

GSAW 2014
Feb. 24-27, 2014
Renaissance Los Angeles Airport Hotel

Session 12B
“From Stovepipes to a Compatible Enterprise via the use of an Open Framework”

NASA and Compat C2

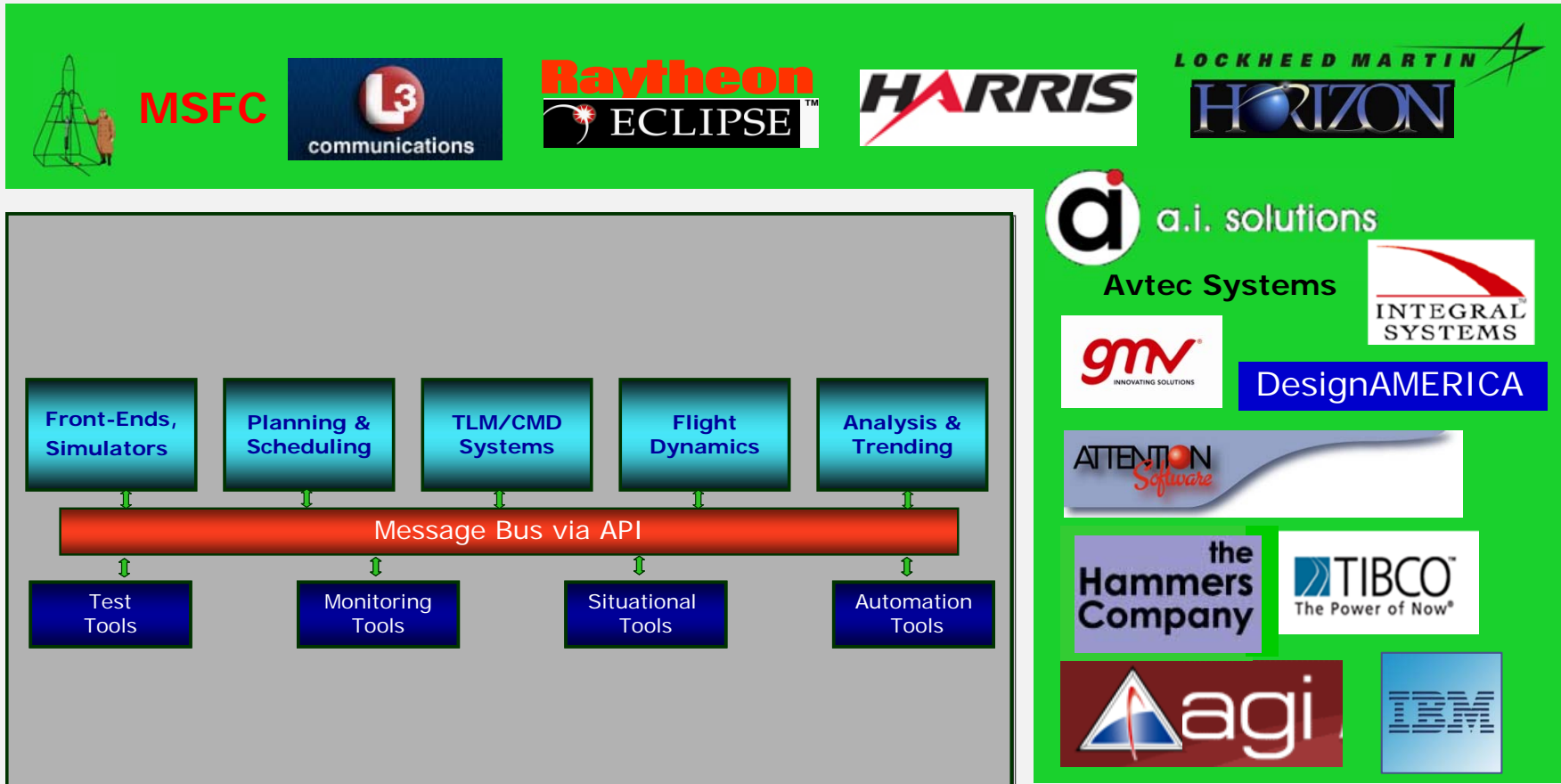
--- increased collaboration and maturity ---



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GMSEC and the Satellite Control Domain



Users can choose the best products for their needs. Many COTS command and control systems are now GMSEC compatible, and other products can be easily adapted.

GMSEC – Recent News



- API available as open source; Secure API available for government use
- Active collaborations between NASA and several other government space organizations
 - Undergoing integration and operations readiness tests for a major non-NASA system
 - New studies and prototype efforts ongoing with another civil space organization
- AFRL/Rome NY has developed an excellent “security wedge”
- GMSEC providing key capabilities for NASA/GSFC mission control automation initiative (well into development)
- In use at GSFC’s Flight Dynamics Facility
- Efforts started to “try it on the cloud”
- NASA developing compatible data access toolkit (for late 2014)

GMSEC Message Specification Governance



- Control of the message standards is essential
- We employ a 3-level governance model
 1. Local Level
 - Missions may develop their own local usage document
 - Local naming conventions
 - Values for specific header fields
 - Indication of which messages are used, not used
 - Changes needed which may be of value outside of the project are “promoted” to the CompatC2 level
 2. Compat C2 Level (or other Organization Level (NOAA, etc.).)
 - Addendum generated for items of value across the DoD (Aerospace Corp. / Chantilly)
 - Satellite naming conventions
 - DoD-specific navigation message
 - General guidelines
 - Changes reviewed that could be of even broader value are “promoted” to the NASA GMSEC Team
 3. GMSEC Level
 - NASA maintains the primary message specification volume
 - Available to interested groups upon request

Good recent examples have demonstrated that this process works well.

GMSEC/CompatC2 Demo



The GMSEC team has been asked to develop a demo for another government space organization using funds that expire at the end of FY14. Here is what we suggested:

Demo 1 after 2 months

Virtualized GMSEC-based system running on a Mac-Mini

Includes tlm/cmd simulator, T&C system, archive, automation tools

Demo 2 after 4 months

Virtualized GMSEC demo running on Amazon's GovCloud

Support for 5 spacecraft, one of which will be a customer's mission to be named later

Demo 3 after 6 months

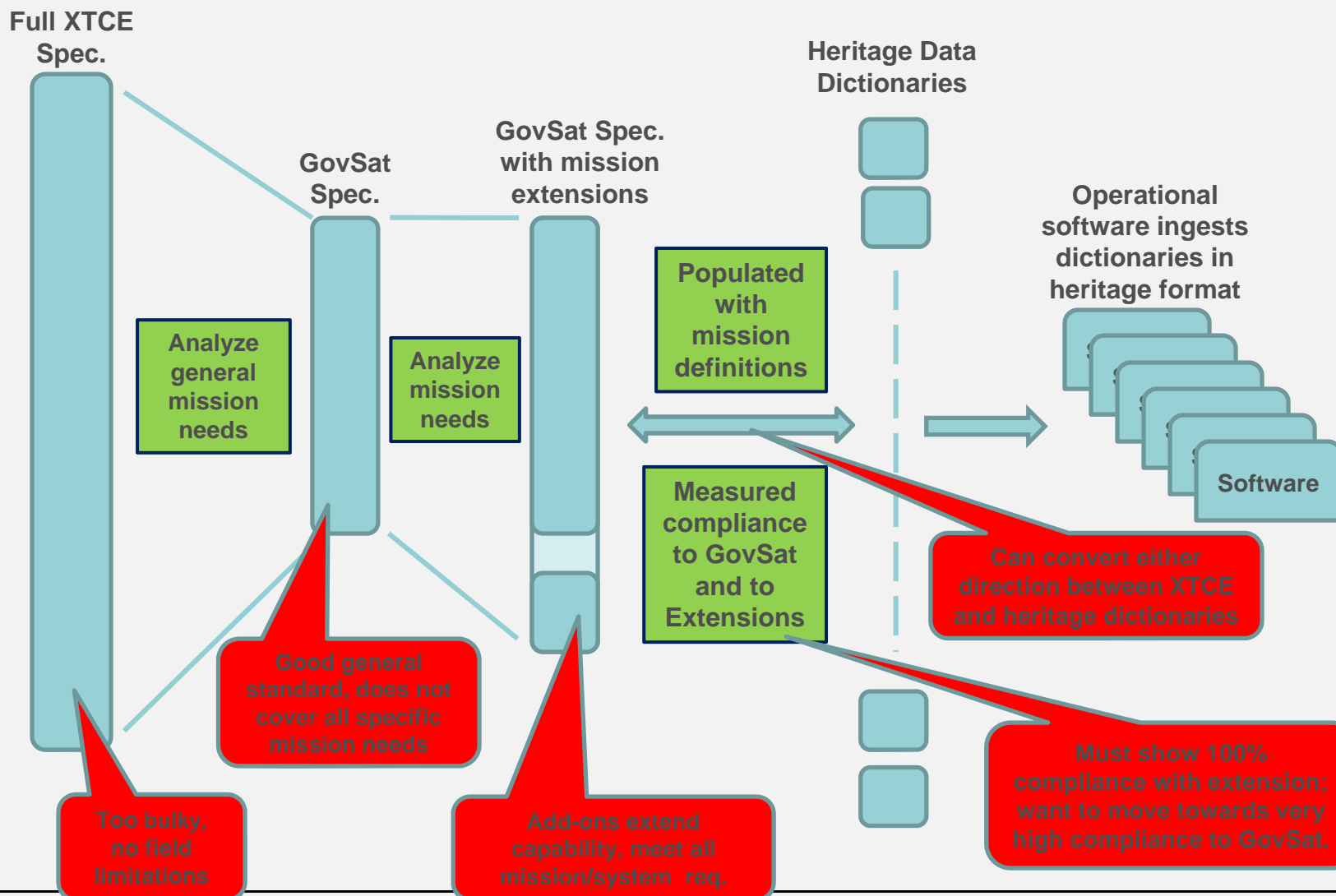
“Developers' Challenge”

Show what developers can do in 2 months, try and “WOW” the customer

I like that one of the customer managers said “this isn't possible”.

Real purpose is to show the flexibility of the framework approach and the types of accomplishments that are possible in a very short timeframe.

A workable model for moving to XTCE





We are looking for the best ways to create/maintain a GMSEC/CompatC2 community of interest and users.

What makes the most sense?

- “Interested Parties” e-mail list
- Newsletter
- More formal CCB processes involving external groups
- Dedicated working session at GSAW
- NASA-hosted users workshop
- Other?