Schema documentation for command_schema.xsd

august 31, 2016

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Namespace: ""

Schema(s)

Main schema command_schema.xsd

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

Included schema common_elements.xsd

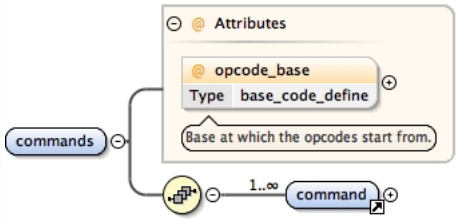
Namespace	No namespace
Properties	attribute form default: unqualified element form default: qualified

Included schema common_types.xsd

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

Element(s)

Element commands

Namespace	No namespace
Diagram	
Properties	content: complex
Model	command+
Children	command
Instance	<commands opcode_base=""> <command full="" kind="" mnemonic="" opcode="" priority="">{1,unbounded}</command> </commands>

Attributes	QName	Type	Use	
	opcode_base	base_code_define	optional	
		Base at which the opcodes start from.		

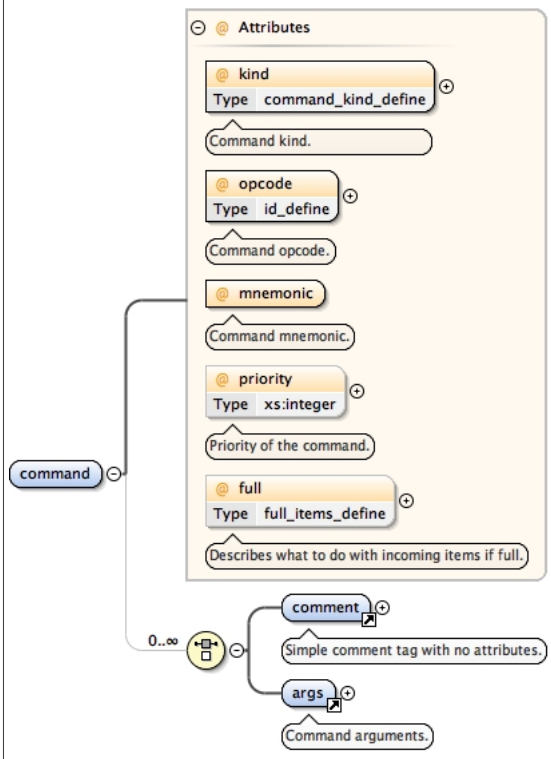
Source

```
<xs:element name="commands">
  <xs:complexType>
    <xs:sequence>
      <xs:element maxOccurs="unbounded" ref="command"/>
    </xs:sequence>
    <xs:attribute name="opcode_base" type="base_code_define">
      <xs:annotation>
        <xs:documentation>Base at which the opcodes start from.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```

Element command

Namespace: No namespace

Diagram



Properties	content:	complex
Used by	Element	commands
Model	comment | args	
Children	args, comment	

Instance

```
<command full="" kind="" mnemonic="" opcode="" priority="">
  <comment>{1,1}</comment>
  <args>{1,1}</args>
</command>
```

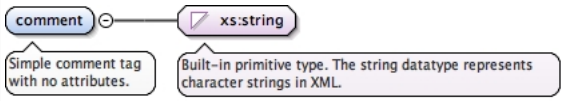
Attributes	QName	Type	Use	
	full	full_items_define	optional	
		Describes what to do with incoming items if full.		
	kind	command_kind_define	required	
		Command kind.		
	mnemonic		required	
		Command mnemonic.		
	opcode	id_define	required	

	QName	Type	Use	
		Command opcode.		
	priority	xs:integer	optional	
		Priority of the command.		

Source

```
<xs:element name="command">
  <xs:complexType>
    <xs:choice minOccurs="0" maxOccurs="unbounded">
      <xs:element ref="comment"/>
      <xs:element ref="args"/>
    </xs:choice>
    <xs:attribute name="kind" use="required" type="command_kind_define">
      <xs:annotation>
        <xs:documentation>Command kind.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="opcode" use="required" type="id_define">
      <xs:annotation>
        <xs:documentation>Command opcode.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="mnemonic" use="required">
      <xs:annotation>
        <xs:documentation>Command mnemonic.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="priority" type="xs:integer">
      <xs:annotation>
        <xs:documentation>Priority of the command.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
    <xs:attribute name="full" type="full_items_define">
      <xs:annotation>
        <xs:documentation>Describes what to do with incoming items if full.</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```

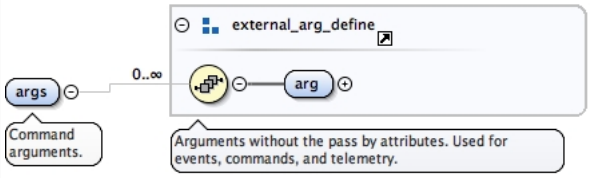
Element comment

Namespace	No namespace
Annotations	Simple comment tag with no attributes.
Diagram	
Type	xs:string
Properties	content: simple
Used by	Elements arg_define/arg, command, external_arg_define/arg, return

Source

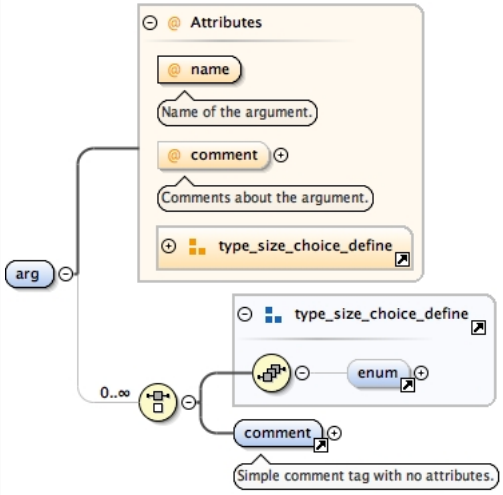
```
<xs:element name="comment" type="xs:string">
  <xs:annotation>
    <xs:documentation>Simple comment tag with no attributes.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element args

Namespace	No namespace
Annotations	Command arguments.
Diagram	
Properties	content: complex
Used by	Element command

Model	arg
Children	arg
Instance	<args> <arg comment="" data_type="" name="" size="" type="">{1,1}</arg> </args>
Source	<xs:element name="args"> <xs:annotation> <xs:documentation>Command arguments.</xs:documentation> </xs:annotation> <xs:complexType> <xs:group minOccurs="0" maxOccurs="unbounded" ref="external_arg_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

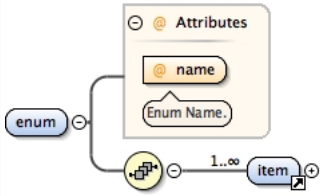
QName	Type	Use	
comment	xs:string	optional	
	Comments about the argument.		
data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
name		required	
	Name of the argument.		
size	xs:nonNegativeInteger	optional	
	The size of the argument.		
type	union of(xs:string, restriction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

Element enum

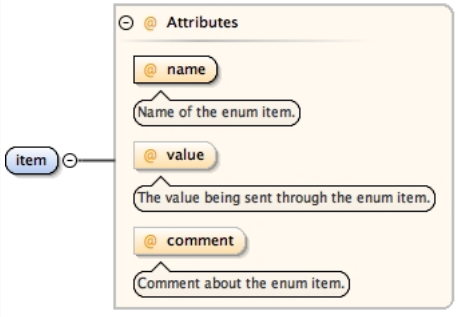
Namespace	No namespace
Diagram	
Properties	content: complex
Used by	Element Group type_size_choice_define
Model	item+
Children	item

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.		

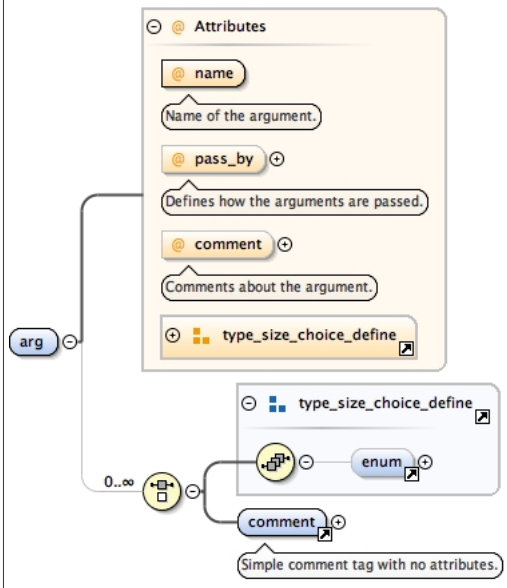
Source

```
<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

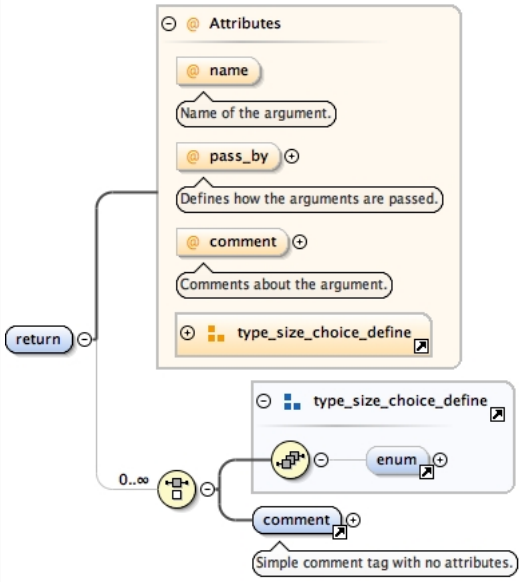
QName	Type	Use	
comment	xs:string	optional	
	Comments about the argument.		
data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
name		required	
	Name of the argument.		
pass_by	pass_by_define	optional	

	QName	Type	Use	
		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	
	Comments about the argument.		

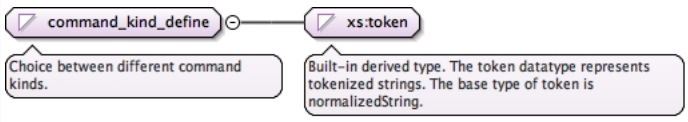
	QName	Type	Use	
	data_type	union of(xs:string, restriction of xs:token, restriction of xs:token)	optional	
	name		optional	
		`Name of the argument.`		
	pass_by	pass_by_define	optional	
		`Defines how the arguments are passed.`		
	size	xs:nonNegativeInteger	optional	
		`The size of the argument.`		
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

Simple Type(s)

Simple Type `command_kind_define`

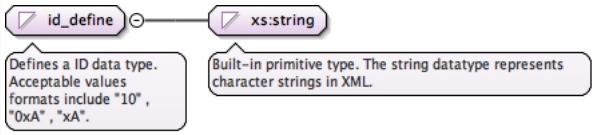
Namespace	No namespace
Annotations	`Choice between different command kinds.`
Diagram	
Type	restriction of xs:token
Facets	enumeration `async` enumeration `sync` enumeration `guarded`
Used by	Attribute command/@kind

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 `id_define`

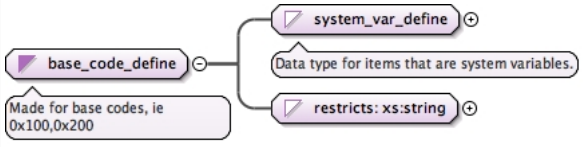
Namespace	No namespace

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	Attribute command/@opcode
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`

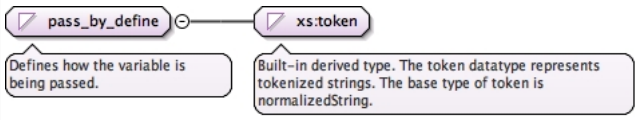
Namespace	No namespace
Annotations	Valid values for the full tag.
Diagram	
Type	restriction of xs:token
Facets	enumeration drop enumeration assert enumeration block
Used by	Attribute command/@full
Source	<xs:simpleType name="full_items_define"> <xs:annotation> <xs:documentation>Valid values for the full 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 `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)
Used by	Attribute commands/@opcode_base
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+)(,?))+"/>

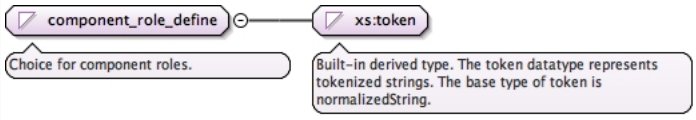
```
      </xs:restriction>
    </xs:simpleType>
  </xs:union>
</xs:simpleType>
```

Simple Type 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	

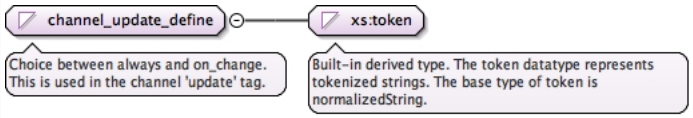
```
<xs:simpleType name="pass_by_define">
  <xs:annotation>
    <xs:documentation>Defines how the variable is being passed.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:token">
    <xs:enumeration value="reference"/>
    <xs:enumeration value="value"/>
    <xs:enumeration value="pointer"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type component_role_define

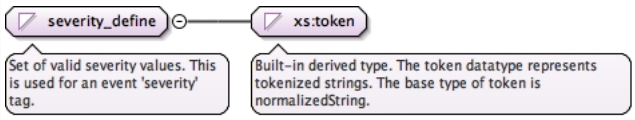
Namespace	No namespace
Annotations	Choice for component roles.
Diagram	
Type	restriction of xs:token
Facets	enumeration LogEvent enumeration LogTextEvent enumeration TimeGet enumeration ParamSet enumeration ParamGet enumeration Telemetry enumeration CmdRegistration enumeration Cmd enumeration CmdResponse
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>
```

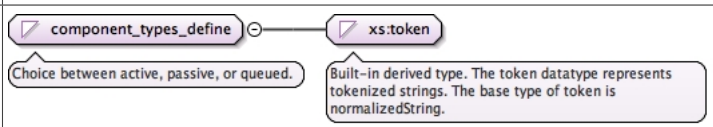
Simple Type channel_update_define

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 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`

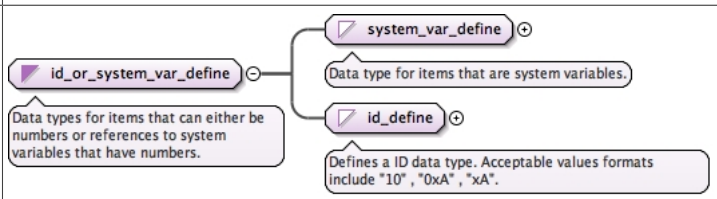
Source	`<xs:simpleType name="component_types_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Choice between active, passive, or queued.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="active"/>`
	`  <xs:enumeration value="passive"/>`
	`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

Simple Type `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`

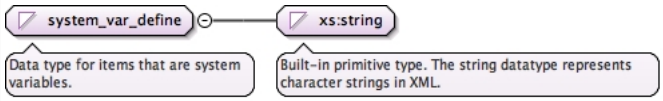
Source	`<xs:simpleType name="port_types_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Choice between different port types.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:token">`
	`  <xs:enumeration value="input"/>`
	`  <xs:enumeration value="sync_input"/>`
	`  <xs:enumeration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

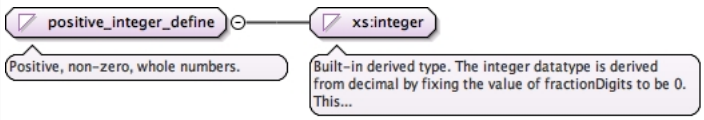
Source	`<xs:simpleType name="id_or_system_var_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Data types for items that can either be numbers or references to system`
	`  variables that have numbers.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:union memberTypes="system_var_define id_define"/>`
	`</xs:simpleType>`

Simple Type `system_var_define`

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

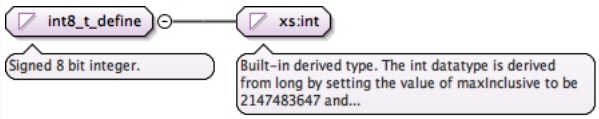
Source	`<xs:simpleType name="system_var_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Data type for items that are system variables.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:string">`
	`  <xs:pattern value="$[\w|_|\-]+"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`

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>`

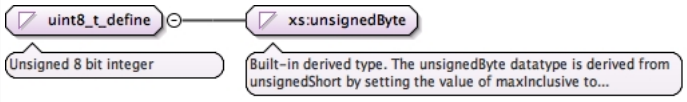
Simple Type `int8_t_define`

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

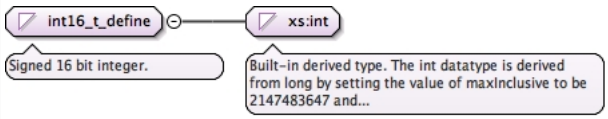
Source	`<xs:simpleType name="int8_t_define">`
	`  <xs:annotation>`
	`  <xs:documentation>Signed 8 bit integer.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:int">`
	`  <xs:minInclusive value="-128"/>`
	`  <xs:maxInclusive value="127"/>`
	`  </xs:restriction>`
	`</xs:simpleType>`

Simple Type `uint8_t_define`

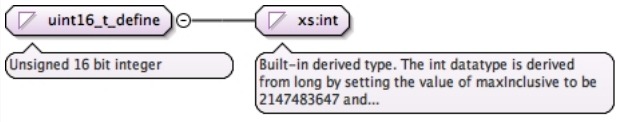
Namespace	No namespace

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`

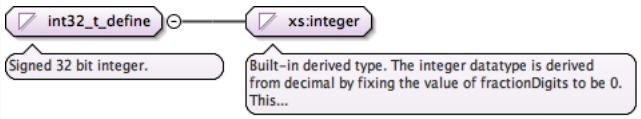
Namespace	No namespace
Annotations	Signed 16 bit integer.
Diagram	
Type	restriction of xs:int
Facets	maxInclusive 32767 minInclusive -32768
Used by	Simple Type I16_define
Source	<xs:simpleType name="int16_t_define"> <xs:annotation> <xs:documentation>Signed 16 bit integer.</xs:documentation> </xs:annotation>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

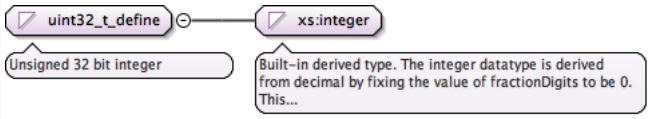
```
</xs:simpleType>
```

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	

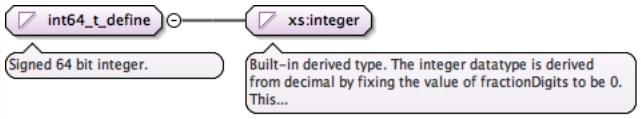
```
<xs:simpleType name="int32_t_define">
  <xs:annotation>
    <xs:documentation>Signed 32 bit integer.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:integer">
    <xs:minInclusive value="-2147483648"/>
    <xs:maxInclusive value="2147483647"/>
  </xs:restriction>
</xs:simpleType>
```

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>
```

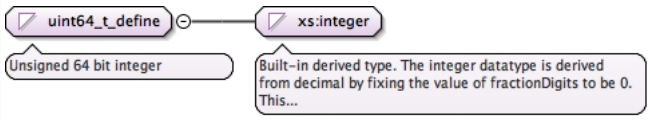
Simple Type `int64_t_define`

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>
```

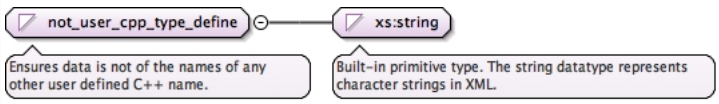
```
    <xs:documentation>Signed 64 bit integer.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:integer">
    <xs:minInclusive value="-9223372036854775808"/>
    <xs:maxInclusive value="9223372036854775807"/>
  </xs:restriction>
</xs:simpleType>
```

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	

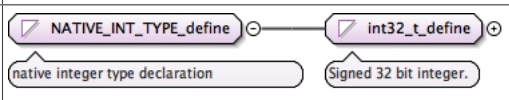
```
<xs:simpleType name="uint64_t_define">
  <xs:annotation>
    <xs:documentation>Unsigned 64 bit integer</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:integer">
    <xs:minInclusive value="0"/>
    <xs:maxInclusive value="18446744073709551615"/>
  </xs:restriction>
</xs:simpleType>
```

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

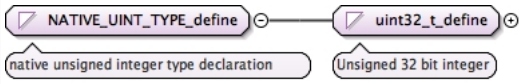
Type hierarchy	• xs:integer
	  • int32_t_define
	  • NATIVE_INT_TYPE_define

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`

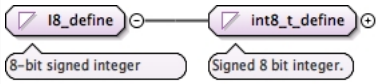
Namespace	No namespace
Annotations	`native unsigned integer type declaration`
Diagram	
Type	uint32_t_define

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`

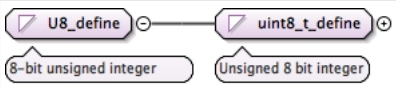
Namespace	No namespace
Annotations	`8-bit signed integer`
Diagram	
Type	int8_t_define

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`

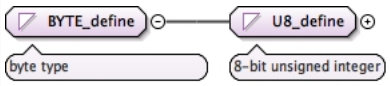
Namespace	No namespace
Annotations	`8-bit unsigned integer`
Diagram	
Type	uint8_t_define

Type hierarchy	• xs:unsignedByte
	  • uint8_t_define
	  • U8_define

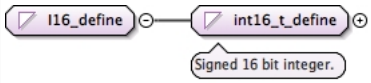
Facets	maxInclusive `255`

	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>	

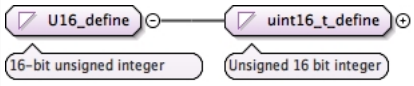
Simple Type `BYTE_define`

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`

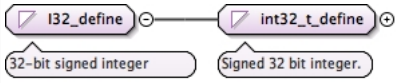
Namespace	No namespace
Diagram	
Type	int16_t_define
Type hierarchy	• xs:int • int16_t_define • I16_define
Facets	maxInclusive 32767 minInclusive -32768
Source	<xs:simpleType name="I16_define"> <xs:restriction base="int16_t_define"/> </xs:simpleType>

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>

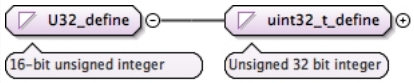
Simple Type I32_define

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>

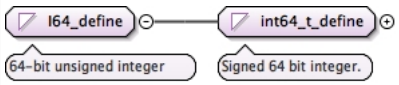
Simple Type U32_define

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

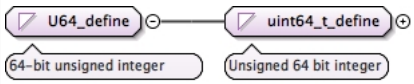
Namespace	No namespace
Annotations	64-bit unsigned integer
Diagram	

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>

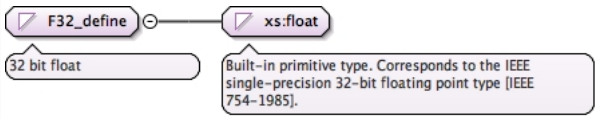
Simple Type U64_define

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

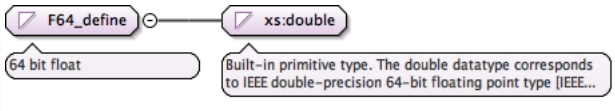
Type hierarchy	• xs:integer
	  • uint64_t_define
	  • U64_define

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 `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 `external_arg_define / arg / @name`

Namespace	No namespace
Annotations	`Name of the argument.`
Properties	use: `required`
Used by	Element external_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 external_arg_define / arg / @comment

Namespace	No namespace
Annotations	Comments about the argument.
Type	xs:string
Properties	content: simple
Used by	Element external_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 command / @kind

Namespace	No namespace
Annotations	Command kind.
Type	command_kind_define
Properties	use: required
Facets	enumeration async enumeration sync enumeration guarded
Used by	Element command
Source	<xs:attribute name="kind" use="required" type="command_kind_define"> <xs:annotation> <xs:documentation>Command kind.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute command / @opcode

Namespace	No namespace
Annotations	Command opcode.
Type	id_define
Properties	use: required
Facets	pattern ((0?x\d+)|\d+)
Used by	Element command
Source	<xs:attribute name="opcode" use="required" type="id_define"> <xs:annotation> <xs:documentation>Command opcode.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute command / @mnemonic

Namespace	No namespace
Annotations	Command mnemonic.
Properties	use: required
Used by	Element command
Source	<xs:attribute name="mnemonic" use="required"> <xs:annotation> <xs:documentation>Command mnemonic.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute command / @priority

Namespace	No namespace
Annotations	Priority of the command.
Type	xs:integer

Properties	content:	simple
Used by	Element	command
Source	<xs:attribute name="priority" type="xs:integer"> <xs:annotation> <xs:documentation>Priority of the command.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute command / @full

Namespace	No namespace	
Annotations	Describes what to do with incoming items if full.	
Type	full_items_define	
Properties	content:	simple
Facets	enumeration	drop
	enumeration	assert
	enumeration	block
Used by	Element	command
Source	<xs:attribute name="full" type="full_items_define"> <xs:annotation> <xs:documentation>Describes what to do with incoming items if full.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute commands / @opcode_base

Namespace	No namespace	
Annotations	Base at which the opcodes start from.	
Type	base_code_define	
Properties	content:	simple
Used by	Element	commands
Source	<xs:attribute name="opcode_base" type="base_code_define"> <xs:annotation> <xs:documentation>Base at which the opcodes start from.</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 `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:documentation>Defines how the arguments are passed.</xs:documentation> </xs:annotation> </xs:attribute>	

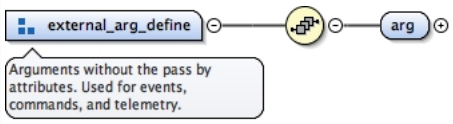
Attribute `return / @comment`

Namespace	No namespace	
Annotations	`Comments about the argument.`	
Type	xs:string	
Properties	content:	`simple`
Used by	Element	return
Source	<xs:attribute name="comment" type="xs:string"> <xs:annotation> <xs:documentation>Comments about the argument.</xs:documentation> </xs:annotation>	

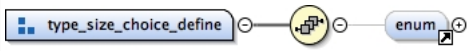
```
</xs:attribute>
```

Element Group(s)

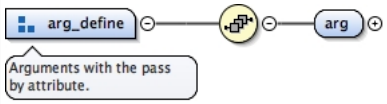
Element Group `external_arg_define`

Namespace	No namespace
Annotations	Arguments without the pass by attributes. Used for events, commands, and telemetry.
Diagram	
Used by	Element args
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>

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>

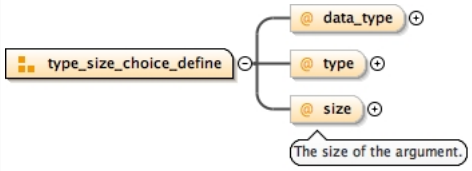
Element Group `arg_define`

Namespace	No namespace
Annotations	Arguments with the pass by attribute.
Diagram	
Model	arg

Children	arg
Source	<xs:group name="arg_define"> <xs:annotation> <xs:documentation>Arguments with the pass by attribute.</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="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>

Attribute Group(s)

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>
```