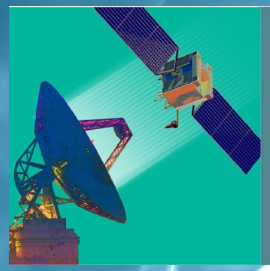
Working Group A Outbrief



25th Ground System Architectures Workshop

Adapting Critical Operations

Starts March 1, 2021 | Special Online Series of Events

Adapting Critical Operations in an Enterprise

Lead:
Don Sather,
The Aerospace Corporation

March 8, 2021

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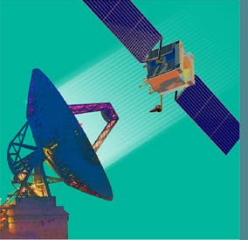

Session Goals

- Understand challenges and opportunities of adapting operations in a stand-alone or “stovepipe” system versus an enterprise.
  - *Why transition from stovepipes to an enterprise?*
  - *How do operations change in an enterprise versus individual stovepipes?*
  - *Where is the optimal balance of design constraints (standardization) to allow some freedom to achieve mission design optimization and still achieve enterprise goals?*

- Solicit audience participation in addressing challenges that face enterprise formation

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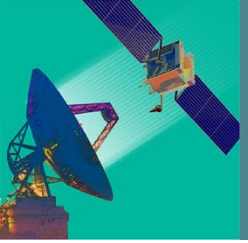
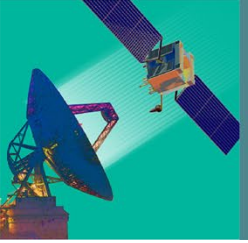


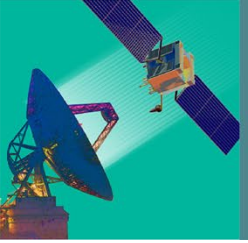
Presenters/Panelists

- Dan Smith - NASA Goddard
- Lt Col Max Coberly – SMC/ECX
- Kelly Christner – Exigo Corp.
- Gerry Simon – Parsons Mission Solutions



Key Points

- Why transition from stovepipes to an enterprise?
  - *Situational awareness, data sharing*
  - *To avoid duplication of capability*
- How do operations change in an enterprise versus individual stovepipes?
  - *More operational commonality across missions*
    - Example: EGS Common User Experience
- Where is the optimal balance of design constraints (standardization) to allow some freedom to achieve mission design optimization and still achieve enterprise goals?
  - *Don't try to control everything at the enterprise level – that kills innovation*
    - Keep to interfaces – standardize the socket not the light bulb
- How do we change culture (e.g. gain trust/confidence)?
  - *Start small and build on success*
  - *Where possible, provide a transition path*



Key Points

- How do we balance stability & innovation?
  - *Avoid technical distractions – chasing "shiny, new" technology*
  - *Provide a transition path*
  - *Adopt vetted standards*
- How do we turn funding stovepipes to an enterprise that serves unique missions?
  - *Tax user programs*
  - *Use anticipated cost savings to "pay it forward"*
- What role can standards play in enterprise formation?
  - *Standards may seem restrictive but, when appropriately applied, actually fuel innovation*
    - Increases potential participants by lowering entry barrier
- How can we build an architecture to support change?
  - *Keeping architectural layers and interfaces "thin"*
  - *Use successful (widely adopted) standards that have been vetted with industry*
- How do we integrate external entities into an enterprise?
  - *Building to standard interfaces within the enterprise helps external organizations integrate*

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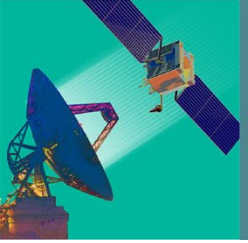

Conclusions

- Enterprises are not always a good fit for all organizations
  - *Need to define scope of enterprise and what benefits the organization hopes to get by forming an enterprise*
- Need to architect and plan for change
- Operations can be harmonized in an enterprise to reduce duplication of capability
- One of the biggest advantages of an enterprise can be situational awareness across the enterprise by exposing/sharing data
- Adoption of vetted standards, initially seems restrictive, but actually fuels innovation
- To foster innovation, enterprises should focus on interface standards
  - *"Standardize the socket, not the light bulb"*