TOWARDS ENVIRONMENTAL PROCESS
SHARING FOR GEOSS

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One of the major challenges for multi-disciplinary interoperability is environmental model
sharing and composition. In fact, scientists generally do not use well-accepted digital
technologies to define, document, and publish their environmental models.
In the GEOSS context, such models should be designed as business processes composed of
(web)services which implement well-used interfaces. Even if services are available for each of
the business process components, their automatic composition is still an open issue.
In the GEOSS framework, at the moment, the majority of registered services exist as independent
components. After discovery, services may be usefully composed and coordinated to provide
more complex functionalities.
Presently, in the majority of cases, a manual and static composition of a number of predefined
geo-services has to be performed to generate simple or complex business processes which are
then executed and distributed on the web.
In this document we describe a possible solution for facilitating the composition of existing
services. In this document we describe a possible solution for facilitating the composition of
existing services. This solution was considered in the framework of the EuroGEOSS and the
UncertWeb FP7 EC projects.
The described solution consists of the following main technological pillars:
- The use of BPMN 2.0 for business processes design and documentation.
- The use of geospatial standard web services to implement the process components.
- The use of a brokering approach to realize advanced process components allowing, thus,
  their flexible composition.
- The use of the Composition as a Service (CaaS) approach for service chaining and
  process execution.