



# GMU Plugfest Debrief

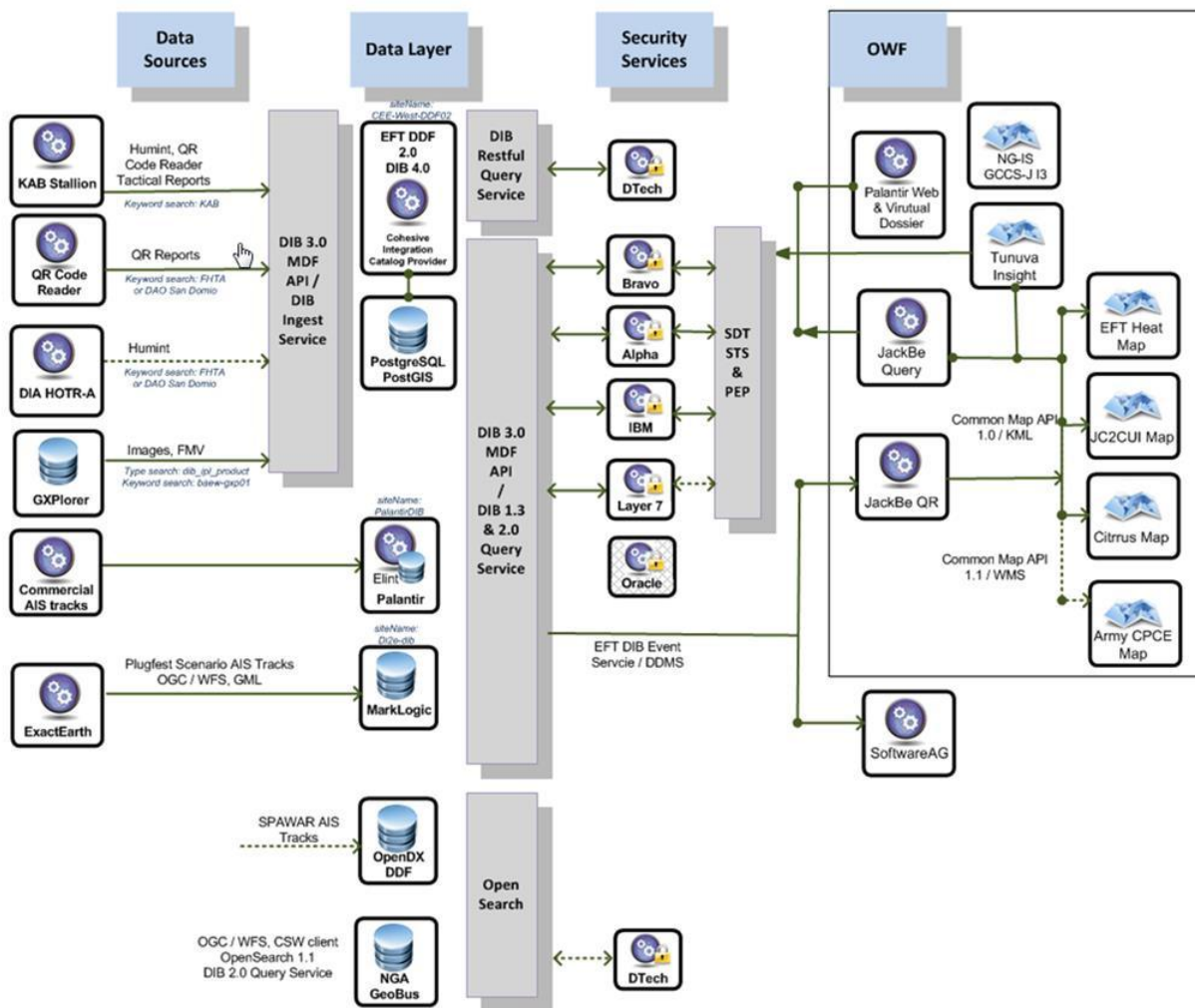
DMO Developer's Forum

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# Plugfest Integration Points



## Common Integration Patterns

- *DIB Ingest, Query, and Federation*
- *SDT Security Services*
- *Map related data shared using JC2CUI Common Map API*
- *OWF/OMP Integration*
- *Scenario data shared via OGC WMS/WFS*
- *Identity Management via Active Directory*

**Multiple Integration Points Across 27 Industry Partners, EFT, DMO, and Mashup Team Capabilities**



# Primary Standards Leveraged

- A lot of vendors consumed and/or provided Open Geospatial Consortium (OGC) standards:
  - Web Map Service (WMS)
  - Web Feature Service (WFS)
  - Web Coverage Service (WCS)
  - Web Map Tile Service (WMTS)
  - Catalog Service for the Web (CSW)
- Common Map API v1.0 & 1.1
- DIB Query Service v1.3.1 & 2.0
- OpenSearch 1.0 & 1.1
- CD&R
- DIB Ingest with DDMS 2.0
- Ozone Widget Framework
- Ozone Marketplace
- Access Control Service Dial Tone: SAML v2, XACML, TLS, X.509
- OAUTH
- OpenAM
- Hadoop File System
- FMV: Real Time Streaming Protocol (RTSP)
- LDAP, DNS, NTP, WSDL, REST, SOAP, XML

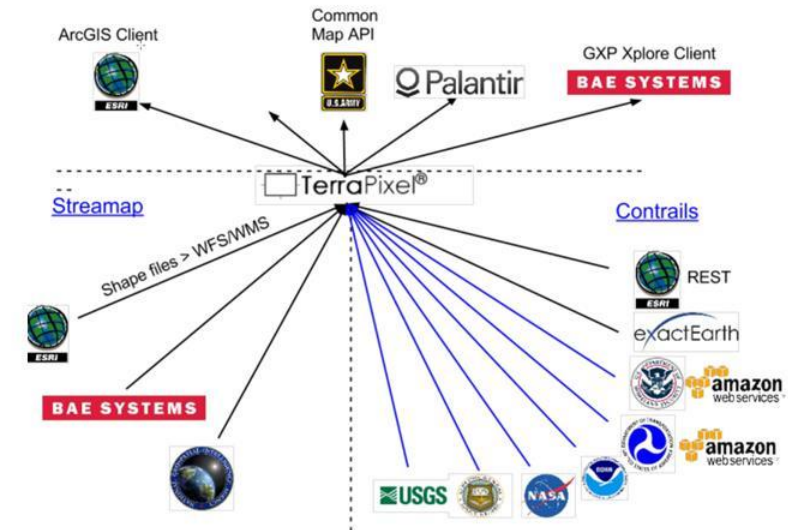


**Many Standards Introduced into Plugfest**



# Success Stories

- Various integration points with a variety of Industry and Government partners within the PX
- TerraPixel brought forward OGC standards (WMS, WFS, WCS, and WMTS) and transformed proprietary interfaces into OGC WMS compliant for others to consume
- NGA GEOBUS team won Mashup challenge demonstrating their ability to federate across heterogeneous DIB instances within PX as well as integrating with various industry partners to collect various OGC data sources.
- Gap within Common Map API supporting WMS which led Army to bring forward an emerging Common Map API to fill gap
- IBM/DCGS-SOF successfully passed CTK Runner for Policy Enforcement
- Cohesive integration for the PostGres/PostGIS DIB instance



**Proven Collaboration Across Various Parties to Achieve Interoperability**



# Lessons Learned

## Integration / Standards

- Industry hungry to solve hard technical problems within the community – Significant need to collect more HTPs from DIZE Community
- Create WIKI reference area to vendor offerings and the standards they align against to provide guidance to developers and links to OMP instances for integration
- Realistic UAV Video Feeds for FMV vs. Commercial Standards
- Integration focused heavily on DIB but not on non-standard noSQL databases providing DIB interfaces. Need to explore further.
- Success of integrating around existing standards, common map API, OGC, etc. provides long term benefits.
- Include Performance Assessment for DIL
- More automated services and instructions for how to VPN, help desk, provision VMs, access WIKI, etc.
- Increase Bar for Gold Star Assessments (define more detailed criteria for inoperability stars)
- ITAR restrictions present challenges; Less control on information flows desired (e.g. via Google groups)
- Need incentives to continue vendor participation between events



***The Standards Landscape can be Heavily Influenced by Plugfest Activities***



# Hard Technical Problems

- Integrity issues with widgets interacting with SDT security services (how do I trust the widget?)
- Lack of Standard for Common ISR Data similar to Common Map API to support non-map Multi-INT
- Lack of Mobile Standards and Deployments for security, messaging, data sharing, etc.
- Several vendors brought Rest based services and still need a standard for Rest security
- Lack of standard for sharing an Area of Interest for geospatial searches
- *Need a standard for Discovery to support a variety of services (REST & SOAP) with ties to the DIB and WMS/WFS endpoints.*
- *Evaluate a services ability to perform within a DIL environment.*
- *Vendors brought several proprietary and standards-based messaging capabilities but no one standard emerged as the most common.*
- *Lots of redundancy and duplications of CD&R widgets to support map display widgets.*
- *ISR domain knowledge required to represent DIB data as KML, JSON, or GEOJSON to display as map feature or overlays. Need for CD&R and data layer standards.*



**Plugfest Activities identify HTP, standards and capabilities to drive forward interoperability and reuse**



# Areas to Improve

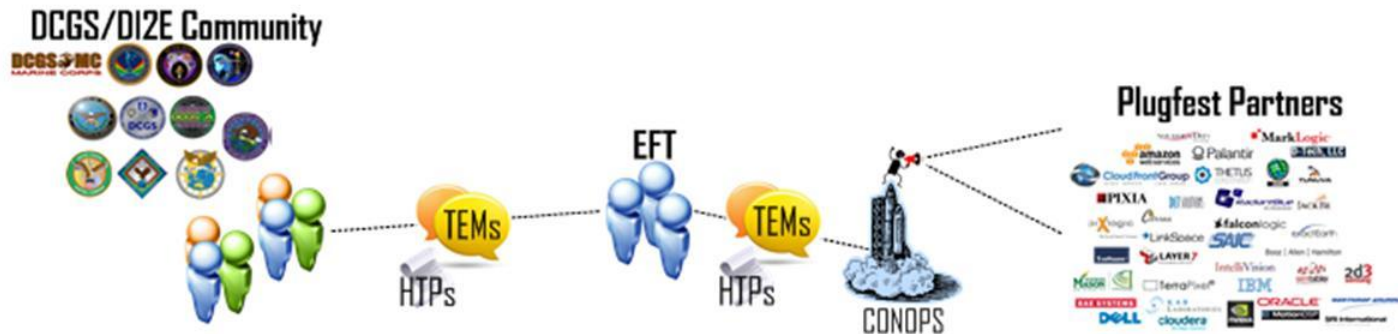
- Provide more standards for (messaging, mobile, REST, etc.)
- Share gaps within standards with standards bodies
- Encourage vendors to advertise and share test suites
- Provide a way to evaluate DIL performance
- Create example widgets to demonstrate widely used standards
- Upgrade software within PX (DIB, OWF, Confluence, OMP, etc.)
- Additional support for users adopting SDT service (debug tools, updated guides, code examples, etc.)





# Power of Plugfest

- DCGS/DI2E community can leverage Industry to solve Hard Tech Problems (HTPs)
- EFT can leverage Industry to develop DI2E standards and specifications
- Exploring way to get EC credit for PoR Mashup Participation
- Direct access to DI2E services that meet community HTPs
- Uncover gaps and issues within existing standards
- Industry gets more exposure to Government



***Plugfest Bridges Government and Industry to Build More Effective Components that promote Reuse Across DCGS Family of Systems***





# Questions



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