National BIM Standard - United States® Version 3

2   Reference Standards

2.3   World Wide Web Consortium Extensible Markup Language Specification And Validation 1.0, Fifth Edition – November 2008

2.3.1   Scope

The scope of World Wide Web Consortium Extensible Markup Language (WC3 XML) is to ensure NBIMS-US™ work products in XML conform to the W3C specification, and to utilize W3C XML validator to ensure NBIMS-US™ compliance with W3C requirements and related Internet protocols. Countless data exchanges in virtually all industries utilize XML. Current NBIMS-US™ materials in XML should be validated and, if necessary, cleaned up to ensure they are well-formed. Future submittals in XML should be accompanied by an XML schema and syntax validation from W3C or other acceptable, independent organization.

2.3.2   Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- W3C Specification, http://www.w3.org/XML/
- W3C XML Validator, http://www.w3schools.com/xml/xml_validator.asp

2.3.3   Terms, definitions, symbols, units and abbreviated terms

For the purposes of this document, the following terms, definitions, symbols, units and abbreviated terms apply.

2.3.3.1
architecture, engineering, contractor, owner, operator
AECOO

2.3.3.2
data exchange
process of taking data structured under a source schema to transform and restructure into a target schema, so the target data are an accurate representation of the source data within specified requirements and minimal loss of content

2.3.3.3
extensible markup language
XML
rules for encoding information in machine readable form that emphasizes simplicity, generality, and usability over the Internet

2.3.3.4
Internet protocols
methods by which data are sent from one computer to another on the Internet

2.3.3.5
specification
formal description of what software and hardware should do, but not necessarily how the tasks should be accomplished; typically include verification techniques and conformances testing to ensure candidates are technically correct, or able to be iteratively modified to solve new or expanding problems in the AECOO domain

2.3.3.6
syntax validation
process to define and verify the arrangement, parameters, and values in a data set conform to specified requirements

2.3.3.7
validation
process of ensuring an NBIMS-US™ work product or a process conforms to defined user needs, industry requirements, and specifications by following a system of quality assurance or testing a statistically relevant set of samples

2.3.3.8
validator
computer program or web service to check the syntactical correctness of code, documents, or specifications; for example, ensuring there are no broken links

2.3.3.9
well formed
NBIMS-US™ components written in XML that satisfy a list of rules and requirements provided in a specification

2.3.3.10
World Wide Web Consortium
W3C
central international standards organization for the World Wide Web, also abbreviated WWW or W3

2.3.3.11
W3C requirements
mandatory or necessary conditions and prerequisites to ensure compliance with W3C exchange rules and protocols

2.3.3.12
XML schema
structure of an XML encoding that defines the elements, attributes, hierarchy, namespaces, data types and default or fixed values; written in XML and created to be extensible in future iterations

2.3.4   W3C XML Specification and Validation 1.0, Fifth edition, 26 November 2008

2.3.4.1 Introduction

World Wide Web Consortium Extensible Markup Language (W3C XML) Specification and Validation 1.0, Fifth edition, 26 November 2008 is an existing industry standard developed, managed, published and copyrighted by the W3C® Consortium, approved through the NBIMS-US™ consensus process. World Wide Web Consortium Extensible Markup Language Specification and Validation 1.0, Fifth edition, 26 November 2008 is incorporated in NBIMS-US™ by reference so that it can be easily referenced in BIM Information Exchanges.

- W3C Specification, http://www.w3.org/XML/

- W3C XML Validator, http://www.w3schools.com/xml/xml_validator.asp

2.3.5 Bibliography

1. WC3 Bibliography, http://www.w3.org/TR/CSS21/refs.html

2. Web3D Consortium Bibliography, http://www.web3d.org/files/specifications/19776-3/V3.1/Part03/bibliography.html