A Framework for Managing the Digital Object Architecture

Robert E. Kahn
Corporation for National Research Initiatives (CNRI)
Reston, Virginia, USA

The Digital Object (DO) Architecture, created by CNRI, has been adopted by a large number of organizations for managing information services and resources. The architecture is based on the use of "digital objects" each of which consists of structured data with an associated unique persistent identifier. CNRI calls these identifiers "handles", but the more generic term is "digital object identifiers".

The DO Architecture consists of three primary components, namely, i) an identifier/resolution system (known as the Handle System) which maps handles into state information about the DO being indentified, ii) DO Repositories which provide a uniform interface to stored DOs and from which they may be accessed by means of their identifiers, and iii) DO Registries that enable users to determine identifiers based on search criteria such as keywords. Software implementations of the primary components of this technology are available on the Internet on an open source basis.

The Handle System consists of a Global Handle Registry (GHR), which is distributed and scalable and many local handle services run by individual organizations. The GHR tells a user's client program which local handle service has the requested state information. Since its introduction in 1994, the Handle System has been administered by Corporation for National Research Initiatives (CNRI), a non-profit organization located in Northern Virginia. The system has grown in scale and utility over the years and is widely used by scientific, technical and medical publishers, digital libraries and many other organizations. Approximately 100 million resolutions per month take place in the GHR, either directly or via a set of proxy servers that mainly serve web users.

In recent years, the DO Architecture has been customized for use in the motion picture and cable industries. Many other applications are under development or being considered. Some of these applications are country specific; and the need for overall coordination of the deployment and evolution of the DO architecture in the public interest, in particular, the GHR capability, has become an important consideration.

This session will explore the DO architecture and its application and describe a possible framework for managing the architecture going forward. It will also address a governance model that may enable various providers to coordinate their actions globally while retaining certain local controls over their own services. This framework could provide a useful model for the coordination of similar capabilities in the future.

R. E. Kahn
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