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DDS –The Dynamic Deployment System

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The Dynamic Deployment System (DDS) is a tool-set that automates and significantly simplifies a deployment of user-defined processes and their dependencies on any resource management system (RMS) using a given topology. DDS is a part of the ALFA framework.

A number of basic concepts are taken into account in DDS. DDS implements a single responsibility principle command line tool-set and API. The system treats users'task as a black box –it can be an executable or a script. It also provides a watchdogging and a rule-based execution of tasks. DDS implements a plug-in system to abstract from RMS. Additionally it ships an SSH and a localhost plug-ins which can be used when no RMS is available. DDS doesn't require pre-installation and pre-configuration on the worker nodes. It deploys private facilities on demand with isolated sandboxes. The system provides a key-value property propagation engine. That engine can be used to configure tasks at runtime. DDS also provides a lightweight API for tasks to exchange messages, so-called, custom commands.

In this report a detailed description, current status and future development plans of the DDS will be highlighted.

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