

## Trent Carter Indialantic, FL | |

**Professional Summary** Distinguished Principal Cloud Architect and Aerospace Engineer with over 30 years of experience in high-stakes mission systems. Pioneer in integrating **Agentic AI workflows** to automate the systems engineering lifecycle, achieving a **5X productivity multiplier** in requirements traceability and verification. Expert in migrating legacy satellite ground systems to AWS GovCloud and architecting flight-critical avionics for the F-35 and global SATCOM constellations. Proven leader in managing multi-million dollar budgets and driving technical roadmaps for Tier-1 aerospace and defense programs.

**Technical Core \* Cloud Infrastructure:** AWS GovCloud, VPC Design (NOVA/NEBULA), Transit Gateway, PrivateLink, IAM, S3, EC2.

- **AI & Automation:** LLM Orchestration, Agentic Workflows, RAG, Python 3.11, Ansible, Terraform, Git.
- **Systems Engineering:** RHEL 8.x/9.x, Oracle Linux, Podman/Docker, LDAP/SSSD, STIG Compliance, High Availability.
- **Aerospace Domains:** LEO Ground Systems, TT&C, Mission Data Processing (MDP), ARINC 429/717, DO-178C.

### Professional Experience

**L3Harris** | Melbourne, FL

**Lead Cloud Architect & AI Integration Lead** | *Jan 2022 – Present* \* **Cloud Transformation:** Architected and executed the end-to-end migration of legacy satellite ground systems from hardware racks to **AWS GovCloud**. Designed the **NOVA** architecture to support high-availability LEO constellation management, ensuring zero-downtime during the G2C (Ground-to-Cloud) transition.

- **AI-Based Verification Orchestration:** Conceptualized and deployed an **LLM Orchestration** framework to automate the "Digital Thread." Automated the linking of Level 1–4 requirements to software test plans.
  - *Impact:* Achieved a **5X improvement in engineering velocity**, reducing manual traceability audits from weeks to hours while ensuring 100% verification coverage.
- **Hybrid Systems Integration:** Served as the primary technical interface for the **Naval Research Lab (NRL)** regarding **NEBULA** network integration. Managed the virtualization of key SWCIs, including Telemetry, Tracking, and Control (TT&C) and SV Navigation (SCN).
- **Infrastructure as Code (IaC):** Standardized automated provisioning using **Ansible** and **Python** for RHEL and Oracle Linux environments, enforcing strict STIG compliance and security protocols across multi-VPC management and mission networks.

**SW Integration & Test Engineering Lead (F-35 Program)** | *April 2020 – Jan 2022* \* **Architected F-35 SOF/Qual Integration System:** Directed a multi-discipline software team focused on the systems integration, verification, and validation (IV&V) of flight-critical avionics.

- **Critical Infrastructure:** Architected, designed, and maintained the software integration portion of the system responsible for direct requirements verification and support of internal firmware for the F-35 avionics suite.
- **Risk Mitigation:** Developed advanced testing protocols for SOF (Safety of Flight) activities, ensuring all qualification activities met stringent aerospace performance and safety requirements.

**Thales Avionics** | Melbourne, FL

**Project Design Authority / Systems Architect** | *Sept 2019 – April 2020* \* **Iridium Certus Development:** Responsible for all end-to-end technical activities for the Iridium Certus system, encompassing AISD, PIESD, entertainment, and ground connectivity systems.

- **Lifecycle Management:** Led project sizing (SOW, WBS/OBS) and technical coordination across all engineering disciplines. Interfaced directly with OEMs (Airbus, Boeing) and connectivity providers to ensure system compliance with high-level performance requirements.
- **Deliverables:** Authored SSS, SRS, Design Validations (DVa), CONOPS, and the Compliance Matrix under DAL-D/E and DO-178C standards.

**Engineering Manager / IVV Manager** | *March 2016 – Sept 2019* \* **Department Leadership:** Accountable for all IVV resources and activities within the WBS for complex IFE (In-Flight Entertainment) and SATCOM projects.

- **Platform Integration:** Managed aircraft network systems comprising Geofencing, SATCOM, WLAN, and CWAP centric ARINC 628. Utilized ARINC 429 and 717 interfaces over VLANs for enhanced security and isolation.
- **Strategic Planning:** Proposed and executed short- and long-term integration schedules, managing System Integration Labs (SIL) to meet rigorous IVV needs.

**iBox Printers, Inc.** | Palm Bay, FL

**VP of Engineering** | *Jan 2014 – Jan 2016* \* **Executive Management:** Managed a **\$1M R&D budget**, providing leadership to electrical, mechanical, and chemical engineering teams.

- **Strategic Execution:** Implemented high-efficiency tools and methods for rapid prototyping and technology development. Responsible for capital planning, regulatory compliance, and proposal support.

**BahnTech Corporation** | Melbourne, FL

**VP of Engineering / Director of Operations** | *May 2009 – Jan 2014* \* **Mobile Architecture:** Architected and deployed 48+ iPhone/iPod applications serving millions of users.

- **Budget Oversight:** Managed a multi-million dollar budget and oversaw yearly financial milestones for all software and hardware engineering operations.

**Early Career History (1990 – 2009)** \* **Sequans Communications:** Field Applications Engineering Manager. Managed North American customer software/hardware integration for WiMAX 802.16e products.

- **Conexant (formerly Intersil/Harris):** Senior Wireless Systems Engineering Manager. Expert in 802.11a/b/g/n systems integration, protocol architecture, and RF performance.
- **NCR / AT&T:** Senior Systems Manager. Managed teams of engineers for Windows NT enterprise support and TCP/IP instruction.

**Education University of South Carolina** | Physics / Mathematics