

# Proposed mechanism to map external references to SPDX Licensable elements

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## Background

To solve the needs for supply chain and SPDX hierarchies (bug 818), a new object model has been proposed which includes a concrete and referential specifier to other SPDX elements. Including the mechanism for external references in the object model creates some compatibility issues with the 1.0 spec and makes it more difficult to model domain elements (such as Package and File).

There exist mechanisms in RDF for external references using a URI.

## Requirements for External References

1. The reference must be unique and unambiguous
2. Ability to validate the content of the reference has not changed
3. Ability to replace the reference with a “concrete” copy of the information

## RDF Implementation Proposal

- Use the existing RDF URI as a mechanism to implement the references. This will satisfy #1 and #3 “out of the box”.
  - Since the Licensable element will be embedded in another document, the URI will typically contain a fragment which points to the specific Licensable within an existing SPDX document. I would consider this an implementation suggestion and not a requirement.
  - A File URI scheme can be used for files.
- Add a checksum property for any Licensable reference
  - Optional since this would not be required for concrete Licensable references
  - The checksum would need to be for the entire SPDX document which contains the Licensable element since it is difficult to extract only the relevant elements that pertain only to the Licensable
  - For the merged proposal, the SDPXElementRelationship would contain and the property `spdxDocumentChecksum`
  - The range of the checksum would be the Checksum class we use for other checksum purposes