Schema documentation for topology_schema.xsd

august 31, 2016

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Main schema topology_schema.xsd

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Included schema common_elements.xsd

Namespace	No namespace
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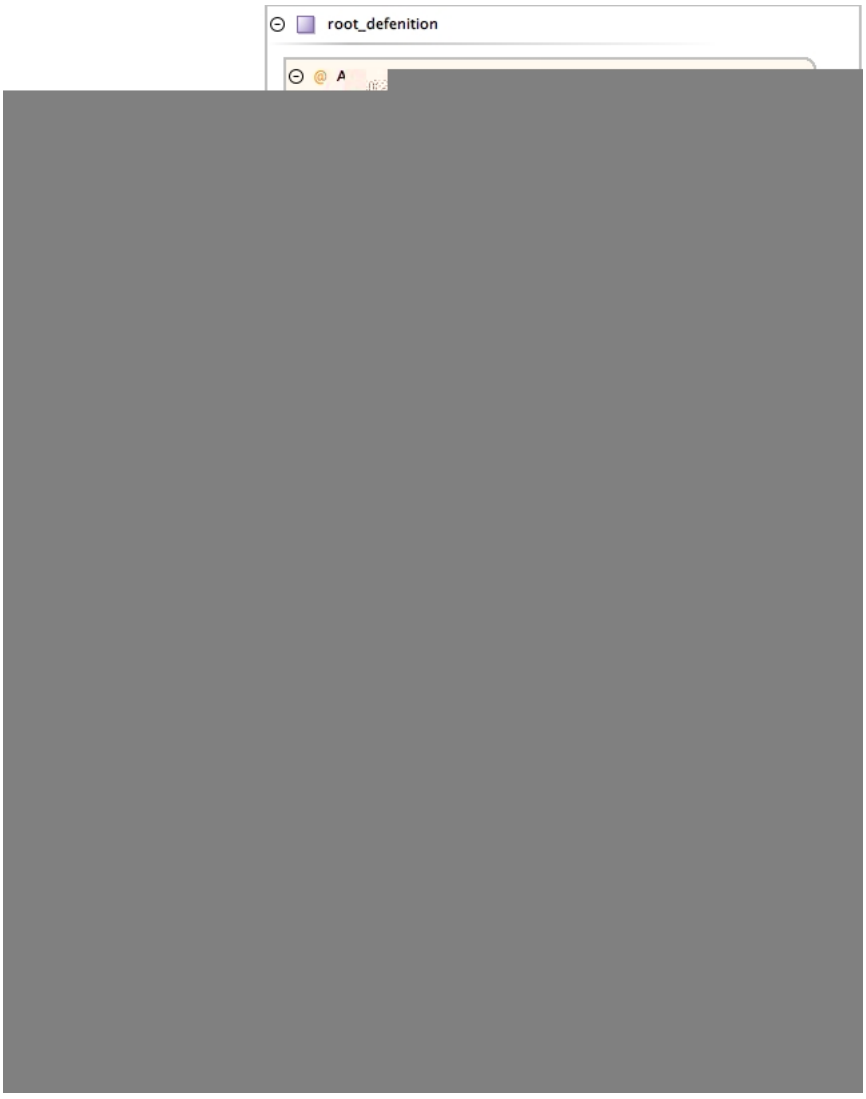
Included schema common_types.xsd

Namespace	No namespace
Properties	attribute form default: unqualified element form default: qualified

Element(s)

Element deployment

Namespace	No namespace

Diagram	
Type	root_defenition
Properties	content: complex
Model	comment | import_component_type | instance | connection
Children	comment, connection, import_component_type, instance

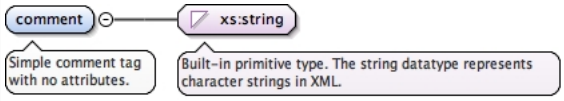
Instance	`<deployment base_id="" base_id_range="" base_id_window="" name="" prepend_instance_name="">`
	`  <comment>{1,1}</comment>`
	`  <import_component_type>{1,1}</import_component_type>`
	`  <instance base_id="" base_id_range="" base_id_window="" dict_short_name="" kind="" name="" namespace="" type="">...</instance>`
	`  <connection name="" type="">{1,1}</connection>`
	`</deployment>`

Attributes

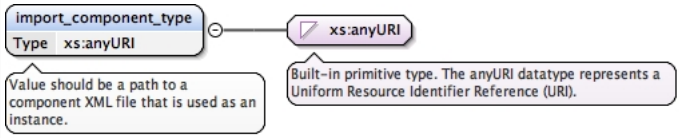
QName	Type	Use	
base_id	id_define	optional	
	Specifies the base ID for the project.		
base_id_range	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_window' can also be used.		
base_id_window	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_range' can also be used.		
name		optional	
	Name of the project.		

	QName	Type	Use	
	prepend_instance_name	xs:boolean	optional	
		If True, instance names will be prepended onto command,channel,and event generated dictionaries in single instance scenarios.		
Source	<xs:element name="deployment" type="root_defenition"/>			

Element comment

Namespace	No namespace
Annotations	Simple comment tag with no attributes.
Diagram	
Type	xs:string
Properties	content: simple
Used by	Elements: arg_define/arg, connection, external_arg_define/arg, return Complex Type: root_defenition
Source	<xs:element name="comment" type="xs:string"> <xs:annotation> <xs:documentation>Simple comment tag with no attributes.</xs:documentation> </xs:annotation> </xs:element>

Element import_component_type

Namespace	No namespace
Annotations	Value should be a path to a component XML file that is used as an instance.
Diagram	
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type: root_defenition
Source	<xs:element name="import_component_type" type="xs:anyURI"> <xs:annotation> <xs:documentation>Value should be a path to a component XML file that is used as an instance.</ xs:documentation> </xs:annotation> </xs:element>

Element instance

Namespace	No namespace
Annotations	Instance of component within the model.

Diagram

Properties

content:	complex

Used by

Complex Type	root_defenition

Attributes

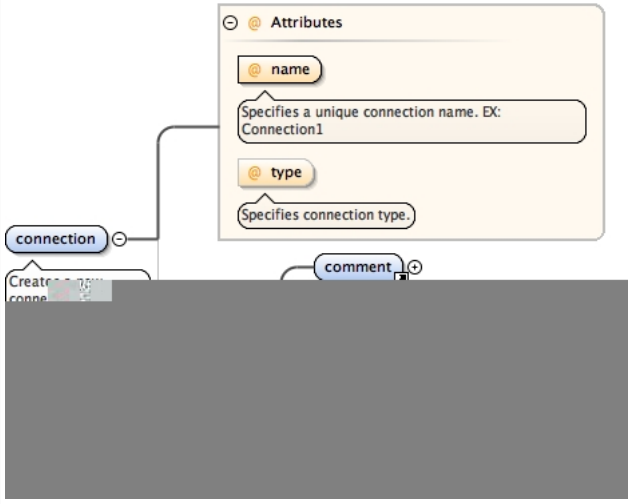
QName	Type	Use	
base_id	id_define	optional	
	Specifies a base ID for this instance.		
base_id_range	xs:nonNegativeInteger	optional	
	Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_window" tag.		
base_id_window	xs:nonNegativeInteger	optional	
	Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_range" tag.		
dict_short_name		optional	
	Specifies a name that can be used instead of the "name" attribute in ISFGen dictionaries.		
kind	component_types_define	optional	
	Specifies the kind of component.		
name		required	
	Specifies the name for the instance object.		
namespace		required	
	Specifies the name space for the instance object.		
type		required	
	Specifies the type of the instance object.		

Source

```
<xs:element name="instance">
  <xs:annotation>
    <xs:documentation>Instance of component within the model.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:attribute name="namespace" use="required">
      <xs:annotation>
```

```
        <xs:documentation>Specifies the name space for the instance object.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="name" use="required">
      <xs:annotation>
        <xs:documentation>Specifies the name for the instance object.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="type" use="required">
      <xs:annotation>
        <xs:documentation>Specifies the type of the instance object.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="dict_short_name">
      <xs:annotation>
        <xs:documentation>Specifies a name that can be used instead of the "name" attribute in
 ISFGen dictionaries.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="kind" type="component_types_define">
      <xs:annotation>
        <xs:documentation>Specifies the kind of component.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="base_id" type="id_define">
      <xs:annotation>
        <xs:documentation>Specifies a base ID for this instance.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="base_id_window" type="xs:nonNegativeInteger">
      <xs:annotation>
        <xs:documentation>Specifies an ID range the instance will occupy, starting at the base ID.
 Can alternativly use the "base_id_range" tag.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="base_id_range" type="xs:nonNegativeInteger">
      <xs:annotation>
        <xs:documentation>Specifies an ID range the instance will occupy, starting at the base ID.
 Can alternativly use the "base_id_window" tag.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```

Element `connection`

Namespace	No namespace
Annotations	`Creates a new connection between source and target objects.`
Diagram	
Properties	content: `complex`
Used by	Complex Type root_defenition
Model	comment | source | target
Children	comment, source, target
Instance	`<connection name="" type="">`

```
  <comment>{1,1}</comment>
  <source component="" num="" port="" type="">{1,1}</source>
  <target component="" num="" port="" type="">{1,1}</target>
</connection>
```

Attributes

QName	Type	Use	
name		required	
	Specifies a unique connection name. EX: Connection1		
type		optional	
	Specifies connection type.		

Source

```
<xs:element name="connection">
  <xs:annotation>
    <xs:documentation>Creates a new connection between source and target objects.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element ref="comment"/>
      <xs:element ref="source"/>
      <xs:element ref="target"/>
    </xs:choice>
    <xs:attribute name="name" use="required">
      <xs:annotation>
        <xs:documentation>Specifies a unique connection name. EX: Connection1</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="type">
      <xs:annotation>
        <xs:documentation>Specifies connection type.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```

Element source

Namespace: No namespace

Annotations: Source Connection End.

Diagram

Properties: content: complex

Used by: Element connection

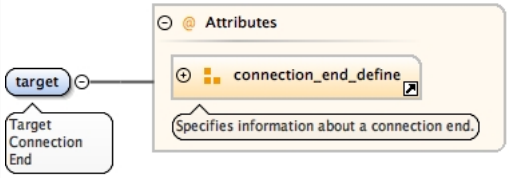
Attributes

QName	Type	Use	
component		required	
	Specifies the instance name of the connection end's component. Name must match an "name" attribute from specified "instance" tags.		
num	xs:nonNegativeInteger	optional	
	Specifies the multiplicity or index of a port that is being connected to. Generally, this value will be zero unless multiple indexes on the port exists.		
port		required	
	Specifies the port name on the object that the connection is attached to.		
type		required	
	Specifies the type of the connection end. Generally, this type will match the "target" type, unless connected to a port of type serial.		

Source

```
<xs:element name="source">
  <xs:annotation>
    <xs:documentation>Source Connection End.</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:attributeGroup ref="connection_end_define"/>
  </xs:complexType>
</xs:element>
```

Element `target`

Namespace	No namespace
Annotations	`Target Connection End`
Diagram	
Properties	content: `complex`
Used by	Element connection

Attributes

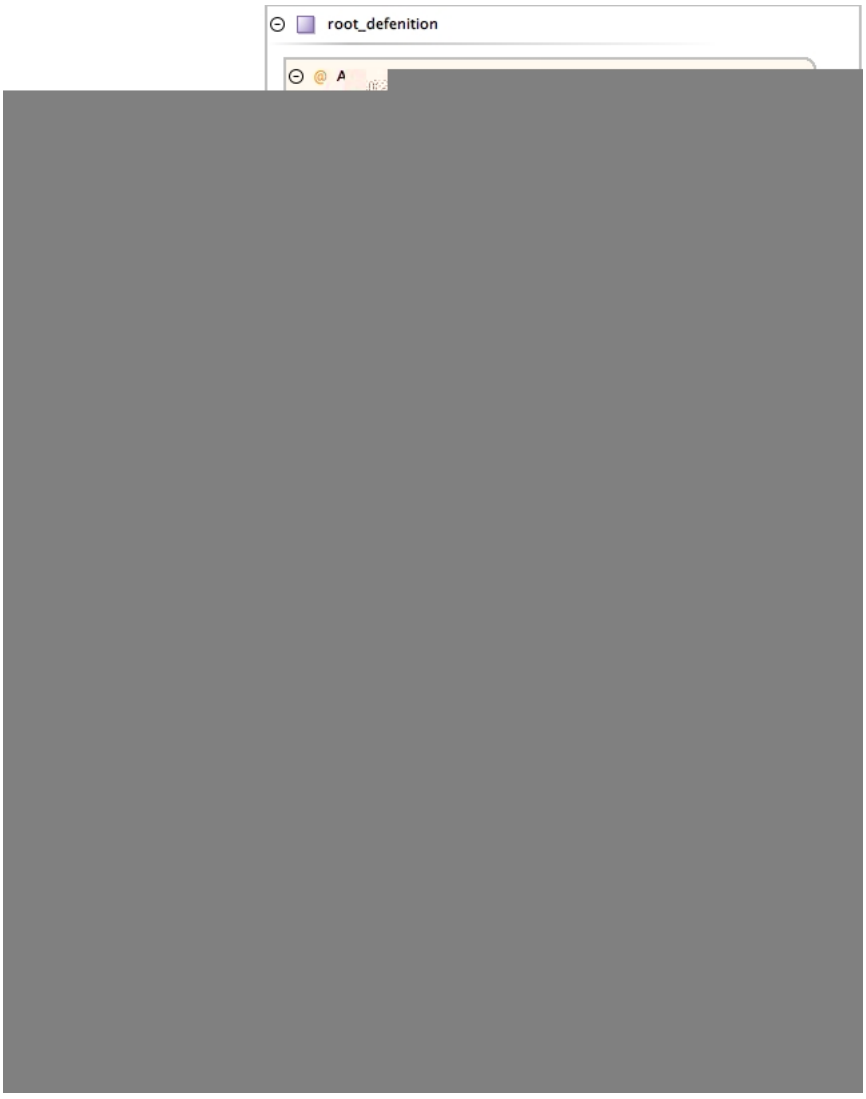
QName	Type	Use	
component		required	
	`Specifies the instance name of the connection end's component. Name must match an "name" attribute from specified "instance" tags.`		
num	xs:nonNegativeInteger	optional	
	`Specifies the multiplicity or index of a port that is being connected to. Generally, this value will be zero unless multiple indexes on the port exists.`		
port		required	
	`Specifies the port name on the object that the connection is attached to.`		
type		required	
	`Specifies the type of the connection end. Generally, this type will match the "target" type, unless connected to a port of type serial.`		

Source

```
<xs:element name="target">
  <xs:annotation>
    <xs:documentation>Target Connection End</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:attributeGroup ref="connection_end_define"/>
  </xs:complexType>
</xs:element>
```

Element `assembly`

Namespace	No namespace

Diagram	
Type	root_defenition
Properties	content: complex
Model	comment | import_component_type | instance | connection
Children	comment, connection, import_component_type, instance

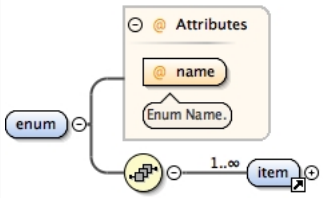
Instance	`<assembly base_id="" base_id_range="" base_id_window="" name="" prepend_instance_name="">`
	`  <comment>{1,1}</comment>`
	`  <import_component_type>{1,1}</import_component_type>`
	`  <instance base_id="" base_id_range="" base_id_window="" dict_short_name="" kind="" name="" namespace="" type="">`
	`</instance>`
	`  <connection name="" type="">{1,1}</connection>`
	`</assembly>`

Attributes

QName	Type	Use	
base_id	id_define	optional	
	Specifies the base ID for the project.		
base_id_range	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_window' can also be used.		
base_id_window	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_range' can also be used.		
name		optional	
	Name of the project.		

	QName	**Type**	**Use**	
	prepend_instance_name	xs:boolean	optional	
		If True, instance names will be prepended onto command,channel,and event generated dictionaries in single instance scenarios.		
Source	<xs:element name="assembly" type="root_defenition"/>			

Element enum

Namespace	No namespace			
Diagram				
Properties	content:	complex		
Used by	Element Group	type_size_choice_define		
Model	item+			
Children	item			
Instance	<enum name=""> <item comment="" name="" value="">{1,unbounded}</item> </enum>			
Attributes	**QName**	**Type**	**Use**	
	name		required	
		Enum Name.		
Source	<xs:element name="enum"> <xs:complexType> <xs:sequence> <xs:element maxOccurs="unbounded" ref="item"/> </xs:sequence> <xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>Enum Name.</xs:documentation> </xs:annotation> </xs:attribute> </xs:complexType> </xs:element>			

Element item

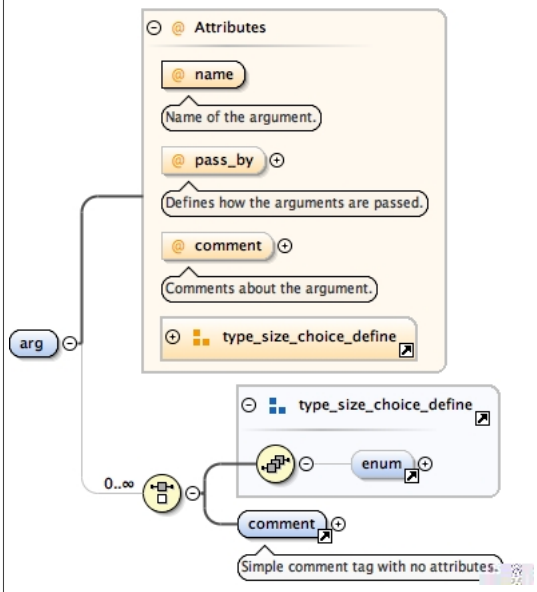
Namespace	No namespace			
Diagram				
Properties	content:	complex		
Used by	Element	enum		
Attributes	**QName**	**Type**	**Use**	
	comment		optional	
		Comment about the enum item.		

	QName	Type	Use	
	name		required	
		Name of the enum item.		
	value		optional	
		The value being sent through the enum item.		

Source

```
<xs:element name="item">
  <xs:complexType>
    <xs:attribute name="name" use="required">
      <xs:annotation>
        <xs:documentation>Name of the enum item.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="value">
      <xs:annotation>
        <xs:documentation>The value being sent through the enum item.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="comment">
      <xs:annotation>
        <xs:documentation>Comment about the enum item.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```

Element `arg_define / arg`

Namespace	No namespace
Diagram	
Properties	content: complex
Model	(enum{0,1}) | comment
Children	comment, enum

Instance	`<arg comment="" data_type="" name="" pass_by="" size="" type="">`
	`  <enum name="">{0,1}</enum>`
	`  <comment>{1,1}</comment>`
	`</arg>`

Attributes

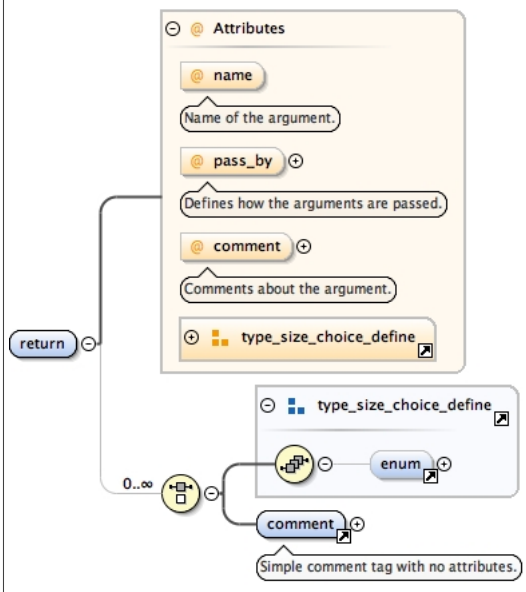
QName	Type	Use	
comment	xs:string	optional	
	Comments about the argument.		
data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
name		required	
	Name of the argument.		

	QName	Type	Use	
	pass_by	pass_by_define	optional	
		`Defines how the arguments are passed.`		
	size	xs:nonNegativeInteger	optional	
		`The size of the argument.`		
	type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	

Source

```
<xs:element name="arg">
  <xs:complexType>
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:group ref="type_size_choice_define"/>
      <xs:element ref="comment"/>
    </xs:choice>
    <xs:attribute name="name" use="required">
      <xs:annotation>
        <xs:documentation>Name of the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="pass_by" type="pass_by_define">
      <xs:annotation>
        <xs:documentation>Defines how the arguments are passed.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="comment" type="xs:string">
      <xs:annotation>
        <xs:documentation>Comments about the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attributeGroup ref="type_size_choice_define"/>
  </xs:complexType>
</xs:element>
```

Element `return`

Namespace	No namespace
Diagram	
Properties	content: `complex`
Model	(enum{0,1}) | comment
Children	comment, enum

Instance	`<return comment="" data_type="" name="" pass_by="" size="" type="">`
	`  <enum name="">{0,1}</enum>`
	`  <comment>{1,1}</comment>`
	`</return>`

Attributes

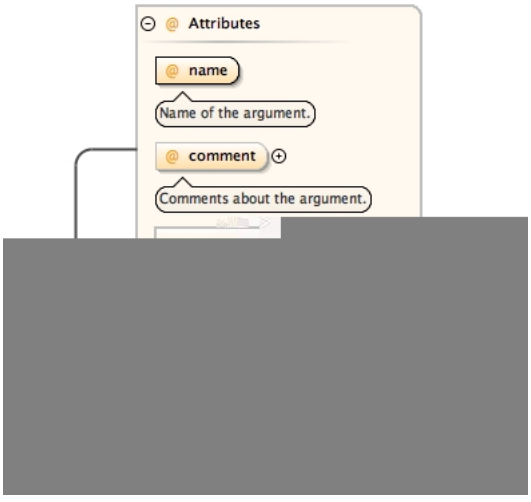
QName	Type	Use	
comment	xs:string	optional	

	QName	Type	Use	
		Comments about the argument.		
	data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
	name		optional	
		Name of the argument.		
	pass_by	pass_by_define	optional	
		Defines how the arguments are passed.		
	size	xs:nonNegativeInteger	optional	
		The size of the argument.		
	type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	

Source

```
<xs:element name="return">
  <xs:complexType>
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:group ref="type_size_choice_define"/>
      <xs:element ref="comment"/>
    </xs:choice>
    <xs:attribute name="name">
      <xs:annotation>
        <xs:documentation>Name of the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="pass_by" type="pass_by_define">
      <xs:annotation>
        <xs:documentation>Defines how the arguments are passed.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="comment" type="xs:string">
      <xs:annotation>
        <xs:documentation>Comments about the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attributeGroup ref="type_size_choice_define"/>
  </xs:complexType>
</xs:element>
```

Element `external_arg_define / arg`

Namespace	No namespace
Diagram	
Properties	content: complex
Model	(enum{0,1}) | comment
Children	comment, enum

Instance	`<arg comment="" data_type="" name="" size="" type="">`
	`  <enum name="">{0,1}</enum>`
	`  <comment>{1,1}</comment>`

	`</arg>`

Attributes	QName	Type	Use	
	comment	xs:string	optional	
		`Comments about the argument.`		
	data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
	name		required	
		`Name of the argument.`		
	size	xs:nonNegativeInteger	optional	
		`The size of the argument.`		
	type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	

Source

```
<xs:element name="arg">
  <xs:complexType>
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:group ref="type_size_choice_define"/>
      <xs:element ref="comment"/>
    </xs:choice>
    <xs:attribute name="name" use="required">
      <xs:annotation>
        <xs:documentation>Name of the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="comment" type="xs:string">
      <xs:annotation>
        <xs:documentation>Comments about the argument.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attributeGroup ref="type_size_choice_define"/>
  </xs:complexType>
</xs:element>
```

Complex Type(s)

Complex Type `root_defenition`

Namespace	No namespace

Diagram

Used by

Elements assembly, deployment

Model

comment | import_component_type | instance | connection

Children

comment, connection, import_component_type, instance

Attributes

QName	Type	Use	
base_id	id_define	optional	
	Specifies the base ID for the project.		
base_id_range	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_window' can also be used.		
base_id_window	xs:nonNegativeInteger	optional	
	Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_range' can also be used.		
name		optional	
	Name of the project.		
prepend_instance_name	xs:boolean	optional	
	If True, instance names will be prepended onto command,channel,and event generated dictionaries in single instance scenarios.		

Source

```
<xs:complexType name="root_defenition">
  <xs:choice minOccurs="0" maxOccurs="unbounded">
    <xs:element ref="comment"/>
    <xs:element ref="import_component_type"/>
    <xs:element ref="instance"/>
    <xs:element ref="connection"/>
  </xs:choice>
```

```
  <xs:attribute name="name">
    <xs:annotation>
      <xs:documentation>Name of the project.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="base_id" type="id_define">
    <xs:annotation>
      <xs:documentation>Specifies the base ID for the project.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="base_id_window" type="xs:nonNegativeInteger">
    <xs:annotation>
      <xs:documentation>Specifies the default ID range to use for the project. If this value is
 set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag
 'base_id_range' can also be used.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="base_id_range" type="xs:nonNegativeInteger">
    <xs:annotation>
      <xs:documentation>Specifies the default ID range to use for the project. If this value is
 set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag
 'base_id_window' can also be used.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="prepend_instance_name" type="xs:boolean">
    <xs:annotation>
      <xs:documentation>If True, instance names will be prepended onto command,channel,and event
 generated dictionaries in single instance scenarios.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

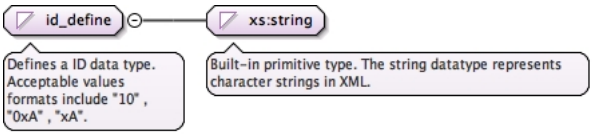
Simple Type(s)

Simple Type `component_types_define`

Namespace	No namespace
Annotations	Choice between active, passive, or queued.
Diagram	
Type	restriction of xs:token
Facets	enumeration `active` enumeration `passive` enumeration `queued`
Used by	Attribute instance/@kind

Source	`<xs:simpleType name="component_types_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Choice between active, passive, or queued.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="active"/>`
	`  <xs:enumeration value="passive"/>`
	`  <xs:enumeration value="queued"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`

Simple Type `id_define`

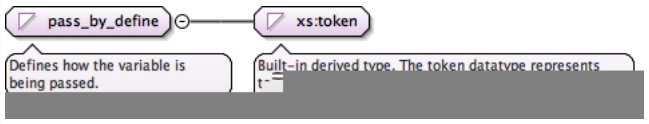
Namespace	No namespace
Annotations	Defines a ID data type. Acceptable values formats include "10" , "0xA" , "xA".
Diagram	
Type	restriction of xs:string

Facets	pattern	((0?x\d+)|\d+)
Used by	Attributes	instance/@base_id, root_defenition/@base_id
Source	<xs:simpleType name="id_define"> <xs:annotation> <xs:documentation>Defines a ID data type. Acceptable values formats include "10" , "0xA" , "xA".</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:pattern value="((0?x\d+)|\d+)"/> </xs:restriction> </xs:simpleType>	

Simple Type full_items_define

Namespace	No namespace
Annotations	Valid values for the full tag.
Diagram	
Type	restriction of xs:token
Facets	enumeration: drop enumeration: assert enumeration: block
Source	<xs:simpleType name="full_items_define"> <xs:annotation> <xs:documentation>Valid values for the full tag.</xs:documentation> </xs:annotation> <xs:restriction base="xs:token"> <xs:enumeration value="drop"/> <xs:enumeration value="assert"/> <xs:enumeration value="block"/> </xs:restriction> </xs:simpleType>

Simple Type pass_by_define

Namespace	No namespace
Annotations	Defines how the variable is being passed.
Diagram	
Type	restriction of xs:token
Facets	enumeration: reference enumeration: value enumeration: pointer
Used by	Attributes: arg_define/arg/@pass_by, return/@pass_by
Source	<xs:simpleType name="pass_by_define"> <xs:annotation> <xs:documentation>Defines how the variable is being passed.</xs:documentation> </xs:annotation> <xs:restriction base="xs:token"> <xs:enumeration value="reference"/> <xs:enumeration value="value"/> <xs:enumeration value="pointer"/> </xs:restriction> </xs:simpleType>

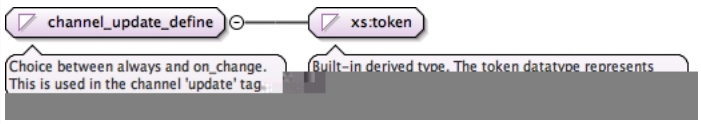
Simple Type component_role_define

Namespace	No namespace
Annotations	Choice for component roles.

Diagram	
Type	restriction of xs:token
Facets	enumeration LogEvent enumeration LogTextEvent enumeration TimeGet enumeration ParamSet enumeration ParamGet enumeration Telemetry enumeration CmdRegistration enumeration Cmd enumeration CmdResponse

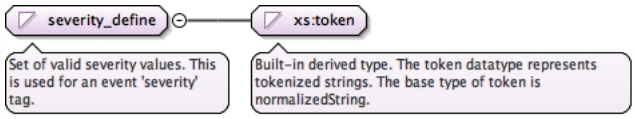
Source	`<xs:simpleType name="component_role_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Choice for component roles.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="LogEvent"/>`
	`  <xs:enumeration value="LogTextEvent"/>`
	`  <xs:enumeration value="TimeGet"/>`
	`  <xs:enumeration value="ParamSet"/>`
	`  <xs:enumeration value="ParamGet"/>`
	`  <xs:enumeration value="Telemetry"/>`
	`  <xs:enumeration value="CmdRegistration"/>`
	`  <xs:enumeration value="Cmd"/>`
	`  <xs:enumeration value="CmdResponse"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`

Simple Type `channel_update_define`

Namespace	No namespace
Annotations	Choice between always and on_change. This is used in the channel 'update' tag.
Diagram	
Type	restriction of xs:token
Facets	enumeration always enumeration on_change

Source	`<xs:simpleType name="channel_update_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Choice between always and on_change. This is used in the channel 'update'`
	` tag.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="always"/>`
	`  <xs:enumeration value="on_change"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`

Simple Type `severity_define`

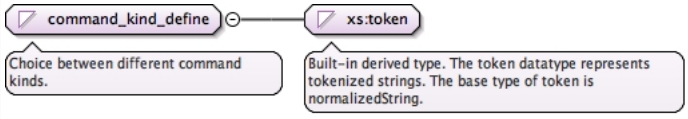
Namespace	No namespace
Annotations	Set of valid severity values. This is used for an event 'severity' tag.
Diagram	
Type	restriction of xs:token

Facets	enumeration	COMMAND
	enumeration	ACTIVITY_LO
	enumeration	ACTIVITY_HI
	enumeration	WARNING_LO
	enumeration	WARNING_HI
	enumeration	DIAGNOSTIC
	enumeration	FATAL

Source

```
<xs:simpleType name="severity_define">
  <xs:annotation>
    <xs:documentation>Set of valid severity values. This is used for an event 'severity' tag.</
xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:token">
    <xs:enumeration value="COMMAND"/>
    <xs:enumeration value="ACTIVITY_LO"/>
    <xs:enumeration value="ACTIVITY_HI"/>
    <xs:enumeration value="WARNING_LO"/>
    <xs:enumeration value="WARNING_HI"/>
    <xs:enumeration value="DIAGNOSTIC"/>
    <xs:enumeration value="FATAL"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `command_kind_define`

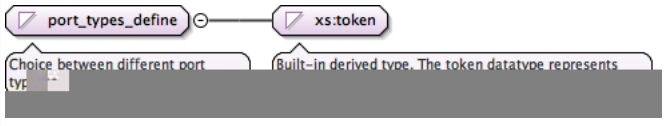
Namespace	No namespace
Annotations	Choice between different command kinds.
Diagram	
Type	restriction of xs:token

Facets	enumeration	async
	enumeration	sync
	enumeration	guarded

Source

```
<xs:simpleType name="command_kind_define">
  <xs:annotation>
    <xs:documentation>Choice between different command kinds.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:token">
    <xs:enumeration value="async"/>
    <xs:enumeration value="sync"/>
    <xs:enumeration value="guarded"/>
  </xs:restriction>
</xs:simpleType>
```

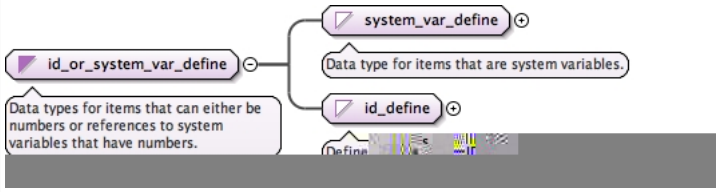
Simple Type `port_types_define`

Namespace	No namespace
Annotations	Choice between different port types.
Diagram	
Type	restriction of xs:token

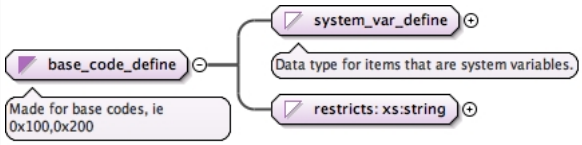
Facets	enumeration	input
	enumeration	sync_input
	enumeration	guarded_input
	enumeration	async_input
	enumeration	model_input
	enumeration	output

Source	<xs:simpleType name="port_types_define"> <xs:annotation> <xs:documentation>Choice between different port types.</xs:documentation> </xs:annotation> <xs:restriction base="xs:token"> <xs:enumeration value="input"/> <xs:enumeration value="sync_input"/> <xs:enumeration value="guarded_input"/> <xs:enumeration value="async_input"/> <xs:enumeration value="model_input"/> <xs:enumeration value="output"/> </xs:restriction> </xs:simpleType>

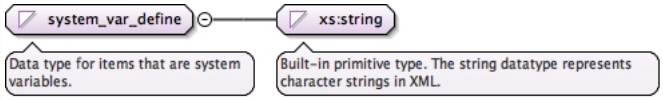
Simple Type `id_or_system_var_define`

Namespace	No namespace
Annotations	Data types for items that can either be numbers or references to system variables that have numbers.
Diagram	
Type	union of(system_var_define, id_define)
Source	<xs:simpleType name="id_or_system_var_define"> <xs:annotation> <xs:documentation>Data types for items that can either be numbers or references to system variables that have numbers.</xs:documentation> </xs:annotation> <xs:union memberTypes="system_var_define id_define"/> </xs:simpleType>

Simple Type `base_code_define`

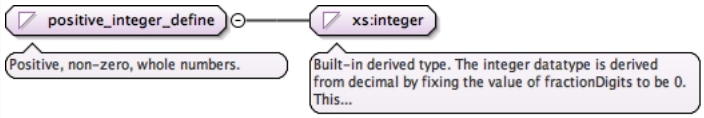
Namespace	No namespace
Annotations	Made for base codes, ie 0x100,0x200
Diagram	
Type	union of(system_var_define, restriction of xs:string)
Source	<xs:simpleType name="base_code_define"> <xs:annotation> <xs:documentation>Made for base codes, ie 0x100,0x200</xs:documentation> </xs:annotation> <xs:union memberTypes="system_var_define"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:pattern value="(((0?x\d+)|\d+)(,?))+"/> </xs:restriction> </xs:simpleType> </xs:union> </xs:simpleType>

Simple Type `system_var_define`

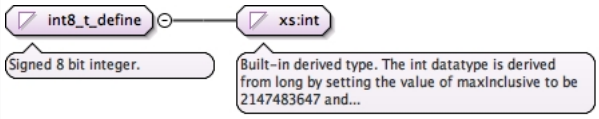
Namespace	No namespace
Annotations	Data type for items that are system variables.
Diagram	
Type	restriction of xs:string
Facets	pattern $[\w|_|\-]+

Source	<xs:simpleType name="system_var_define"> <xs:annotation> <xs:documentation>Data type for items that are system variables.</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:pattern value="$[\w|_|\-]+"/> </xs:restriction> </xs:simpleType>

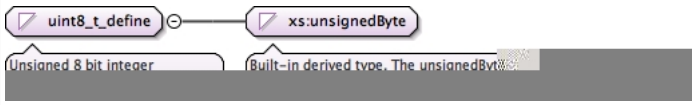
Simple Type `positive_integer_define`

Namespace	No namespace
Annotations	Positive, non-zero, whole numbers.
Diagram	
Type	restriction of xs:integer
Facets	minInclusive 1
Source	<xs:simpleType name="positive_integer_define"> <xs:annotation> <xs:documentation>Positive, non-zero, whole numbers.</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:minInclusive value="1"/> </xs:restriction> </xs:simpleType>

Simple Type `int8_t_define`

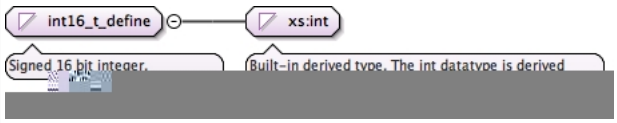
Namespace	No namespace
Annotations	Signed 8 bit integer.
Diagram	
Type	restriction of xs:int
Facets	maxInclusive 127 minInclusive -128
Used by	Simple Type I8_define
Source	<xs:simpleType name="int8_t_define"> <xs:annotation> <xs:documentation>Signed 8 bit integer.</xs:documentation> </xs:annotation> <xs:restriction base="xs:int"> <xs:minInclusive value="-128"/> <xs:maxInclusive value="127"/> </xs:restriction> </xs:simpleType>

Simple Type `uint8_t_define`

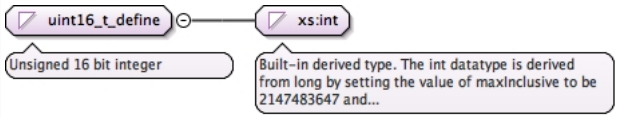
Namespace	No namespace
Annotations	Unsigned 8 bit integer
Diagram	
Type	restriction of xs:unsignedByte
Facets	maxInclusive 255 minInclusive 0
Used by	Simple Type U8_define

Source	<xs:simpleType name="uint8_t_define"> <xs:annotation> <xs:documentation>Unsigned 8 bit integer</xs:documentation> </xs:annotation> <xs:restriction base="xs:unsignedByte"> <xs:minInclusive value="0"/> <xs:maxInclusive value="255"/> </xs:restriction> </xs:simpleType>

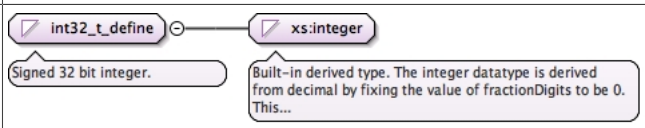
Simple Type `int16_t_define`

Namespace	No namespace
Annotations	Signed 16 bit integer.
Diagram	
Type	restriction of xs:int
Facets	maxInclusive 32767 minInclusive -32768
Used by	Simple Type I16_define
Source	<xs:simpleType name="int16_t_define"> <xs:annotation> <xs:documentation>Signed 16 bit integer.</xs:documentation> </xs:annotation> <xs:restriction base="xs:int"> <xs:minInclusive value="-32768"/> <xs:maxInclusive value="32767"/> </xs:restriction> </xs:simpleType>

Simple Type `uint16_t_define`

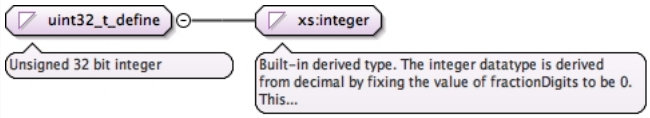
Namespace	No namespace
Annotations	Unsigned 16 bit integer
Diagram	
Type	restriction of xs:int
Facets	maxInclusive 65535 minInclusive 0
Used by	Simple Type U16_define
Source	<xs:simpleType name="uint16_t_define"> <xs:annotation> <xs:documentation>Unsigned 16 bit integer</xs:documentation> </xs:annotation> <xs:restriction base="xs:int"> <xs:minInclusive value="0"/> <xs:maxInclusive value="65535"/> </xs:restriction> </xs:simpleType>

Simple Type `int32_t_define`

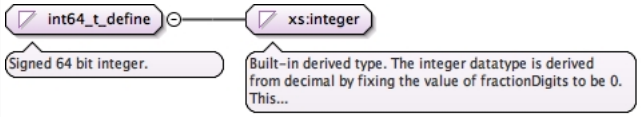
Namespace	No namespace
Annotations	Signed 32 bit integer.
Diagram	

Type	restriction of xs:integer
Facets	maxInclusive 2147483647 minInclusive -2147483648
Used by	Simple Types I32_define, NATIVE_INT_TYPE_define
Source	<xs:simpleType name="int32_t_define"> <xs:annotation> <xs:documentation>Signed 32 bit integer.</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:minInclusive value="-2147483648"/> <xs:maxInclusive value="2147483647"/> </xs:restriction> </xs:simpleType>

Simple Type `uint32_t_define`

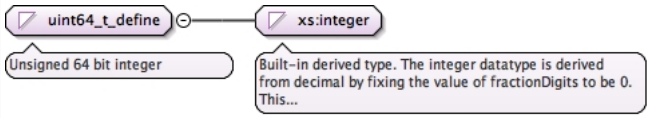
Namespace	No namespace
Annotations	Unsigned 32 bit integer
Diagram	
Type	restriction of xs:integer
Facets	maxInclusive 4294967295 minInclusive 0
Used by	Simple Types NATIVE_UINT_TYPE_define, U32_define
Source	<xs:simpleType name="uint32_t_define"> <xs:annotation> <xs:documentation>Unsigned 32 bit integer</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:minInclusive value="0"/> <xs:maxInclusive value="4294967295"/> </xs:restriction> </xs:simpleType>

Simple Type `int64_t_define`

Namespace	No namespace
Annotations	Signed 64 bit integer.
Diagram	
Type	restriction of xs:integer
Facets	maxInclusive 9223372036854775807 minInclusive -9223372036854775808
Used by	Simple Type I64_define
Source	<xs:simpleType name="int64_t_define"> <xs:annotation> <xs:documentation>Signed 64 bit integer.</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:minInclusive value="-9223372036854775808"/> <xs:maxInclusive value="9223372036854775807"/> </xs:restriction> </xs:simpleType>

Simple Type `uint64_t_define`

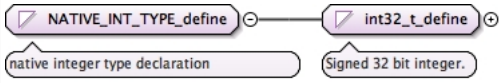
Namespace	No namespace

Annotations	Unsigned 64 bit integer
Diagram	
Type	restriction of xs:integer
Facets	maxInclusive 18446744073709551615 minInclusive 0
Used by	Simple Type U64_define
Source	<xs:simpleType name="uint64_t_define"> <xs:annotation> <xs:documentation>Unsigned 64 bit integer</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:minInclusive value="0"/> <xs:maxInclusive value="18446744073709551615"/> </xs:restriction> </xs:simpleType>

Simple Type not_user_cpp_type_define

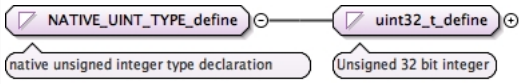
Namespace	No namespace
Annotations	Ensures data is not of the names of any other user defined C++ name.
Diagram	
Type	xs:string
Source	<xs:simpleType name="not_user_cpp_type_define"> <xs:annotation> <xs:documentation>Ensures data is not of the names of any other user defined C++ name.</ xs:documentation> </xs:annotation> <xs:restriction base="xs:string"/> </xs:simpleType>

Simple Type NATIVE_INT_TYPE_define

Namespace	No namespace
Annotations	native integer type declaration
Diagram	
Type	int32_t_define
Type hierarchy	• xs:integer • int32_t_define • NATIVE_INT_TYPE_define
Facets	maxInclusive 2147483647 minInclusive -2147483648
Source	<xs:simpleType name="NATIVE_INT_TYPE_define"> <xs:annotation> <xs:documentation>native integer type declaration</xs:documentation> </xs:annotation> <xs:restriction base="int32_t_define"/> </xs:simpleType>

Simple Type NATIVE_UINT_TYPE_define

Namespace	No namespace
Annotations	native unsigned integer type declaration

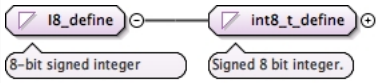
Diagram	
Type	uint32_t_define

Type hierarchy	• xs:integer
	  • uint32_t_define
	  • NATIVE_UINT_TYPE_define

Facets	maxInclusive 4294967295 minInclusive 0

Source	`<xs:simpleType name="NATIVE_UINT_TYPE_define">`
	`  <xs:annotation>`
	`  <xs:documentation>native unsigned integer type declaration</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="uint32_t_define"/>`
	`</xs:simpleType>`

Simple Type `I8_define`

Namespace	No namespace
Annotations	`8-bit signed integer`
Diagram	
Type	int8_t_define

Type hierarchy	• xs:int
	  • int8_t_define
	  • I8_define

Facets	maxInclusive 127 minInclusive -128

Source	`<xs:simpleType name="I8_define">`
	`  <xs:annotation>`
	`  <xs:documentation>8-bit signed integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="int8_t_define"/>`
	`</xs:simpleType>`

Simple Type `U8_define`

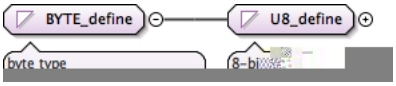
Namespace	No namespace
Annotations	`8-bit unsigned integer`
Diagram	
Type	uint8_t_define

Type hierarchy	• xs:unsignedByte
	  • uint8_t_define
	  • U8_define

Facets	maxInclusive 255 minInclusive 0
Used by	Simple Type BYTE_define

Source	`<xs:simpleType name="U8_define">`
	`  <xs:annotation>`
	`  <xs:documentation>8-bit unsigned integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="uint8_t_define"/>`
	`</xs:simpleType>`

Simple Type `BYTE_define`

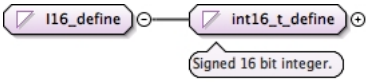
Namespace	No namespace
Annotations	`byte type`
Diagram	
Type	U8_define

Type hierarchy	• xs:unsignedByte
	  • uint8_t_define
	  • U8_define
	  • BYTE_define

Facets	maxInclusive `255` minInclusive `0`

Source	`<xs:simpleType name="BYTE_define">`
	`  <xs:annotation>`
	`  <xs:documentation>byte type</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="U8_define"/>`
	`</xs:simpleType>`

Simple Type `I16_define`

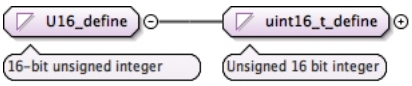
Namespace	No namespace
Diagram	
Type	int16_t_define

Type hierarchy	• xs:int
	  • int16_t_define
	  • I16_define

Facets	maxInclusive `32767` minInclusive `-32768`

Source	`<xs:simpleType name="I16_define">`
	`  <xs:restriction base="int16_t_define"/>`
	`</xs:simpleType>`

Simple Type `U16_define`

Namespace	No namespace
Annotations	`16-bit unsigned integer`
Diagram	
Type	uint16_t_define

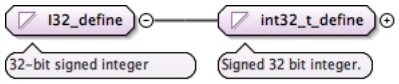
Type hierarchy	• xs:int
	  • uint16_t_define
	  • U16_define

Facets	maxInclusive `65535` minInclusive `0`

Source	`<xs:simpleType name="U16_define">`
	`  <xs:annotation>`
	`  <xs:documentation>16-bit unsigned integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="uint16_t_define"/>`

```
</xs:simpleType>
```

Simple Type `I32_define`

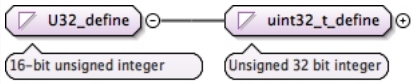
Namespace	No namespace
Annotations	`32-bit signed integer`
Diagram	
Type	int32_t_define

Type hierarchy	• xs:integer
	  • int32_t_define
	  • I32_define

Facets	maxInclusive `2147483647` minInclusive `-2147483648`

Source	`<xs:simpleType name="I32_define">`
	`  <xs:annotation>`
	`  <xs:documentation>32-bit signed integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="int32_t_define"/>`
	`</xs:simpleType>`

Simple Type `U32_define`

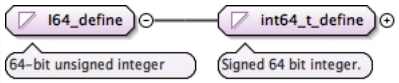
Namespace	No namespace
Annotations	`16-bit unsigned integer`
Diagram	
Type	uint32_t_define

Type hierarchy	• xs:integer
	  • uint32_t_define
	  • U32_define

Facets	maxInclusive `4294967295` minInclusive `0`

Source	`<xs:simpleType name="U32_define">`
	`  <xs:annotation>`
	`  <xs:documentation>16-bit unsigned integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="uint32_t_define"/>`
	`</xs:simpleType>`

Simple Type `I64_define`

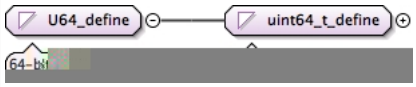
Namespace	No namespace
Annotations	`64-bit unsigned integer`
Diagram	
Type	int64_t_define

Type hierarchy	• xs:integer
	  • int64_t_define
	  • I64_define

Facets	maxInclusive `9223372036854775807` minInclusive `-9223372036854775808`
Source	`<xs:simpleType name="I64_define">`

```
  <xs:annotation>
    <xs:documentation>64-bit unsigned integer</xs:documentation>
  </xs:annotation>
  <xs:restriction base="int64_t_define"/>
</xs:simpleType>
```

Simple Type `U64_define`

Namespace	No namespace
Annotations	`64-bit unsigned integer`
Diagram	
Type	uint64_t_define

Type hierarchy	• xs:integer
	  • uint64_t_define
	  • U64_define

Facets	maxInclusive `18446744073709551615` minInclusive `0`

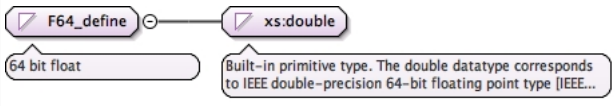
Source	`<xs:simpleType name="U64_define">`
	`  <xs:annotation>`
	`  <xs:documentation>64-bit unsigned integer</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="uint64_t_define"/>`
	`</xs:simpleType>`

Simple Type `F32_define`

Namespace	No namespace
Annotations	`32 bit float`
Diagram	
Type	xs:float

Source	`<xs:simpleType name="F32_define">`
	`  <xs:annotation>`
	`  <xs:documentation>32 bit float</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:float"/>`
	`</xs:simpleType>`

Simple Type `F64_define`

Namespace	No namespace
Annotations	`64 bit float`
Diagram	
Type	xs:double

Source	`<xs:simpleType name="F64_define">`
	`  <xs:annotation>`
	`  <xs:documentation>64 bit float</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:double"/>`
	`</xs:simpleType>`

Attribute(s)

Attribute `instance / @namespace`

Namespace	No namespace

Annotations	Specifies the name space for the instance object.
Properties	use: required
Used by	Element instance
Source	<xs:attribute name="namespace" use="required"> <xs:annotation> <xs:documentation>Specifies the name space for the instance object.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute instance / @name

Namespace	No namespace
Annotations	Specifies the name for the instance object.
Properties	use: required
Used by	Element instance
Source	<xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>Specifies the name for the instance object.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute instance / @type

Namespace	No namespace
Annotations	Specifies the type of the instance object.
Properties	use: required
Used by	Element instance
Source	<xs:attribute name="type" use="required"> <xs:annotation> <xs:documentation>Specifies the type of the instance object.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute instance / @dict_short_name

Namespace	No namespace
Annotations	Specifies a name that can be used instead of the "name" attribute in ISFGen dictionaries.
Used by	Element instance
Source	<xs:attribute name="dict_short_name"> <xs:annotation> <xs:documentation>Specifies a name that can be used instead of the "name" attribute in ISFGen dictionaries.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute instance / @kind

Namespace	No namespace
Annotations	Specifies the kind of component.
Type	component_types_define
Properties	content: simple
Facets	enumeration active enumeration passive enumeration queued
Used by	Element instance
Source	<xs:attribute name="kind" type="component_types_define"> <xs:annotation> <xs:documentation>Specifies the kind of component.</xs:documentation>

```
  </xs:annotation>
</xs:attribute>
```

Attribute `instance / @base_id`

Namespace	No namespace
Annotations	Specifies a base ID for this instance.
Type	id_define
Properties	content: simple
Facets	pattern ((0?x\d+)|\d+)
Used by	Element instance
Source	<xs:attribute name="base_id" type="id_define"> <xs:annotation> <xs:documentation>Specifies a base ID for this instance.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `instance / @base_id_window`

Namespace	No namespace
Annotations	Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_range" tag.
Type	xs:nonNegativeInteger
Properties	content: simple
Used by	Element instance
Source	<xs:attribute name="base_id_window" type="xs:nonNegativeInteger"> <xs:annotation> <xs:documentation>Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_range" tag.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `instance / @base_id_range`

Namespace	No namespace
Annotations	Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_window" tag.
Type	xs:nonNegativeInteger
Properties	content: simple
Used by	Element instance
Source	<xs:attribute name="base_id_range" type="xs:nonNegativeInteger"> <xs:annotation> <xs:documentation>Specifies an ID range the instance will occupy, starting at the base ID. Can alternativly use the "base_id_window" tag.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `connection_end_define / @component`

Namespace	No namespace
Annotations	Specifies the instance name of the connection end's component. Name must match an "name" attribute from specified "instance" tags.
Properties	use: required
Used by	Attribute Group connection_end_define
Source	<xs:attribute name="component" use="required"> <xs:annotation> <xs:documentation>Specifies the instance name of the connection end's component. Name must match an "name" attribute from specified "instance" tags.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute connection_end_define / @port

Namespace	No namespace
Annotations	Specifies the port name on the object that the connection is attached to.
Properties	use: required
Used by	Attribute Group connection_end_define
Source	<xs:attribute name="port" use="required"> <xs:annotation> <xs:documentation>Specifies the port name on the object that the connection is attached to.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute connection_end_define / @type

Namespace	No namespace
Annotations	Specifies the type of the connection end. Generally, this type will match the "target" type, unless connected to a port of type serial.
Properties	use: required
Used by	Attribute Group connection_end_define
Source	<xs:attribute name="type" use="required"> <xs:annotation> <xs:documentation>Specifies the type of the connection end. Generally, this type will match the "target" type, unless connected to a port of type serial.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute connection_end_define / @num

Namespace	No namespace
Annotations	Specifies the multiplicity or index of a port that is being connected to. Generally, this value will be zero unless multiple indexes on the port exists.
Type	xs:nonNegativeInteger
Properties	content: simple
Used by	Attribute Group connection_end_define
Source	<xs:attribute name="num" type="xs:nonNegativeInteger"> <xs:annotation> <xs:documentation>Specifies the multiplicity or index of a port that is being connected to. Generally, this value will be zero unless multiple indexes on the port exists.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute connection / @name

Namespace	No namespace
Annotations	Specifies a unique connection name. EX: Connection1
Properties	use: required
Used by	Element connection
Source	<xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>Specifies a unique connection name. EX: Connection1</xs:documentation> </xs:annotation> </xs:attribute>

Attribute connection / @type

Namespace	No namespace
Annotations	Specifies connection type.
Used by	Element connection
Source	<xs:attribute name="type">

```
  <xs:annotation>
    <xs:documentation>Specifies connection type.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

Attribute `root_defenition / @name`

Namespace	No namespace
Annotations	`Name of the project.`
Used by	Complex Type root_defenition

Source	`<xs:attribute name="name">`
	`  <xs:annotation>`
	`  <xs:documentation>Name of the project.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `root_defenition / @base_id`

Namespace	No namespace
Annotations	`Specifies the base ID for the project.`
Type	id_define
Properties	content: `simple`
Facets	pattern `((0?x\d+)|\d+)`
Used by	Complex Type root_defenition

Source	`<xs:attribute name="base_id" type="id_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Specifies the base ID for the project.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `root_defenition / @base_id_window`

Namespace	No namespace
Annotations	`Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_range' can also be used.`
Type	xs:nonNegativeInteger
Properties	content: `simple`
Used by	Complex Type root_defenition

Source	`<xs:attribute name="base_id_window" type="xs:nonNegativeInteger">`
	`  <xs:annotation>`
	`  <xs:documentation>Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_range' can also be used.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `root_defenition / @base_id_range`

Namespace	No namespace
Annotations	`Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_window' can also be used.`
Type	xs:nonNegativeInteger
Properties	content: `simple`
Used by	Complex Type root_defenition

Source	`<xs:attribute name="base_id_range" type="xs:nonNegativeInteger">`
	`  <xs:annotation>`
	`  <xs:documentation>Specifies the default ID range to use for the project. If this value is set to zero, ISFGen will find an appropriate range from the component XML files. Attribute tag 'base_id_window' can also be used.</xs:documentation>`
	`  </xs:annotation>`

```
</xs:attribute>
```

Attribute `root_defenition / @prepend_instance_name`

Namespace	No namespace
Annotations	`If True, instance names will be prepended onto command,channel,and event generated dictionaries in single instance scenarios.`
Type	xs:boolean
Properties	content: `simple`
Used by	Complex Type root_defenition
Source	`<xs:attribute name="prepend_instance_name" type="xs:boolean"> <xs:annotation> <xs:documentation>If True, instance names will be prepended onto command,channel,and event generated dictionaries in single instance scenarios.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute `item / @name`

Namespace	No namespace
Annotations	`Name of the enum item.`
Properties	use: `required`
Used by	Element item
Source	`<xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>Name of the enum item.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute `item / @value`

Namespace	No namespace
Annotations	`The value being sent through the enum item.`
Used by	Element item
Source	`<xs:attribute name="value"> <xs:annotation> <xs:documentation>The value being sent through the enum item.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute `item / @comment`

Namespace	No namespace
Annotations	`Comment about the enum item.`
Used by	Element item
Source	`<xs:attribute name="comment"> <xs:annotation> <xs:documentation>Comment about the enum item.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute `enum / @name`

Namespace	No namespace
Annotations	`Enum Name.`
Properties	use: `required`
Used by	Element enum
Source	`<xs:attribute name="name" use="required"> <xs:annotation> <xs:documentation>Enum Name.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute `arg_define / arg / @name`

Namespace	No namespace
Annotations	`Name of the argument.`
Properties	use: `required`
Used by	Element arg_define/arg

Source	`<xs:attribute name="name" use="required">`
	`  <xs:annotation>`
	`  <xs:documentation>Name of the argument.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `arg_define / arg / @pass_by`

Namespace	No namespace
Annotations	`Defines how the arguments are passed.`
Type	pass_by_define
Properties	content: `simple`
Facets	enumeration `reference` enumeration `value` enumeration `pointer`
Used by	Element arg_define/arg

Source	`<xs:attribute name="pass_by" type="pass_by_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Defines how the arguments are passed.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `arg_define / arg / @comment`

Namespace	No namespace
Annotations	`Comments about the argument.`
Type	xs:string
Properties	content: `simple`
Used by	Element arg_define/arg

Source	`<xs:attribute name="comment" type="xs:string">`
	`  <xs:annotation>`
	`  <xs:documentation>Comments about the argument.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:attribute>`

Attribute `type_size_choice_define / @data_type`

Namespace	No namespace
Type	union of(xs:string, restriction of xs:token, restriction of xs:token)
Properties	content: `simple`
Used by	Attribute Group type_size_choice_define

Source	`<xs:attribute name="data_type">`
	`  <xs:simpleType>`
	`  <xs:union memberTypes="xs:string">`
	`  <xs:simpleType>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="string"/>`
	`  </xs:restriction>`
	`  </xs:simpleType>`
	`  <xs:simpleType>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="ENUM"/>`
	`  </xs:restriction>`
	`  </xs:simpleType>`
	`  </xs:union>`

```
  </xs:simpleType>
</xs:attribute>
```

Attribute `type_size_choice_define / @type`

Namespace	No namespace
Type	union of(xs:string, restriction of xs:token, restriction of xs:token)
Properties	content: simple
Used by	Attribute Group type_size_choice_define

Source

```
<xs:attribute name="type">
  <xs:simpleType>
    <xs:union memberTypes="xs:string">
      <xs:simpleType>
        <xs:restriction base="xs:token">
          <xs:enumeration value="string"/>
        </xs:restriction>
      </xs:simpleType>
      <xs:simpleType>
        <xs:restriction base="xs:token">
          <xs:enumeration value="ENUM"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:union>
  </xs:simpleType>
</xs:attribute>
```

Attribute `type_size_choice_define / @size`

Namespace	No namespace
Annotations	The size of the argument.
Type	xs:nonNegativeInteger
Properties	content: simple
Used by	Attribute Group type_size_choice_define

Source

```
<xs:attribute name="size" type="xs:nonNegativeInteger">
  <xs:annotation>
    <xs:documentation>The size of the argument.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

Attribute `return / @name`

Namespace	No namespace
Annotations	Name of the argument.
Used by	Element return

Source

```
<xs:attribute name="name">
  <xs:annotation>
    <xs:documentation>Name of the argument.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

Attribute `return / @pass_by`

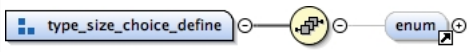
Namespace	No namespace
Annotations	Defines how the arguments are passed.
Type	pass_by_define
Properties	content: simple
Facets	enumeration reference enumeration value enumeration pointer
Used by	Element return

Source

```
<xs:attribute name="pass_by" type="pass_by_define">
  <xs:annotation>
```

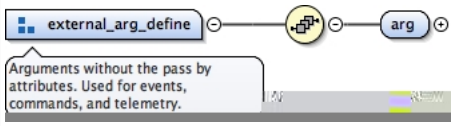
```
          <xs:group ref="type_size_choice_define"/>
          <xs:element ref="comment"/>
        </xs:choice>
        <xs:attribute name="name" use="required">
          <xs:annotation>
            <xs:documentation>Name of the argument.</xs:documentation>
          </xs:annotation>
        </xs:attribute>
        <xs:attribute name="pass_by" type="pass_by_define">
          <xs:annotation>
            <xs:documentation>Defines how the arguments are passed.</xs:documentation>
          </xs:annotation>
        </xs:attribute>
        <xs:attribute name="comment" type="xs:string">
          <xs:annotation>
            <xs:documentation>Comments about the argument.</xs:documentation>
          </xs:annotation>
        </xs:attribute>
        <xs:attributeGroup ref="type_size_choice_define"/>
      </xs:complexType>
    </xs:element>
  </xs:sequence>
</xs:group>
```

Element Group `type_size_choice_define`

Namespace	No namespace
Diagram	
Used by	Elements arg_define/arg, external_arg_define/arg, return
Model	enum{0,1}
Children	enum

Source	`<xs:group name="type_size_choice_define">`
	`  <xs:sequence>`
	`  <xs:element minOccurs="0" ref="enum"/>`
	`  </xs:sequence>`
	`</xs:group>`

Element Group `external_arg_define`

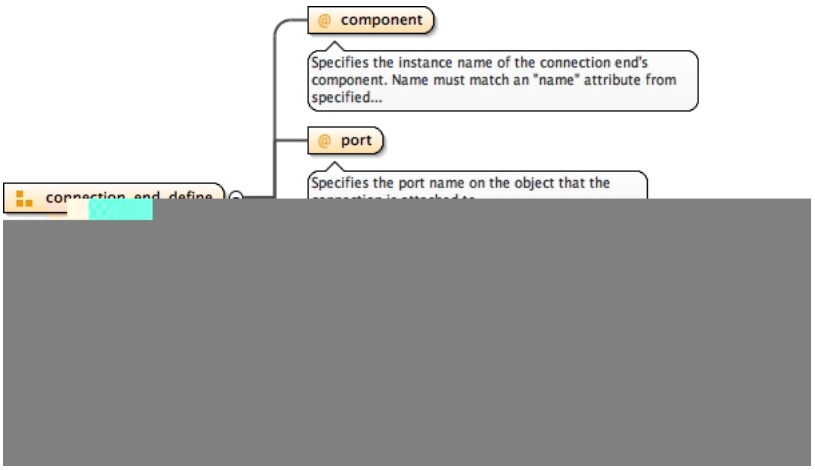
Namespace	No namespace
Annotations	Arguments without the pass by attributes. Used for events, commands, and telemetry.
Diagram	
Model	arg
Children	arg

Source	`<xs:group name="external_arg_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Arguments without the pass by attributes. Used for events, commands, and telemetry.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:sequence>`
	`  <xs:element name="arg">`
	`  <xs:complexType>`
	`  <xs:choice minOccurs="0" maxOccurs="unbounded">`
	`  <xs:group ref="type_size_choice_define"/>`
	`  <xs:element ref="comment"/>`
	`  </xs:choice>`
	`  <xs:attribute name="name" use="required">`
	`  <xs:annotation>`
	`  <xs:documentation>Name of the argument.</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:attribute>`
	`  <xs:attribute name="comment" type="xs:string">`
	`  <xs:annotation>`
	`  <xs:documentation>Comments about the argument.</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:attribute>`
	`  <xs:attributeGroup ref="type_size_choice_define"/>`
	`  </xs:complexType>`

```
    </xs:element>
  </xs:sequence>
</xs:group>
```

Attribute Group(s)

Attribute Group `connection_end_define`

Namespace	No namespace
Annotations	`Specifies information about a connection end.`
Diagram	
Used by	Elements source, target

Attributes

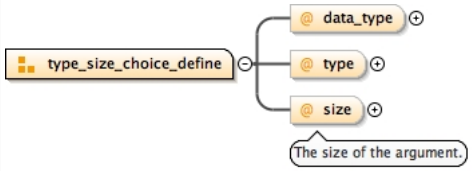
QName	Type	Use	
component		required	
	`Specifies the instance name of the connection end's component. Name must match an "name" attribute from specified "instance" tags.`		
num	xs:nonNegativeInteger	optional	
	`Specifies the multiplicity or index of a port that is being connected to. Generally, this value will be zero unless multiple indexes on the port exists.`		
port		required	
	`Specifies the port name on the object that the connection is attached to.`		
type		required	
	`Specifies the type of the connection end. Generally, this type will match the "target" type, unless connected to a port of type serial.`		

Source

```
<xs:attributeGroup name="connection_end_define">
  <xs:annotation>
    <xs:documentation>Specifies information about a connection end.</xs:documentation>
  </xs:annotation>
  <xs:attribute name="component" use="required">
    <xs:annotation>
      <xs:documentation>Specifies the instance name of the connection end's component. Name must
 match an "name" attribute from specified "instance" tags.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="port" use="required">
    <xs:annotation>
      <xs:documentation>Specifies the port name on the object that the connection is attached to.</
xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="type" use="required">
    <xs:annotation>
      <xs:documentation>Specifies the type of the connection end. Generally, this type will match
 the "target" type, unless connected to a port of type serial.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="num" type="xs:nonNegativeInteger">
    <xs:annotation>
      <xs:documentation>Specifies the multiplicity or index of a port that is being connected to.
 Generally, this value will be zero unless multiple indexes on the port exists.</xs:documentation>
    </xs:annotation>
```

```
  </xs:attribute>
</xs:attributeGroup>
```

Attribute Group `type_size_choice_define`

Namespace	No namespace
Diagram	
Used by	Elements arg_define/arg, external_arg_define/arg, return

Attributes

QName	Type	Use	
data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
size	xs:nonNegativeInteger	optional	
	`The size of the argument.`		
type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	

Source

```
<xs:attributeGroup name="type_size_choice_define">
  <xs:attribute name="data_type">
    <xs:simpleType>
      <xs:union memberTypes="xs:string">
        <xs:simpleType>
          <xs:restriction base="xs:token">
            <xs:enumeration value="string"/>
          </xs:restriction>
        </xs:simpleType>
        <xs:simpleType>
          <xs:restriction base="xs:token">
            <xs:enumeration value="ENUM"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:union>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="type">
    <xs:simpleType>
      <xs:union memberTypes="xs:string">
        <xs:simpleType>
          <xs:restriction base="xs:token">
            <xs:enumeration value="string"/>
          </xs:restriction>
        </xs:simpleType>
        <xs:simpleType>
          <xs:restriction base="xs:token">
            <xs:enumeration value="ENUM"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:union>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="size" type="xs:nonNegativeInteger">
    <xs:annotation>
      <xs:documentation>The size of the argument.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:attributeGroup>
```