ESIP Cloud Computing Cluster – 7/22/2013 Telecon

Big Data and Geoscience discussions

- We are encouraged by the full participation at the Big Data and Geoscience technical sessions
- Big Data and Cloud. In conversations some had used Big Data and Cloud interchangeably. Cloud Computing is one of the possible instruments for tackling Big Data problems, but certainly not the only instrument. The Cloud Computing model does offer a well-defined computing infrastructure and architecture that could simplify handling of some Big Data problem.

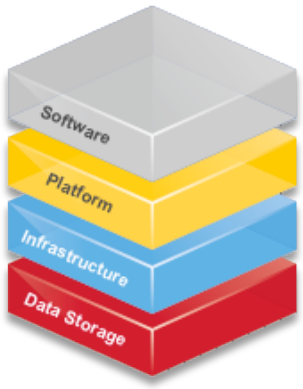
  NIST Definition of Cloud Computing – *A model for enabling convenient, on-demand network access to a share pool of configurable computing resources (e.g. network, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.*

  Cloud Computing Model
  Data Storage as a Service – dSaaS
  - Web services interface for store and retrieve large amounts of data

  Infrastructure as a Service – IaaS
  - The computing infrastructure
  - Platform virtualization
  - Operating systems, storage

  Platform as a Service – PaaS
  - The computing platform
  - Facilitate deployment of applications

  Software as a Service – SaaS
  - Applications running on the cloud
  - Accessible through client applications such as a browser



- The cost for utilizing and/or migrating to commercial cloud offering is one of the biggest inhibiting factor. It is difficult to estimate and project the use and long-term adaption of cloud. In particular, the storage cost at AWS-S3 is still less effective.
- It is recommended the ESIP Cloud Computing Cluster to provide decision-making processing and architectural patterns to help ESIP community to better access cost in adapting cloud. We should start by leveraging the existing ESIP Cloud Advisory tool as part of the process.
- During the cloud session, we learned a lot about ESDSWG's Cloud Computing WG about the list of use cases and goals.
- General observation from the Summer meeting
  - How do we better engage the cluster new comers?
  - How do we improve communication with other ESIP clusters, to learn and perhaps recommend cloud infusion strategies?

Action items

- Future telecon presentations
    - Rick to provide introduction and overview on cloud computing
    - Invite Dr. Rahul Ramachandran (UAH) to present about his work on Big Data Analytic Systems currently done on local computing cluster
    - Invite other cluster chairs to present their technical areas to see how cloud might be able to help address
- Deliverable: Leveraging the current ESIP Cloud Advisory tool. The cloud cluster to provide decision-making process and architectural patterns to help the ESIP community to better access cost in adapting cloud.
- Future meeting planning consideration. Understanding ESIP is a multidiscipline community. Future meeting should consider, but not limited to,
    - New comer to the cloud
    - Project managements, architects, and software professional
    - Representatives from various agencies and institutions