EGU 2015 Abstract
Prodiguer Messaging Platform

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Title	Supervising simulations with the Prodiguer Messaging Platform

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Abstract

At any one moment in time, researchers affiliated with the Institut Pierre Simon Laplace (IPSL) climate modeling group, are running hundreds of global climate simulations. These simulations execute upon a heterogeneous set of High Performance Computing (HPC) environments spread throughout France.

The IPSL's simulation execution runtime is called libIGCM (library for IPSL Global Climate Modeling group). libIGCM has recently been enhanced so as to support realtime operational use cases. Such use cases include simulation monitoring, data publication, environment metrics collection, automated simulation control … etc. At the core of this enhancement is the Prodiguer messaging platform. libIGCM now emits information, in the form of messages, for remote processing at IPSL servers in Paris.

The remote message processing takes several forms:

- Persisting message content to database(s);
- Notifying an operator of changes in a simulation's execution status;
- Launching rollback jobs upon simulation failure;
- Dynamically updating controlled vocabularies;
- Notifying downstream applications such as the Prodiguer web portal;

We will describe how the messaging platform has been implemented from a technical perspective and demonstrate the Prodiguer web portal receiving realtime notifications.