DANA SPRINGER

SENIOR ASSOCIATE, **DAYTON AEROSPACE, INC.**

DAYTON AEROSPACE
4141 Colonel Glenn Hwy.
Suite 252
Dayton, Ohio 45431
P: (937) 426.4300

PROFILE

Over 35 years of US Air Force (USAF) civilian engineering experience supporting embedded computer systems and software development for flight systems and avionics functional areas and integrated system architectures across all aircraft platforms (fighters, bombers, cargo/transport, and unmanned aircraft systems (UAS)). Demonstrated organizational and technical leadership across a spectrum of organizations including the Air Force Life Cycle Management Center Engineering Directorate (AFLCMC/EN) and the F-22, B-2, and propulsion system program offices (SPOs). Extensive experience across the entire spectrum of computer resources policy, processes, and standards for the USAF, Department of Defense (DoD), North Atlantic Treaty Organization (NATO), and the commercial sector, with specialized expertise in avionics modernization programs (AMP), vehicle management systems (VMS), computer resources systems integration engineering (CRSIE), software analysis and integration, functional/physical configuration audits (FCA/PCA), airworthiness certification, aircraft safety investigation boards (SIB), formal qualification tests (FQT), and engineering education. Led and/or served on multiple research and development (R&D), weapon system, and science and technology (S&T) organization independent reviews. NH-04, Department of the Air Force (DAF) (retired).

PRINCIPAL AREAS OF EXPERTISE

Airworthiness Certification

Computer Resource Policy/Processes

Embedded Computer Systems and Software

Safety Critical Computer Architectures

Vehicle Management Systems

Qualification Testing

EDUCATION

BS, Electrical Engineering
Ohio University

CERTIFICATIONS & ENDORSEMENTS

Acquisition Professional Development Program (APDP)
Systems Planning, Research, Development & Engineering (SPRDE) – Level III

Program Systems Engineering (SPRDE-PSE) – Level II and all Level III coursework

Technical Airworthiness Authority (TAA) Endorsement
Section 15, Computer Systems & Software – Level II

WORK HISTORY

Senior Associate | Dayton Aerospace, Inc.
2022-present, *Dayton, OH*

Provide senior-level technical consulting to government and industry clients in all phases of the acquisition life cycle. Specialties include military airworthiness certification, computer system and software integrity policies and processes, aircraft accident and safety investigation boards, return to flight analysis, avionics modernization programs, and vehicle management systems.

Technical Advisor | Air Force Life Cycle Management Center Computer Systems and Software (AFLCMC/ENAS)
2006-2022, *WPAFB, OH*

Responsible for defining and refining the design, development, integration, and test philosophy to ensure processes were an effective means of verifying safety for flight critical systems with no failure and minimal rework. Applied rigor to avionic computer systems ensuring safety critical aspects as well as high availability, meaning the computer system will not fail, halt, or become unstable resulting in an in-flight reset or return-to-base (RTB) vice mission success. Conducted numerous risk assessments, independent review teams (IRT) and tailored airworthiness certification criteria (TACC) and modified airworthiness certification criteria (MACC) assessments—signed off on approximately 60 section 15 airworthiness assessments a year. Responsible for leading Section 15 of MIL-HDBK-516, *Airworthiness Certification*, for flight readiness reviews of all F-35 variants. Primary author of a F-35 safety validation item focusing on the analysis and testing of the safety interlock design mechanization and completion of safety critical function (SCF) thread analysis. Also led or supported multiple program efforts as technical advisor, including AFLCMC lead on the KC-46 boom control software excessive loads, F-15SA flight control software escape, Global Hawk Block 20/30i OFP configuration release and integrated mission management computer (IMMC) failures, and many more.

WORK HISTORY (CONT'D)

VMS Technical Expert | Aeronautical Systems Center Engineering Directorate (ASC/ENFT)
1997-2006, *WPAFB, OH*

Supported the USAF Technical Airworthiness Authority (TAA) in developing airworthiness certification criteria for MIL-HDBK-516 Sections 6 and 15 and guidance defining the intent and verification approach. Authored MIL-HDBK-516 Section 15. Led several IRTs and executive IRTs (EIRTs) for multiple programs, including the F-16 Block 60, C-5 AMP, and V-22 return to flight (RTF). Served as a critical member of the Nellis Air Force Base F/A-22 crash SIB/Accident Investigation Board. Instrumental in the establishment of the AFLCMC technical expert for information assurance and anti-tamper. Contributing author to the Vehicle Control Management System Joint Service Specification Guide (JSSG).

Lead, VMS and Air Vehicle Analysis & Integration | Aeronautical Systems Center F-22 SPO (ASC/YFFV)
1995-1997, *WPAFB, OH*

Organization's VMS and air vehicle analysis and integration lead. Reduced the F-22 VMS thruput utilization from 138% to 75%. Established a system of core regression process/test suite to expedite safe software to the jet and flight test. Established air vehicle integration team to address all software functionality, operational flight program (OFP) build releases and ensure completed. Pioneered the use of a "core" test suite of independent test verification cases resulting in cutting software change and verification process timeline by more than 50%, returning fully tested, new software with no additional risks.

Group Leader | Computer Resources Group, ASC Engineering Directorate (ASC/ENFZ)
1990-1995, *WPAFB, OH*

Technical lead for a 20 military and civilian personnel organization responsible for all computer resources policy, regulations, and guidance implementation. Rewrote ASC Pamphlet 800-18 (MIL-HDBK-516 predecessor) for EIRT checklist. Developed modification to safety critical digital system evaluation process to assess any third-party software developer's capability to develop/modify and test software and associated systems. Demonstrated flight systems software estimation capability for the first flight release during the F-22 source selection.

Lead | Computer Resource Engineer for Engines, Subsystems, and Flight Controls | ASC B-2 SPO (ASC/YSEF)
2004-2007, *WPAFB, OH*

Lead computer resource engineer for engines, subsystem, and flight controls. Served as acting computer resources software integration engineer (CRSIE). Established single focal point for all B-2 computer resources issues. Established integrated functional capability (IFC) to manage all software versions.

Computer Resource Focal Point for the Propulsion Deputy | Aeronautical Systems Division (ASD) Propulsion SPO (ASD/YZEE)
1984-1987, *WPAFB, OH*

Responsible for all computer resource policy direction and implementation. Served as liaison to the engineering group. Led computer resource engineering for all engine controls and monitoring systems. Chaired and conducted several conceptual trade studies, design reviews, FCAP/PCAs and documentation reviews.

Prior to 1984

- Computer Resources Group, ASD Engineer Group (ASD/ENFZ), *WPAFB, OH*

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