GENESYS™2023

Standard Compliance Schema Extension User Guide

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CUSTOMER RESOURCE OPTIONS

Supporting users throughout their entire journey of learning model-based systems engineering (MBSE) is central to Vitech's mission. For users looking for additional resources outside of this document, please refer to the links below. Alternatively, all links may be found at www.vitechcorp.com/online-resources/.

[Webinars]

Immense, on-demand library of webinar recordings, including systems engineering industry and tool-specific content.

[Screencasts]

Short videos to guide users through installation and usage of GENESYS.

[A Primer for Model-Based Systems Engineering]

Our free eBook and our most popular resource for new and experienced practitioners alike.

[Help Files]

Searchable online access to GENESYS help files.

[Technical Papers]

Library of technical and white papers for download, authored by Vitech systems engineers.

[Technical Support]

Frequently Asked Questions (FAQ), support-ticket web form, and information regarding email, phone, and chat support options.

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1. PURPOSE

The Standard Compliance Schema extension was developed to provide an alternative way for tracing system-level requirements to industry standards. In many system design efforts the design team is tasked with providing a system to meet overlapping standards from different governing organizations. In this situation, the design team may want to write one system-level **Requirement** and provide traceability from the **Requirement** to more than one standard in different standard documents. For example, the system design may have to meet both a federal standard and a specific state standard, or the system may be developed to meet both a U.S. Government standard as well as a European standard. In either case the design should show traceability to both of the standards.

The Standard Compliance Schema extends the project schema by providing a new class entitled "**Standard**." The **Standard** class is provided to capture individual standard statements, directly from the standard document. A **Document** entity should be created for each standard document used in the design. Individual **Standard** entities should be created for the individual standard statements that are included in the system design (the document parser feature can be used to facilitate creation of the standard entities). The individual standard entities are "documented by" the **Document**.

Requirement entities may be created and traced back to the standard using the "compliance with" relationship. A **Requirement** may show compliance with more than one **Standard** in the model.

The user can show traceability by customizing hierarchy diagrams or table exports from either the Standard **Document** entity or from the **Requirement** entity.

2. DETAILS OF SCHEMA EXTENSION

List of Schema Changes from Base Schema

- Added New relation pairs:
  - compliance with / satisfied by – Compliance with identifies the Industry or Process Standard which the entity satisfies
    - **Standard** satisfied by **Program Activity, Requirement, RequirementGroup**
    - **ProgramActivity, Requirement, RequirementGroup** compliance with **Standard**
  - clarified by / clarifies – Clarified by designates lower level standards for this entity.
    - **Standard** clarified by **Standard**
    - **Standard** clarifies **Standard**

- Added New class:
  - **Standard**
    - *Attributes:*
      - Section Number
      - Standard Applicability
      - Standard Rationale
    - *Relations:*
      - augmented by with target class **ExternalFile**, **Text**
      - categorized by with target class **Category**
      - clarified by with target class **Standard**
      - clarifies with target class **Standard**
      - documented by with target class **Document**
      - packaged by with target class **Package**
      - satisfied by with target class **ProgramActivity**, **Requirement, RequirementGroup**

- Class changes:
  - Category
    - Added target class **Standard** to categorizes relationship
  - Document
    - Added target class **Standard** to documents relationship
  - ExternalFile
    - Added target class **Standard** to augments relationship
  - Package
    - Added target class **Standard** to packages relationship
  - ProgramActivity
    - Added compliance with relation with target class **Standard**
  - Requirement
    - Added compliance with relation with target class **Standard**
  - RequirementGroup
    - Added compliance with relation with target class **Standard**
  - Text
    - Added target class **Standard** to augments relationship

3. INSTRUCTION FOR USE

In order to use this extension a project administrator will have to import the GNSX file containing the schema extension into the existing project.

1. From GENESYS, select File Menu >> Import.
2. Use the file browser to select …\GENESYS 2023 Edition\Extensions\ StandardComplianceSchema.gnsx and click Open.
3. In the import wizard, you will see the Project “Standard Compliance Schema” in the Project listing. Select “Next” to continue to Step 2.
4. Select the second radio button, that says “Import into Project:”, and then select your project from the drop-down list. Select “Next” to continue to Step 3.
5. Review the screen to ensure that you have selected to import “Standard Compliance Schema” into your project. Select “Import” to start the import process.

Once the import completes click OK and the schema extension is ready to be used. Once you have imported the extension once you will not need to import it again. Simply export your database using the default export option and the schema and data are contained within one GNSX file.

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