IEEE Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)—

Object Model Template (OMT) Specification

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IEEE Computer Society

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Abstract: The High Level Architecture (HLA)—Object Model Template (OMT) specification defines the format and syntax (but not content) of HLA object models. Simulations are abstractions of the real world, and no one simulation can solve all of the functional needs for the modeling and simulation community. It is anticipated that advances in technology will allow for new and different modeling and simulation (M&S) implementations within the framework of the HLA. The standards contained in this architecture are interrelated and need to be considered as a product set, as a change in one is likely to have an impact on the others. As such, the HLA is an integrated approach that has been developed to provide a common architecture for simulation.

Keywords: architecture, class attribute, data distribution management, federate, federation, federation execution, federation object model, framework, High Level Architecture, instance attribute, instance attribute ownership, interaction class, joined federate, object class, object model template, rules, runtime infrastructure, simulation object model, time-constrained, time-regulating

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Introduction

This introduction is not part of IEEE Std 1516.2-2010, IEEE Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)—Object Model Template (OMT) Specification.

This document has been developed to record an international standard for the HLA. It serves as one of three related standards for the HLA. It defines the format and syntax for recording information in HLA object models.

This new version of the IEEE 1516 High Level Architecture has been produced during 2004–2007 by the "HLA Evolved Product Development Group" of the Simulation Interoperability Standards Organization (SISO). It incorporates a number of updates based on practical application of earlier versions of the standard. The purpose of the new version is to better support development, deployment, and net-centricity of distributed simulations. Major new additions include support for Web Services communication, modular information models (FOMs and SOMs), improved XML features (XML Scemas as well as extensibility), improved fault tolerance support, support for update rate reduction and dynamic link compatibility between different implementations.

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Contents

IEEE Standard for Modeling and Simulation (M&S) High Level Architecture (HLA)— Object Model Template (OMT) Specification

1. Overview

1.1 Scope

This document defines the format and syntax for recording information in High Level Architecture (HLA) object models, to include objects, attributes, interactions, and parameters. It does not define the specific data (e.g., vehicles, unit types) that will appear in the object models.

1.2 Purpose

The HLA has been developed to provide a common architecture for modeling and simulation. The HLA requires that federations (sets of federates) and individual federates (simulations, supporting utilities, or interfaces to live systems) be described by an object model that identifies the data exchanged at runtime to achieve federation objectives. This standard defines the documentation of the object model.