

The Prodiguer Messaging Platform

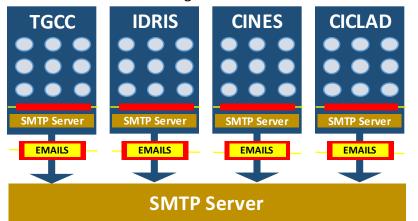


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The IPSL runs highly complex climate simulations upon a heterogeneous set of HPC environments. A distributed messaging platform has radically enhancied the power of the IPSL's simulation runtime environment. A diverse set of applications are exploiting the platform's inherent machine intelligence & real-time adaptivity.

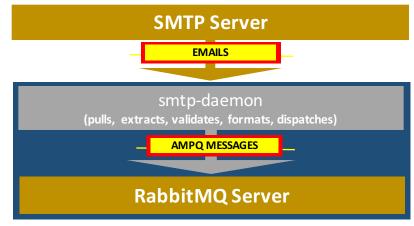
1. Message dispatch from HPC's

Simulations emits messages that are emailed in batches



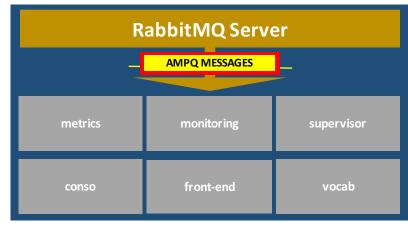
2. Message enqueuing at IPSL

Messages batches are extracted from emails & enqueued



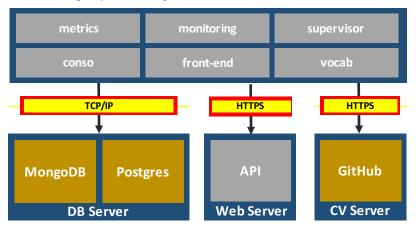
3. Message dequeuing at IPSL

Application specific daemons dequeue messages



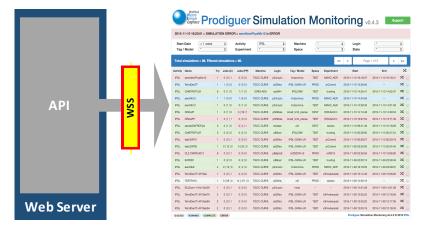
4. Message processing at IPSL

Messages processing is diverse & takes several forms



5. Applications are notified in real-time

Push notifications are sent over secure web-sockets



6. Jupyter notebooks complete the picture

Notebooks leveraging Prodiguer resources empower users

