

# AIR TRAFFIC MANAGEMENT *CENTER OF EXCELLENCE*

The CSC logo consists of the letters "CSC" in white, bold, sans-serif font, centered within a red square with a white border.

Rockville, Maryland

USA

Egg Harbor, New Jersey

USA

Chantilly, Virginia

USA

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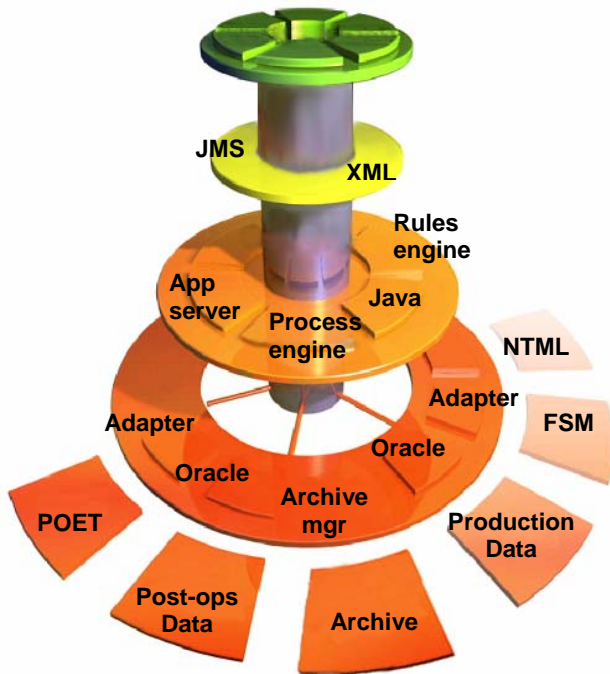
CSC's Centers of Excellence help clients explore state-of-the-art solutions with minimum up-front investment, leveraging CSC's top talent to maximize innovation and results. Each Center has a designated facility and staff who demonstrate and deliver solutions and evaluate products, methodologies and concepts.

CSC's Air Traffic Management Center of Excellence supports the worldwide aviation community with air traffic management (ATM) solutions that range from researching new concepts and decision support tools for NextGen applications to developing, deploying and operating current-day ATM systems. With more than 35 years of experience in ATM, CSC's unique capabilities span areas such as air traffic flow optimization, time-based flow management to include regional metering, arrival and departure metering, air-ground data link and tactical air traffic control for all phases of flight. The Center's affiliated labs in Maryland, New Jersey and Virginia demonstrate CSC's capabilities not only as a product-independent ATM systems integrator but also as a systems and applications developer.

The Center is active in developing near-term enhancements to today's ATM systems, as well as exploring new operational concepts and designs that will be needed for future ATM 10 and 20 years from now – whether NextGen, SESAR or others.

The Center's applications comprise a broad range of systems that simulate or interact with air traffic control, including strategic traffic flow management systems, systems that provide pilots information on weather and on the status of the national airspace, collaborative systems for flight planning and filing of flight plans, systems for tactical separation assurance, systems supporting optimal utilization of scarce runway resources, and systems supporting air carrier operations. In addition, the Center's simulation and modeling capabilities allow for both cutting-edge air traffic control training as well as advanced airspace and surface movement design. The Center's capabilities are especially strong in applying the latest information technologies to ATM. This includes business processes/rules, service-oriented architectures (SOA) including CSC's proven e4SM methodology, system-wide information management, Web-based development approaches, and methodologies for integrating such new technologies into legacy ATM systems.

Recently fielded systems have provided arrival and departure traffic management functions, near-real-time display of both static aeronautical data (routes, fixes, approach procedures/maps/charts) and highly dynamic aeronautical data (weather, traffic management constraints and Notices to Airmen), graphical display of severe weather and airspace constraints, and deployable, adaptable and cost-effective air traffic control training simulators.



CSC's Traffic Flow Management System SOA Architecture

**CAPABILITIES**

- Air traffic flow management
- Management of flight planning and airspace data
- Near-real-time collaborative operations and control of air traffic using ground-based and aircraft-based technologies
- Strategic planning (several hours in advance) for near-real-time operations
- Analysis and modeling of potential future operational concepts and future decision support tools
- Model predicted future air transportation loads and potential benefits from new operational concepts and new decision support tools
- Enhanced security of the air transportation system
- Enhanced human-computer interfaces
- Simulation, testing and data analysis of decision support tools
- Advanced air traffic control training simulation

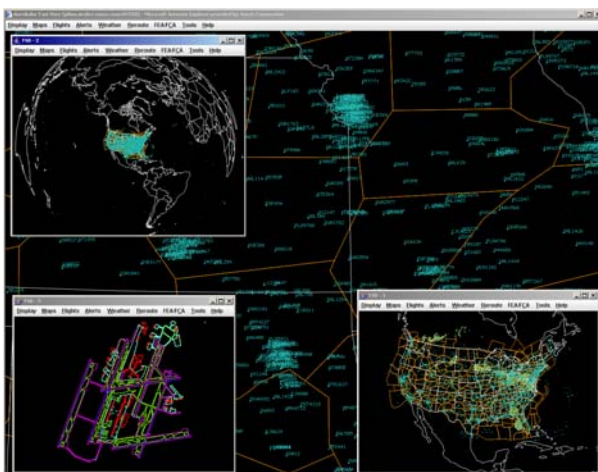
**RESOURCES**

Center employees are active participants in the Air Traffic Control Association and the inter agency Joint Planning and Development Office (JPDO), regularly providing papers and conference briefings to ATCA and JPDO. Center specialists also actively participate in special committees of RTCA, the industry-wide standards organization for ATM. Center employees support special committees and task forces of several other ATM industry organizations, which review and assess new R&D concepts and system development strategies. Additionally, the Center has specialists who are former professors or currently serve as adjunct professors at near-by colleges and universities.

The Center makes full use of CSC's Xavius line of simulation services. Air Traffic Controller training, airspace and surface management modeling, and advanced simulation design are all major features enabled by CSC's Xavius-based simulation services.

The Center participates in other university-led R&D, including the Integrated Airport consortium, whose goal is to apply new technology to the problems faced by airports.

Additionally, the Center has played an active role in collaborating with NASA's ATM R&D efforts, developing new concepts and prototypes for ATM systems of the future. Selected products developed by CSC under this research model have been successfully deployed and are now being used on a daily basis in FAA ATM operations.



Advanced Traffic Flow Delays