

# OMG

**Mission Statement**  
**Transportation Domain Task Force**  
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**February 26, 2001**

The Transportation Domain Task Force (Transportation DTF) is one of a number of task forces within the Object Management Group (OMG). It is composed of representatives from OMG member organizations. These organizations include government agencies, academic institutions, and private sector corporations and businesses that have a vested interest in the evolution of technology for distributed systems within the transportation domain.

The general goal of the Transportation DTF is to extend the concept of, and the benefits derived from the OMG's already standardized Common Object Request Broker Architecture (CORBA) middleware for distributed systems, to the transportation domain. This can be accomplished by developing component models and application interfaces specific to the transportation domain that would support the CORBA notion of interoperability across programming languages, operating systems, network protocols and hardware platforms. The Transportation DTF supports the development of models expressed in the OMG standardized modeling language, Unified Modeling Language (UML), and specifications in the OMG Interface Definition Language (IDL).

It is the belief of members of the Transportation DTF that providing standardized application interfaces for transportation systems would provide enormous technological and business benefits to the transportation industry in the same manner that relevant, well-formed standards have done so in the past. Some of the benefits identified by the Transportation DTF include the following:

- *Allow for the integration of heterogeneous systems used by the various transportation and transportation-related industries into a larger federation, or 'virtual system', that is capable of planning and operating various types of both joint and inter-modal services*
- *Allow for the development of a stable architectural framework for transportation systems, consisting of standardized application and component interfaces. This allows for the separation of interfaces from implementations so that the effect on the system due to changes of application implementations would be localized, vastly improving system flexibility and maintainability*
- *Allow multiple transportation system component vendors to develop, and system users to purchase and deploy, transportation system "product" lines as the result of standardized component interfaces*
- *Allow legacy system components to be leveraged by "wrapping" them with transportation industry standardized interfaces, allowing integration with newer system components*
- *Allow for increased quality, a wider range of choice and more competitive pricing for transportation software components on the consumer side, as well as more cost-effective development and a broader market on the supplier side*

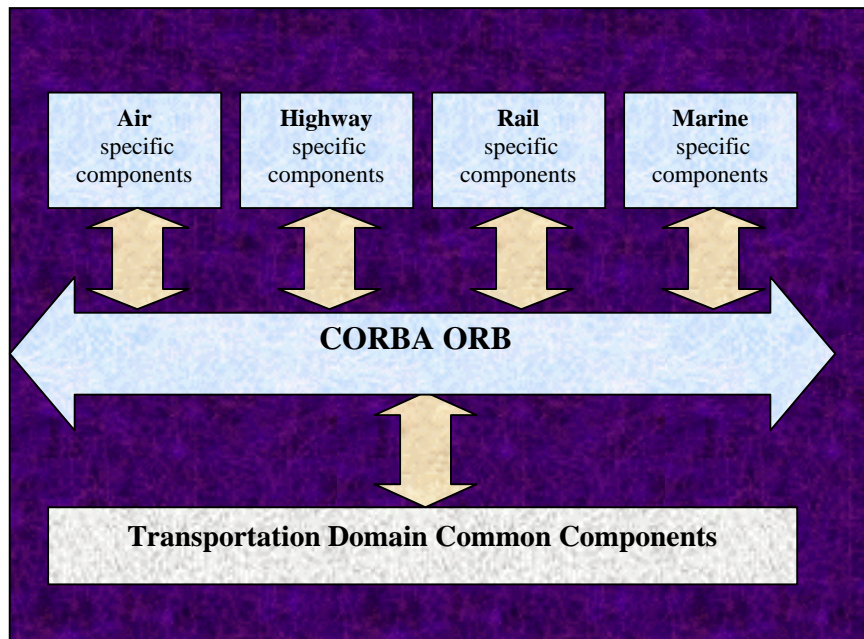


Figure 1. Transportation component architecture.

The Transportation DTF is logically composed of four fundamental sub-domains:

- **Air**
- **Highway**
- **Rail**
- **Marine**

Within the Transportation DTF, these sub-domains are represented by Working Groups (WG). These Working Groups independently focus on standardization issues specific to their respective transportation modes. The DTF membership collectively, via DTF plenary sessions, develop the strategies necessary for furthering the common goals of the WGs, coordinate the efforts within the WGs, and perform the administration and procedural activities of the Transportation DTF, including the facilitation of the technology request and adoption process.

Summaries of the specific scopes of each of the presently active Transportation DTF Working Groups are listed below:

**Air WG:**

Active areas are air traffic control and collaborative decision making between airlines and air traffic control, as well as standardization of terminology, including adopting existing ICAO, ISO and IATA terminology

**Highway WG:**

Scope includes standards for interoperable Intelligent Transport Systems (ITS) enabling the exchange of traffic information and control of systems across

jurisdictional boundaries, as well as integration with other modes of transportation and transportation-related systems

**Rail WG :**

Scope of activity includes identifying the primary control systems and secondary support systems for the rail system including: central control systems, maintenance systems, inventory systems, vehicle and personnel scheduling systems, customer service systems, and potentially, any subsidiary system that supports any one of a rail or transit organization's major business functions.

The *Transportation Domain Common Components* are transportation specific components that are common to the systems of each transportation mode. Part of the mission of TDTF is to identify and standardize components applicable across multiple modes. This provides the basis for a transportation system product-line approach for vendors, and expands the marketplace for vendors and consumers.

The mission of the Transportation Domain Task Force is summarized in the following essential goals:

- *To promote the development and use of interoperable systems that incorporate OMG specifications and technologies by the transportation community and its partners*
- *To co-operatively design within the transportation community, a modular decomposition of transportation systems with standardized interfaces: This decomposition and set of interfaces define the market, enabling system integrators to choose from a larger variety of component implementations, and enabling vendors to develop against known standards.*
- *To establish a global forum for the free exchange of distributed object systems development ideas amongst the various members of the transportation community and its partners*
- *To identify relevant standards and technologies in this area of computing for the purposes of leveraging standardization work already done, and to give consideration to other transportation related standardization activities in an effort to minimize the development of competing standards, and maximize the development of complementary standards within the transportation domain.*
- *To work within the OMG and its various committees and task forces to ensure that its adopted specifications are, and remain, compatible with the needs of the transportation community*
- *To communicate the activities of the OMG and the Transportation DTF to members of the transportation industry, thereby providing the opportunity for the widest level of participation possible from within the transportation community.*