

Business To Manufacturing   
Markup Language

Personnel

Version 0700

August 5, 2016

B2MML-Personnel

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# Change history

|  |  |  |  |
| --- | --- | --- | --- |
| **Change** | **Date** | **Person** | **Description** |
| V01 | 7 April 2002 | Dennis Brandl  Dave Emerson | Initial release |
| V02 | 23 Sept 2003 | Dennis Brandl  Dave Emerson | * Added Location to person, Changed ##any to "Any" element of type "AnyType" |
| V03 | 26 Aug 2005 | Dennis Brandl  Dave Emerson | * Added substitution groups. One group added just before each Any element. |
| V0301 | 29 Dec 2005 | Dennis Brandl | * Only changed version to v0301 |
| V04 | 04 June 2007 | Dennis Brandl | * Added transaction elements |
| V0401 | Oct 2008 | Dennis Brandl | * Changed Version number |
| V0500 | Mar 2011 | Dennis Brandl | * Updated for ISA 95.02-2010 * Removed ##any elements |
| V0600 | Aug 2012 | D. Brandl | Updated MESA Copyright |
| V0700 | Aug 2016 | D. Brandl | Updated version number only |

# Schema Scope

This document defines the information about persons, personnel class, and qualification tests that may be exchanged between business systems and manufacturing operations systems. This information is based on the data models and attributes defined in the ANSI/ISA 95 Enterprise/Control System Integration standard. Contact ISA (The Instrumentation, System, and Automation Society) for copies of the standard. Additional information on the standard is available at [www.isa.org](http://www.isa.org).

## Key Information Assumptions

The data represented in these schemas is derived from the UML model below. This model is defined in the ANSI/ISA 95 standard. The information model in the model below is not hierarchical, so the key assumption is that the information may be accessed from any of three starting points: personnel class, person, or qualification test, as identified by the dotted collections in the figure.



Model of Exchanged Personnel Information

This schema uses a common schema for definition of elements that are used in multiple schemas, such as ID, Description, and Value. See the document defining the Common schema for definition of the common elements.

## PersonnelInformation

The main structuring element of the schema definition is PersonnelInformation. PersonnelInformation contains definitions of personnel classes, persons, and qualification test specifications.

## Person

A person represents a specifically identified individual. A person may be a member of zero or more personnel classes. Person elements may be used to contain information about specific personnel. It may also include the definition of qualification test results. It may include the list of personnel classes the person belongs to and the list of qualification test specifications associated with properties.

## PersonnelClass

A personnel class is a means to describe a grouping of persons with similar characteristics for purposes of scheduling and planning. Any person may be a member of zero or more personnel classes. Examples of personnel classes are “Cook Machine Mechanics”, “Slicing Machine Operators”, “Cat-Cracker Operator”, and “Zipper Line Inspectors”.

PersonnelClass information may be used to contain information about personnel classes. It may contain the list of persons belonging to a class and the list of qualification test specifications associated with personnel class properties.

## QualificationTestSpecification

A qualification test specification may be associated with a personnel class property or person property. This is typically used where a qualification test is required to ensure that a person has the correct training and/or experience for specific operations. A qualification test specification may test for one or more properties.

QualificationTestSpecification information may be used to contain information about qualification tests. It may contain identifications of the tested person properties and the tested personnel class properties.

# Element Definitions

| **Element/Type** | **Description** |
| --- | --- |
| PersonnelInformation  ***PersonnelInformationType*** | Contains the top level definition of persons, personnel classes, and qualification test specifications. |
| Person  ***PersonType*** | Contains a definition of a person resource, including the ID, name, properties of persons, and the list of personnel classes the person is a member of.  May be a top level object. |
| PersonProperty  ***PersonPropertyType*** | Contains a definition of a property for a person, including the value for the property, any nested properties, the list of qualification test specifications for the property, and test results for tests of the property. |
| PersonnelClass  ***PersonnelClassType*** | Contains a definition of a personnel class resource, including the ID of the class, properties of the personnel class, and the list of persons belonging to the class. May also be a top level object. |
| PersonnelClassProperty  ***PersonnelClassPropertyType*** | Contains a definition of a property for a personnel class, including a nominal value for the property, any nested properties, and the list of qualification test specifications for the property. |
| QualificationTestSpecification  ***QualificationTestSpecificationType*** | Contains a definition of a qualification test specification, including the ID of the test, the version of the test, the list of person properties tested, the list of personnel properties tested, and application specific extensions. May also be a top level object. |
| TestedPersonProperty  ***TestedPersonPropertyType*** | Contains an identification of person property tested, containing the ID of the person and the ID of the property. |
| TestedPersonnelClassProperty  ***TestedPersonnelClassPropertyType*** | Contains an identification of personnel property tested, containing the ID of the personnel and the ID of the property. |

# Transaction Elements

The following elements are defined to support the ISA 95 Part 5 transactions, using the transaction data types defined in the B2MML-Common.xsd schema.

| **Personnel Information Elements** | **Description** |
| --- | --- |
| GetPersonnelInformation | Get *PersonnelClass*, *Person*, and *QualificationTestSpecification* definitions. |
| ShowPersonnelInformation | Returned information from the *GetPersonnelInformation* message. |
| ProcessPersonnelInformation | Process *PersonnelClass*, *Person*, and *QualificationTestSpecification* definitions. |
| AcknowledgePersonnelInformation | Returned status from the *ProcessPersonnelInformation* message. |
| ChangePersonnelInformation | Change *PersonnelClass*, *Person*, and *QualificationTestSpecification* definitions. |
| RespondPersonnelInformation | Returned status from the *ChangePersonnelInformation* message. |
| CancelPersonnelInformation | Cancel *PersonnelClass*, *Person*, and *QualificationTestSpecification* definitions. |
| SyncPersonnelInformation | Published *PersonnelClass*, *Person*, and *QualificationTestSpecification* definitions. |

| **Personnel Class Elements** | **Description** |
| --- | --- |
| GetPersonnelClass | Get *PersonnelClass* definitions. |
| ShowPersonnelClass | Returned information from the *GetPersonnelClass* message. |
| ProcessPersonnelClass | Process *PersonnelClass* definitions. |
| AcknowledgePersonnelClass | Returned status from the *ProcessPersonnelClass* message. |
| ChangePersonnelClass | Change *PersonnelClass* definitions. |
| RespondPersonnelClass | Returned status from the *ChangePersonnelClass* message. |
| CancelPersonnelIClass | Cancel *PersonnelClass* definitions. |
| SyncPersonnelClass | Published *PersonnelClass* definitions. |

| **Person Elements** | **Description** |
| --- | --- |
| GetPerson | Get *Person* definitions. |
| ShowPerson | Returned information from the *GetPerson* message. |
| ProcessPerson | Process *Person* definitions. |
| AcknowledgePerson | Returned status from the *ProcessPerson* message. |
| ChangePerson | Change *Person* definitions. |
| RespondPerson | Returned status from the *ChangePerson* message. |
| CancelPerson | Cancel *Person* definitions. |
| SyncPerson | Published *Person* definitions. |

| **QualificationTestSpecification Elements** | **Description** |
| --- | --- |
| GetQualificationCapabilityTestSpecification | Get *QualificationTestSpecification* definitions. |
| ShowQualificationCapabilityTestSpecification | Returned information from the *GetQualificationCapabilityTestSpecification* message. |
| ProcessQualificationCapabilityTestSpecification | Process *QualificationTestSpecification* definitions. |
| AcknowledgeQualificationCapabilityTestSpecification | Returned status from the *ProcessQualificationCapabilityTestSpecification* message. |
| ChangeQualificationCapabilityTestSpecification | Change *QualificationTestSpecification* definitions. |
| RespondQualificationCapabilityTestSpecification | Returned status from the *ChangeQualificationCapabilityTestSpecification* message. |
| CancelQualificationCapabilityTestSpecification | Cancel *QualificationTestSpecification*definitions. |
| SyncQualificationCapabilityTestSpecification | Published *QualificationTestSpecification*definitions. |

# Diagram Convention

The schema diagrams using the following convention to illustrate the structure of the schema elements, the type of the elements and attributes, and the rules for optional elements and repetition.



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About the XML Committee: The XML Committe was formed within MESA to provide a forum for the development of the B2MML and BatchML specifications.