Stakeholders

1. System user:
Researchers and scientists using the NASA Earth Exchange (NEX)

Description:
Scientists and researchers that are a part of the NASA Earth Exchange (NEX) program are stakeholders. NEX provides a new platform for scientific collaboration, knowledge sharing and research execution for the Earth science community. They attach concrete workflows and virtual environment that will be executable on the NEX computing platform. These project environments, built using virtualization technology, will be highly portable and reusable and will capture the entire analysis process, including the data and processing steps required to replicate the scientific results in an open and transparent way.

Concerns:
a. The workflows submitted should be dispatched and scheduled to execute on computing platform automatically without requiring knowledge of the HPC systems.
b. The workflow execution is efficient and the waiting time of workflow execution should be minimal.
c. Process status should be monitored at any time. Feedback can be delivered to user once the process is terminated or completed.
d. The information provided by scientists should be secured. Unauthorized personnel should not be able to access the scientists' datasets and workflows.

2. System Owner
NASA

Description: NASA's High-End Computing Capability (HECC) project provides world-class high-end computing, storage, and associated services to enable scientists and engineers supporting NEX missions to employ large-scale modeling, simulation, and analysis to achieve successful mission outcomes.

Concerns:
a. The network between client and server should be able to handle large amount data exchange.
b. The server should optimize the process of concurrent workflow requests by effectively utilizing the many available computing nodes.
c. The server should have reliable uptime. They should have regular backups to prevent data loss.
d. The servers should prevent access to unauthorized personnel.
e. The software should be extendable to processing jobs originating from different sources, such as being able to process requests from programs other than VisTrails.