e-Research Glossary*

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Abstract

A glossary of terms used in e-Research.

In this section we define a number of terms used in the Research in a Connected World book. We have aimed to keep these definitions simple to aid understanding of the core concepts rather than trying to come up with definitive definitions of what are often very complex and ill-defined concepts.

Definition 1: Cloud
An infrastructure that makes use of virtualisation technologies to provide on- demand services to users. Clouds provide access to dynamically scalable resources reserved for individual users within a shared infrastructure. Like grids, clouds can be private (in-house), community-specific or public. Access to clouds is often provided through web services (Definition: "Web Service", p. 2).
See Also: Grid (Definition: "Grid", p. 1) , Web Service (Definition: "Web Service", p. 2)

Definition 2: Grid
A type of distributed computing infrastructure. Grids can exist within organisations (private grids, campus grids) but often span organisational boundaries. The The EGEE grid infrastructure[1] is an example of an international grid infrastructure.
See Also: Cloud (Definition: "Cloud", p. 1)

Definition 3: Ontology
A description of a set of concepts and their relationships within a given domain. Ontologies can be used as a basis for automatic reasoning.

Definition 4: RDF
Resource Description Framework: a set of specifications for data representation that facilitate the conceptual representation of data by forming subject- predicate-object style expressions. RDF is a core component of the Semantic Web (Definition: "Semantic Web", p. 1)
See Also: Ontology (Definition: "Ontology", p. 1) , Semantic Web (Definition: "Semantic Web", p. 1)

Definition 5: REST(-ful) Service
A web service (Definition: "Web Service", p. 2) that follows specific architectural principles. More often than not, REST-ful services are implementing the standard HTTP protocol.
See Also: Web Service (Definition: "Web Service", p. 2) , HTTP Protocol

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[1]"The EGEE Distributed Computing Infrastructure" <http://cnx.org/content/m32047/latest/>

Definition 6: Semantic Web

The plan to 'semantically annotate' data that is available on the web, thus enabling it to be processed more automatically. An example is that a postal address would not be just written like an address (making it recognisable by a human reader as an address) but also be 'tagged' so that a computer can relate the data to the concept of a postal address.

See Also: RDF (Definition: "RDF", p. 1)

Definition 7: Web Service

A service that can be invoked across a network using an machine-to-machine interface that ensures interoperability across system boundaries.

See Also: REST(-ful) service (Definition: "REST(-ful) Service", p. 1) , WSDL (Definition: "WSDL", p. 2)

Definition 8: WSDL

Web Services Description Language: a language used to describe web service (Definition: "Web Service", p. 2) interfaces, specifying the methods available and their parameters.

See Also: Web Service (Definition: "Web Service", p. 2)