

Interim Standard

EIA/IS-115

CDIF

CASE Data Interchange Format
A Division of Electronic Industries Association

**CDIF Integrated Meta-model
Data Flow Model
Subject Area**

December 1995

Electronic Industries Association
CDIF Technical Committee

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4.3 AttributableMetaObject Hierarchy

MetaObjectName	Subject Area
RootObject	not in this SA
RootEntity	not in this SA
SemanticInformationObject	not in this SA
ComponentObject	in this SA
Attribute	in this SA
DFMProcess	in this SA
EquivalenceSet	in this SA
ExternalAgent	in this SA
FlowProducerConsumer	in this SA
Flow	in this SA
<i>FlowPort</i>	<i>in this SA</i>
<i>FlowInputPort</i>	<i>in this SA</i>
<i>ConstraintPort</i>	<i>in this SA</i>
<i>ControlPort</i>	<i>in this SA</i>
<i>SupportPort</i>	<i>in this SA</i>
<i>FlowOutputPort</i>	<i>in this SA</i>
Port	in this SA
<i>FlowPort</i>	<i>in this SA</i>
<i>FlowInputPort</i>	<i>in this SA</i>
<i>ConstraintPort</i>	<i>in this SA</i>
<i>ControlPort</i>	<i>in this SA</i>
<i>SupportPort</i>	<i>in this SA</i>
<i>FlowOutputPort</i>	<i>in this SA</i>
ReferencedElement	in this SA
Store	in this SA
DataFlowModel	in this SA
DefinitionObject	in this SA
DFMProcessDefinition	in this SA
ExternalAgentDefinition	in this SA
FlowDefinition	in this SA
StoreDefinition	in this SA
RootEntity.IsRelatedTo.RootEntity	not in this SA
ComponentObject.References.DefinitionObject	in this SA
DataFlowModel.HasRoot.DFMProcessDefinition	in this SA
DefinitionObject.Contains.ComponentObject	in this SA
EquivalenceSet.HasMember.ComponentObject	in this SA

MetaObjectName	Subject Area
RootObject	not in this SA
RootEntity.IsRelatedTo.RootEntity	not in this SA
FlowProducerConsumer.ProducesOrConsumes.Flow	in this SA
FlowProducerConsumer.Consumes.Flow	in this SA
FlowProducerConsumer.Produces.Flow	in this SA
ReferencedElement.DefinesPath.ComponentObject	in this SA

4.4 MetaEntity Summary

MetaEntity Name

Inherited MetaAttribute Name

Local MetaAttribute Name

Mandatory/Optional

Attribute

<i>CDIFIdentifier</i>	<i>Mandatory</i>
<i>DateCreated</i>	<i>Optional</i>
<i>DateUpdated</i>	<i>Optional</i>
<i>TimeCreated</i>	<i>Optional</i>
<i>TimeUpdated</i>	<i>Optional</i>
<i>BriefDescription</i>	<i>Optional</i>
<i>FullDescription</i>	<i>Optional</i>
DefaultValue	Optional
IsOptional	Optional
Name	Optional

ComponentObject

<i>CDIFIdentifier</i>	<i>Mandatory</i>
<i>DateCreated</i>	<i>Optional</i>
<i>DateUpdated</i>	<i>Optional</i>
<i>TimeCreated</i>	<i>Optional</i>
<i>TimeUpdated</i>	<i>Optional</i>
<i>BriefDescription</i>	<i>Optional</i>
<i>FullDescription</i>	<i>Optional</i>

ConstraintPort

<i>CDIFIdentifier</i>	<i>Mandatory</i>
<i>DateCreated</i>	<i>Optional</i>
<i>DateUpdated</i>	<i>Optional</i>
<i>TimeCreated</i>	<i>Optional</i>
<i>TimeUpdated</i>	<i>Optional</i>
<i>BriefDescription</i>	<i>Optional</i>
<i>FullDescription</i>	<i>Optional</i>
IsFormal	Mandatory
Name	Optional

5.2 Subject Area Definition

NAME.....DataFlowModel
CDIFMETAIDENTIFIER..... 209
DESCRIPTION..... The Data Flow Model Subject Area provides the meta-entities and meta-relationships to allow the definition of models developed using data-flow or function modeling techniques.
USAGE
ALIASES
CONSTRAINTS
VERSIONNUMBER 01.00

5.3 MetaEntity Definitions

5.3.1 Attribute

NAME.....**Attribute**
CDIFMETAIDENTIFIER..... 17
SUBTYPEOF..... ComponentObject in this SA
SUPERTYPEOF.....
DESCRIPTION..... An *Attribute* represents a fact about an object. It is the lowest level component of data that describes an object. The value that it holds may or may not be typed. The type of the *Attribute* is defined through the inherited meta-relationship *ComponentObject.References.DefinitionObject*.
USAGE For example, a *Customer* object has *Name*, *Address* and *PhoneNumber* attributes.
ALIASES Data Element, Instance Variable, Data Member, Column
CONSTRAINTS
TYPE Kernel

INHERITED META-ATTRIBUTES

CDIFIdentifier	from RootObject	not in this SA
DateCreated	from RootObject	not in this SA
DateUpdated	from RootObject	not in this SA
TimeCreated	from RootObject	not in this SA
TimeUpdated	from RootObject	not in this SA
BriefDescription	from SemanticInformationObject	not in this SA
FullDescription	from SemanticInformationObject	not in this SA

LOCAL META-ATTRIBUTES

DefaultValue
 IsOptional
 Name

INHERITED META-RELATIONSHIPS

ComponentObject.References.DefinitionObject	in this SA
DefinitionObject.Contains.ComponentObject	in this SA
EquivalenceSet.HasMember.ComponentObject	in this SA
ReferencedElement.DefinesPath.ComponentObject	in this SA

LOCAL META-RELATIONSHIPS

META-ATTRIBUTE NAME.....Default Value

CDIFMETAIDENTIFIER.....	18
DESCRIPTION.....	This meta-attribute specifies the default value to be used for the <i>Attribute</i> when no user-supplied value is given. The value is given as a character string, although the actual type is dependent on the underlying data type of the <i>Attribute</i> , if the type has been defined. The format of this character string is defined in Section 4 topic, Formats for Computable Values.
USAGE	When this meta-attribute has a value, and the <i>IsOptional</i> meta-attribute is FALSE , this is equivalent to NOT NULL WITH DEFAULT in an SQL database column definition.
ALIASES	
CONSTRAINTS	The value supplied shall lie within the valid domain for the underlying type of the <i>Attribute</i> , if this has been defined. No value shall be supplied for <i>DefaultValue</i> if the value of <i>IsOptional</i> is TRUE .
DATATYPE.....	String
DOMAIN	
LENGTH.....	1024
ISOPTIONAL	True

Meta-attribute Name.....IsOptional

CDIFMETAIDENTIFIER..... 19

DESCRIPTION..... This describes whether or not a value for the *Attribute* must be given for every instance of the parent *DefinitionObject*. This meta-attribute is itself optional because the user may not have defined the optionality of the *Attribute* instance, and the value is therefore unknown.

USAGE For example, within a relational database environment, columns of a table may be specified as **NULL VALUES ALLOWED**; this indicates that the component of the table is optional.

ALIASES

CONSTRAINTS *IsOptional* shall not be specified with a value of **TRUE** when a value is supplied for *DefaultValue*.

DATATYPE..... Boolean

DOMAIN

LENGTH.....

ISOPTIONAL True

Meta-attribute Name.....Name

CDIFMETAIDENTIFIER..... 21

DESCRIPTION..... This is the name of the *Attribute*.

USAGE

ALIASES

CONSTRAINTS

DATATYPE..... String

DOMAIN

LENGTH..... 256

ISOPTIONAL True

5.4.3 DefinitionObject.Contains.ComponentObject

NAME..... **Contains**
 CDIFMETAIDENTIFIER..... 1131
 SUBTYPEOF..... RootEntity.IsRelatedTo.RootEntity not in this SA
 SUPERTYPEOF.....
 MINSOURCECARD 0
 MAXSOURCECARD 1
 MINDESTCARD 0
 MAXDESTCARD..... N
 DESCRIPTION..... This meta-relationship relates a *DefinitionObject* to those
 ComponentObjects which form its structure or decomposition.
 USAGE
 ALIASES
 CONSTRAINTS

INHERITED META-ATTRIBUTES

CDIFIdentifier	from RootObject	not in this SA
DateCreated	from RootObject	not in this SA
DateUpdated	from RootObject	not in this SA
TimeCreated	from RootObject	not in this SA
TimeUpdated	from RootObject	not in this SA

LOCAL META-ATTRIBUTES

SequenceNumber

Meta-attribute Name.....SequenceNumber

CDIFMETAIDENTIFIER..... 8026

DESCRIPTION..... This indicates the sequence of the components in the *DefinitionObject*. If this meta-attribute is not provided, then the order is undefined.

USAGE

ALIASES

CONSTRAINTS No two components within the same *DefinitionObject* shall have the same value for *SequenceNumber*.

DATATYPE..... Integer

DOMAIN Positive Integer

LENGTH.....

ISOPTIONAL True

Meta-attribute Name.....BriefDescription

CDIFMETAIDENTIFIER.....	44
DESCRIPTION.....	A brief unformatted description of the meta-entity instance.
USAGE	A summary of the purpose and function of the meta-entity instance.
ALIASES	Summary
CONSTRAINTS	
DATATYPE.....	String
DOMAIN	
LENGTH.....	1024
ISOPTIONAL	True

Meta-attribute Name.....FullDescription

CDIFMETAIDENTIFIER.....	45
DESCRIPTION.....	Detailed textual description of the meta-entity instance, with formatting included if required.
USAGE	This is used for long descriptive text, explaining the reasons for the existence of the meta-entity instance and its usage and purpose. It is not used for specifications, etc., which should have explicit meta-attributes.
ALIASES	Comment, Definition
CONSTRAINTS	
DATATYPE.....	Text
DOMAIN	
LENGTH.....	
ISOPTIONAL	True
