

Reliable Statements for the Semantic Web

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The Semantic Web complements the World Wide Web by machine interpretable meta-information. These meta-information were introduced to describe the content of web resources semantically. Further on, the resource descriptions are published through a set of statements which are referring to a given resource. Also, these semantic descriptions are used to automatically infer new semantic information from interrelationships between statements referring to given resources. That raises the problem of trustworthiness of semantic statements published in the Semantic Web and thus, the validity of information inferred from them.

So, the aim of the dissertation is to propose a security framework providing reliable statements for the Semantic Web. Motivated by some constitutive sociological and economical aspects of trust, the term „reliable statement“ will be introduced first. Next, requirements on reliable statements are specified serving as a basis for the development of conceptual models towards seamless integration of relevant security technologies into the Resource Descriptions Framework (RDF), the basic model of the current W3C Semantic Web activity. As a result of these considerations, a Security Framework providing an infrastructure for reliable statements for the Semantic Web shall be draft developed. By means of suitable Semantic Web applications, the principal functionality of reliable statement shall be proven. Furthermore, the impact of introducing of reliable statements in common Semantic Web infrastructures build up on RDF regarding cost aspect shall be explored.