

DAWG Proposed Requirement & Objective

“Creating a new query language is a serious business....A successful query language can enhance productivity and serve as a unifying influence in the growth of an industry.”

-Don Chamberlin, IBM rep to XQuery WG

Proposed Requirement:

The query language must have an XQuery-compatible concrete language syntax.

Network Inference is committed to the proposed objective and requirement because the rate of adoption and overall success of the W3C Semantic Web family of standards is a crucial aspect of their product success. Network Inference believes that the easier it is for more users and vendors to support Semantic Web standards, the faster and more quickly the successful Semantic Web vendors will flourish.

Network Inference believes that the following rationale supports the proposed objective and requirement:

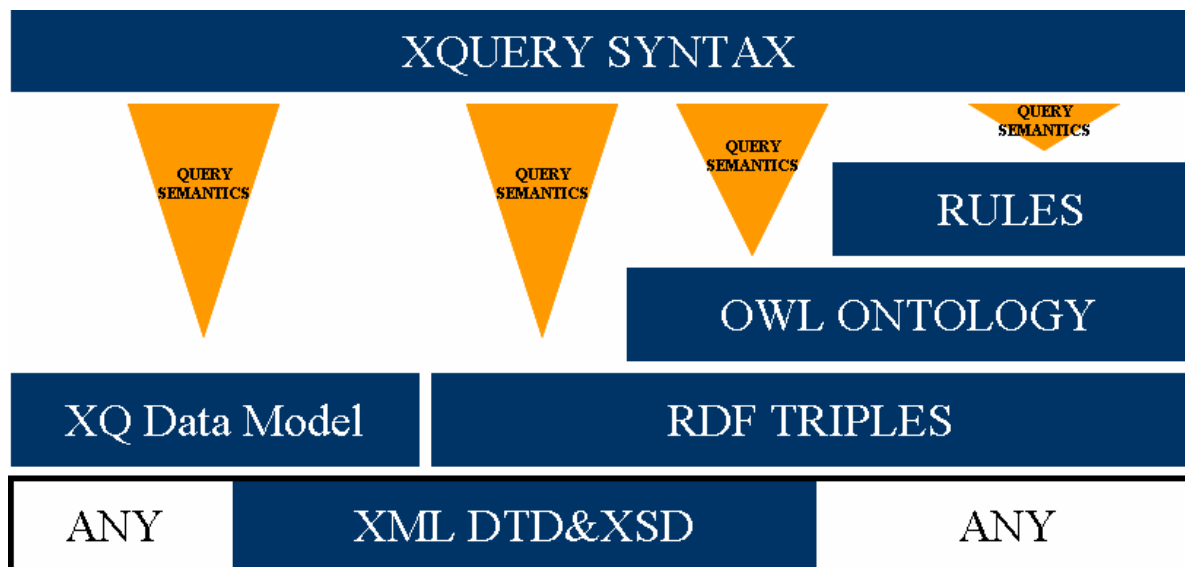
Architectural “Goodness” (for entire Semantic Web family)

- Provide a single query syntax for all Semantic Web languages
 - Use an extensible, common query syntax
 - Separate the concerns (query syntax vs. query semantics)
 - Build a façade, at least in syntax, to all SemWeb languages
- Adhere to W3C layered architecture guidelines
 - Reuse specifications that already exist wherever possible

Adoption Potential (for entire Semantic Web family)

- Don't require vendors to adopt a whole new query engine
 - At least allow for a common query parsing environment
- Leverage prior work by vendors
 - 20+ major vendor sponsorships
 - ?? existing XQuery implementations
- Facilitate user adoption
 - “Perceived” familiarity with Xquery
 - Start with a known quantity
- Enable better, faster user adoption for all SemWeb languages
 - Training – leverage existing programs
 - Roll-out – move faster with roll-out rate of SemWeb
 - Support – reduce overall language complexity
 - By unifying query syntax across SemWeb query algebras

Further, the logical architecture of a unified Semantic Web family of specifications would roughly approximate the following picture:



We Believe that This Supports Common W3C Principles:

- Modularity (<http://www.w3.org/DesignIssues/Principles>)
- Test of Independent Invention (<http://www.w3.org/DesignIssues/Principles>)

Preferred Exclusions to XQuery Support:

- Exclude the XQuery data model
- Exclude the XPath specification
- Exclude the XQuery “formal” semantics

Concerns Regarding Alternatives:

- If the development pattern of DAWG (in relative isolation to W3C query and other Semantic Web WG efforts) is replicated across other Semantic Web query and data access efforts, the eventual output of the W3C Semantic Web family would likely result in a fragmented mosaic of data-access syntax, semantics, and algebras for the triples, ontology and rules layers.
 - Industry adoption rate will be slowed due to a confusing array of different data access layers to XML, RDF, OWL, and Rules.
- If other query syntaxes are considered, such as SQL or OQL, that users will doubt the unity and efficacy of the W3C family of specifications.
 - Users could say, “if they grounded RDF, OWL and Rules in XML – why wouldn’t they chose to ground the query framework in XQuery?”

Architectural Fear – Support and Maintenance Nightmare

