Основни принципи на Семантичния уеб

Същност на Семантичния уеб

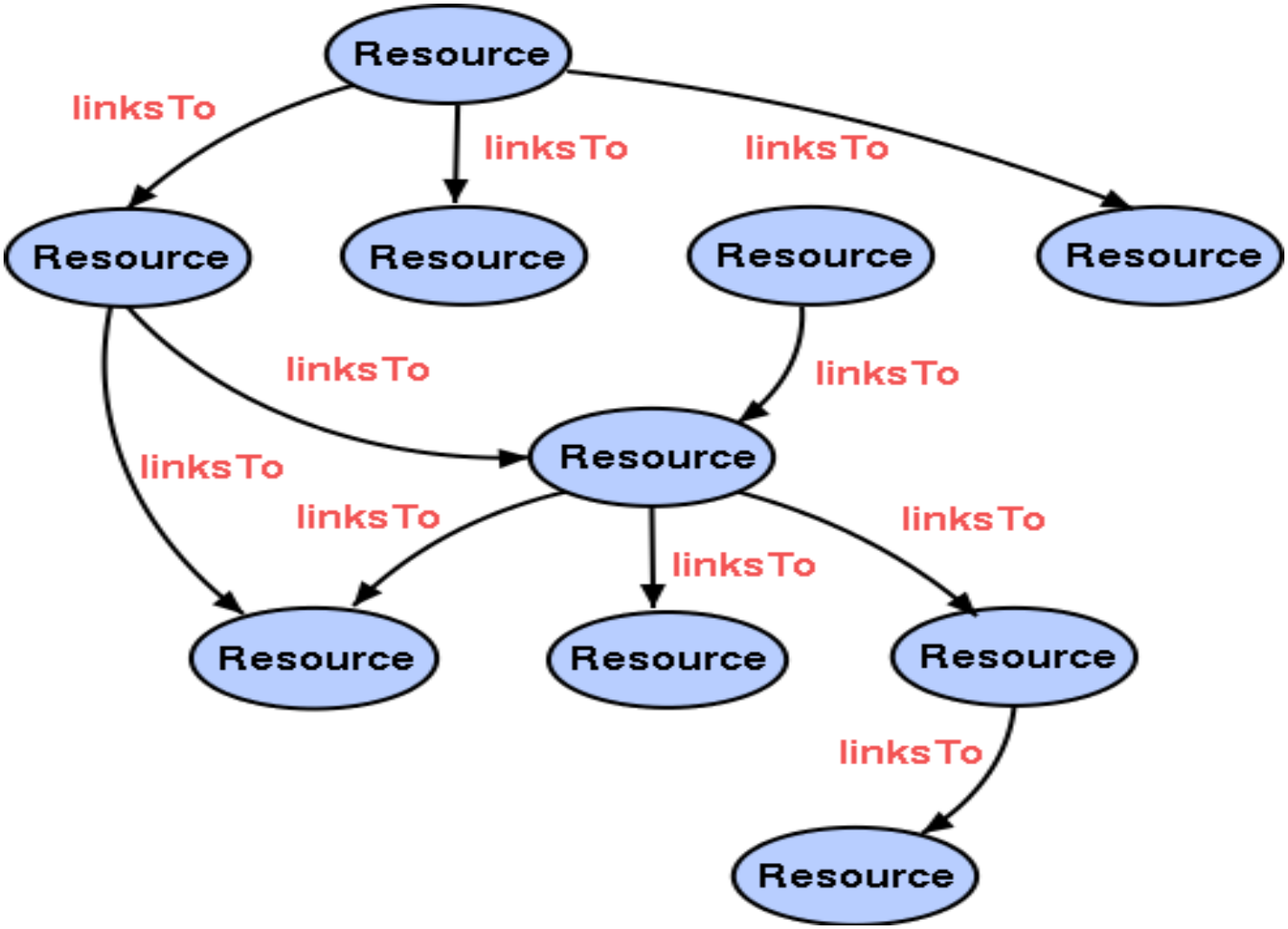
Семантичният уеб може да бъде разглеждан като разширение на традиционния уеб, в което информацията получава добре дефинирано значение, позволяващо на хората и компютрите да работят при по-добро сътрудничество.

Семантичният уеб е разширение на традиционния уеб, което позволява по-лесно да се намира, споделя и комбинира информация.

Традиционният уеб представя информация, използвайки:

- ✓ естествен език (напр. английски)
- ✓ графика, мултимедия
- ✓ подходящо оформяне на страниците

Той е труден за компютърна обработка (проблеми: многозначност, неподходящи формати на данните, неинформативност и нерационалност на връзките между отделните информационни ресурси).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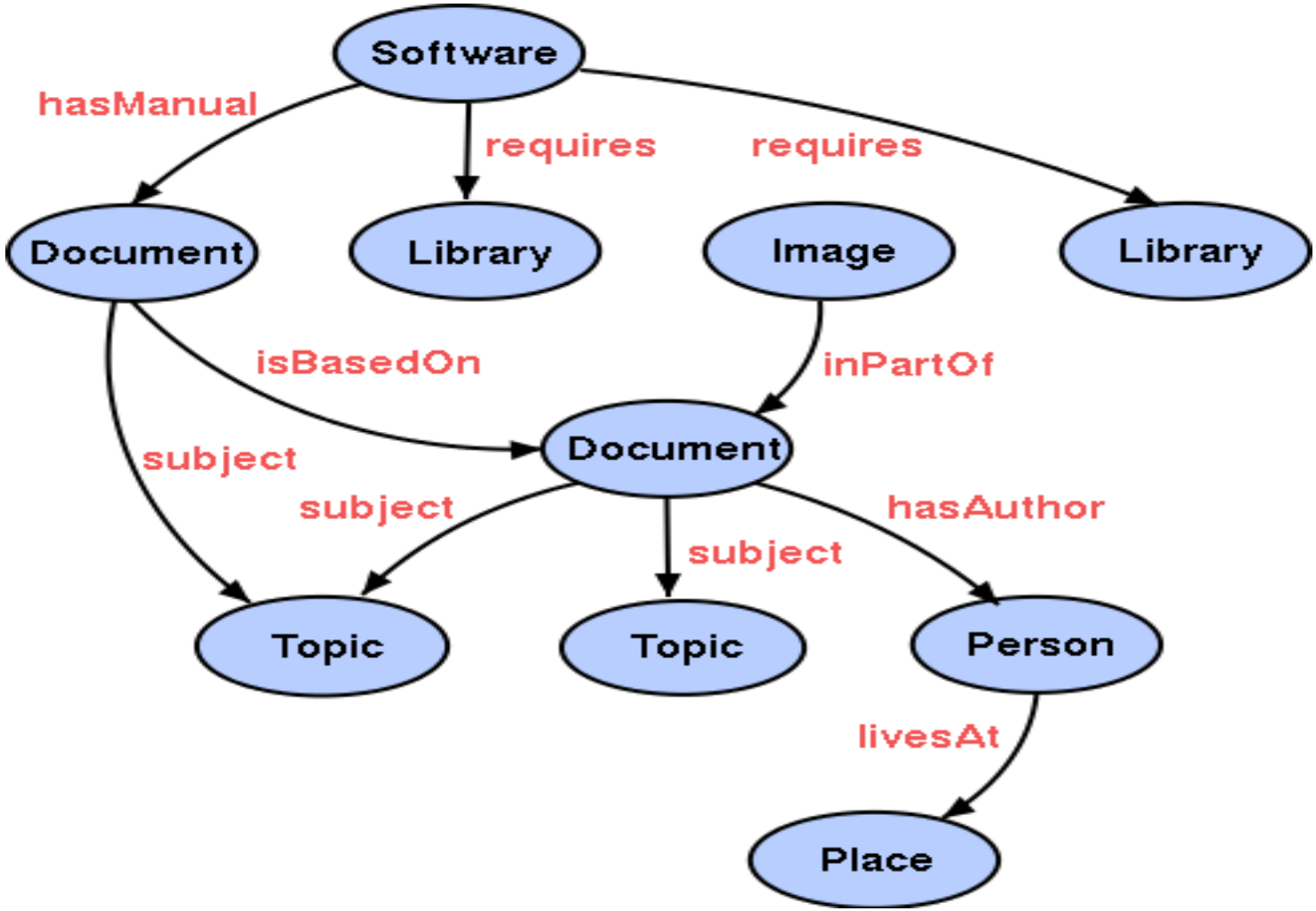
Семантичният уеб:

- ✓Разширява традиционния уеб
- ✓Позволява информацията да бъде представяна във формат, който предполага еднозначна интерпретация и е удобен за компютърна обработка
- ✓Позволява да бъдат добавяни подходящи метаданни за описание на съществуващи или новопостъпващи данни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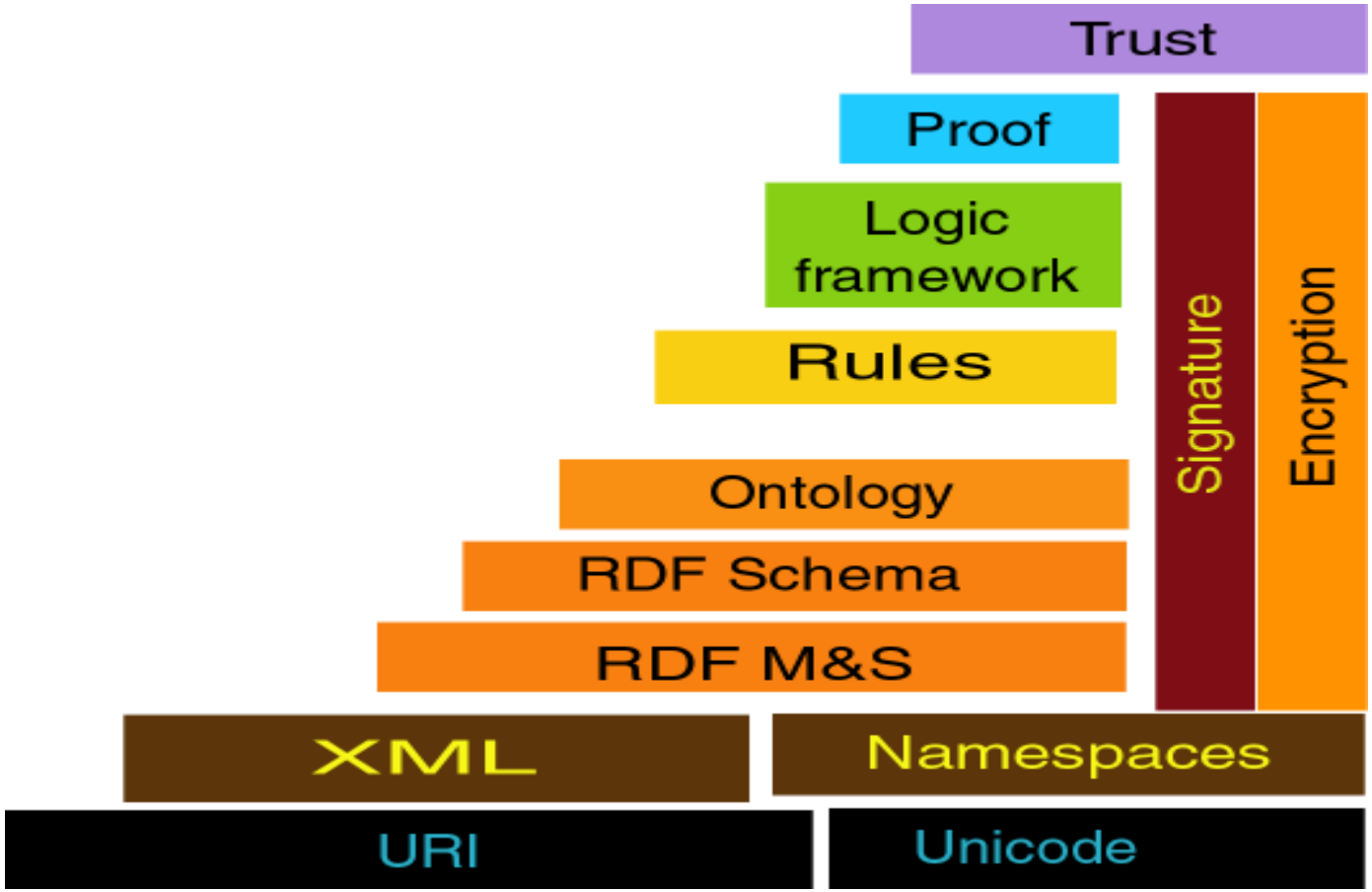

Технологии на Семантичния уеб

Стандарти и препоръки на W3C

Uniform Resource Identifiers (URIs) are a fundamental component of the current Web and are a foundation of the Semantic Web.

A URI provides a *unique name* for items contained in a statement *across the entire Internet*. A URI could include a Uniform Resource Locator (URL), or an abstract Uniform Resource Name (URN).

The Extensible Markup Language (XML) is also a fundamental component for supporting the Semantic Web. XML provides an interoperable syntactical foundation upon which the more important issue of representing relationships and meaning can be built.

URIs provide the ability for uniquely identifying resources as well as relationships among resources. The Resource Description Framework (RDF) family of standards leverages URIs and XML to provide a stepwise set of functionality to represent these relationships and meaning.

The W3C Semantic Web Activity's charter is to serve a leadership role in the design of specifications and the open, collaborative development of technologies focused on representing relationships and meaning.

The base level of the RDF family of standards is a W3C Recommendation. The RDF Core Working Group is in the process of formalizing the original RDF Model and Syntax Recommendation which provides a simple yet powerful framework for representing information in the Web.

Building on this work, the group is additionally defining a simple means for declaring RDF Vocabularies. RDF Vocabularies are descriptive terms (e.g. Service, Book, Image, title, description, rights, etc) that are useful to communities recoding information in a way that enables effective reuse, integration and aggregation of data.

Additional deliverables include a precise semantic theory of these standards that will support future work, as well as a primer designed to provide the reader with a basic understanding of RDF and its application.

Simple data integration, aggregation and interoperability are enabled by these base level RDF standards. An increasing need for interoperability at a more expressive descriptive level is also desired.

The Web Ontology Working Group is charted to build upon the RDF Core work a language for defining structured, Web-based ontologies. Ontologies can be used by automated tools to power advanced services such as more accurate Web search, intelligent software agents and knowledge management. Web portals, corporate website management, intelligent agents and ubiquitous computing are just some of the identified scenarios that help to shape the requirements for this work.

Ресурси

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