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Ewoks –a meta-workflow system

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There are many workflow management systems which provide standalone frameworks for implementing tasks, creating graphs of tasks and executing these graphs. Instead of choosing one of these and taking the risk that it gets outdated after a few years the ESRF has opted for a meta approach to workflows. The ESRF's Workflow Management System (ewoks) was developed to provide an abstraction layer between graph representation and execution. This allows using the same tasks' and graphs' definitions in different workflow management systems. It is focused on interoperability and binds together several existing solutions into a flexible meta-framework able to deal with acyclic and cyclic directed graphs as well as sub-graphs i.e. graphs within graphs. Currently, bindings have been developed for: Orange - a desktop graphical interface, pypushflow - a task scheduler of cyclic graphs, Dask - a parallel computing library for task scheduling and Ewoks - a simple job scheduler. A web application is provided to create, visualize, persist, execute and monitor the execution of ewoks workflows in the web. The talk will present the architecture of ewoks, examples of how it is being used to automate processing at the ESRF and demonstrate creating and running a workflow with ewoks. <https://gitlab.esrf.fr/workflow/ewoks>

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