

OGSA Evolution Policy Statement

GGF "Drawer Statement": Draft 1

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Part of GGF's mission is to "define grid specifications that lead to broadly adopted standards and interoperable implementations." In the standards life cycle from new concept through to ubiquitously adopted standard, there is a tension between innovation and interoperability. For example, a partial solution standardized too early can fail to become widely adopted; a plethora of designs can delay standardization, and hence adoption. The GGF accepts the existence of this dichotomy and aims to deal with it proactively, particularly in the development of the Open Grid Services Architecture (OGSA).

Background:

In the strategy adopted by the GGF, three distinct levels of interoperability provide a framework that allows both innovation and standardization to proceed in parallel. The result we believe is an architecture that can be quickly adapted to changes in the standards landscape, while at the same time promoting the development of stable reference standards on which interoperable implementations can be built.

Interoperability at the lowest level, coined here the "Infrastructure Level", is defined by OGSA to be the well accepted Web services infrastructure covered by WS-I, including SOAP, WSDL, WS-Security, etc. We expect that in the short term W3C's WS-Addressing will become part of this infrastructure level. At this time the GGF has no plans to define interoperability profiles or perform conformance testing at this level. All work on OGSA must comply with these infrastructure requirements. Note that the GGF is open to individuals wishing to define specifications and even architectures that are not based on this infrastructure, however this work would fall outside the sphere of OGSA.

Interoperability at the highest level, coined here the "Architectural Level", is defined by OGSA in a GGF Informational Document (GFD.30). This description is abstract in nature and therefore provides no message exchanges, wire protocols, or detailed interface specifications. As a result, only an abstract kind of interoperability makes sense, and testing for compliance is not really possible. However, two implementations that follow the design patterns set out in GFD.30 and adhere to the requirements of the infrastructure level could, with the development of "wrappers" or "adaptors", be made to interoperate.

Interoperability at the middle level, described here as "Profiles for OGSA", is defined by a set of "Profiles" refining collections of detailed interface specifications (WSDL and Schemas) that are built on the infrastructure requirements and conform (in an abstract sense) to the architecture as defined at the Architecture Level. Two implementations,

conforming to the same set of Profiles are expected to interoperate without modification. Profiles can capture domain specific functions or common design patterns. A Profile describing job submission and management, using JSDL and the Basic Execution Service, is an example of the former; a Profile describing widely used grid patterns, using WSRF and WS-BaseNotification, is an example of the later.

Policy:

To meet its aim of broad adoption, the GGF actively promotes the development of specifications targeted at the grid community's needs without restriction or limitation.

However, in order to promote greater interoperability, the Open Grid Services Architecture (OGSA) restricts the content and structure of Profiles for OGSA (and hence the specifications they reference). These restrictions are described as follows:

- Profiles must build on the Infrastructure Level as described above.
- Profiles must be consistent with the Architecture as defined by GFD.30 (and its successor documents).

Notes:

These restrictions allow for the development of grid specifications (including architectures) that are not based on Web services, but this work is considered outside of the OGSA activity.

Although the Profiles must remain consistent with the Architecture, there is no requirement that all Profiles be consistent with each other. An undesirable consequence of this is that implementations adhering to different Profiles may not interoperate without modification or adaptors, but this is offset by the advantage of a greater degree of flexibility and innovation within OGSA and the GGF.

As the abstract architectural description of OGSA evolves (e.g. successors of GFD.30), there is a risk that the Profiles and the Architecture may become inconsistent. Although this inconsistency must be rectified over time, the Profiles, the Architecture, or both may need to be modified. In other words, both the Architecture and the Profiles are informed by the each other, and neither dictates to the other.