Federated Cloud Information Publishing

Agenda

- Considerations
- What information?
- Information Systems
- Information Modeling

Type of Federation

- Loose Federation
  - Every user interacts directly with each of the resource providers
  - probable case
- Tight Federation
  - Single point of entry to cloud
  - Federation behind the scenes
  - Possibly higher demands on information quality and automatic inference

Type of Information

- Static
  - Current infrastructure uses GOCDB
  - Other player in the field: EMI Registry (EMIR)
    - Can also provide dynamic information
- Dynamic
  - Current infrastructure uses BDII

Static information

- Name and type (of interface) of a resource
- Authentication and Authorization rules and mechanisms
- Available images
- Possiblity to Upload own images. Which formats?
- Availability of data interface. Which type?
- Resource capacity (total). Would be dynamic if remaining capacity is published
  - #cores, storage volumes, memory per node, ...
- Available templates. Which types?
- Network

Dynamic Information

- Where can I run an instance with particular requirements NOW, i.e. which cloud provider (of the ones with matching static information) can I really use?

What information?

- Some questions (Tiziana)
  - Virtual machines have to publish properties and make these accessible to clients?
    - Not really, they're services like any other. Nothing cloud specific anyway.
  - Does a cloud need to advertize which virtual images are endorsed locally?
    - Yes
  - Does a cloud need to advertize which type of hypervisor is used locally, or the interfaces it exposes?
    - Depends. Could be useful.
  - Does an instantiated virtual machine need to advertize its presence in order to be monitored?
    - Depends on the type of service offered

Information Systems

- 3 levels
  - Trade registry: GOCDB/EMIR
    - Defines what information should be there?
  - Status information: BDII/EMIR
    - Monitor resources retrieved from trade registry
  - Monitoring
    - Most up to date fine grained information
- Cloud provider needs a means to publish their information to the systems

Modeling Cloud Resources (GLUE2)

- Different ways of integrating in Glue2 Schema
  - Additional conceptual model(s) of Cloud service(s)
  - Mapping of cloud concepts to Grid conceptual models
  - Hybrid approach
    - Cloud conceptual model
    - Reuse existing storage conceptual model
- How far apart are Cloud- and ComputingManagers?
- Is GLUE the right framework?
- Look at what OCCI already provides