

Towards a minor revision of RDF

Jeremy Carroll, [TopQuadrant, Inc.](http://topquadrant.com)

Abstract

TopQuadrant see no need for major changes to RDF and believe that what is really needed for the success of the Semantic Web is for more, more successful, commercially relevant deployments of the current recommendations. Having said that, we would support small clarifications and improvements reflecting the experience of the community over the last decade, and we would not oppose moving the de facto standards of Turtle and Named Graphs onto the recommendation track.

Introduction

Any organization tends towards activities that justifies its own existence. The core mission of W3C involves making standards for the Web, thus when we consider RDF standards, we have a natural bias towards making more standards. This workshop on next steps for RDF is inherently unlikely to propose that there should be no next steps.

However, from a wider perspective, what is needed is Web standards that improve the lives of people around the world. From the point of view of an engineer in a small Semantic Web company, my measure of improving people lives is money — a simplistic measure, but better than no measure at all.

Thus, new work should be undertaken which solves actual problems in achieving practical Semantic Web successes. In the absence of such problems, no new work should be started. There are several actual problems, that I suspect we all experience, for which additional standards work is unlikely to be the solution.

The Achievements of RDF 2004

The RDF 2004 family of Recommendations has key strengths.

- Despite several implementations, few errors in the specifications have been reported.
 - The implementations achieve good levels of interoperability, without the all too frequent failures from either the HTML world, or the SQL world.
 - It has been the foundation for several other Recommendations: OWL, SPARQL, SKOS, POWDER
- I believe it is unclear as to how much this is a syntactic interoperability, and how much actual semantic interoperability is achieved. i.e. I hypothesize that the RDF Semantics Recommendation is less widely implemented than the others.

New work needs to build on these strengths, and is only justified when the current recommendations cannot be used to achieve the goals.

Solved Problems

There are two de facto standards that solve some common problems. It may be worth putting these on the Recommendation track.

Syntax

One response to the widespread dislike of RDF/XML has been N3, simplified to Turtle. There seems to be good consensus that Turtle is close enough to the sweet spot.

The Web of RDF documents

The work on named graphs by Carroll, Hayes, Bizer and Stickler has been fairly influential. This clarifies issues to do with using URLs as the names of the graphs retrieved. This addresses a range of practical problems such as data syndication, access control, ontology versioning and propositional attitudes. TopQuadrant make extensive use of this approach with respect to both data syndication and versioning. It is plausible that this work would benefit from the Recommendation track process. It is

currently unclear what interoperability goals there would be.

Real Difficulties for the Semantic Web

In contrast to those problems there seem to be other problems that are not solved. My view is that these unsolved problems are the critical ones, and that more standards work is likely to distract from even acknowledging the real issues. Two key ones are:

Critical Mass

Any technology with network effects requires a critical mass before it is useful and cost effective. It does not appear that RDF has achieved critical mass in even a small information area (perhaps with the exception of some medical areas). More vertically focussed work by the W3C may help.

Christmas Bomber

One way in which I may try and explain what I do for a living to my friends is that I write software that “connects the dots”.

The importance of this task has recently been highlighted by the failure to stop Umar Farouk Abdulmutallab from boarding the plane he intended to blow up.

A related question for us is why, one of the major backers of the Semantic Web project, the US government, were unable to use that technology, several years after it was initially finished, to connect the dots. I have difficulty in believing that it was the absence of any proposed new recommendations that were the cause. However, there may be missing vocabularies, missing procedures for the development of shared vocabularies, missing software components of sufficient usability, etc.

Minor Matters

Any set of documents have some errors: the errata process has accumulated a few on the RDF recommendations. It is also apparent that some of the constructs of RDF 2004 are not that well thought out, and perhaps overly difficult to use, e.g. containers and `rdf:value`

A minor revision could roll up the current errata into the documents, and perhaps discourage new use of some unhelpful constructs.

Costs

New recommendations are expensive:

- to the WG participants writing the recommendations
- to the various developers and users who are building the semantic web

I believe this costs to be far from trivial, and thus advocates of new work need to show significant potential benefit.

Summary

I advocate doing few next steps, possibly none. I also emphasize the costs of new work to everyone in the industry.