



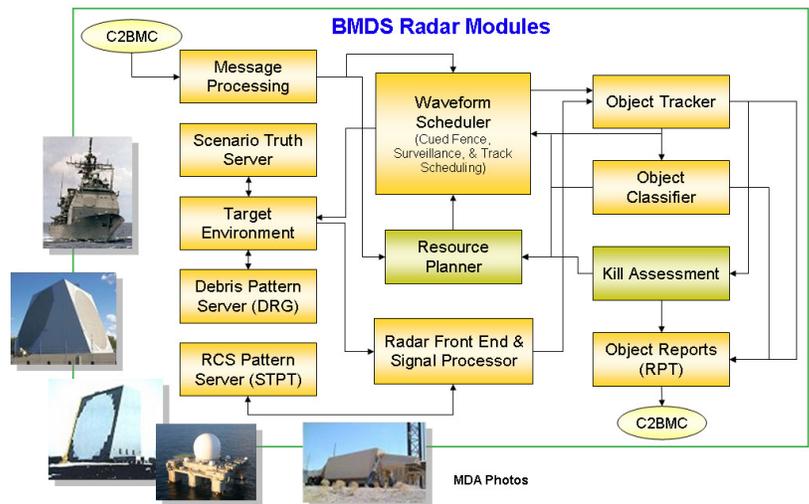
## Ballistic Missile Defense Simulation Framework

Technology Service Corporation (TSC) has developed a plug-and-play simulation framework application programming interface library called BMDSF that provides efficient and flexible communications among functional modules in a Ballistic Missile Defense simulation. BMDSF is built on top of the well-known Message Passing Interface (MPI) library, which enables the framework to be highly scalable to large simulations distributed over multiple interconnected computers. The framework promotes modular software architecture; each functional module is a stand-alone program that can be compiled and linked independently of other modules.

### Key BMDSF Features:

- Links modules in a simulation together by providing communication, timing, startup, and shutdown controls
- Concurrently supports simulation modules written in various programming languages
- Supports point-to-point and collective communication
- Provides the full advantages of MPI without requiring the user to learn the low-level MPI functionalities
- Supports distributing simulation modules across multiple computers and platforms

TSC's Ballistic Missile Defense System (BMDS) testbed software is an example large-scale simulation where the BMDSF is used. The BMDS testbed is a simulation tool for developing, evaluating, and demonstrating missile defense algorithms and models; it includes a configurable radar model consisting of multiple radar functional modules that are connected and communicate with each other in real-time using the BMDSF. The BMDSF supports multiple radar and EO/IR sensors as well as other elements of the BMDS, all interconnected by the framework.



### ABOUT TSC

TSC has extensive experience in modeling and simulation. We have created a set of products that provide solutions for modeling and simulation of systems containing radio frequency (RF) and infrared (IR) sensors. These products include the Non-rigid Body Signature tool and the Radar Image Generator tool for modeling and analyzing the effects of motion on fundamental RF scattering processes, the ReallIR™ application programming interface (API) for real-time hardware or man-in-the-loop simulation, and the Infrared Hyperspectral Simulation System (IRHSS) for high-fidelity simulation of multispectral and hyperspectral thermal IR sensors. Our team of talented engineers is dedicated to provide support and deliver turnkey simulation tools to fit your specific needs and applications.

### CONTACT INFORMATION

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