



## Using SOA Patterns to promote understanding across disciplines

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The NETMAR consortium is building an open service network for marine environmental data by combining expertise from Ireland, France, the UK and Norway in disciplines such as Semantics, Software Engineering, UI Programming and Service Orchestration. Through the International Coastal Atlas Network, it engages user groups from Europe, Africa, Asia and the Americas. In doing so, it faces challenges in bringing these disciplines and groups together in a way that makes them greater than the sum of their parts.

Service Oriented Architecture has been successfully applied in many cases to help build useful systems across organisational and geographic boundaries in order to expose diverse capabilities which can function together through a mutual exchange of value. This should make it ideally suited to a distributed decision making environment without centralised command and control. In theory, SOA should facilitate the building of global and complex infrastructures and the integration of information systems characterized by diverse protocols and interfaces, and with different data policies and security levels.

The presentation will discuss a number of approaches used by NETMAR to bring the theory of SOA to bear in a useful way while maintaining the emphasis on keeping multi-disciplinary domain expertise as the primary driver of the project. It will discuss three approaches used:

- . Populating one or more standard reference models
- . Trade-off analysis based on business drivers and quality attributes
- . Documenting design reuse in the form of patterns.

The three approaches will be compared in terms of how they succeed in bringing 'just enough' service architecture knowledge into the project. We discuss how the approaches can interact and complement each other. Finally, we present a number of SOA patterns identified as being relevant to NETMAR and explain why they are felt to be particularly effective in gaining consensus on how to build the NETMAR system of systems.