Agenda

- PRAGMA and RDA (45 min)
- PRAGMA Cloud (45min)

PRAGMA and RDA

- RDA Mission
  - The Research Data Alliance (RDA) builds the social and technical bridges that enable open sharing of data.
- Features / competence / value of PRAGMA
  - Network of people
  - Experiences on running REAL widely distributed environments.
- Built computational testbed (grid/cloud), but less motivation to use distributed computational resources.
  - UNLIKE DATA.

Proposed goal of this discussion

- Identify the most appropriate driving application from the following 5 candidates.
  - Lake observation Science
  - Natural Products Discovery Platform
  - Disaster Mitigation
  - Asian Cultural Heritage Digital Commons
  - Biodiversity
- Build schedule/milestones
  - By PRAGMA 30
  - By PRAGMA 31

- Question:
  - Should we discuss the “Role of RDA in RDA Outputs Deployment and Evaluation Testbeds”?

Research Area – Lake Science

- Create a single scalable platform for networked lake science (lake sensor?) data collection and analysis. Employs data sharing standards from RDA.
  - Uses DataTurbine, which is real-time streaming middleware for any sensor network, now being replaced by CloudTurbine
  - Benchmark against current system from GLEON
  - A use case for implementation of data standards
  - More of a cyberphysical cloud system for testing

Research Area – Natural Products Discovery Platform

- Create a single workflow/platform for drug discovery using natural products in the Southeast Asia area. Employs data formats, policies, sharing standards from RDA.
  - Uses natural products databases from Indonesia, Vietnam, Malaysia (?), Japan
  - These databases could be used in virtual screenings
    - (screenings could use PRAGMA-ENT)
  - Then output could be used in biodiversity mapping tools to discover potential relationships to epidemiological data
  - Long term goal to create a platform that seamlessly combines these data and tools

Research Area – Disaster Mitigation

- Create an infrastructure to provide information/data during disasters. Employs data formats, policies, sharing standards from RDA.
  - Creating virtual infrastructure for disaster data (Shimojo-sensei)
  - PRIME student creating SAGE2 application for disaster management, shared between tiled displays (Jason)
  - Could be used on PRAGMA-ENT testbed
    - Simulate network instability and its affect on the disaster mitigation infrastructure/ interface

Research Area – Asian Cultural Heritage Digital Commons

- Create a single repository for digitized cultural heritage from the Asia. Employs data formats, policies, sharing standards from RDA.
  - Similar in concept to Google Art Project
  - Interoperate different databases from different cultural heritage institutions in Asia
  - Repository for scholarly work in the humanities
  - Long term goal to create a searchable portal for cultural heritage data?
  - Starting from scratch…
  - IoT idea – delivery of cultural heritage data to devices? (Japan will deploy wifi at the top of Fuji-san)

Additional Ideas

- Biodiversity data
  - Lifemapper needs private network slice, so could leverage on PRAGMA-ENT
  - Would work if isolated on ENT from other network experiments that make the network unstable

PRAGMA Cloud

- History
  - PRAGMA Grid
    - Globus-based Grid over the Pacific Rim
  - PRAGMA Cloud
    - Escape from Globus, Build Once, Run Everywhere.
- Current
  - PRAGMA ENT
    - Experimental Network Testbed, breakable network
- PRAGMA Cloud
  - Should we provide STABLE Cloud over the Pacific Rim?
  - The goal of this meeting is to have consensus on (re)building PRAGMA Cloud.

PRAGMA Cloud: Issues to be discussed

- Review the current status of PRAGMA Cloud
  - PRAGMA GOC is still available, but the information is not updated.
  - Is Lightweight Scheduling available on PRAGMA Cloud (which resources)?
  - Can we say Lifemapper is able to run on PRAGMA Cloud?

PRAGMA Cloud: Issues to be discussed (cont'd)

- How to (re)build PRAGMA Cloud
  - Overall strategies
    - Should we rebuild PRAGMA Cloud based on the current PRAGMA Cloud?
    - ~~Should we build PRAGMA Cloud from scratch?~~
  - Architecture and implementation
    - Software architecture of PRAGMA Cloud?
    - Any requirements for each site which join PRAGMA Cloud?
      - Pragma_boot and booking interface
  - For design…
    - What kind of capabilities should be provided to users?
    - Who are the users?
    - What's are the driving applications?
    - Who will give us requirements?

PRAGMA Cloud: Issues to be discussed (cont'd)

- How to operate PRAGMA Cloud
  - How and who will operate (manage) PRAGMA Cloud?
  - How do we provide up-to-date information for users?