Cross working group session notes.

April 11 2014

- Mission of the session: give ourselves some change, different viewpoint.
- Purpose of the session:
  - try to find out by reaching to different groups what they need.
  - Invite different leaders to say a few words about their groups. Start discussion after that to see if there are commonalities.

Resources and Data working group

Phil P: figure out what resources group does not know.

- We try Integrate resources and data that others want.
- We have a few tools like personal clouds controller and pragma_boot.
- We are working towards building networks
- We are missing:
  - very specific details about what data resources people want.
  - What data set are needed
  - What do you like in near term
  - Some people have large production resources. How can they be used
  - How we share the data
- We are trying to understand our “Customer”

Scientific Expeditions working group

Reed B: one of the outcomes we have in the scientific expeditions working group session is :

- Reach out more to other communities by engaging in other meetings conferences where PRAGMA people are out of their comfort zone.
- How do we communicate in multi-disciplinary environment and understand what the customers need there. This is one of the challenges.

Cyber-learning/Distance Education working group

Ruth Lee: one of the comments form our group session - we need to change our name from cyber-learning to include “data repository” offer to other groups

- Need to bring more ideas how we work together with other working groups
- How do we access resources in PRAGMA and how do we share resources in on place
- 1 year from now we need more resources for PRAGMA.
- Phil: How we can run simulations that are run at KISTI now at other sites?
- How to make transitions from one organization to others (in terms of software, simulations)
- Wei-Cheng: integrate developed solutions with the community

Telescience/Remote sensing working group

Shimojo-san: we focus on disaster mitigation.

- We have to respond in real time, take information from the sensors, do analysis and deliver information.
- We need more dynamic nature of cloud or grid environment
- Short term: Difficult to setup and install applications and to connect. We want to set up visual environment to help with this.
- How to integrate mobile environment
- Reed: we discovered that we are interested in capacity to respond to disaster mitigations. What technologies are there to use?
- Phil: what is achievable by the next meeting? Something that may be across the working groups? We need to bridge the gap among the working groups, make even a small step.
- PRAGMA experimental network has Virtual clusters. We may need to use them.
- Phil: useful if other groups come to resource working group and say to us "this is what we need". For example setup display wall.

Discussion

Jose Fortes: emergence of multi-site networks can probably happen within 6 months. We can have a testbed available and we can do a concrete demo. Doing some middleware that might support migration using network will fill right within a scope of RPAGMA. Demo that illustrate migration of sensors and migrating clusters between sites.

- Opportunity to have a testbed available
- Wei-Cheng: we still need application to do the work
- Applications can be Lifemapper and disaster recovery, there may be others.
- Applications can be identifies in working group meetings.
- Aimee: yes. LM can be an application to migrate.
- Jose: by mid-July we should have a mechanism to do minor networking modifications and customizations and then those interested in migrating VMs can demonstrate that VM migration can be done better or differently or done in a way that was not possible before. Based on this experience we can start specifying what might be needed for migrating rocks cluster
- Wei-Cheng: what expertise is needed for migrating LM?
- Aimee: it's a logical progression for what we are doing, and this proposal feels doable.
- Reed: put another twist here. How might be interested in hosting LM?
- Wei-Cheng: what we can access as far as "function" and lessons from this experience
- Aimee: things we have done can be applied to other applications. We are documenting the lessons and will share them.
- Phil: specifically what data is important? We have to make a list for ourselves so we can start to understand what is needed, what size data we are dealing with, etc.

- Wei-Cheng: what is demand form application site so we know what we deal with.
- Peter: One of the issues for this meeting is what grid actions are between now and next meeting. Interactions with specific applications.
- Paul: crossing boundaries between biodiversity group and expeditions group. We usually need converstions with 2 experts. Identified 2 issues:
  - Ecology is free form and ad-hoc. Need to document what are resources required to participate overlay network
  - Scalability, reaching outside of PRAGMA circle. WE need to inform people about opportunities at PRAGMA
- Reed: training and reaching put mechanism – we need an activity here. We have small set of experts who can reach out to other colleagues how to configure systems, applications etc.
- Paul: big data issues – very large volumes of data, the other is complexity and difficulty of social element: try to teach the community, establish "hand-holding" techniques.
  - Scalability is an issue.
  - Need tools for configurations, automation. How do we teach the teachers to expand the knowledge. Expanding the implementation – what is technological requirement?
- Caylan: having know-how or figuring out command line requirements required me to talk to someone.
- Mauricio: overlay depends on technology. There are commands
- Renato: it is easy enough to join the network. Understanding what is overlay doing is probably more complex and needs to be explained well.
- Wei-Cheng: what we can do to help scientists to understand ? Who should be working on the infrastructure so the scientists can join the network?
- Mauricio: scientists never setup server side. What we need to know is what is expected?
- Jose: we have 6 months and a message from the users.
  - Need better science
  - Need to bring down from 6 hrs to may be 1 hr – setting up overlay network connectivity by the scientist.
  - Need a dialog between scientists and overlay network developers

- Paul: we figure out what we need first. We hope to understand soon what the challenges are. And then hold the workshop and try out some of the technologies.
- Caylan: figure out how to get overlay network through the university firewall. A successful example will be good to have.
- Renato: we need to work on documentation jointly.
- Shimojo-san: beauty of SDN is once we have a connection we have everything after that. Hard to get a connection. We can change the configuration inside SDN.
- Mauricio: SDN is a separate problem. Part of complexity of SDN scientists will not be able to understand in hours. Right now we are working on the infrastructure so that the connectivity is available. We need to figure out how to control the system. Exposing this control to the users is long term.
- Peter: we have short updates from working groups and this gives us opportunity for more discussion.