

XDI Graph Patterns

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

1. **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.

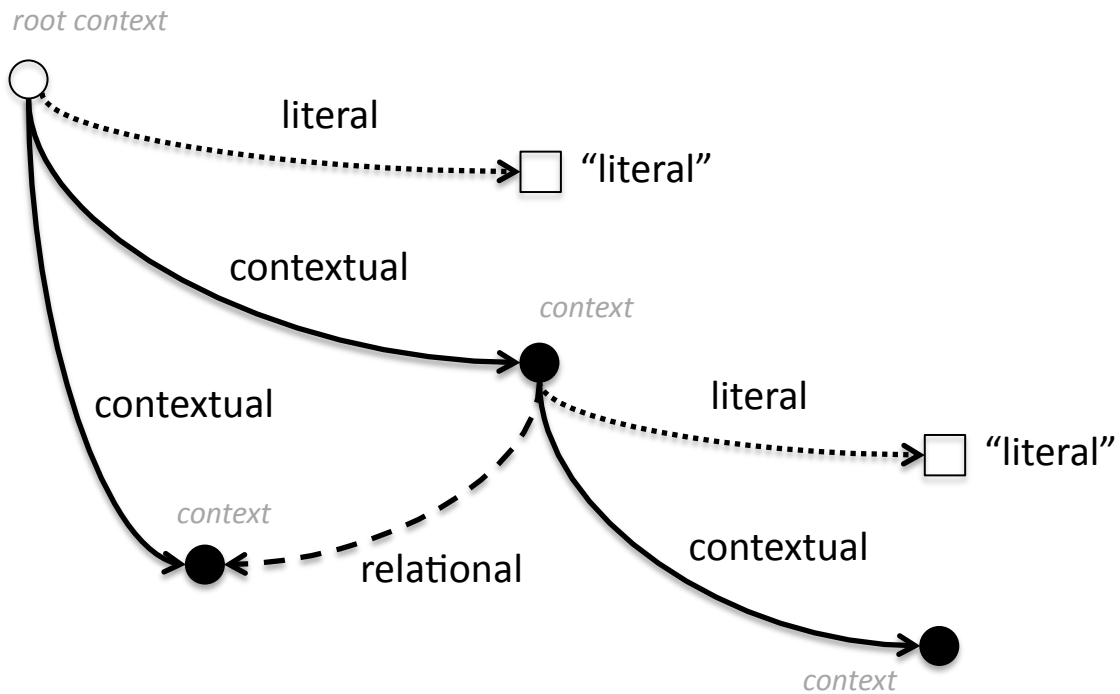
It also illustrates how versioning may be applied to any branch of the graph.

Note: this document uses the XDI metagraph symbols as documented in the XDI Graph Model 2011-02-09.

Notation

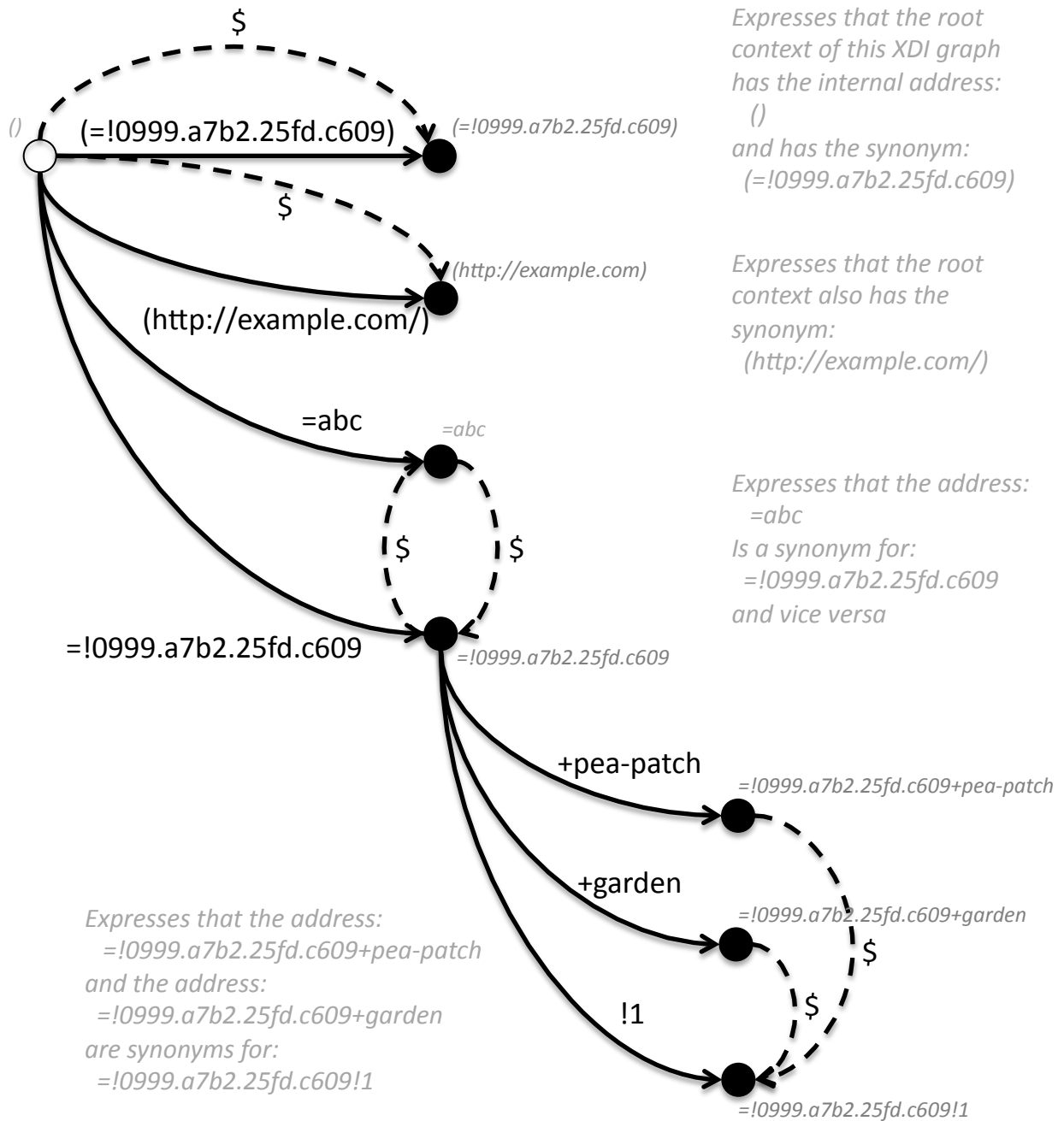
-  **Root context node:** Represents the root context of an XDI graph
-  **Context node:** Represents an XDI subject
-  **Literal node:** Represents a literal XDI object
-  **Contextual arc:** Uniquely identifies a context node
-  **Literal arc:** Uniquely identifies a literal node
-  **Relational arc:**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

Example

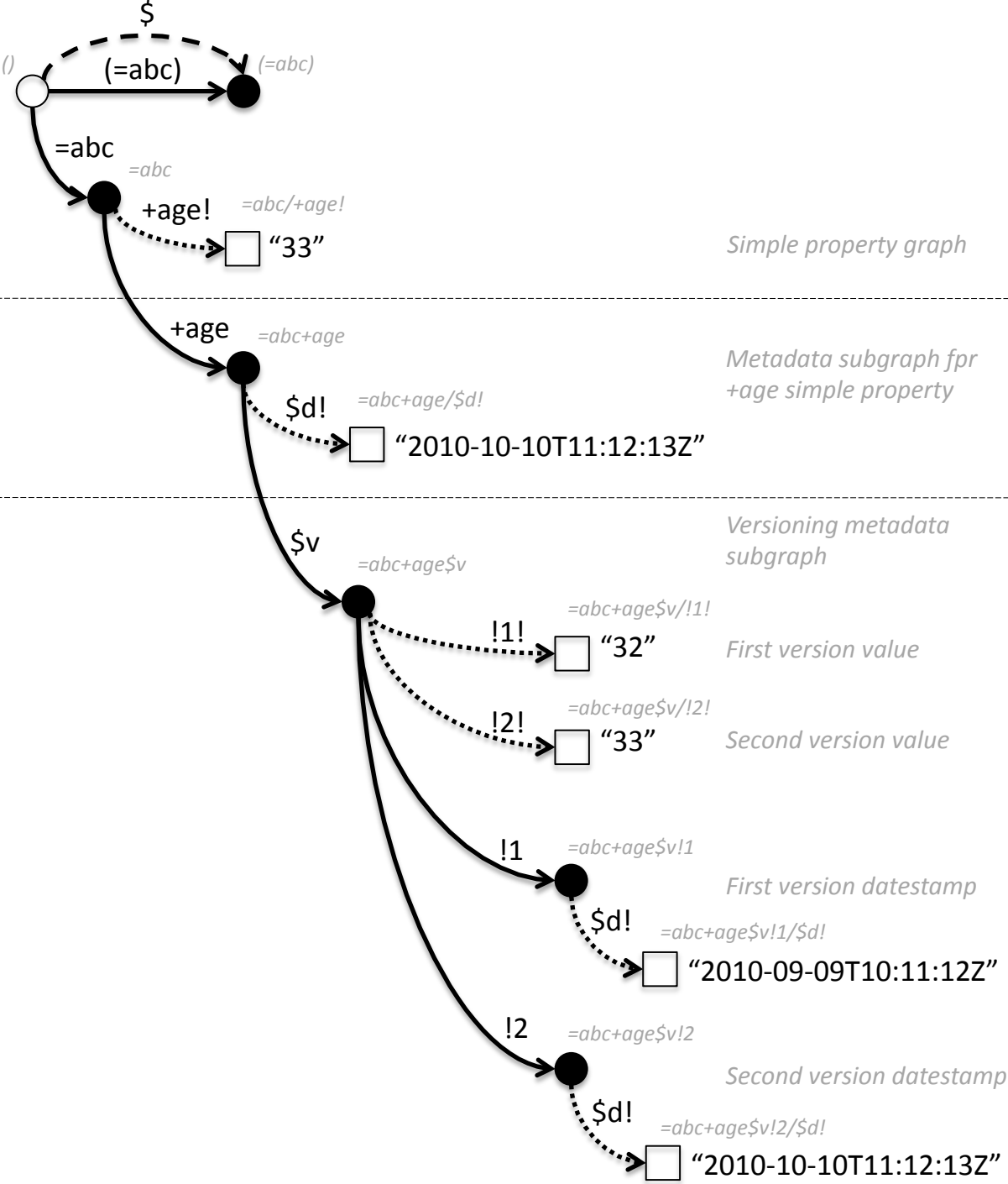


Synonyms

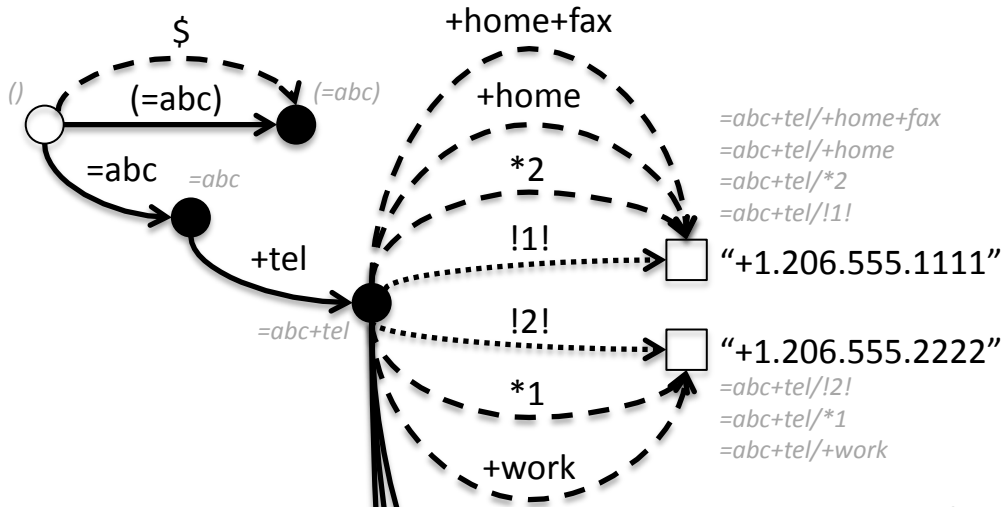
Synonyms are different XDI addresses that identify the same XDI context node. They are expressed using a relational arc with the metagraph symbol \$.



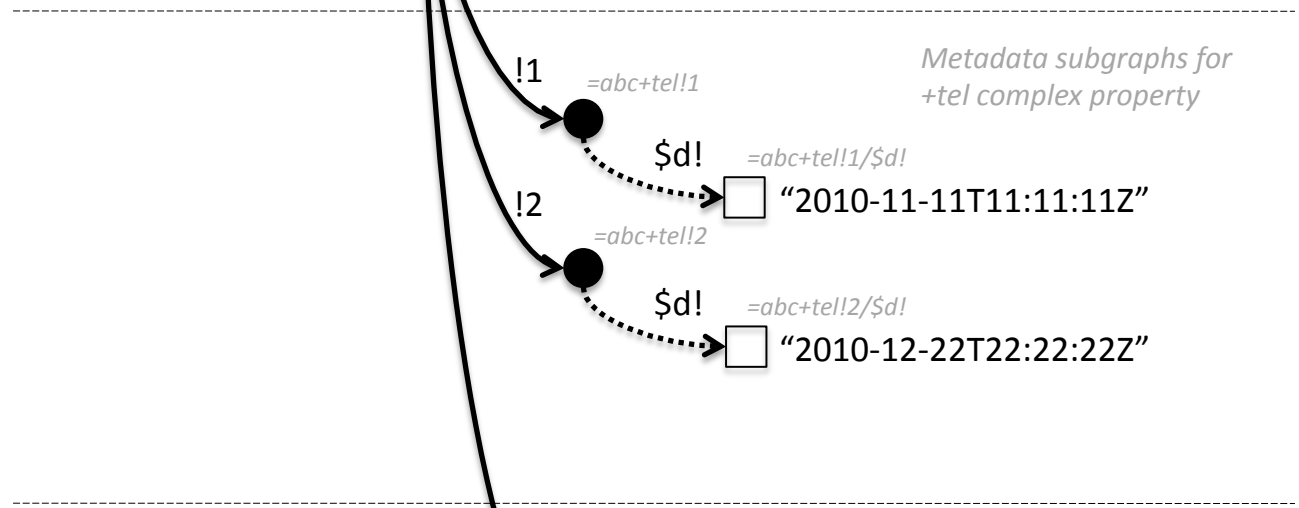
Simple properties



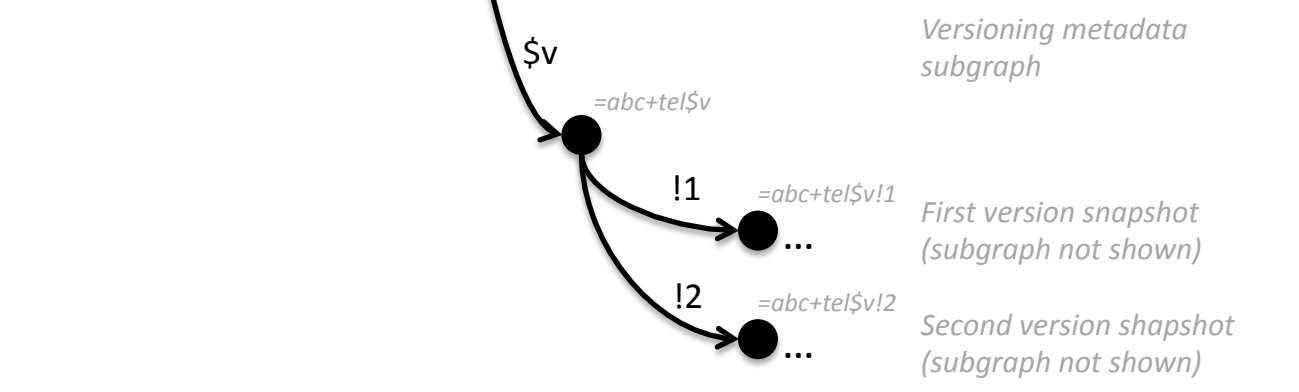
Complex properties



Complex property graph

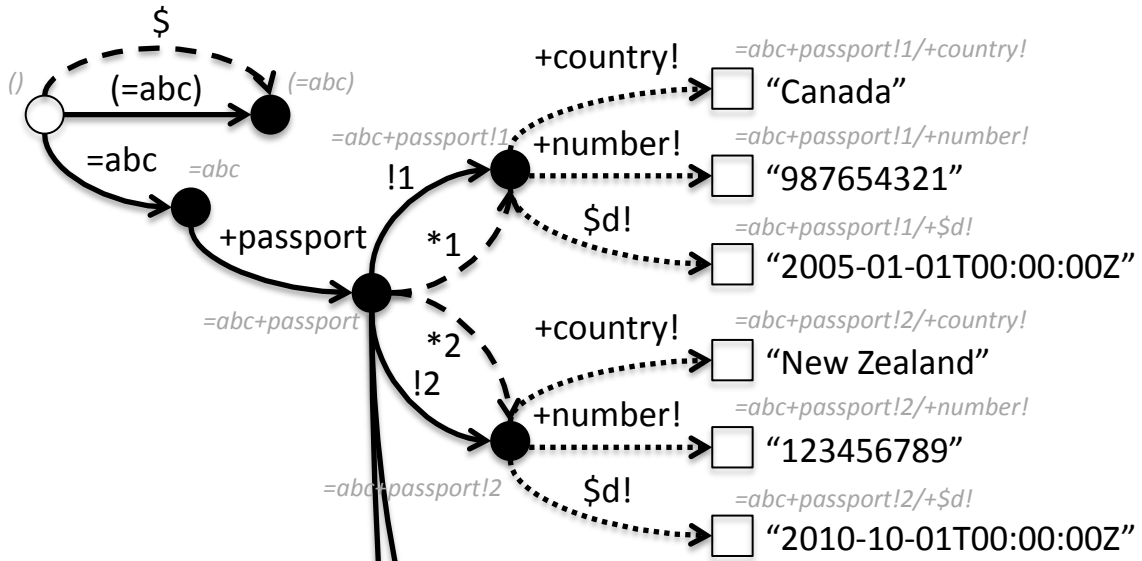


Metadata subgraphs for +tel complex property

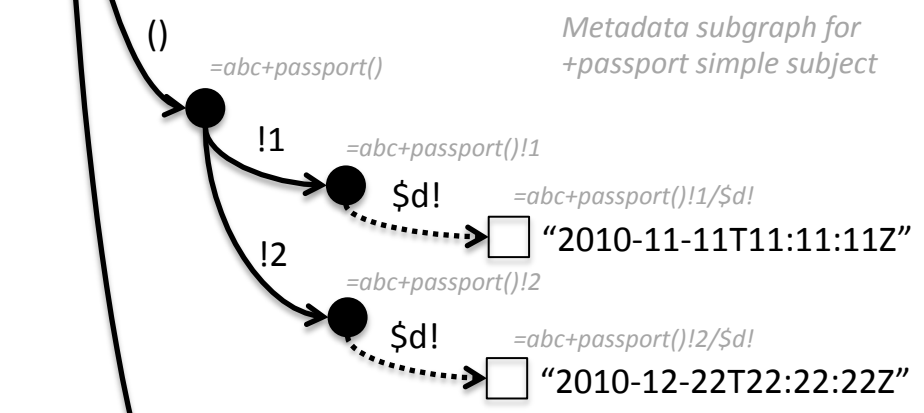


Versioning metadata subgraph

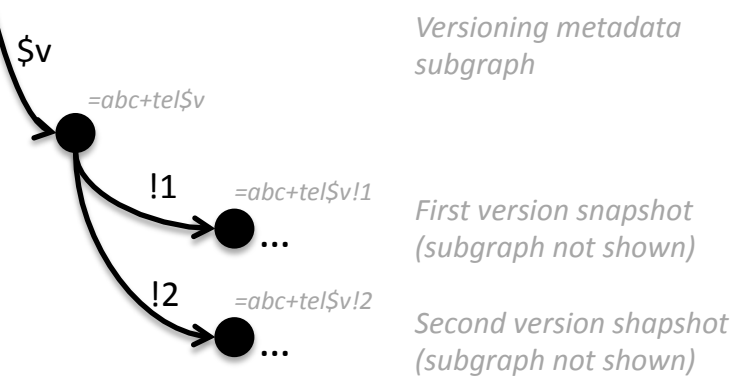
Simple subjects



Simple subject graph



Metadata subgraph for +passport simple subject

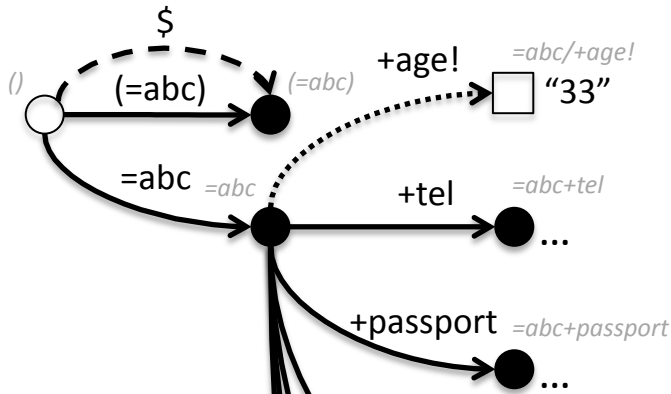


Versioning metadata subgraph

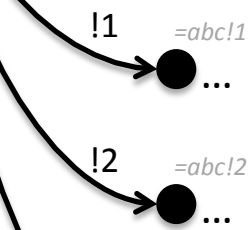
First version snapshot (subgraph not shown)

Second version snapshot (subgraph not shown)

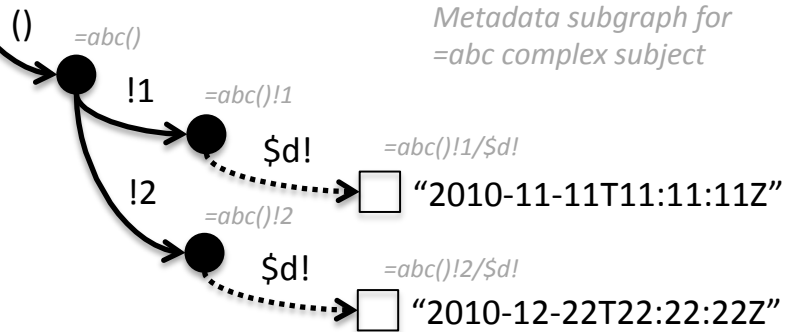
Complex subjects



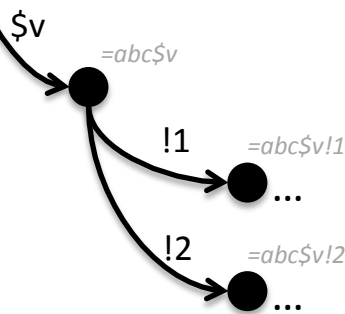
Examples of from previous pages (child subgraphs not shown) of attributes of the complex subject =abc



Subgraphs for instances of the =abc complex subject (child subgraphs not shown)
For a person, these would be "personas"



Metadata subgraph for =abc complex subject

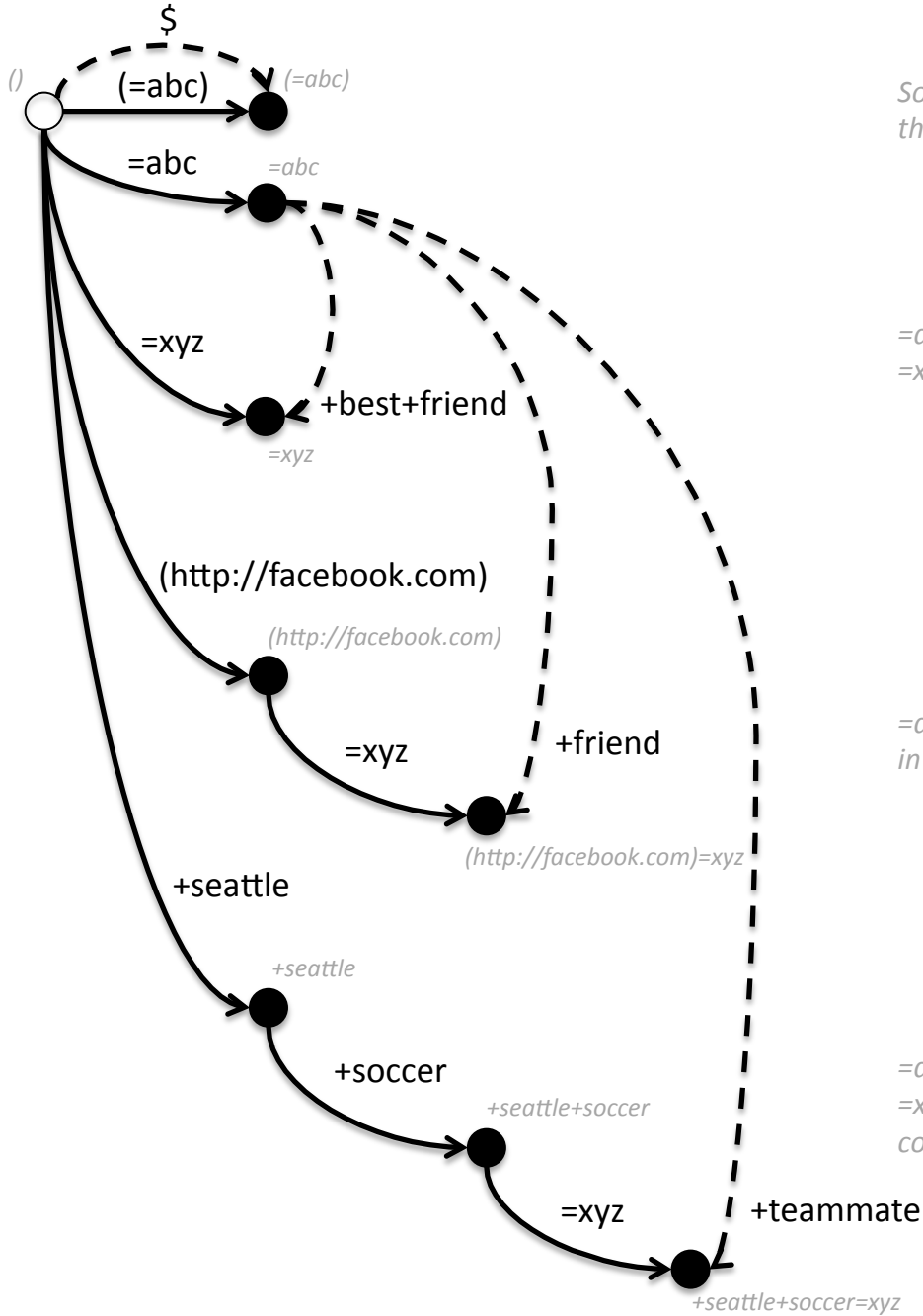


Versioning metadata subgraph

First version snapshot (subgraph not shown)

Second version shapshot (subgraph not shown)

Social graphs



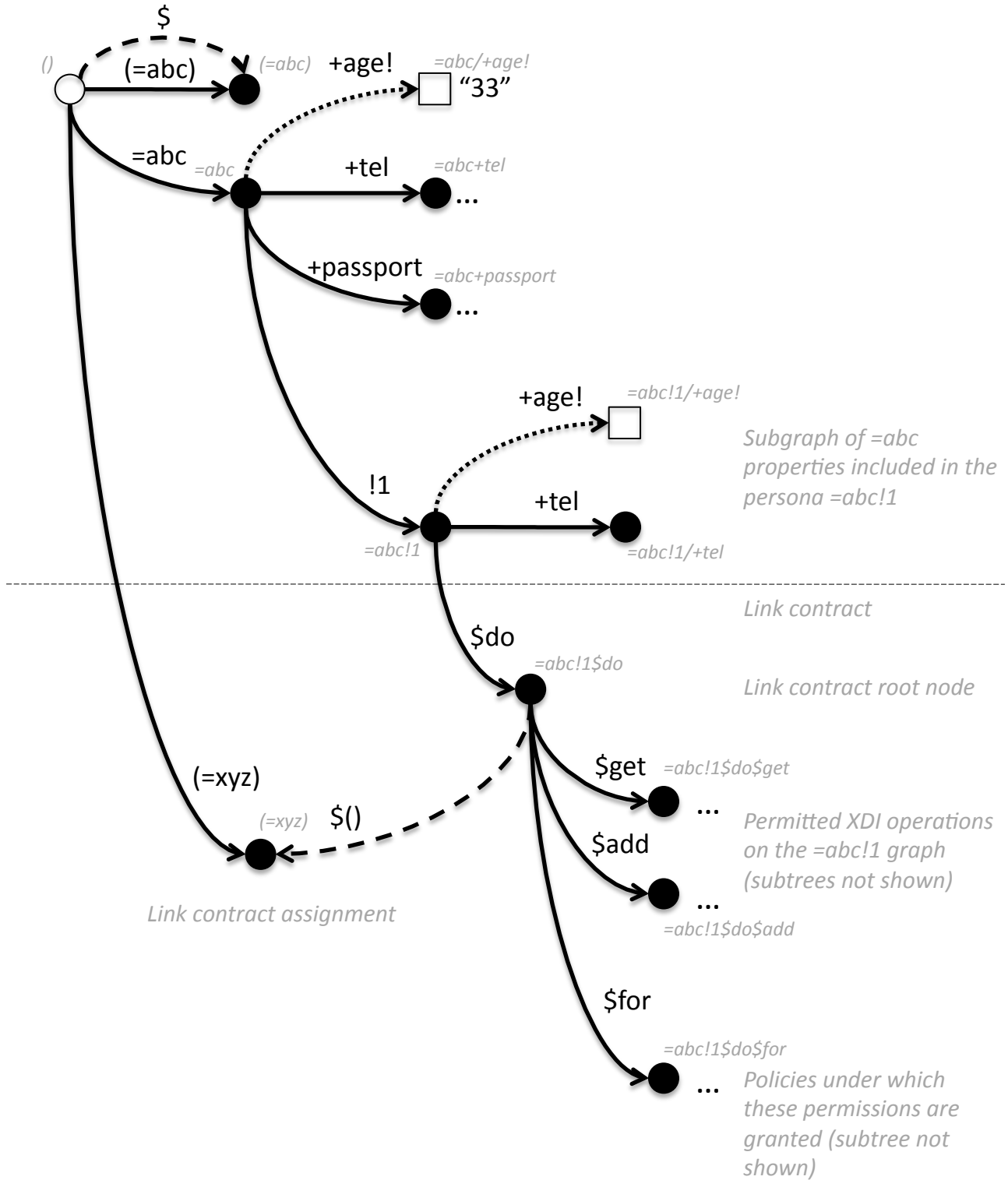
Social graph expressed at the $(=abc)$ endpoint

$=abc$ 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

