Business To Manufacturing Markup Language

Release Notes

Version 6.0 - March 2013

B2MML-BatchML-Release Notes

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B2MML CHANGES

Non-backward compatible changes

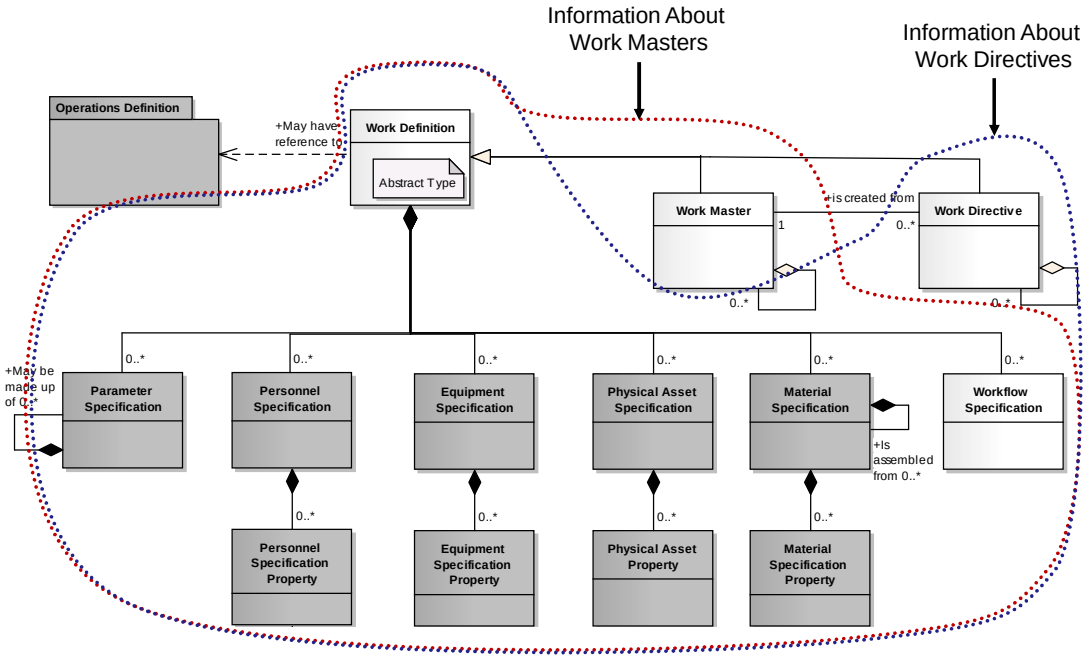
The non-backward compatible changes to B2MML-V0600 from B2MML-V0500 are:

1. Correction to the type of the ProductProductionRuleID type in the ProductProductionRuleIDGroup type in the B2MML-V0600-Commons,.xsd schema, as per V0500 Errata #1.
2. Changed the order of elements in the OpSegmentDataType to make it match the other schemas, as per V0500 Errata #4.2

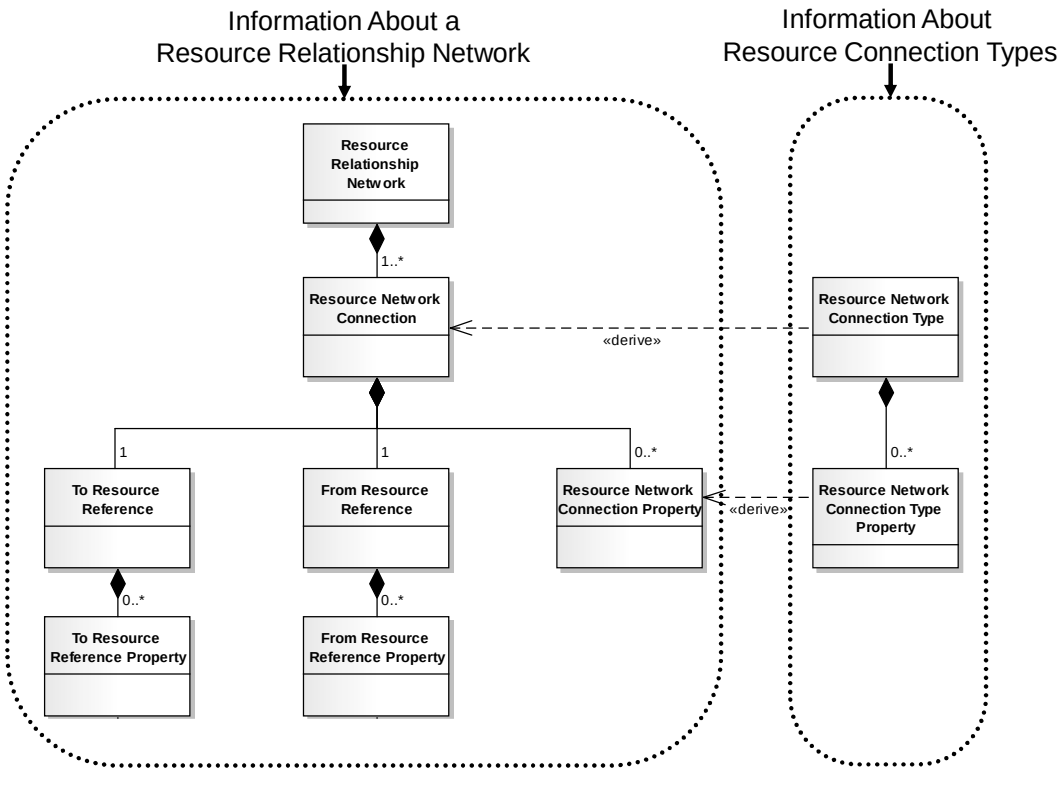
Backward compatible changes

Backward compatible changes to B2MML-V0500.

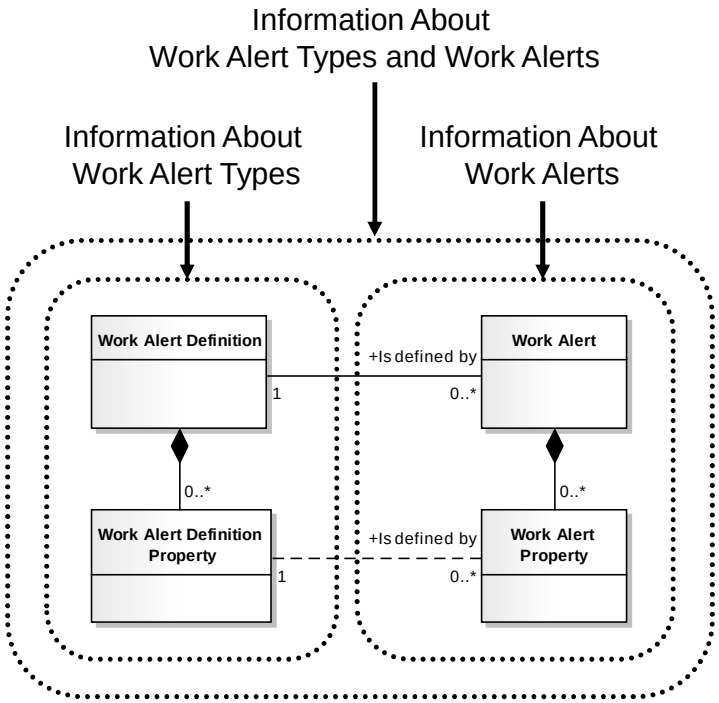
1. Updated all copyrights and logos to MESA International.
2. Corrected the maxOccurs for the OperationsMaterialBillType in the OperationsDefinition.xsd, as per V0500 Errata #3.
3. Corrected the maxOccurs for the SegmentDependancyType, TimingFactor, as per V0500 Errata #4.1
4. Made the OpMaterialActualPropertyType recursive in the OperationsPerformanceTypes.xsd, as per V0500 Errata #4.3
5. Made the OpMaterialRequirementPropertyType recursive in the OperationsSchedule.xsd, as per V0500 Errata #4.4.
6. The addition of the WorkDefinition schema, to support the ANSI/ISA 95.04 Work Master and Work Directives Models.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for WorkMasters and WorkDirectives, and the addition of a WorkDefinitionInformation element to hold multiple WorkMaster and/or WorkDirective elements.



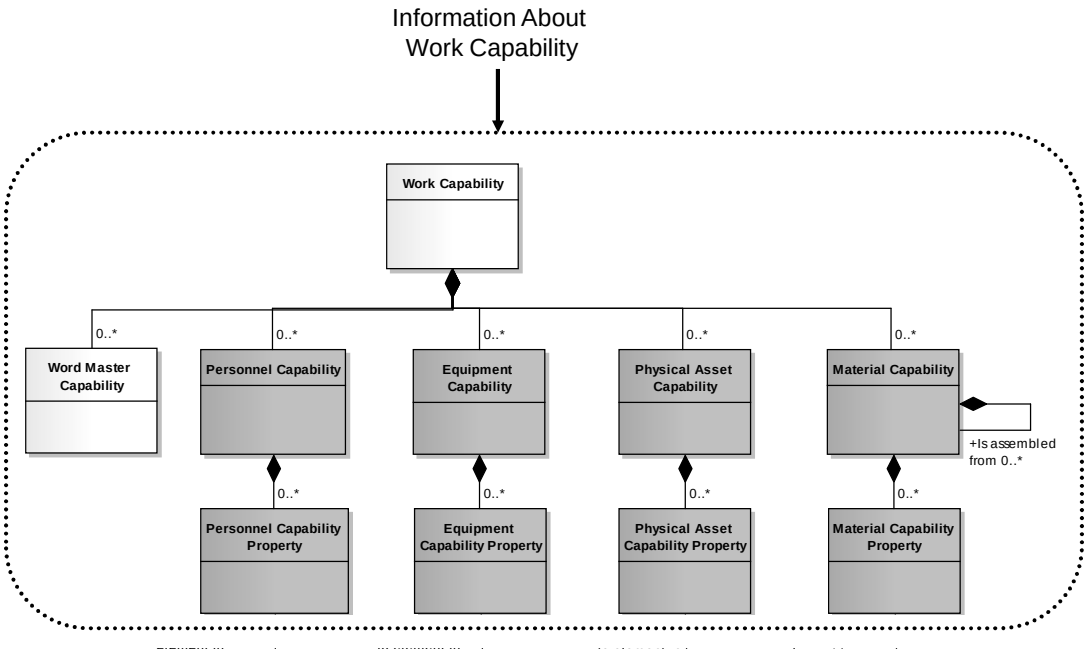
7. The addition of the ResourceRelationshipNetwork schema, to support the ANSI/ISA 95.04 Resource Relationship Network Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for ResourceRelationshipNetworks and ResourceNetworkConnectionTypes.



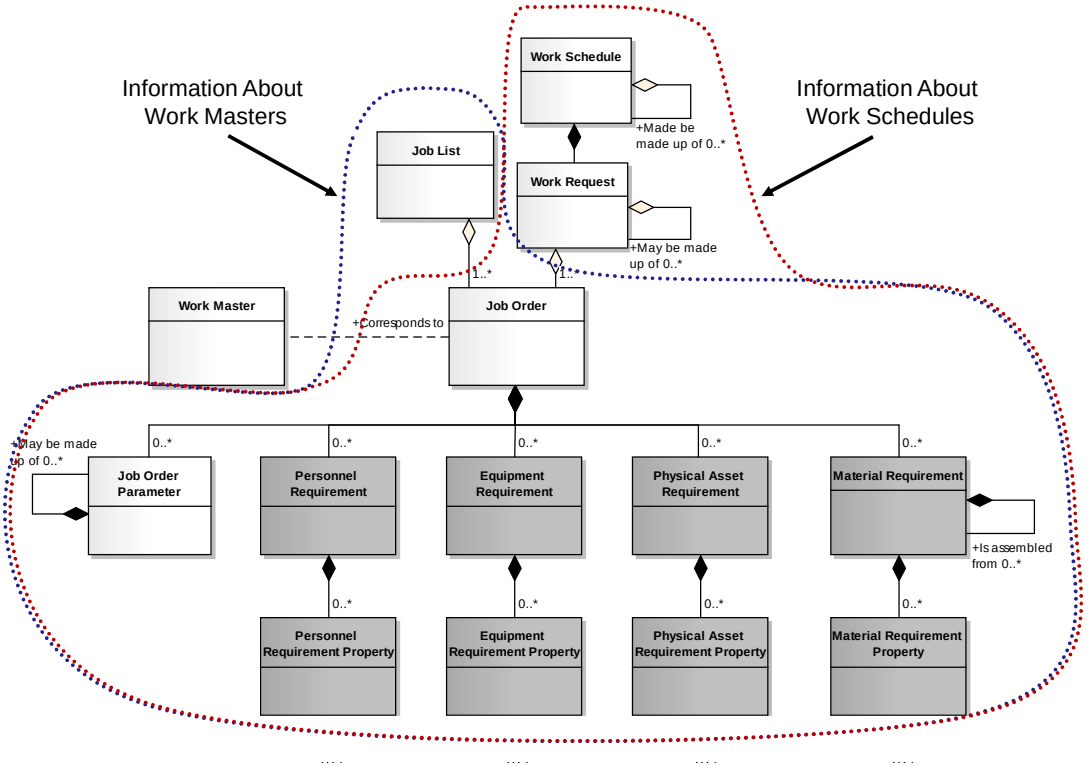
8. The addition of the WorkAlert schema, to support the ANSI/ISA 95.04 Work Alert Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    c. This includes transaction definitions for WorkAlerts and WorkAlertTypes, and the addition of a WorkAlertInformation element to hold multiple WorkAlert and/or WorkAlertType elements.



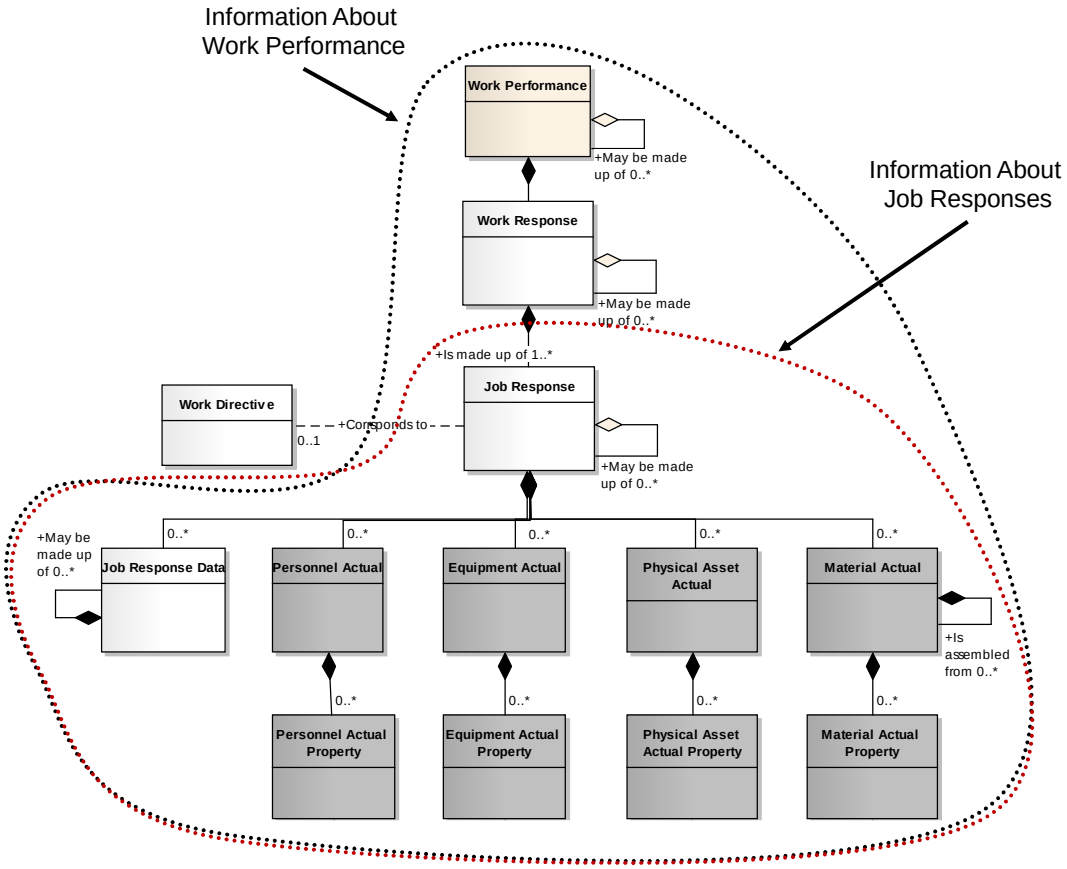
9. The addition of the WorkCapability schema, to support the ANSI/ISA 95.04 Work Capability Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for WorkCapability.



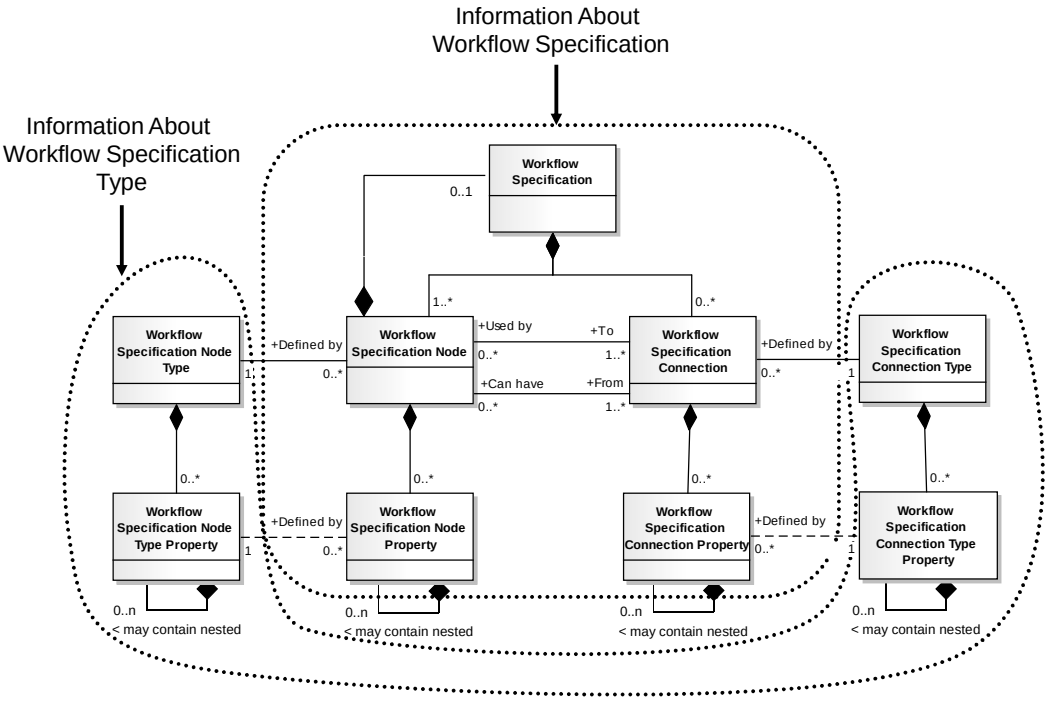
10. The addition of the WorkSchedule schema, to support the ANSI/ISA 95.04 Work Schedule Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for WorkSchedules and JobLists.



11. The addition of the WorkPerformance schema, to support the ANSI/ISA 95.04 Work Performance Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for WorkPerformance and JobResponse.



12. The addition of the WorkflowSpecification schema, to support the ANSI/ISA 95.04 Workflow Specification Model.
    a. The transaction definitions follow the model defined in ISA 95.05 ed3 Working Draft 1.
    b. This includes transaction definitions for WorkflowSpecification and WorkflowSpecificationTypes.
    c. Workflow nodes and connection properties were also made recursive, allowing for nested properties to match the ISA 95.02 Resource models.

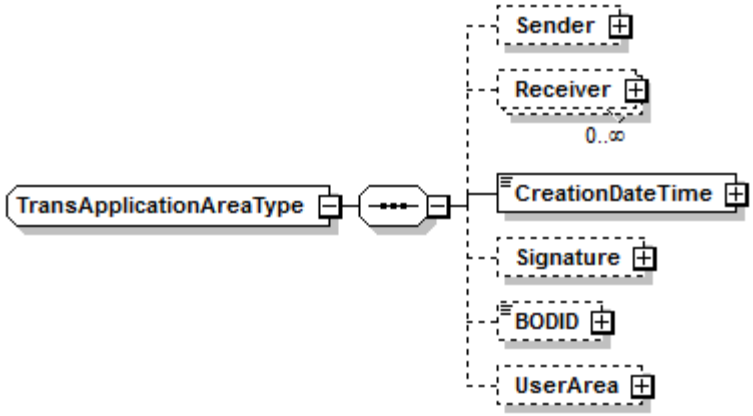
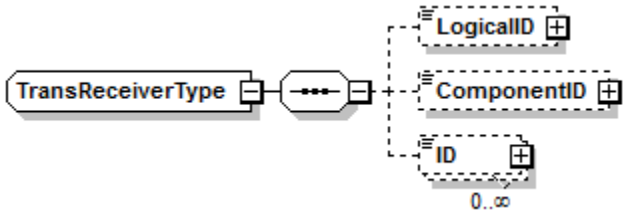


13. Update to the TransactionProfile schema to support the new schemas mentioned above in items 6 through 12.

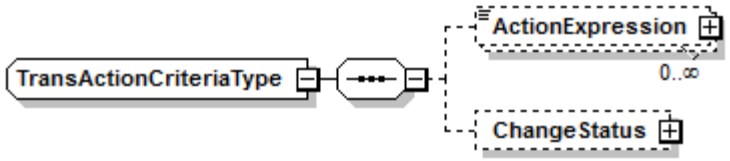
TransactionNounType	A string used to indicate the noun supported by a transaction that is defined in a TransactionProfile. The value must be one of the following standard enumerations: "**PERSONNEL CLASS**", "**PERSON**", "**QUALIFICATION TEST**", "**EQUIPMENT CLASS**", "**EQUIPMENT**", "**CAPABILITY TEST**", "**MAINTENANCE REQUEST**", "**MAINTENANCE WORK ORDER**", "**MAINTENANCE RESPONSE**", "**MATERIAL CLASS**", "**MATERIAL DEFINITION**", "**MATERIAL LOT**", "**MATERIAL SUBLOT**", "**MATERIAL TEST**", "**PROCESS SEGMENT**", "**OPERATIONS CAPABILITY**", "**OPERATIONS DEFINITION**", "**OPERATIONS SCHEDULE**", "**OPERATIONS PERFORMANCE**", "**PRODUCTION CAPABILITY**", "**PRODUCT DEFINITION**", "**PRODUCTION SCHEDULE**", "**PRODUCTION PERFORMANCE**", "**TRANSACTION PROFILE**", **"RESOURCE RELATIONSHIP NETWORK", "RESOURCE NETWORK CONNECTION INFORMATION", "WORK ALERT", "WORK ALERT DEFINITION", "WORK ALERT INFORMATION", "WORK DEFINITION INFORMATION", "WORK DIRECTIVE", "WORK MASTER", "WORK FLOW INFORMATION", "WORK FLOW SPECIFICATION", "WORK FLOW SPECIFICATION TYPE", "WORK SCHEDULE", "JOB LIST", "WORK PERFORMANCE", "JOB RESPONSE", "WORK CAPABILITY", "WORK CAPABILITY INFORMATION",** "**CONFIRM BOD**", or "**Other**" If "Other" then the type is an application specific extension and the value is defined in the attribute "OtherValue".

14. Updated the transaction schemas to support the OAGiS 9.6 changes:

    a. Multiple optional Receiver elements in the Application area of a transaction message

TransApplicationAreaType ApplicationArea OriginalApplicationArea	A complex type that contains: • An optional identification of the sender of the message (see **TransSenderType**) • Zero or more optional identifications of the receiver of the message (see **TransReceiverType**) • A required element with the creation date & time of the message. • An optional electronic signature that can be used to sign the transaction message • An optional ID (**BODID**) to be applied to exchanged data object. This should be a GUID (Globally Unique Identifier) that uniquely identifies the data object. • An optional user area for user extended data. 
TransReceiverType Receiver	Contains information about the expected receiver of the message. This contains an optional **LogicalID** of the server and application for which the BOD is intended. This contains an optional **ComponentID** of the server and application for which the BOD is intended. It provides a finer level in addition to the LogicalID. This contains zero or more optional **ID**s for the receiver of the message. 

b. A ChangeStatus in the ActionCriteria in a Process, Change, and Cancel message.

TransActionCriteriaType ActionCriteria	Data Type for a SYNC, PROCESS, CHANGE, and CANCEL message. It contains one optional element **ActionExpression** (see ***TransExpressionType***) that contains an action code for SYNC messages. It also contains an optional **ChangeStatus** (see **TransChangeStatusType**) element for a definition of the change. If no **ActionExpression** is defined for a SYNC message, then the action code of "**Add**" is the default. 

15. Updated the following types to take into account the new ISA 95.02 and ISA 95.04 definitions (underlined/highlighted):

CapabilityTypeType (cc:CodeType)	Identifies the type of a capability/capacity definition. This may be either a standard type or an application specific extended type. Standard enumerations are: "**Used**", "**Unused**", "**Total**", "**Committed**", "**Available**", "**Unattainable**", and "**Other**". • **Used à** A portion of a capacity that was used. • **Unused à** A portion of a capacity that was unused • **Total à** The total capacity, either used and unused, or committed, available, an unattainable. • **Committed à** The portion of a capacity that is currently in use or is scheduled for use. • **Available à** The portion of a capacity that is currently available for use. • **Unattainable à** The portion of a capacity that is currently not available for use, for example due to scheduled maintenance, unscheduled maintenance, or the current product mix. If "Other" then the type is an application specific extension and the value is defined in the attribute "OtherValue".
JobOrderCommandType (cc:CodeType)	Identifies a job order command. This may be either a standard type or an application specific extended type. Standard enumerations, taken from ANSI/ISA88.01-2010 are: "**Start**", "**Stop**", "**Hold**", "**Restart**", "**Abort**", "**Reset**", "**Pause**", "**Resume**" and "**Other**". • **Start à** Indicates that the job order is to be started. • **Stop à** Indicates that the job order is to be stopped in a normal manner. • **Hold à** Indicates that the job order is to be held for an indeterminate time until restarted. • **Restart à** Indicates that the job order is to be restarted after a hold. • **Abort à** Indicates that the job order is to be stopped in an aborted state. • **Reset à** Indicates that the job order is to be placed into the idle state. • **Pause à** Indicates that the job order is to be paused for a short time until it is resumed. • **Resume à** Indicates that the job order is to be resumed after a pause. If "Other" then the type is an application specific extension and the value is defined in the attribute "OtherValue". *NOTE: These definitions are from the ISA 88.01 ed2 standard.*

MaterialUseType (cc:CodeType)	An identification of the type of material use. This may be either a standard type (ANSI/ISA-95) or an application specific extended type. Defined values for production operations are: "**Consumed**", "**Produced**", "**Consumable**" and **Other** Defined values for maintenance operations are: **Consumable**, **Replaced Asset**, **Replacement Asset** and **Other** Defined values for quality operations are: **Consumable**, **Sample**, **Returned Sample** and **Other** Defined values for inventory operations are: **Consumable**, **Carrier**, **Returned Carrier** and **Other** If "Other" then the type is an application specific extension and the value is defined in the attribute "OtherValue".

16. Update to the figures in the Personnel, Equipment, Material, and Physical Asset schemas to reflect the recursive model for the properties.

BATCHML CHANGES

1. Correction to the extended type referenced in the FromIDType in the BatchML-V05-BatchInformation schema, as per V0500 Errata #2.
2. Added the ANSI/ISA 95.04 elements to the Batch Production Record specification. These elements include:
    a. Work Master
    b. Work Directive
    c. Work Schedule
    d. Work Performance.

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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.