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Software Interface for Maintenance Information Collection and Analysis (SIMICA): Exchanging Test Results and Session Information via the eXtensible Markup Language (XML)

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1636.1 (2018)	91/1717/FDIS	91/1729/RVD

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IEEE Standard for Software Interface for Maintenance Information Collection and Analysis (SIMICA): Exchanging Test Results and Session Information via the eXtensible Markup Language (XML)

Sponsor

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

Approved 27 September 2018

IEEE-SA Standards Board

Abstract: Promoting and facilitating interoperability between components of automatic test systems where test results need to be shared is addressed in this standard. The standard thus facilitates the capture of test results data in storage devices and databases, facilitating online and offline analysis. The test results schema becomes a class of information that can be used within the SIMICA family of standards. The exchange format is expressed in both the OWL and XML formats.

Keywords: automated test system (ATS), extensible markup language (XML), IEEE 1636.1™, OWL ontology, Software Interface for Maintenance Information Collection and Analysis (SIMICA), test results and session information, XML schema

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Introduction

This introduction is not part of IEEE Std 1636.1-2018, IEEE Standard for Software Interface for Maintenance Information Collection and Analysis (SIMICA): Exchanging Test Results and Session Information via the eXtensible Markup Language (XML).

Maintainers of complex systems require the ability to capture and share test result information in a way that supports such activities as performance analysis, post production product improvement, maintenance process improvement, and diagnostic maturation. Principal stakeholders of this project include, but are not limited to, maintenance organizations within various Departments/Ministries of Defense, commercial airlines, the automotive industry, and the telecommunications industry. This standard is being developed as a component of the IEEE Std 1636™ Software Interface for Maintenance Information Collection and Analysis (SIMICA) project. SIMICA's purpose is to specify a software interface for access, exchange, and analysis of product diagnostic and maintenance information. Test Result information provides a subset of the data needed to satisfy SIMICIA requirements.

This document provides the description of the test results and session information elements.

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IEEE Standard for Software Interface for Maintenance Information Collection and Analysis (SIMICA): Exchanging Test Results and Session Information via the eXtensible Markup Language (XML)

1. Overview

1.1 General

Software Interface for Maintenance Information Collection and Analysis (SIMICA) is a family of IEEE standards, associated web ontologies (OWL), and extensible markup language (XML) schemas which allow automatic test system (ATS), test result and session information, and maintenance action information to be exchanged in a common format adhering to the OWL and XML standards.

The SIMICA family of standards has been developed and is being maintained under the guidance of IEEE Standards Coordinating Committee 20 (SCC20) to serve as a comprehensive environment for integrating test results, test session information, and maintenance action information, while allowing this unit under test (UUT) related data to be interchanged between heterogeneous systems.

The SIMICA family of standards is organized as a base Standard (IEEE Std 1636™) and two (2) 'dot' standards:

— Test Results and Session Information (IEEE Std 1636.1™

— Maintenance Action Information (IEEE Std 1636.2™)

The SIMICA base document and its relationship to this document is depicted in Figure 1.