

# XDI Graph Patterns

OASIS XDI TC Submission  
Drummond Reed  
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This document contains illustrations of eight basic XDI graph patterns:

1. **Root context nodes and synonyms:** properties used to assert multiple addresses for the same node in the graph.
2. **Simple properties:** properties that accept only a single literal value.
3. **Complex properties:** properties that may accept multiple literal values as well as describe typing and ordering of those values.
4. **Simple subjects:** subjects that may contain only instances of themselves and metadata describing those instances.
5. **Complex subjects:** subjects that may contain all of the above.
6. **Social graphs:** relationships between XDI authorities.
7. **Link contracts:** subgraphs used for XDI authorization.
8. **Messages:** XDI documents used in the XDI protocol.

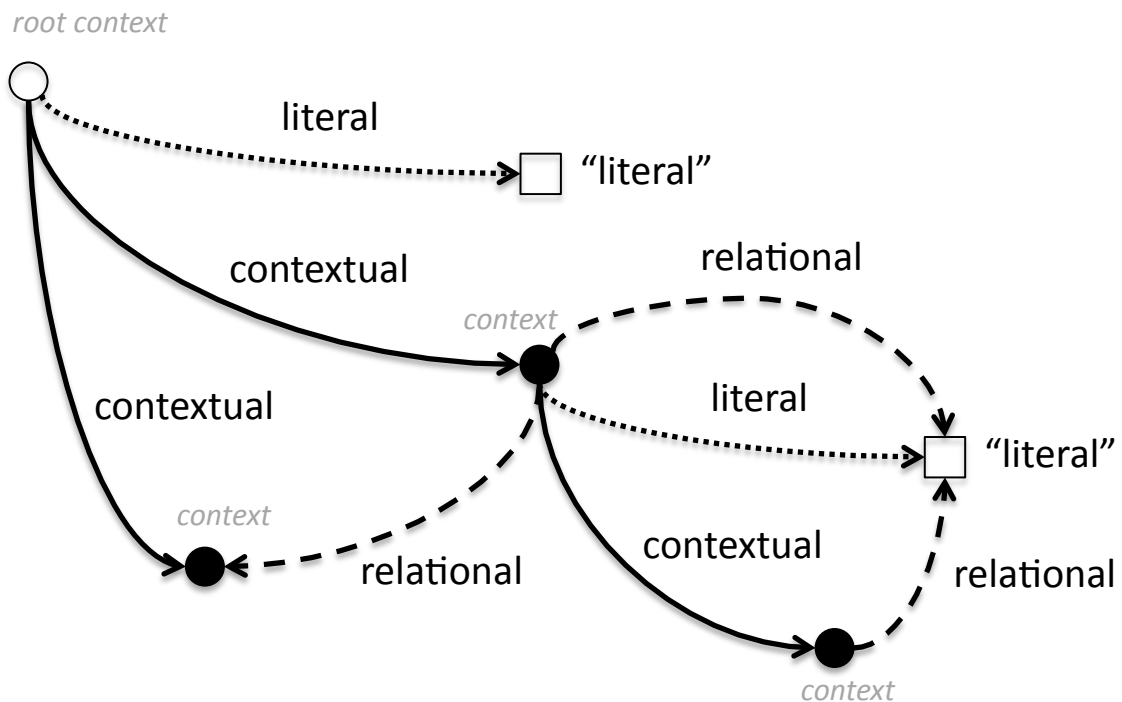
It also illustrates how versioning may be applied to any branch of the graph.

Note: this document uses the XDI metagraph symbols as documented in the [XDI Graph Model 2011-02-09](#).

# Notation

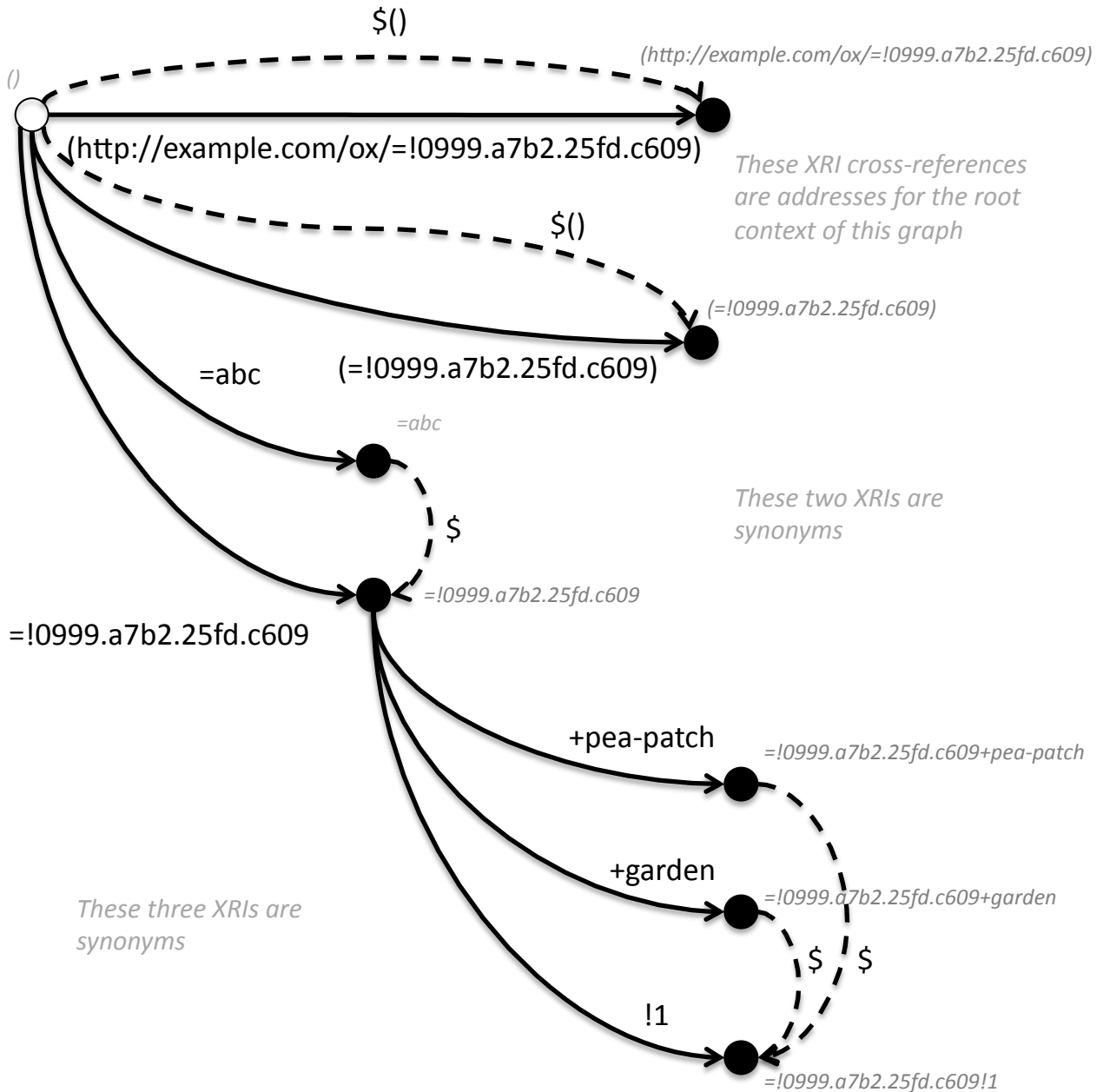
- **Root context node:** Represents the root context of an XDI graph
- **Context node:** Represents an XDI subject
- **Literal node:** Represents a literal XDI object
-  **Contextual arc:** Uniquely identifies a context node
-  **Literal arc:** Uniquely identifies a literal node
-  **Relational arc:** Non-uniquely links nodes

## Example

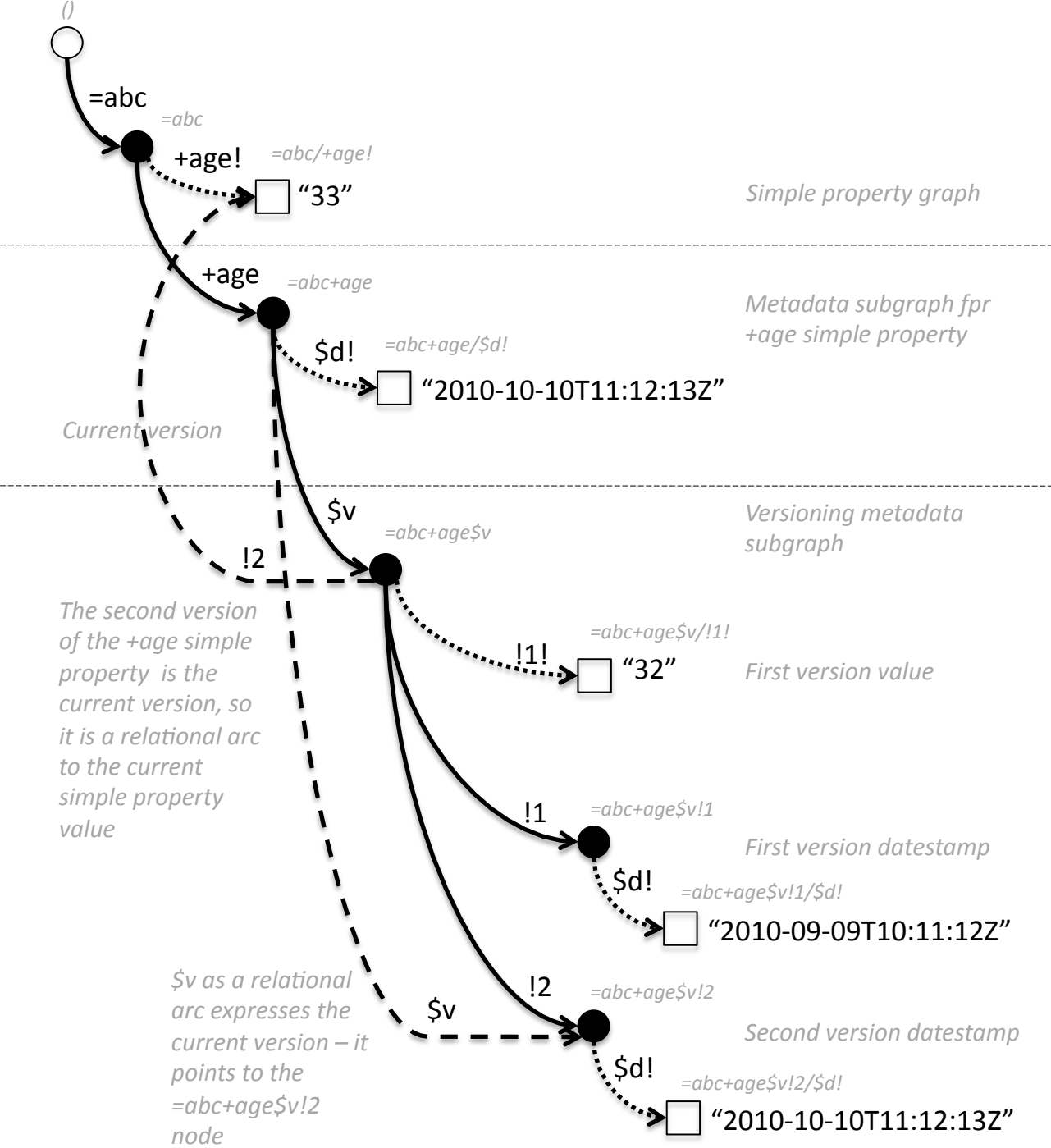


# Root contexts and synonyms

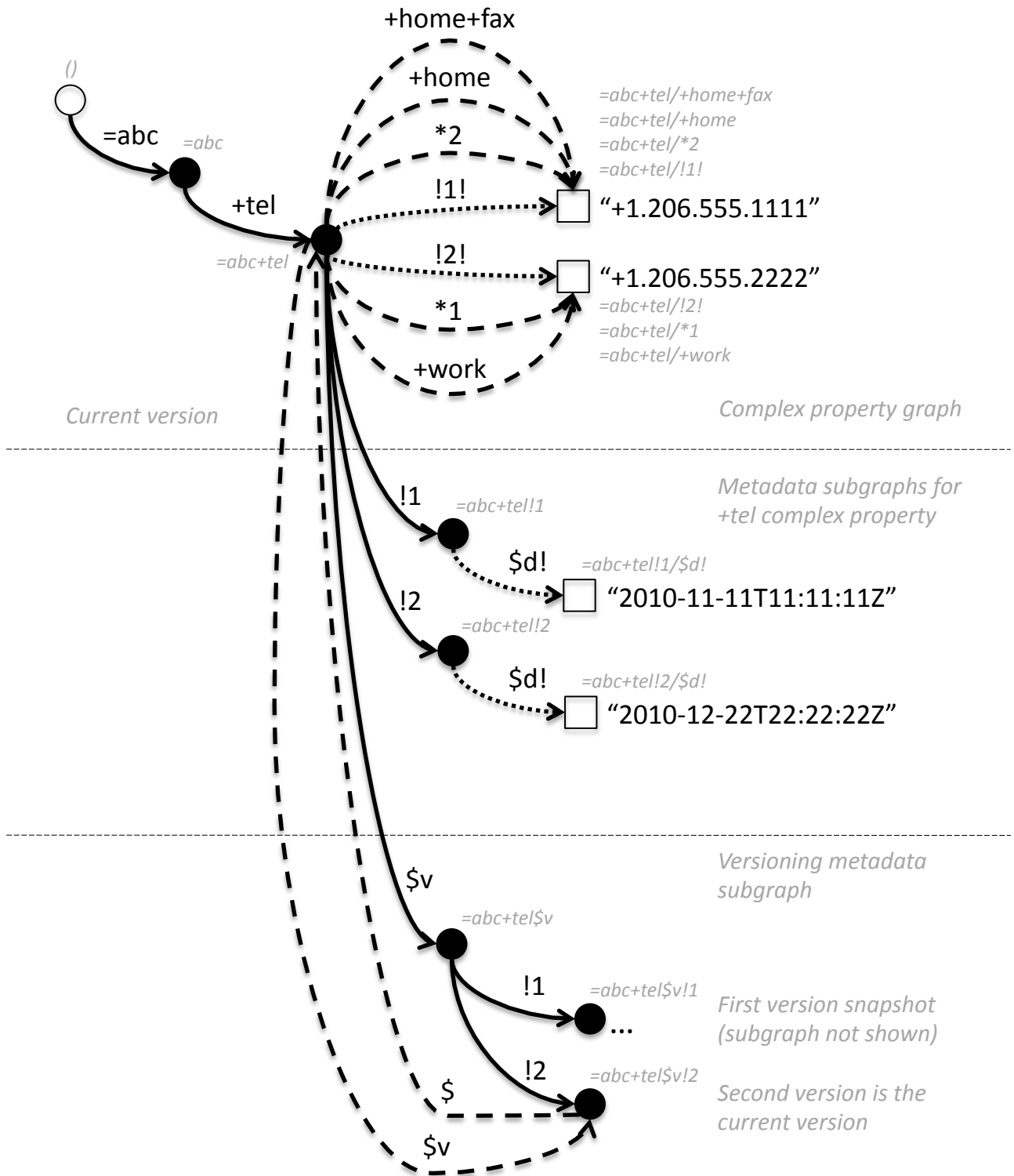
Every XDI context node has exactly one XRI address. Any two XDI context nodes may be declared as equivalent using a relational arc with the metagraph symbol \$. Since this is an equivalence relationship, the inverse arc exists by definition, and is not shown in the graph. A \$ relational arc requires XDI processors to redirect to its target node.



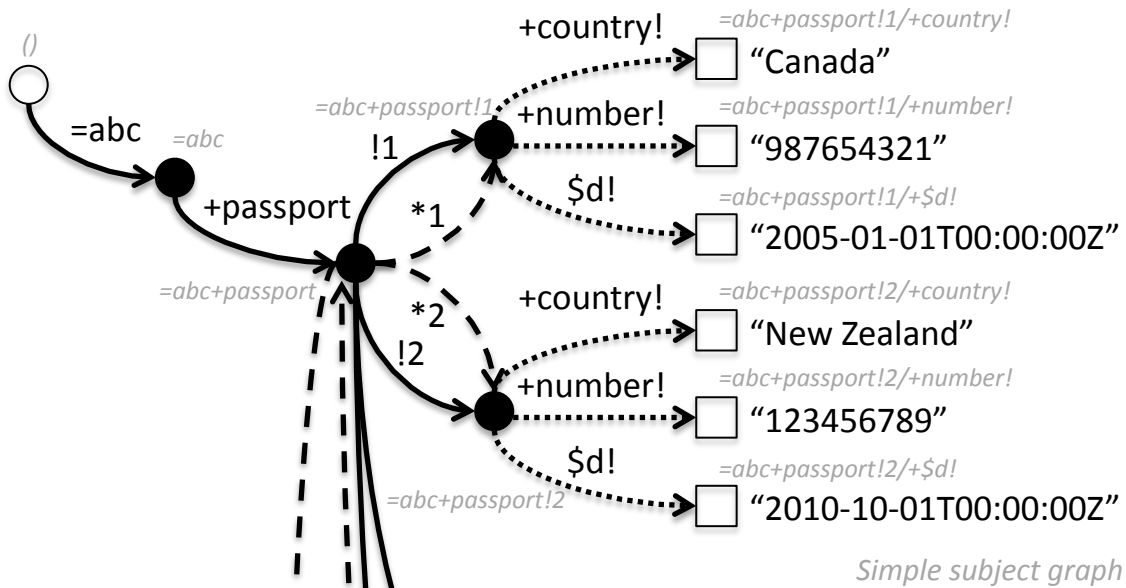
# Simple properties



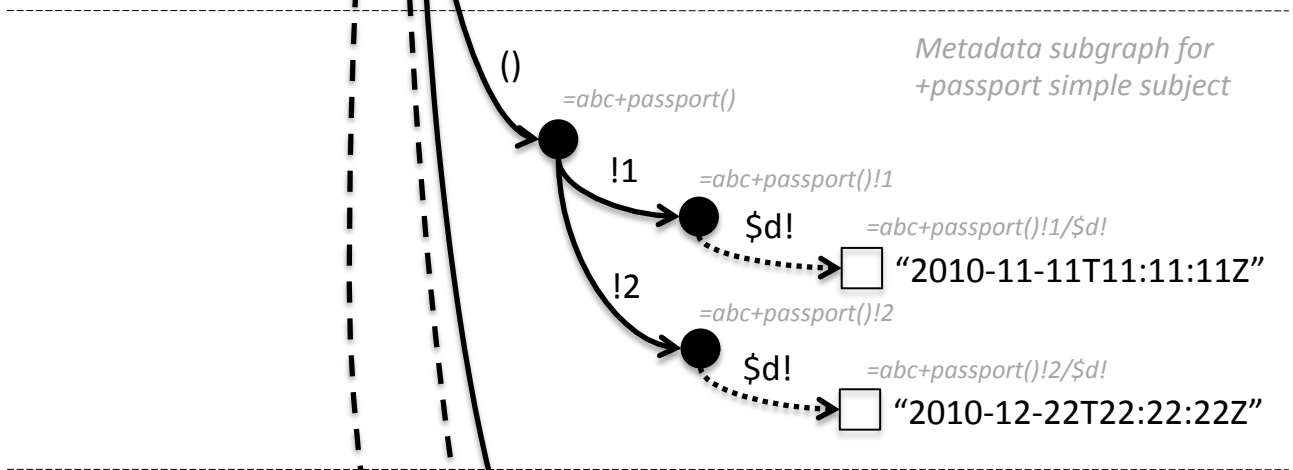
# Complex properties



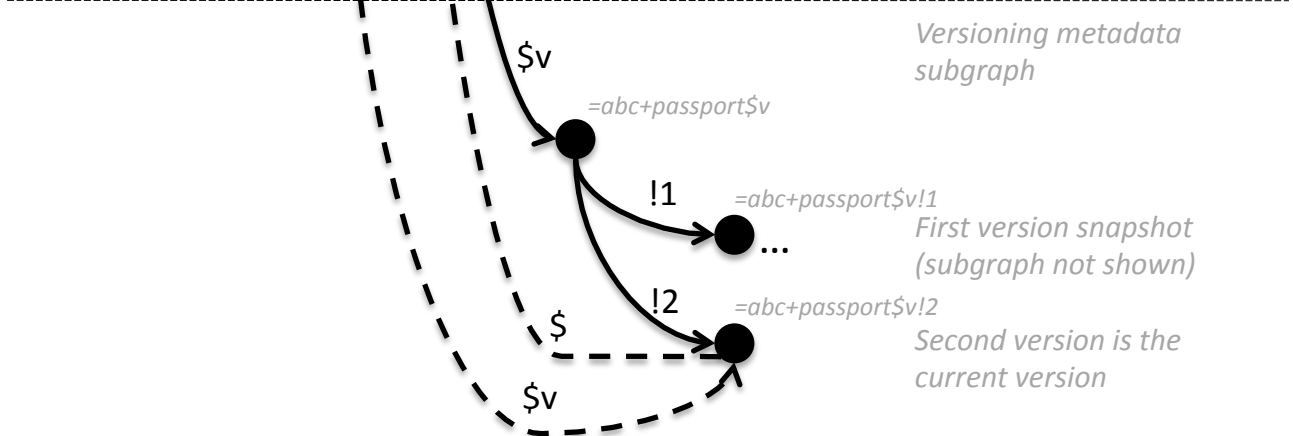
# Simple subjects



Simple subject graph



Metadata subgraph for +passport simple subject

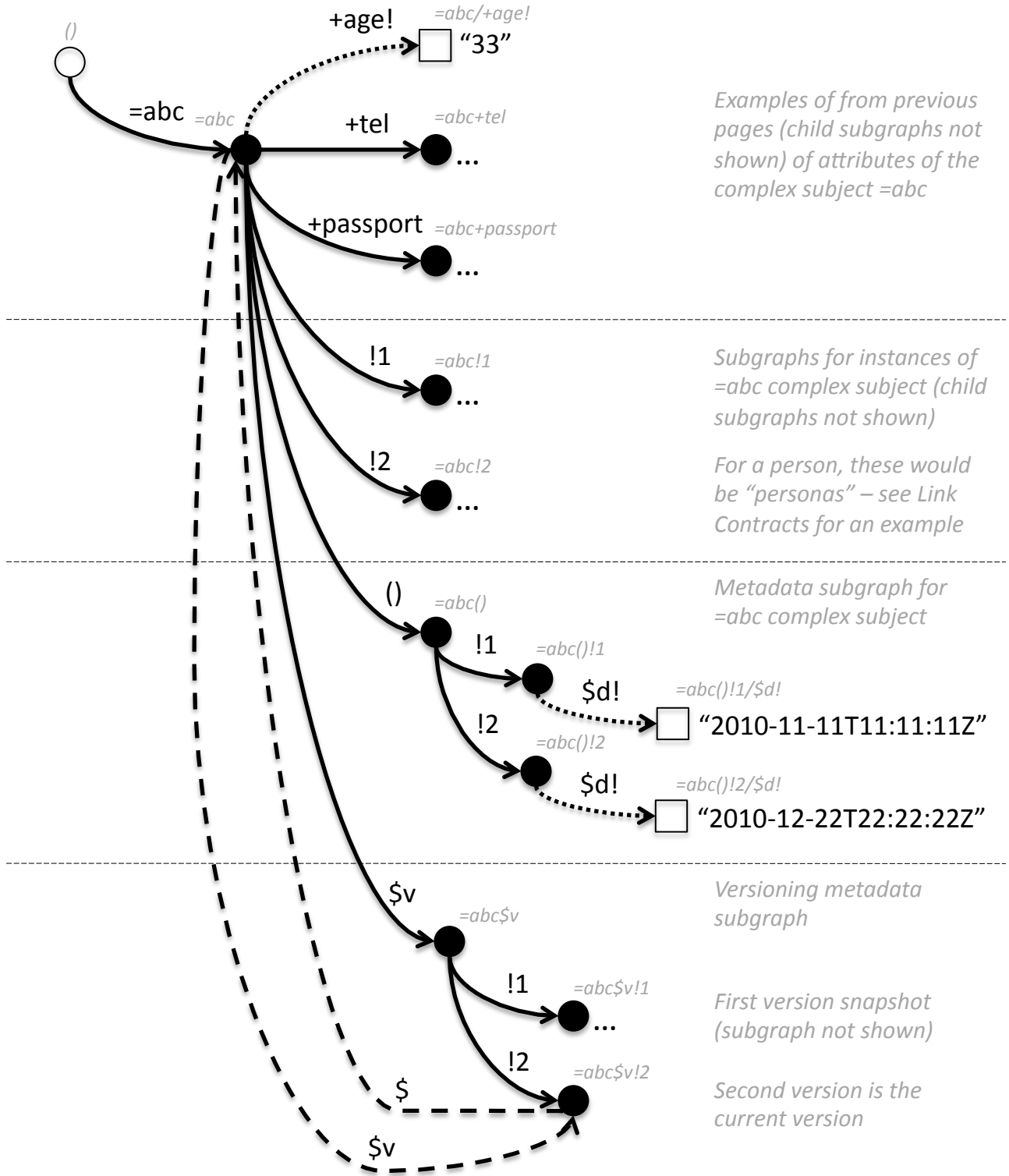


Versioning metadata subgraph

First version snapshot (subgraph not shown)

Second version is the current version

# Complex subjects



Examples of from previous pages (child subgraphs not shown) of attributes of the complex subject `=abc`

Subgraphs for instances of `=abc` complex subject (child subgraphs not shown)

For a person, these would be "personas" – see Link Contracts for an example

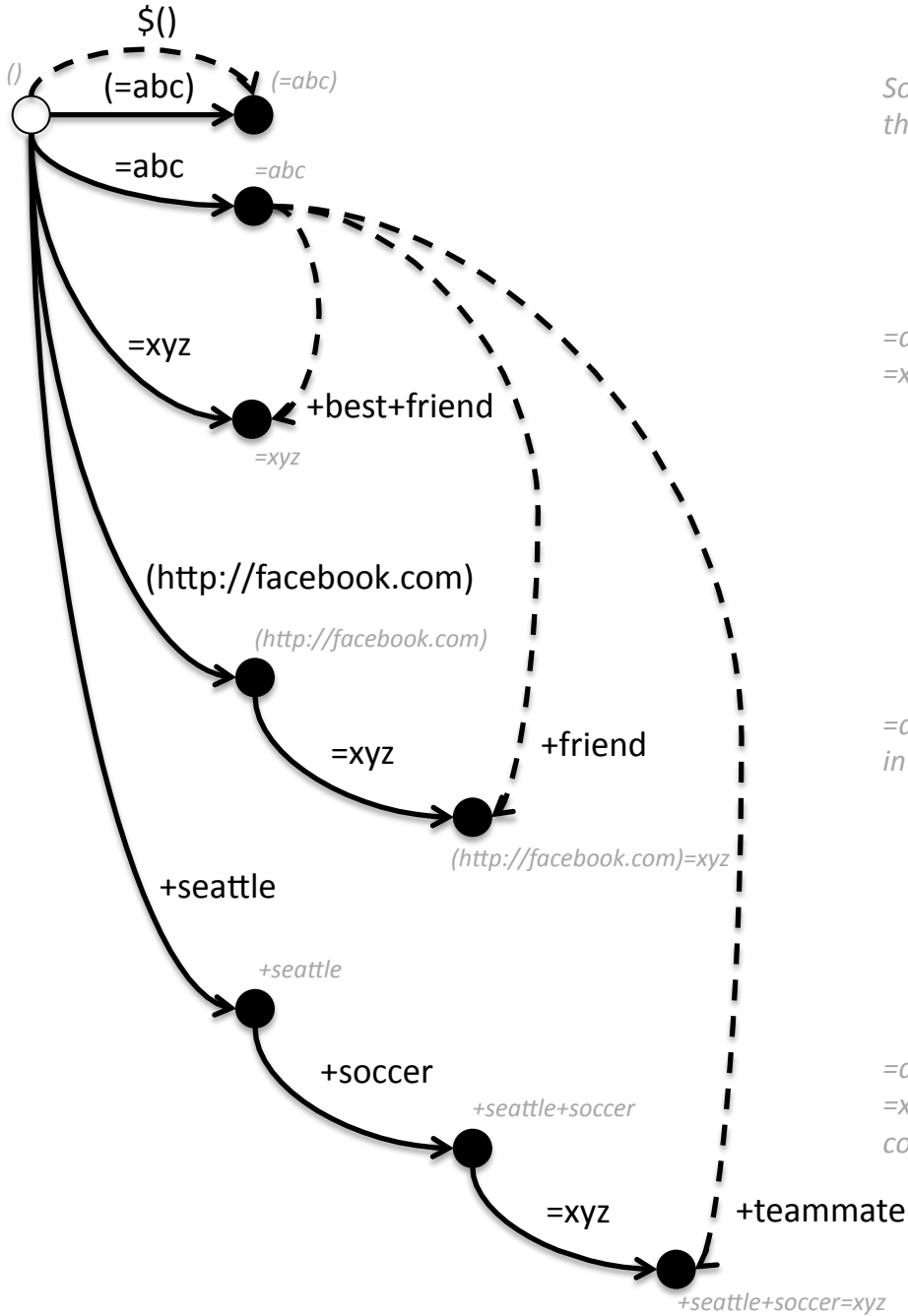
Metadata subgraph for `=abc` complex subject

Versioning metadata subgraph

First version snapshot (subgraph not shown)

Second version is the current version

# Social graphs



*Social graph expressed at the (=abc) endpoint*

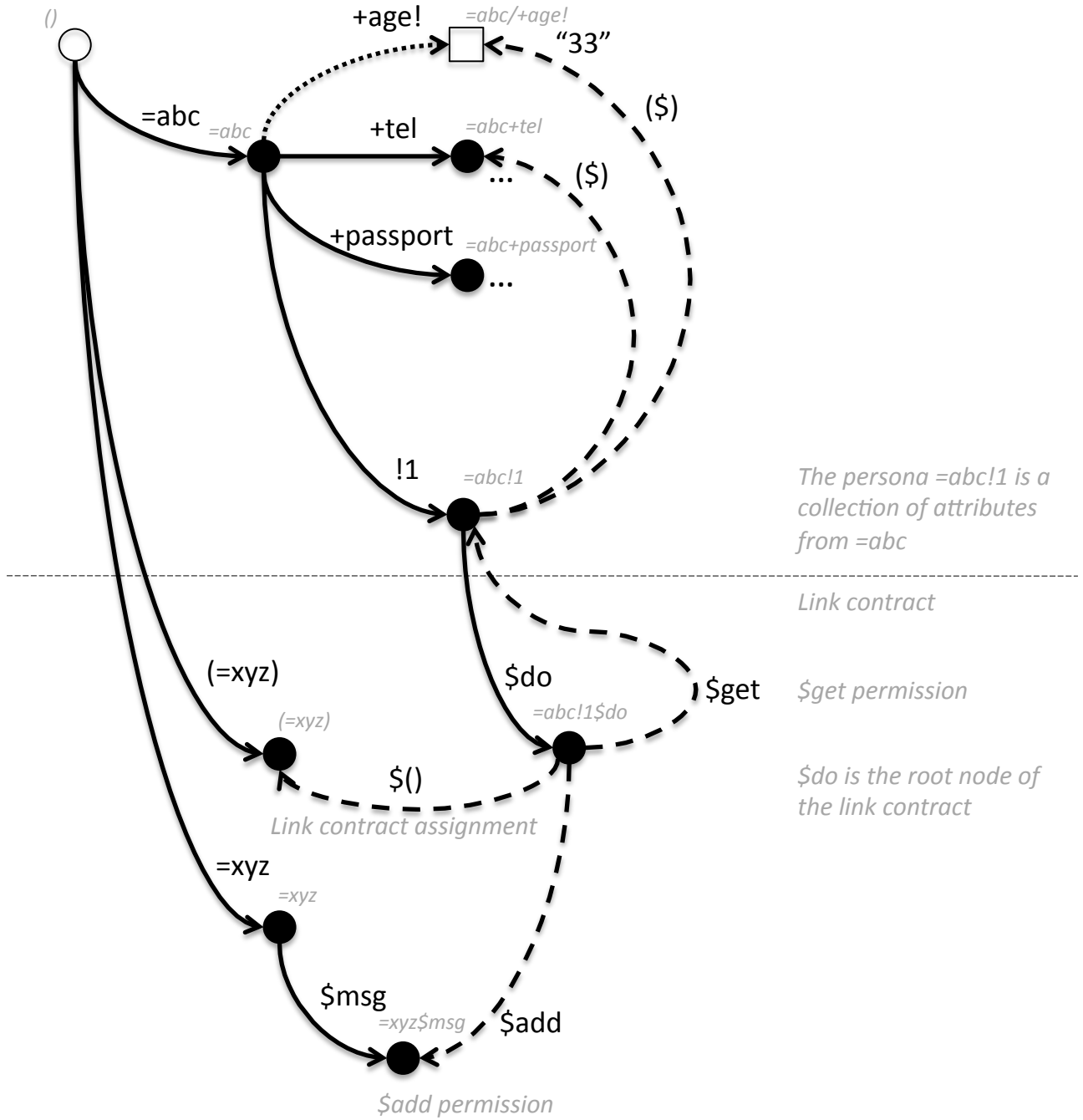
*=abc is best friends with =xyz*

*=abc is friends with =xyz in the Facebook context*

*=abc is a teammate of =xyz in a Seattle soccer context*



# Link contracts



# Messages

