

Working Group Outbrief

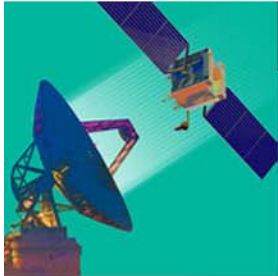
Ground System Architectures Workshop



Session 11B

Cloud Computing for Ground
Systems III

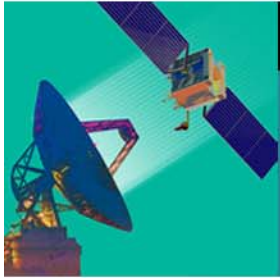
*Ramesh Rangachar, Creative Information Technology Inc.
Craig Lee, The Aerospace Corporation*



Session Goals

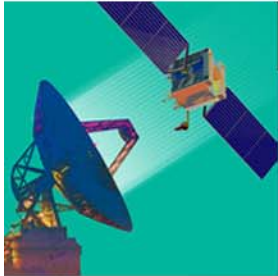
- Examine the "State of the Art" for cloud computing
 - Talks from across industry on the "State of the Possible"
 - Potential benefits – mission effectiveness & cost effectiveness
 - Outstanding challenges
- Evaluate the impact of cloud and big data on ground systems
 - Design, deployment, procurement, utilization
 - A generic hosting environment for multi-tenant missions
- Identify specific mission requirements for the adoption of cloud computing
 - Discussion and identification of action items

Ground System Architectures Workshop



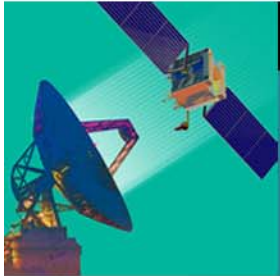
Presenters/Panelists

- Stovepipes to Clouds
 - Rick Reid, SGI Federal
- Autonomic Cloud Workflows and Cloud Federation
 - Craig Lee, The Aerospace Corporation
- Secure Identity in Cloud Computing
 - Michelle A. Carter, The Aerospace Corporation
- Commercial imaging constellation meets cloud computing
 - Oliver Guinan, Skybox Imaging
- Transforming Science Data Systems
 - Thomas Huang, Jet Propulsion Laboratory
- Cloud Tester Benchmark Suite "demo"
 - Douglas Enright, The Aerospace Corporation



Key Points

- **Certification and Accreditation**
 - USC/ISI DODCS example
- **System and data integrity**
 - Attestation architectures
 - MD5 and SHA-3
- **SLAs and Trust issues**
 - Machine-enforceable SLAs
 - Managing a Trust Eco-system
- **ISP vs. ASP**
 - Chicken and egg problem
 - Which apps first? Which are ready? Priorities?



Conclusions

- Skybox "Nugget"
 - Did not have to commit to an IT architecture and hardware investment!
 - Were able to try-out several system architectures on Amazon until they got something that “hummed along”
- Technology is not the only problem
 - Philosophy and what people are comfortable with
 - Conflicting messages from the command chain
- We will be back next year
 - Increased cloud availability, increased number of migrated apps, and necessity of dealing with big data will motivate further cloud adoption