A Scientific Workflow Model Designer based on Scientific Information Control Nets

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Abstract—In this paper, we design and implement a scientific workflow process designer with a conceptual building block depicting its architectural structure. The designer is theoretically designed from the scientific information control net, and it is graphically implemented by expanding the standardized BPMN(business process modeling notations). In particular, the designer is able to automatically transform a BPMN-based graphical form into an XML-based textual form of the scientific workflow process model. Finally, we illustrate two captured-screens of the designer, as an operational example, which are corresponding to a simple scientific workflow process model and its XML-based representation, respectively.

Keyword—scientific workflow; information control net; data intensive workflow; formal workflow description; scientific workflow model designer

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