Sharing Types between Profiles

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This document presents a simple example that motivates the need for sharing types between profiles.

# Profile Version 1

Assume I create version 1 of a profile that defines (among other things) a Person data type as follows:

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| --- |
| tosca\_definitions\_version: tosca\_2\_0profile: org.profile.v1data\_types: Person: properties: name: type: string sex: type: string constraints: - valid\_values: [ male, female ] |

# Participant Version 1

Now let’s assume I create service-specific node types based on Version 1 of this profile. These types are defined in a file called participant.yaml, which defines a Participant node type as follows:

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| --- |
| tosca\_definitions\_version: tosca\_2\_0imports: - profile: org.profile.v1 namespace: p1node\_types: Participant: properties: person: type: p1:Person |

# Profile Version 2

At some later point of time, I create version 2 of the same profile. This profile defines the same Person data type, but for convenience it also defines Man and Woman derived data types as follows:

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| --- |
| tosca\_definitions\_version: tosca\_2\_0profile: org.profile.v2data\_types: Person: properties: name: type: string sex: type: string constraints: - valid\_values: [ male, female ] Woman: derived\_from: Person properties: sex: female Man: derived\_from: Person properties: sex: male |

# Participant Version 2

Now let’s assume I create an updated version of my service. This updated version re-uses the service-specific node types defined in Version 1 by importing the old participant.yaml file, but it also adds MaleParticipant and FemaleParticipant node types. For example:

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| --- |
| tosca\_definitions\_version: tosca\_2\_0imports: - profile: org.profile.v2 namespace: p2 - file: participant.yaml namespace: panode\_types: FemaleParticipant: derived\_from: pa:Participant properties: person: type: p2:Woman |

In this example, the FemaleParticipant node type uses a property refinement to “refine” the person property defined in the base Participant node type. However, this refinement will fail validation, since the Woman data type defined in org.profile.v2 will not be recognized as a derived type of the Person data type defined in org.profile.v1.

TOSCA language support is need to allow profile designers to indicate that the Person datatype defined in org.profile.v2 is the same as the Person data type defined in org.profile.v1.