WILLIAM H. SCHELKER

Mr. Schelker is a nationally-recognized expert in both constructive modeling and real-time simulation. At VSAT he has developed the key concepts and software architecture for MAST-ES, VSAT simulator evaluation system. This system, developed under SBIR N07-034, *Military Training Systems Acceptance Test & Evaluation,* is being used for F-35 simulator testing. He recognized that much of VSAT's expertise applied could be to training of firefighters; he convinced VSAT to pursue this idea, and developed an interface with the local fire department. He was a key player in VSAT's technical evaluation of a simulator to support our Teen Driver Initiative.

Mr. Schelker is most noted as the developer of Structural Modeling. As lead software engineer for the Air Force on the B-2 simulator, Mr. Schelker was responsible for overseeing the design, development, and integration of an unprecedented two million lines of Ada code. (Software experts had estimated that at one million lines of source code, the schedule would become infinite and was impossible to integrate. Ref: *The Mythical Man-Month: Essays on Software Engineering,* by Fred Brooks.) In order to beat the "mythical man month," Mr. Schelker developed a methodology now known as the Structural Model for the complete air vehicle simulation, and successfully completed the design, development, and integration of the unprecedented source code. Mr. Schelker has also developed structural models for the C-17, Simulator for Electronic Combat (SECT), T-39-T40 simulators, and the Special Forces C-130 (SOFATS). He co-authored the landmark paper, "Structural Models for Flight Simulators" with Dr. Mike Rissman of the Software Engineering Institute. The concept of Structural Modeling is now used throughout the simulation industry.

Mr. Schelker has worked as both a functional and lead engineer on acquisition programs for full mission simulators, including air vehicle systems, flight, tactics, mission planning, threat, avionics, mission computers, sensors, g cueing, and visual systems. He was the lead engineer on the Training Systems Acquisition (TSA-II), a $3B Indefinite Quantity/Indefinite Delivery program.

He has also served as engineer/analyst position in the Operations Analysis Branch where he worked with Sensors, Flight Dynamics and Low Observable systems in mission and engagement models. He also oversaw the development of the Suppressor Engagement Federation, the Bluemax-HIVE-ESAMS integration, and the World Wide Weather Effects model for mission analysis. He is has used Suppressor, ESAMS, Falcon View, Bluemax, SIMDIS, Portable Flight Planning System, HIVE, Brawler, and UACLIMO analytical models/tool sets.

Mr. Schelker holds a Bachelor of Computer Science-Engineering from Wright State University.