JOHN "JACK" MEIER, Ph.D.

SUMMARY OF QUALIFICATIONS

2003 – 2014 BOEING CORPORATION St. Louis, Missouri

1997 – 2003 ROCKWELL COLLINS CORPORATION Cedar Rapids, Iowa

1983 – 1997 BOEING/MCDONNELL DOUGLAS CORPORATION St. Louis, Missouri

- **Boeing Technical Fellow** with 34 years of leadership in Boeing Research and Technology (BR&T), the Rockwell Advanced Technology Center (ATC) and Phantom Works.**Boeing**
- **Technical Lead Engineer** (TLE) provides direction and mentoring to the engineering team and aspiring TFs.
- **Subject Matter Expert (SME)** in communication engineering, networking, high speed reconfigurable computing, and avionic systems.
- **RF Architect** offers experience in developing and using state of the art RF and microwave technologies (rake receivers, cognitive radio, JTRS, JTIDS, mesh networks, SATCOM).
- STI **Technical Fellow** chairs the 2015 Special Technology Integration (STI) Boeing TFs responsible for developing new and innovative technologies.
- **Network engineer** offering 20 years of design experience in computer and avionic system architecture design, QoS (2 patents), high speed networks, and fiber optics. Developed state-of-the-art hardware/software for both commercial and military avionic and satellite systems.

  Principal Investigator (PI) for signal processing, gigabit networks and RF electronics, working closely with customers to generate guide development from concept through production. Proven research and analytical skills to resolve critical design problems. Promoted open communications with diverse worldwide technology groups and companies.
- **State-of-the-art skills** using Matlab, C, C++, JAVA, Real-time operating systems (RTOS), middleware, VHDL (embedded computing design tools) and hardware/software integration.
- **Customer/Supplier** coordination experience with multiple suppliers working closely with corporate and customer affordability initiatives.
- Corporate Leadership (Boeing and Rockwell Collins) in innovative initiatives with Intel, IBM, Sprint, Qualcomm News Corp, Northrop Grumman, Harris Corporation, Washington University, University of Florida, Iowa State University, University of Iowa, Howard University, Harris-Stowe University.

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EDUCATION

2015 WASHINGTON UNIVERSITY St. Louis, Missouri

Doctorate in Computer Engineering

- " Spectrum Management using Markov Decision Processes ", Doctorate, August 2015
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1988 UNIVERSITY OF MISSOURI Rolla, Missouri

Electrical Engineering Masters of Science

- "Computer Aided Design of Coupled Line Microwave Bandpass Filters", Masters Thesis, 1988.

1983 SOUTHERN ILLINOIS UNIVERSITY Carbondale, Illinois

Bachelor of Science in Electrical Engineering

- Honors: Tau Beta Pi Engineering Honor Society; Teaching Assistant in Digital Electronics.

PROFESSIONAL EXPERIENCE

2015 - Present ***Boeing Advanced Weapons and Missile Systems*** St. Charles, Missouri

- *Leads advanced avionic architecture development*
- *Chaired the 2015 Advanced Weapons network communication 10 year data link roadmap with Rockwall Collins and Harris Corporation*

2003 – 2015 ***Boeing Phantom Works*** St. Louis, Missouri

Technical Fellow – Networking and Communication Systems

Technical Lead Engineer (TLE) mentoring 3 aspiring Technical Fellows
Advanced EW Program Manager

- *Intelligent Gateway ; Active networks (CISCO AXP, Stanford NetFPGA), sensor networks, advanced QOS, P2P*
- *Distributed cyber security technology – Cyber CHAMP*
  - *Won 32 million dollars from 4 major proposals*
  - *Organized QoS, Wireless and Cyber summits*
  - *Boeing C4ISR Tech America representative*

1999 - 2003 ***Rockwell Collins Advanced Technology Center*** Cedar Rapids, Iowa

Chief Architect – Information Systems and Applications

- *Gigabit network and fiber optic integration research; Ethernet and Fibre Channel protocol evaluation of QOS metrics*
- *Technical Director for I2S information network system*
- *Selected by peers as 2002 engineer of the year*

1998 - 1999 ***Rockwell Collins Advanced Technology Center*** Cedar Rapids, Iowa

Principal Engineer – Digital Signal Processing

- *Principal Investigator for advanced compression algorithms using MPEG-4 and JPEG-2000*
- *Design of satellite to aircraft communication systems(Antenna specification, link analysis, multi-channel bandwidth allocation)*

1997 - 1998 ***Rockwell Collins Government Systems*** Cedar Rapids, Iowa

Chief CNI Architect – Modular Avionics Systems

- *Develop modular solutions for the Joint Strike Fighter and legacy aircraft and FCS*

1992 - 1997 ***Boeing/McDonnell Douglas Aircraft*** St. Louis, Missouri

Principal Engineer – Phantom Works

- *Architect for the Integrated Sensor System (integrated communications, radar, ECM systems)*

1990 - 1992 ***McDonnell Douglas Aircraft*** St. Louis, Missouri

Lead Engineer - Advanced Avionic Architectures Group - Phantom Works

- *Develop Parallel Processors; Advanced Operating Systems; System Modeling (VHDL); RF sensor (Electronic Warfare, Communication, Navigation, Radar) integration; F-15 & F/A-18 avionics retrofit architecture design*

1988 - 1990 ***McDonnell Douglas Aircraft*** St. Louis, Missouri

Lead Engineer – A-12 Advanced Design

- *Directs a RF design engineering team in a $12 Million project in conjunction with Westinghouse and Texas Instruments. Made multiple presentations to Pentagon Staff in Washington, D.C. .*

1983 - 1988 ***McDonnell Douglas Aircraft*** St. Louis, Missouri

Senior Engineer – Avionic Laboratories

- *Responsible for engineering research and development of prototypes from system to component levels. Design of CNI automatic test equipment for F-15 and F/A-18 aircraft, RF circuit design (Monolithic Microwave Integrated Circuits) and Advanced Antenna Array Systems.*

SECURITY CLEARANCE

2013 to Present - Top Secret

Selected publications:

[2016] J. Meier, et. al., "Combining Admission and Modulation Decisions for Wireless Embedded System ", in Proc. of IEEE 19th ISORC International Conference, York, U,K,

[2013] J. Meier, et. al., c", in Proc. of ACM International Conference on Modeling, Analysis, and Simulation of Wireless and Mobile Systems, Italy.

[2011] J. Meier, C. Gill, R, Chamberlain, "Towards More Effective Spectrum Use Based on Memory Allocation Models", 35th IEEE Computer Software and Applications Conference (COMPSAC), Munich, Germany, July 18-22.

[2009] J. Meier, B. Bayazit “Intelligent Distributed Architecture (IDA) ” IROS 09

[2008] J. Meier, et. al. “Intelligent Avionics with Advanced Clustering.” IEEE Aerospace Conf.

[2007] J. Meier, et. al. “Network Management and Service Discovery in Military Networks ” IEEE Aerospace Conf

[2006] J. Meier, et. al. “Intelligent and Reconfigurable Edge of the Network Computing-Reaping the benefits by moving applications to the network” MAPLD, Sept., 2006* (accepted)

[2004] J. Meier, et. al. “Intelligent Networks” BTEC6, Feb. 2004*

[2004] J. Meier, A. Ayyagari ”End-to-End QoS Management” BTEC7*

[2002] [J. Meier, et. al., “Gigabit COTS Ethernet Switch Evaluation for Avionics”, IEEE LCN 2002*

JOHN "JACK" MEIER, Ph.D.

John (Jack) L. Meier is a Boeing Technical Fellow with over 34 years of professional experience specializing in avionics networking technology as part of Boeing Defense and Space and Security (BDS). Previously, Jack was part of the Network Centric Operations Thrust at Phantom Works and has specifically worked in the areas of integration of sensor systems (radar, electronic warfare, communications) and intelligent networking (wired and wireless) management .

Leaving Boeing, he helped Rockwell Collins (RC) build the next generation integrated communication system that eventually yielded the tactical targeting network technology (TTNT) solution. He was the advanced technology center (ATC) technical director of the Rockwell Collins Airborne In-Flight Network (IFN) integration team (RC, Qualcomm, Newscorp, Global Star) that specified the communication system (Endfire Phased Array and demonstrated multi-channel aggregated satellite links), which was eventually transitioned by RC to Boeing Connexion. Jack led RC ATC high speed network research that developed and demonstrated avionic optical wave division multiplexing (WDM), Fibre Channel, 100Mbps Ethernet avionic networks (ARINC664), and multiple protocol label switching (MPLS) used on 787, FCS, JTRS, and AMP C-130 Boeing products. He established and chaired the optical networking working group that consisted of Boeing, Lockheed Martin, Bell, Tyco, Tempo, University of Florida, Iowa State University and Washington University in St. Louis.

After returning to Boeing, Jack developed an E2E Quality of Service (QoS) prototype by integrating multiple network layers validating predictive performance using new QoS metrics, identifying issues and investigating insertion of intelligence for dynamic networks developed. He has developed one of the first sets of QoS Measures of Effectiveness (MOE) for heterogeneous networks performance, implemented using the Washington University gigabit switch (WUGS) and Stanford NetFPGA devices. Working with CISCO researchers, he helped to evolve a new product called AXP, an intelligent router that hosts network agents. Working with Intel on advanced sensors, he helped to evolve the Imote1 device to the new COTS Imote2 device released by Crossbow, demonstrated for use in Homeland Defense.

Jack developed technology for the DARPA Program Composition for Embedded Systems (PCES) to demonstrate integrated Network Centric Operations (NCO) Quality of Service (QoS). The culmination of the PCES demonstration prioritized and serviced the live video flows from flying (scan eagle) assets to provide QoS decisions relative to mission phase. NCO QoS technology demonstrating end-to-end (E2E) QoS was developed for FCS, Joint Tactical Radio System (JTRS), and the Transformational Satellite Communications System (TSAT). Boeing corporate selected Jack to participate in the 2005 FCS QoS Non Advocate Review consisting of 14 experts from academia, industry, and Boeing. As Chief Architect of the NCO Intelligent Distributed System Management (IDSM), IDSM demonstrated an E2E solution using different QoS technologies (Intserv, Diffserv, Resource Reservation Protocol (RSVP) ver heterogeneous avionic and space based networks (TSAT, JTRS) for inter-domain control using mobile agents.

Jack works closely with industry (Rockwell Collins, Cisco, Intel, Sprint) and universities (Iowa State, Wash U, CMU, Univ. of Illinois) to leverage new technology. Recently, Jack has been selected by Boeing executive leadership to identify new affordability initiatives and advanced tools to increase efficiency in program execution. He has filed 26 patent disclosures and holds a MSEE degree from the University of Missouri at Rolla, and completed his PhD degree in Computer Engineering at Washington University in St. Louis in August of 2015.

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