# Change to TDL TO, part 4: Allow Entity to reference ComponentInstance

This change proposes an extension to EntityReference so that it may reference a ComponentInstance as an alternative to reference a locally defined Entity.

This document defines the changes the TDL TO part 4 document to introduce this change.

## Modifications to TDL TO document sections to support the ComponentInstance reference

### Changes to Section 5.4

Replace the Figure 5.3 “Events Concepts” with Figure 1 where the EntityReference may either refer to a ComponentInstance or an Entity.



Figure 1: Events Concepts

### Modify section 5.3.5 “EntityReference”

*Add the following paragraph to the “Semantics” subsection:*

Alternatively, an 'EntityReference' may be used to reference a 'ComponentInstance' of a 'TestConfiguration' instead of an 'Entity'.

*Modify properties subsection:*

Properties

* entity : Entity [0..1]
The referenced 'Entity'.
* component : ComponentInstance [0..1]
The referenced 'ComponentInstance'.

*Add to Constraints subsection:*

* **An 'Entity' or a 'ComponentInstance' shall be referenced.**There shall be a reference to an 'Entity' or a 'ComponentInstance' but not both.
inv: **EntityOrComponentInstance**:

(not self.entity.oclIsUndefined() and self.component.oclIsUndefined())
 or (self.entity.oclIsUndefined() and not self.component.oclIsUndefined())

### Changes to Section 6.3.5 EntityReference

*Change the “Formal Description” subsection as indicated below:*

EntityReferenceLabel ::= self.comment->**first**() **as context in** <ArticleQualifier>

 [**foreach** c:Comment **in** self.comment c **as context in** <Qualifier> **end**]

 **If** self.component.**oclIsUndefined()** **then**

 self.entity.name 'entity'

 **else**

self.component.name 'component'

 **endif**

OppositeEntityLabel ::= self.comment->**first**() **as context in** <DirectionQualifier>

 self.comment->**at**(1) **as context in** <ArticleQualifier>

 [**foreach** c:Comment **in** self.comment c **as context in** <Qualifier> **end**]

 **If** self.component.**oclIsUndefined()** **then**

 self.entity.name 'entity'

**else**

 self.component.name 'component'

 **endif**

*Change the “Example” subsection to:*

 **the** **IUT** **entity**

 **from** **the** **ItsNodeB component**

 **in** **the** **location service buffer entity, for the ItsNodeB component**

### Modify B.2 Production Rules

*Modify the production rules “EntityReference” and “OppositeEntityReference” as follows:*

|  |  |  |
| --- | --- | --- |
| EntityReference | ::= | ArticleQualifier  |
|  |  |  { Qualifier }  |
|  |  |  ( ( Identifier 'entity' )  |
|  |  |  | ( Identifier 'component' ) ) ; |
| OppositeEntityReference | ::= | DirectionQualifier  |
|  |  |  ArticleQualifier  |
|  |  |  { Qualifier }  |
|  |  |  ( ( Identifier 'entity' )  |
|  |  |  | ( Identifier 'component' ) ) ; |