ATIS-0300003.2017

XML Schema Interface for Fault Management (Trouble Administration)

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[Revision of ATIS-0300003.2015]

American National Standard for Telecommunications

XML Schema Interface for Fault Management (Trouble Administration)

Alliance for Telecommunications Industry Solutions

Approved November 16, 2016

American National Standards Institute, Inc.

Abstract

This standard provides an XML schema information model for Trouble Administration and an XML schema interface for Trouble Administration functions and services. Additional information from the original CMIP-based Trouble Administration standards ATIS-0300227.2008 and ATIS-0300228.2011 can be found in informative annexes to this document. It is the intention that this document be used for current implementations of Electronic Bonding, which to this Committee's knowledge are all implemented using XML. The informative annexes have been included here so as not to lose context information that may still prove to be of value.

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Foreword

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Telecom Management and Operations Committee (TMOC) -- formerly T1M1 -- develops operations, administration, maintenance and provisioning standards, and other documentation related to Operations Support System (OSS) and Network Element (NE) functions and interfaces for communications networks – with an emphasis on standards development related to U.S.A. communication networks in coordination with the development of international standards.

ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, TMOC, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time it approved this document, TMOC, which is responsible for the development of this Standard, had the following leadership:

M. Usry, TMOC Chair (iconectiv)
T. Barrett, Technical Editor (AT&T)

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1 Scope, Purpose, & Application

The *tML Framework Document* (ITU-T Recommendation M.3030) identifies potential applications for using XML in the interface design specification. Fault Management (Trouble Administration) is one such application. ITU-T Recommendation M.3020 defines a three phase methodology for developing interface specifications related to management information exchanges. The requirements phase has not been formally defined but is derived from former ANSI standard ATIS-0300227.2008 (included here as Annexes A through H) and former ANSI standard ATIS-0300228.2011 (included here as Annex I). The formal analysis phase from M.3020 is not included in this document. This document presents the design phase using XML schemas (tML TA schemas) for Trouble Administration functions and services specified in Annexes A through I. The design phase is a result of analyzing (in the form of UML model) ATIS-0300227/ATIS-0300228 data definitions. The model does not include enhanced features such as multiple object operations available based on the protocol design in Annexes A through I. A Trouble Administration architecture diagram based on Annexes A through I is shown in Figure 1.1 below.

The approach used in this standard defines XML application protocol data units that are specific to a subset of TA as defined in Annexes A through H and Annex I (ANSI version of ITU-T X.790). The XML messages specified in this standard are defined via an XML schema (tML-TA schema) and there is no coupling to a transport protocol. While mapping to a transport protocol (such as tML Transport Protocol, see Ref [15]) is required for interoperability, it is outside the scope of this document, and should be addressed by each pair of bonded companies as a joint implementation issue.

Informative Annexes A through H define an information model using GDMO (ITU-T Recommendation X.722) and ASN.1 (ITU-T Recommendation X.680) for the TMN X-interface (ITU-T Recommendation M.3010) to support Fault Management. These clauses are applicable when Common Management Information Service Element (CMISE) is used for conveying inquiry information across an OS-OS interactive interface.

Informative Annex J specifies a functionally equivalent interface using the Common Object Request Broker Architecture (CORBA)/Interface Definition Language (IDL), as defined in *The Common Object Request Broker Architecture and Specification, Revision 2.2, Object Management Group, Feb 1998.*

Since this Committee is no longer aware of CMISE or CORBA based implementations supporting tML framework, these references have been moved to the informative annexes.

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