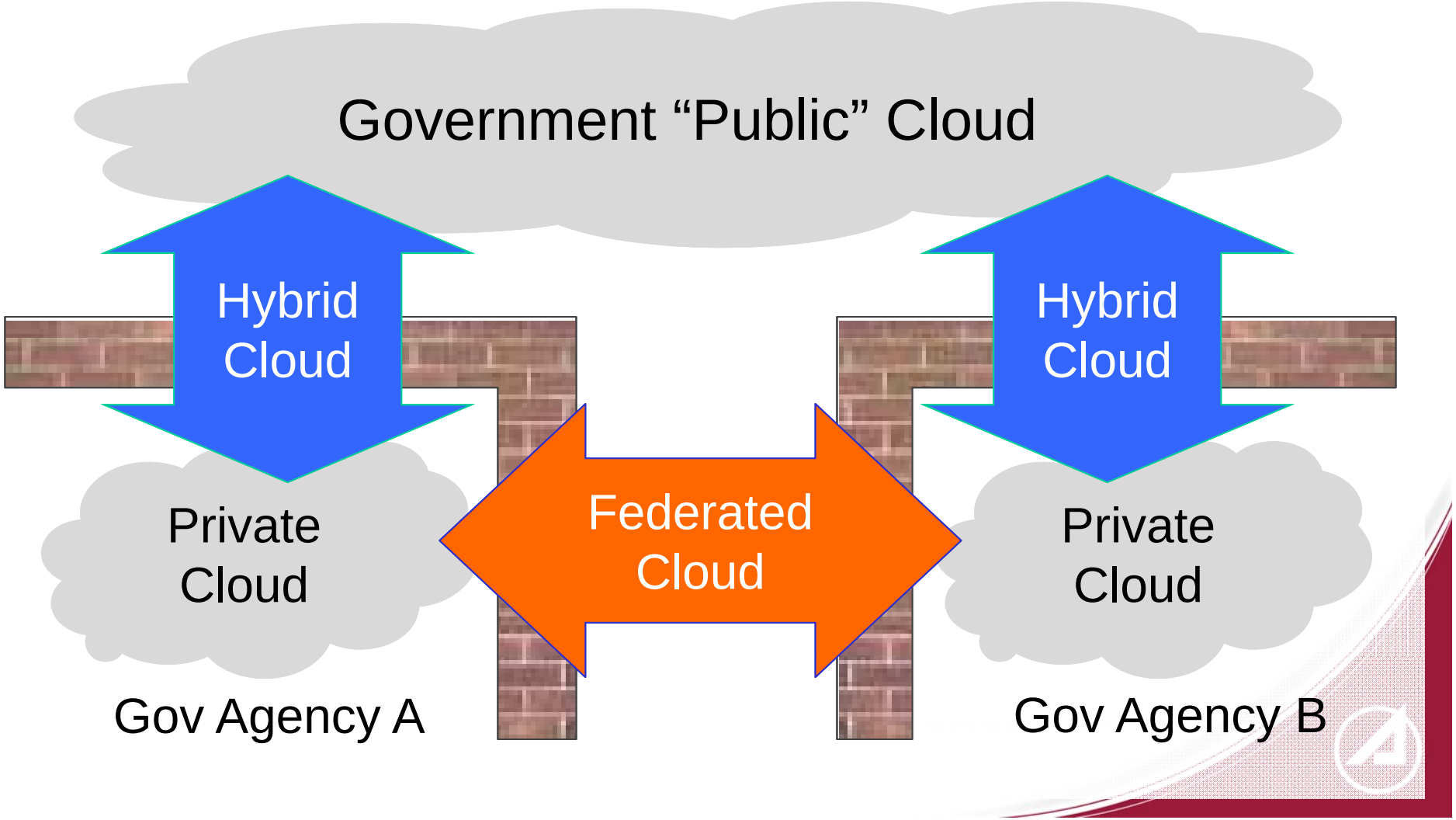
# Cloud Computing -- What is it?

- A broad term used to denote *virtualization* at any of several different system layers
  - "Outsourcing" of hardware, system environment, or services
  - Things just run "in the cloud", i.e., somebody else's data center
- Generally from a single provider through a very simple API
  - Simple API eases adoption at the cost of insight and control
  - Effective business model for provider to "sell" virtualized, back-end data center resources

| | |
|---|---|
| Application Level | • *Software as a Service (SaaS)*<br>• Build an application from pre-defined services<br>  • Example: Salesforce.com |
| Platform Level | • *Platform as a Service (PaaS)*<br>• Acquire a set of hosting environments<br>  • Example: Google App Engine (Python) |
| Infrastructure Level | • *Infrastructure as a Service (IaaS)*<br>• Acquire a set of machines you can login to<br>  • Example: Amazon EC2 |

# Cloud Deployment & Interoperability?

*How will "private" clouds deployed by different agencies be able to securely interoperate among themselves and with government "public" clouds deployed to support e-government?*



# Motivations for this Workshop

- Cloud computing offers the potential for significant economies of scale, improved utilization of servers, more flexible allocation of resources, and workload management
  - Cloud computing entails the dynamic provisioning of processing, storage, and networks in a data center to essentially become a generic hosting environment, prompting the concept of "Data Center Migration" for ground system operators
- How do we apply cloud computing in support of satellite ground systems?
  - Serious challenges concerning security, performance management, portability, interoperability, costing models, lack of standards, etc.
- How do we integrate geospatial standards and tooling with dynamically provisioned resources?
  - Geospatially referenced data are central to many ground systems

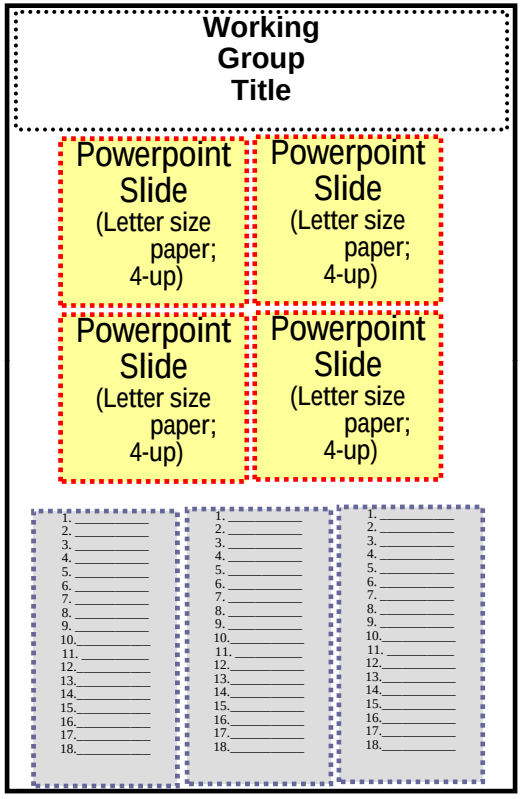


# Agenda

- 13:00-13:15 Welcome and Introductions
  - Craig Lee, Open Grid Forum & The Aerospace Corp.
- 13:15-13:50 Cloud Computing in Ground Segments: Earth Observation Processing Campaigns
  - Fabrice Brito, Terradue, s.r.l.
- 13:50-14:25 Geoprocessing in the Cloud
  - Brian Levy, Open Solutions Group & DIA
- 13:25-15:00 OGC Standards to Enable SensorWebs for Disaster Management
  - Dan Mandl, NASA Goddard & Open Geospatial Consortium
- 15:00-15:15 Break
- 15:15-15:50 Eucalyptus-based Event Correlation
  - Nehal Desai, The Aerospace Corp.
- 15:50-16:25 Developing Cloud Standards
  - Craig Lee, Open Grid Forum & The Aerospace Corp.
- 16:25-17:00 Open Floor Discussion



# GSAW Working Groups – Attendee Sign-up Posters

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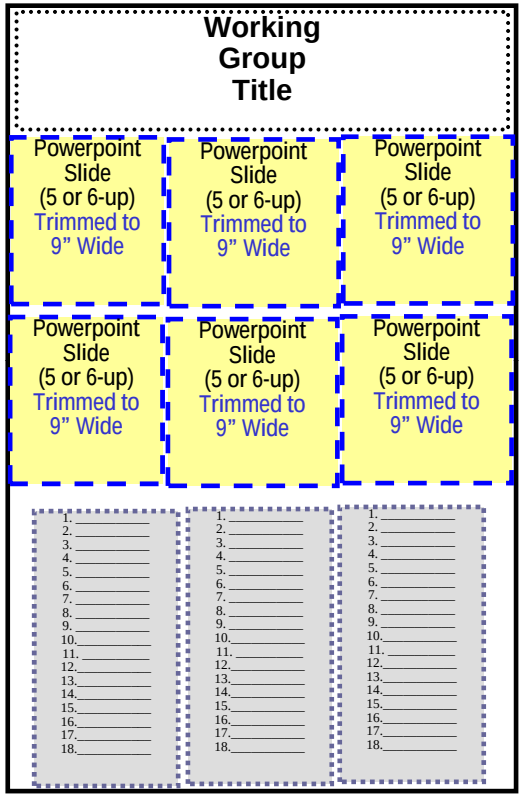


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