022 - Present
- Public Trust HSPD-12: 2019 – Present
- DoD Top Secret/ Sensitive Compartmental Information (SCI) Clearance: 2007-2013