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Standard for automatic test markup language (ATML) test station description

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IEEE Standard for Automatic Test Markup Language (ATML) Test Station Description

Sponsor

IEEE Standards Coordinating Committee 20 on Test and Diagnosis for Electronic Systems

Approved 26 March 2015

IEEE-SA Standards Board

Abstract: An exchange format, using extensible markup language (XML), for identifying all of the hardware, software, and documentation associated with a test station is specified in this document. This test station may be used with a test program set to test and diagnose a unit under test.

Keywords: ATML instance document, automatic test equipment (ATE), Automatic Test Markup Language (ATML), automatic test system (ATS), IEEE 1671.6™, test station, XML schema

IEEE Introduction

This introduction is not part of IEEE Std 1671.6™-2015, IEEE Standard for Automatic Test Markup Language (ATML) Test Station Description.

This child, or dot, standard, also known as an ATML component standard, provides for the definition of the Test Station XML schemas, and contains references to examples; both of which accompany this standard.

These XML schemas provide for the identification and definition of a test station.

ATML's XML schemas define the basic information required within any test application and provide a vehicle for formally defining the test environment by defining a class hierarchy corresponding to these basic information entities and provide several methods within each to enable basic operations to be performed on these entities. ATML component standards within the ATML framework define the particular requirements within the test environment.

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Standard for Automatic Test Markup Language (ATML) Test Station Description

1. Overview

1.1 General

Automatic test markup language (ATML) is a collection of IEEE standards and associated extensible markup language (XML) schemas that allows automatic test system (ATS) and test information to be exchanged in a common format adhering to the XML standard.[1]

The ATML framework and the ATML family of standards have been developed and are maintained under the guidance of the Test Information Integration (TII) Subcommittee of IEEE Standards Coordinating Committee 20 (SCC20) to serve as a comprehensive environment for integrating design data, test strategies, test requirements, test procedures, test results management, and test system implementations, while allowing test program (TP), test asset interoperability, and unit under test (UUT) data to be interchanged between heterogeneous systems.

This standard (as well as the XML schemas and XML instance document examples[2] that accompany this standard) is intended to be used in identifying and documenting a test station which may be utilized during the testing of unit under tests (UUTs). This information includes the mechanical, electrical and software interfaces of the test station.

[1] This information is given for the convenience of users of this standard and does not constitute an endorsement by the IEEE of this consortium standard. Equivalent standards or products may be used if they can be shown to lead to the same results.
[2] The XML schemas and examples that accompany this standard are available at the locations defined in Clause 6.

This standard makes use of XML schemas and XML terminology. For readers new to XML, the XML Schema Tutorial [B1] provides a general introduction.

1.2 Application of this document's annexes

This document includes four annexes.

Annex A through Annex D are informative, and thus are provided strictly as information, for both users, implementers, and maintainers of this document.

1.3 Scope

This standard defines an exchange format, utilizing eXtensible Markup Language (XML), for both the static description of a test station, and the specific description of test station instance information.

1.4 Application

This standard provides a clear definition of test station information that may be exchanged between conformant cooperating software components and applications. This standard provides a definition that accomplishes the following objectives:

a) Provide a means of describing the aspects of a complete automatic test equipment (ATE) or a partial system thereof. (e.g., automatic test information)

b) Provide a means to represent the current information represented within the specification for a test station.

The information contained in XML documents conforming to this standard will be useful to:

a) TPS developers.

b) Test program set (TPS) developers

c) TPS maintainers

d) Automatic test equipment (ATE) system developers

e) ATE system maintainers

f) Developers of ATML-based tools and systems

g) UUT developers and maintainers

1.5 Conventions used within this document

1.5.1 General

In accordance with the *IEEE Standards Style Manual* [B3][3], any schema examples will be shown in Courier font. In cases where instance document examples are necessary to depict the use of a schema type

[3] The numbers in brackets correspond to those of the bibliography in Annex D.