

XDI Graph Patterns




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

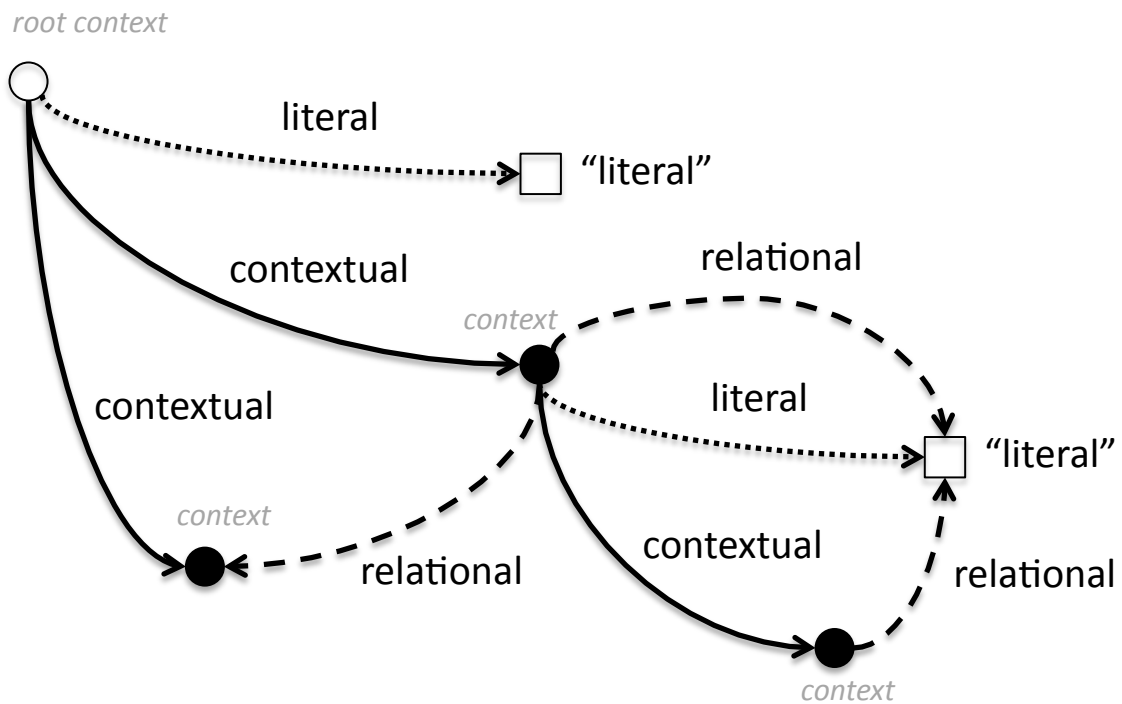
1. **Root context nodes and synonyms:** properties used to assert multiple XRIs for the same logical node in the graph.
2. **Simple properties:** properties that accept only a single literal value.
3. **Complex properties:** properties that may accept multiple literal values as well as describe typing 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.

Notation

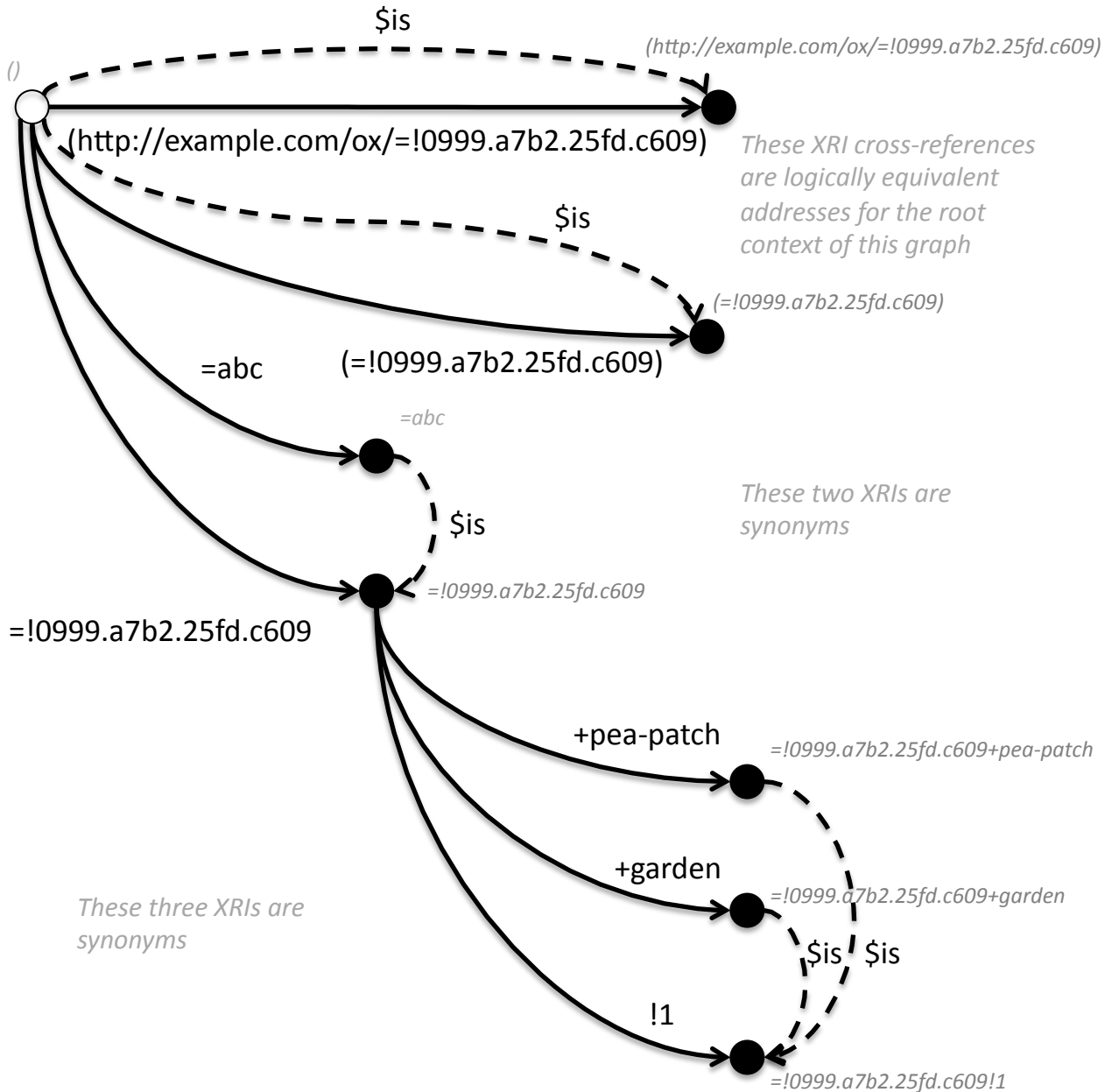
- **Root context node:** Represents the root context of an XDI graph
- **Context node:** Represents an XDI subject
- **Literal node:** Represents a literal XDI object
-  **Contextual arc:** Uniquely identifies a context node
-  **Literal arc:** Uniquely identifies a literal node
-  **Relational arc:**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

Example

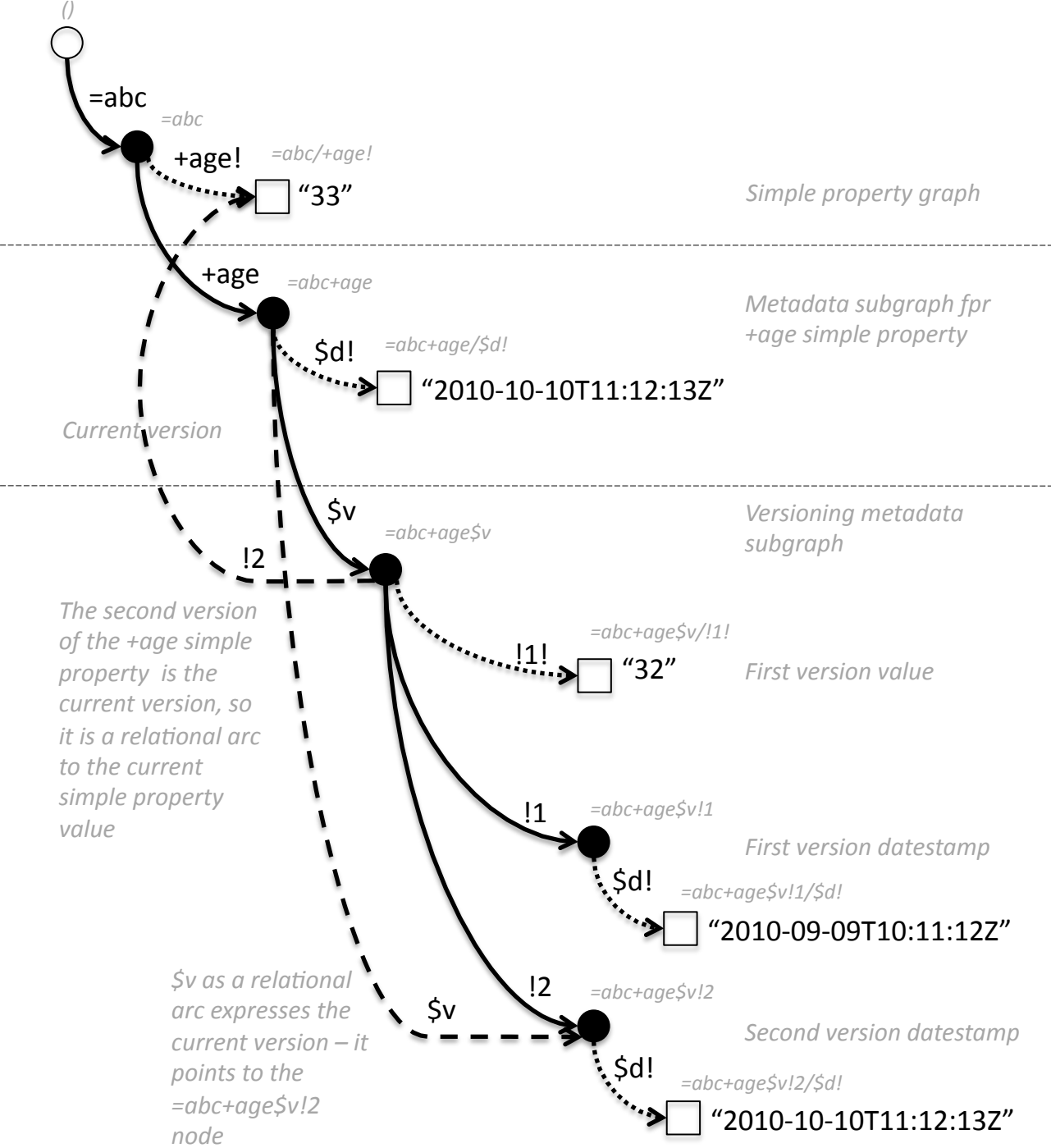


Root contexts and synonyms

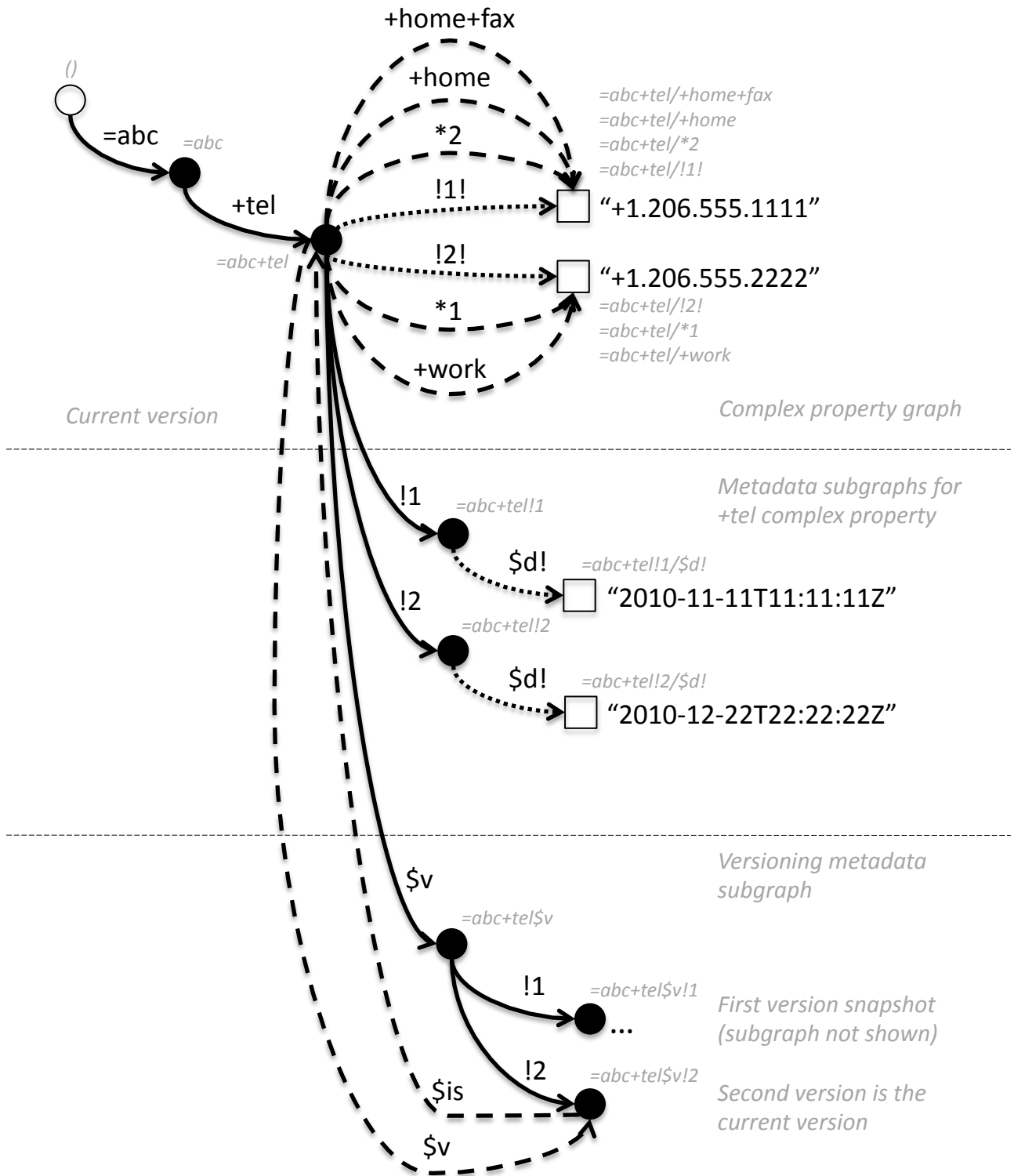
Every XDI context node has exactly one XRI address. Any two XDI context nodes may be declared as logically equivalent using a relational arc with the metagraph word \$is. Since this is an equivalence relationship, the inverse arc exists by definition, and is not shown in the graph. Except on the root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



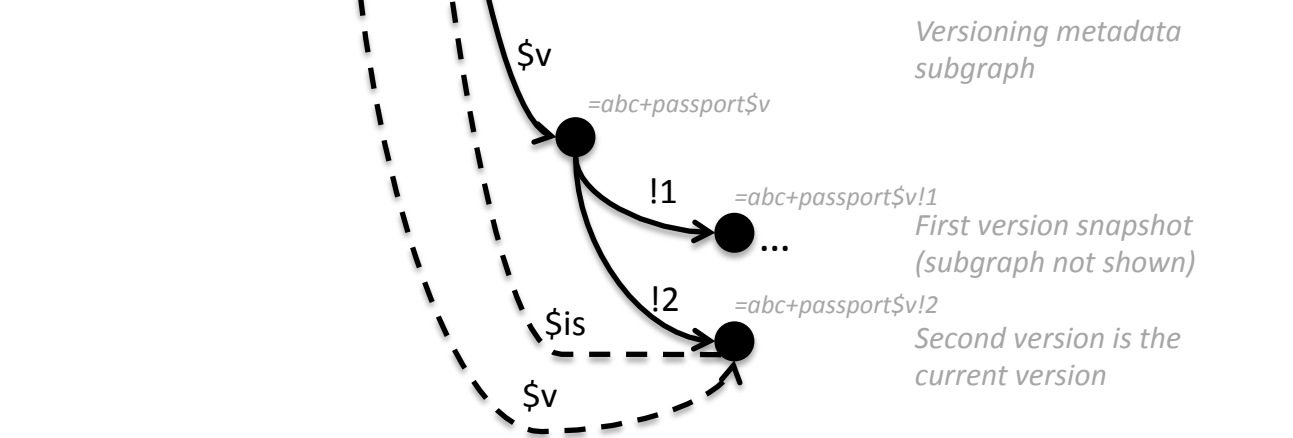
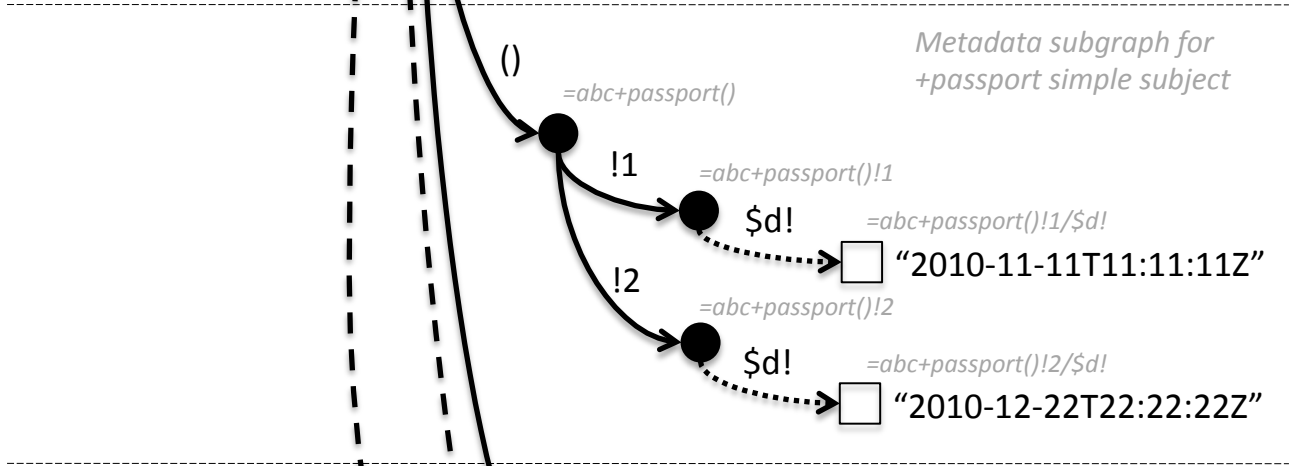
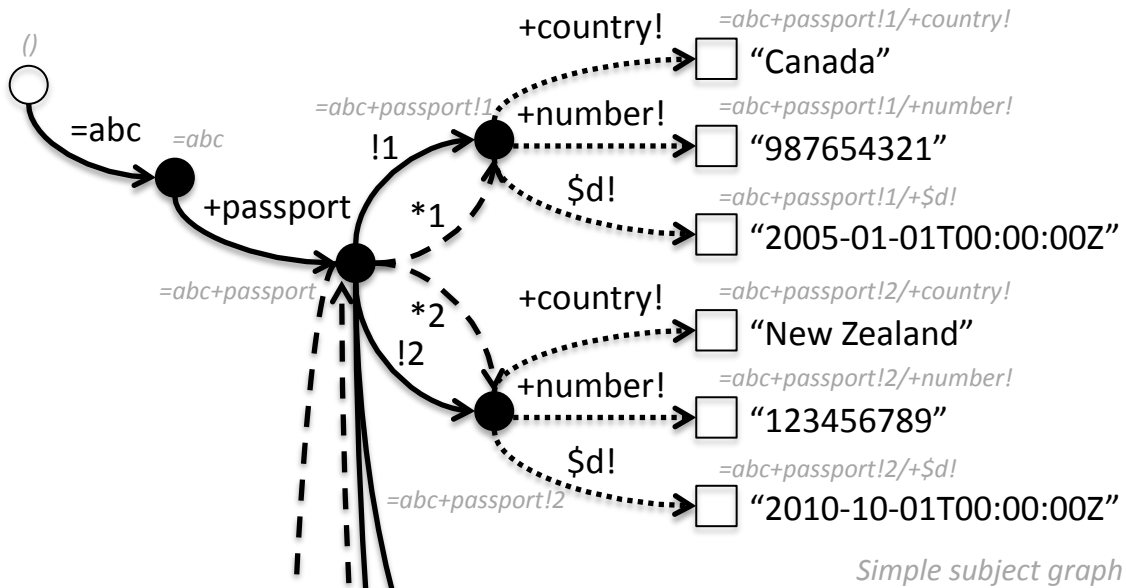
Simple properties



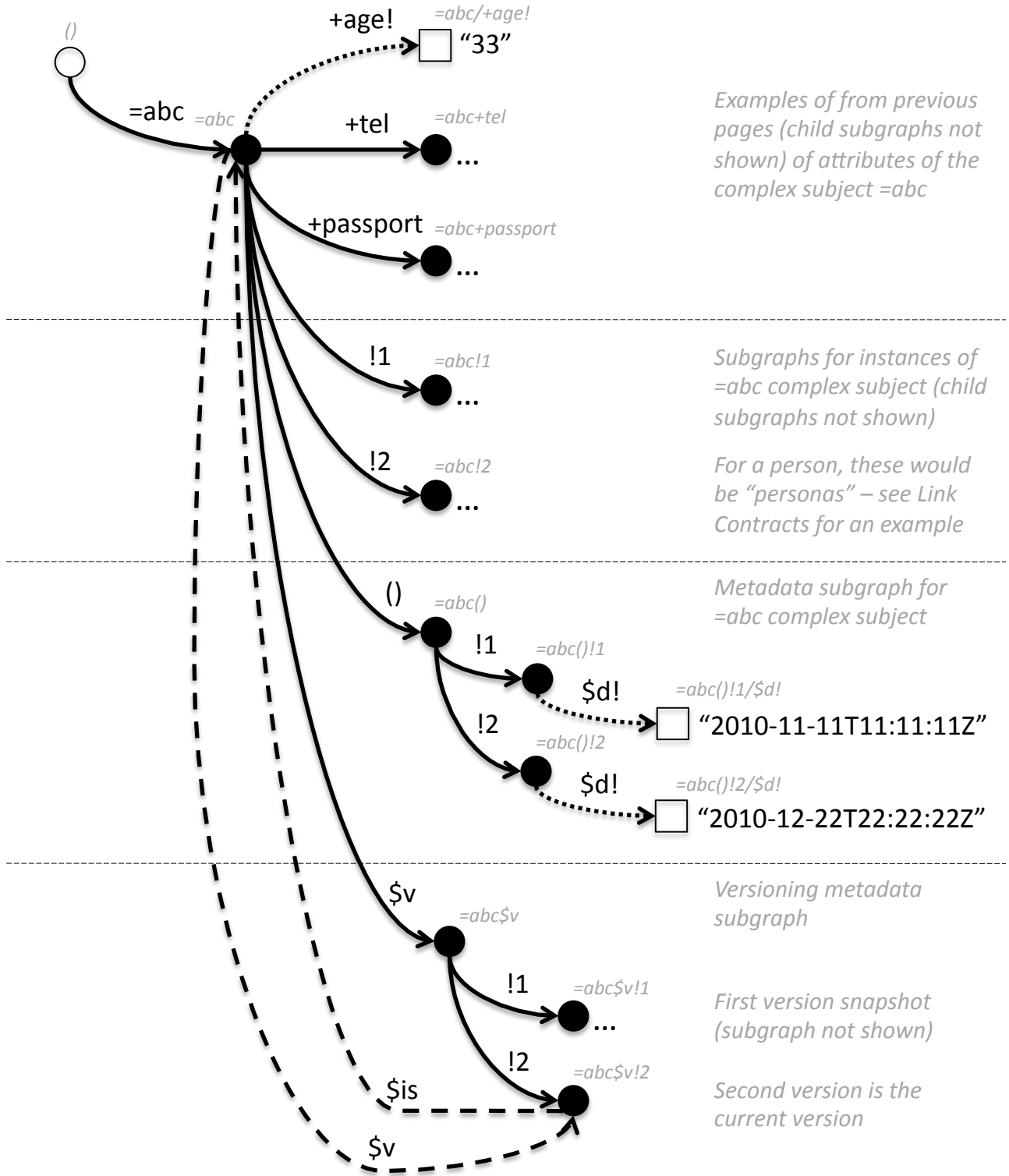
Complex properties



Simple subjects



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

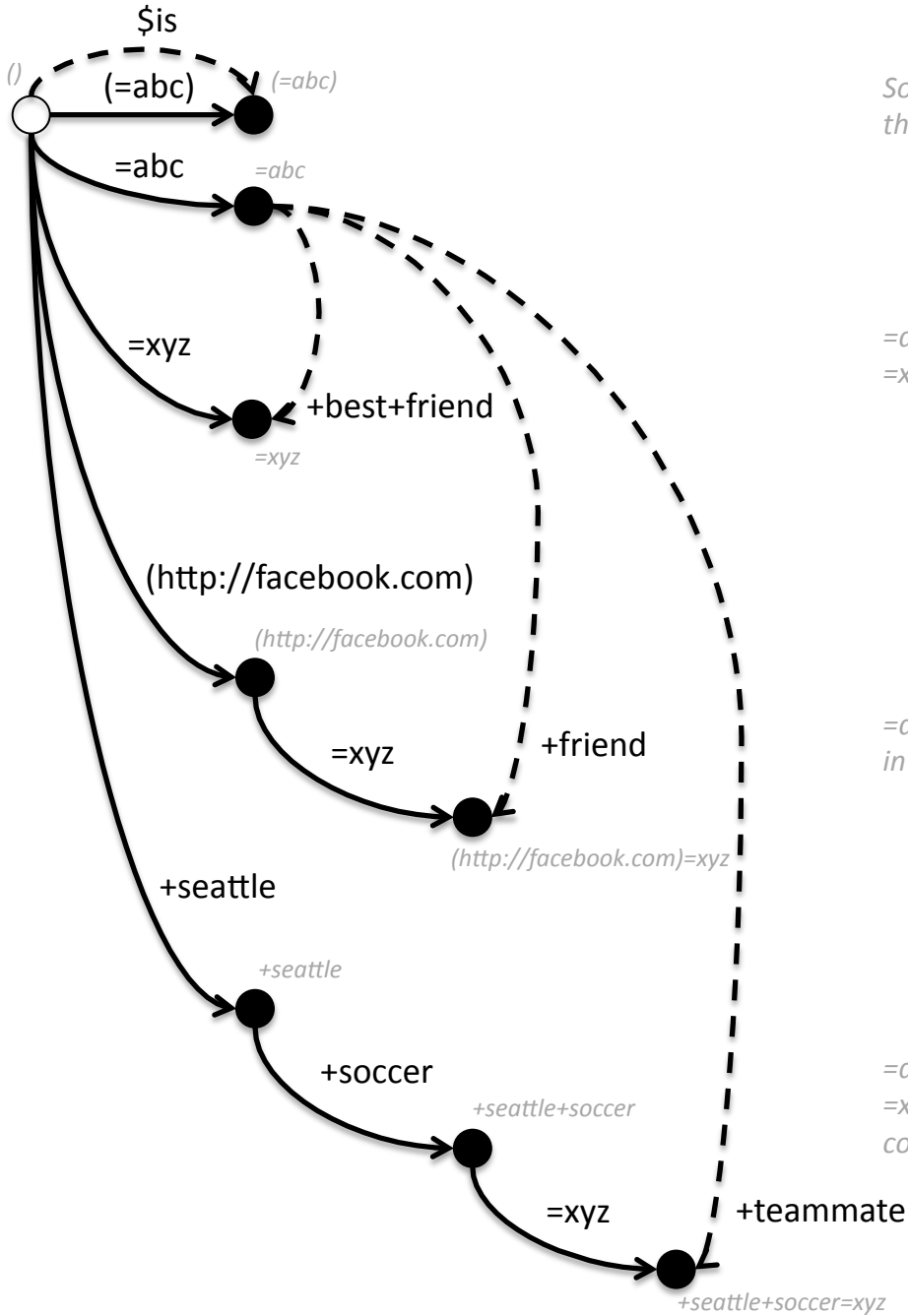
Metadata subgraph for `=abc` complex subject

Versioning metadata subgraph

First version snapshot (subgraph not shown)

Second version is the current version

Social graphs



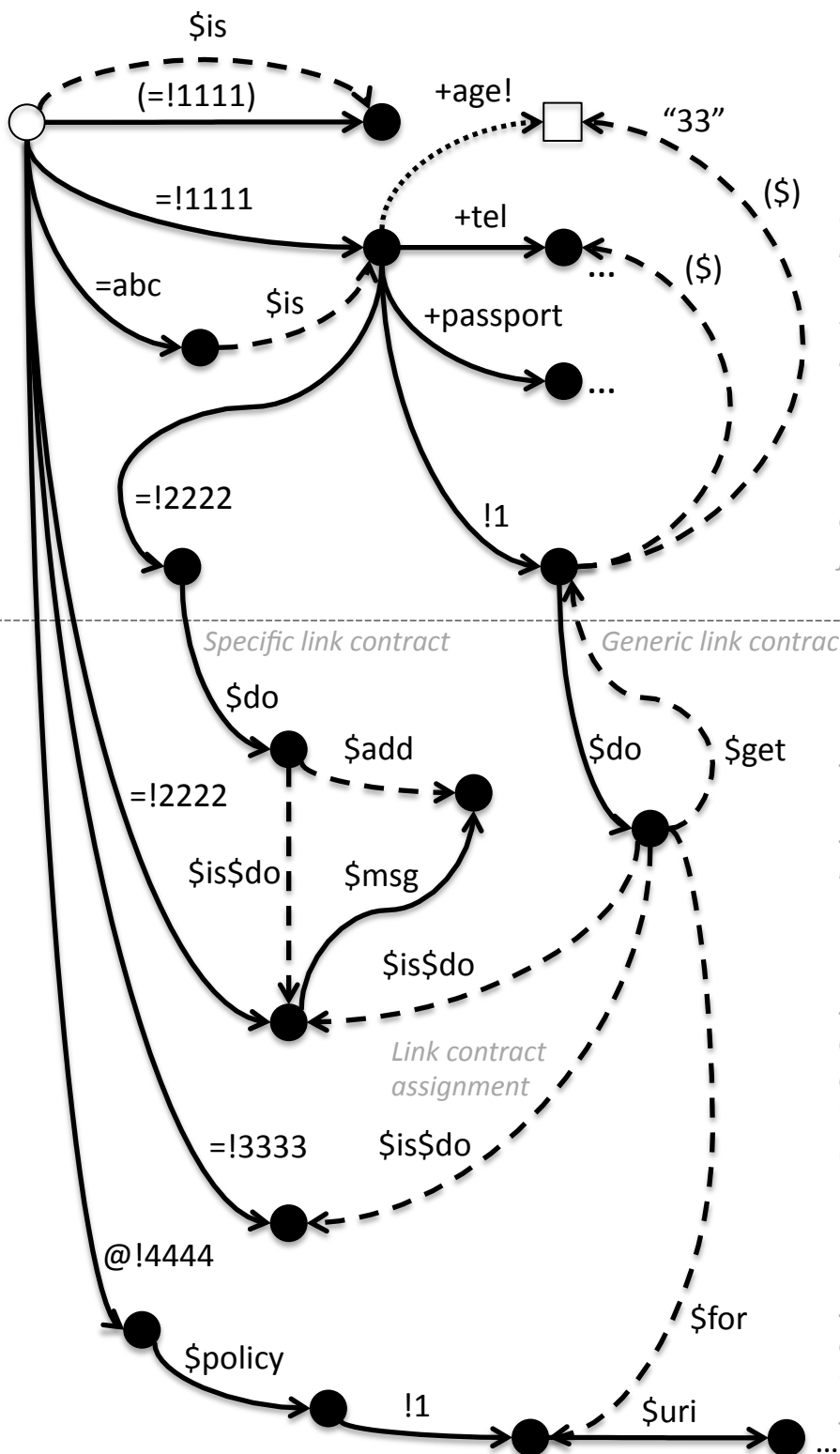
Social graph expressed at the (=abc) endpoint

=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



(\$) is a variable, so these relational arcs indicate the set of attributes of *=!11111* that are included in the persona *=!111111*

The persona *=!111111* is a collection of attributes from *=!11111*

\$get permission

\$do is the root node of a link contract

\$add permission is assigned to *=!2222* to add to *=!2222\$msg*, i.e., to send messages to the (*=!11111*) endpoint

\$for identifies the policy or policies that apply to this link contract (privacy, security, forwarding, etc.)

Messages

