NETMAR
Service Chaining Editor

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Introduction

• What is a WPS?
• What is a Service Chain (or workflow)?
• How does the NETMAR Service Chaining Editor work?
• Demo
• Summary
What is a WPS?

• The OGC Web Processing Service (WPS) provides a standard for implementing geospatial processing as a Web service.
• The WPS standard defines how a client can request the execution of a process, and how the output from the process is handled.
• WPS defines three operations:
  • GetCapabilities (What processes are available)
  • DescribeProcess (What the process does. What its inputs and outputs are)
  • Execute (Runs the process and returns results)
What does a WPS do?

• WPS can describe any calculation (i.e. process) including all of its inputs and outputs, and trigger its execution as a Web service.
• Data can be local or on network.
• Designed to work with spatially referenced data but can be used with any kind of data.
• The specific processes defined by the owner of that server.
• WPS makes it possible to publish, find, and bind to processes in a standardized and thus interoperable fashion.
What is a Service Chain?

• AKA (Scientific) Workflow.
• A way of chaining simple modular processes together to form more complex systems.
• Very popular in bio-informatics but becoming more widely used.
• Often have nice GUIs to allow a workflow to be created by drag and drop.
• One example is Taverna, http://www.taverna.org.uk, (on which the NETMAR Service Chaining is built).
How does the NETMAR Service Chaining Editor work?

- Fully web based system.
- Service Chaining Editor runs in web browser.

- Service Execution Engine runs on server and executes the workflows created by the editor.
- Workflows are held in XML and can be saved and emailed as required.
- Execution Output is held on the server and retrieved via a web access.
NETMAR Service Chaining Editor

• The SCE is made up of an editing canvas on which the workflow is created and three control windows
  • Workspace
  • Service List
  • Settings

• A workflow is created by dragging services from the Service List onto the canvas and joining the inputs and outputs
NETMAR Service Chaining Editor Demo
Summary

- WPS allows us to execute processes running on web based servers
- Service Chaining allows us to combine these processes into more complex programs
- The NETMAR Service Chaining Editor lets us do this from the comfort of our web browser