RDA

Summary of Virtual Layer Recommendations

The Challenge:

Data volumes and complexity of scientific data are increasing rapidly, and cross-border re-usage of such data is becoming more common in most research fields. Open data as an agreed default model, backed by FAIR principles to ensure data is 'Findable, Accessible, Interoperable, and Re-usable', together with Data Management Plans to encourage stronger curation and stewardship have all emerged as community policies underpinning research data sharing without barriers. Presently, the number of research and data infrastructures worldwide is growing, with many similar components re-invented in different variations. Due to this fragmentation, the costs of building and maintaining infrastructure are higher than they should be; as are costs for data re-use. This trend must be counteracted by identifying common components and means of interoperability as a new conceptual framework that creates a new global momentum on data infrastructure interoperability, akin to the creation of the Internet itself.

Produced by: RDA Data Fabric Interest Group

https://www.rd-alliance.org/group/data-fabric-ig.html

What is the solution?

Computing and storage components have existed from the beginning of modern computing. The Internet Protocol Addressing system identifies all devices in the network so they can exchange messages using protocols and registries. Together these two layers provide us today with almost unlimited cloud computing capacity with near universal access to dynamically configurable, shared compute and storage capabilities. Yet, to support data-driven science, this is no longer sufficient. We must address data organisation, typing and re-use facilitation to be able to fully realise the value of data, network, compute and storage. We are now in the phase where we must provide a new layer of network wide virtualisation that interlinks data and other artefacts with the help of PIDs, new protocols and new registries.

What is the impact?

A high-level conceptual framework to support Digital Object management and service development.

Find out more about this Supporting Output

July 2019