

PACKAGE ID - 001157SPARC00 TRANSPORTNET1.03.2

KWIC TITLE - Object Modeling for Transport of Physical
Objects or Substances Across a Geograc

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 05/01/1996 **PUBLICATION DATE** - 05/01/1996

DESCRIPTION - TRANSPORTNET, a suite of object classes, addresses the general problem of simulating transport of objects or substances across a geographically distributed network. This highly abstract concept supports subclassed networks of many types, including road, rail, air, and navigation transportation networks, drainage (hydrological) networks, and utility networks of various sorts, such as pipelines, transmission lines, etc. In TRANSPORTNET, transport occurs along transport links which are connected by transport nodes. The concepts of link and node are also highly abstracted and subject to several topological variants (subclasses), subject to the constraint that all transport takes place along links, and links are connected at the nodes.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - Environmental models and other software applications are linked to objects and provide various aspects of the objects' behavior in a flexible and extensible object-based representation of transportation networks in a geographic area of interest. The principal object classes used to implement the TRANSPORTNET concept are: link, arc, nexus, space, node, junction, boundary, interface, and arc pathway.

COMPUTER - SUN SPARC

OPERATING SYSTEMS - Unix (Sun Solaris)

PROGRAMMING LANGUAGES - Smalltalk

SOFTWARE LIMITATIONS - None designed into the software. Users are limited by their individual computing environments.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - TRANSPORTNET is a suite of object classes that supports modeling the transport of virtually any physical object

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UNIQUE FEATURES - (CONT) or substance over a geographic network.

RELATED SOFTWARE - TRANSPORTNET was designed to operate within the Dynamic Information Architecture System (DIAS), however, it could be operated under an alternative object-based modeling and simulation architecture.

HARDWARE REQS - The hardware requirements are those needed by the simulation architecture. At Argonne, DIAS utilizes a Unix Workstation with 128 Mbytes of RAM and 2 Gbytes of disk space for execution of a typical application.

TIME REQUIREMENTS - Run time is totally dependent upon the scope and complexity of the transport network being modeled and the scope and complexity of the overall simulation scenario in which the TRANSPORTNET objects are participating.

ABSTRACT STATUS - Submitted 2/12/97. Release AS-IS 3/7/97

SUBJECT CLASS CODE - RN

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
T CODES
COMPUTERIZED SIMULATION
DATA ANALYSIS
RAIL TRANSPORT
ROAD TRANSPORT
HYDROLOGY
D CODES
TRANSPORT
AIR TRANSPORT
NAVIGATION

EDB SUBJECT CATEGORIES -
990200 320200

SPONSOR - DOE/ER

PACKAGE TYPE - AS - IS