



Adaptive Airborne Enterprise

FANTOM Core

Mission Autonomy Software Integration

Assessment Event

USSOCOM SOF AT&L PEO FW

Problem Statement: Given DoD's pacing challenges, USSOCOM currently lacks the concepts and technologies to leverage its access and placement and provide long-range ISR & effects at scale to execute Special Operations peculiar (SO-p) missions.

Operational Use/Conditions: The PEO Fixed Wing A2E program is seeking vendors that can integrate mature (TRL6+) vendor provided solutions with the FANTOM Mission Autonomy software stack. We are particularly interested in enhancing our capabilities in the areas identified below (in order of priority) but are open to other unique solutions that may be of interest to USSOCOM:

- **Behaviors**
 - Coordinated ISR
 - Target Custody
 - Topology based Search Optimization
 - GNSS denied operations

The following are areas of interest for future solutions, but we will not be selecting for at this time.

- **Autonomy Playbook and Objective Planning**
- **ATR**
 - Zero shot methods
- **Dynamic Geozones**
- **Correlation**
 - Including off board sources
- **Alternate Planning methods**
 - Game theoretic planners
 - Deep learning planners

If the industry provider has a method to augment the mission autonomy, we would like to understand what functionality you have that can be added to the abilities of the Mission Autonomy system. Responses should reference ALL queries identified below. Please be as descriptive as possible in your responses.

1. How does your software service address the behavior objectives above?
2. Which FANTOM Core services would your software service replace or interface with to provide an integrated capability using mature, flight demonstrated, code?





3. Please provide an architectural diagram or view of your service integrated with the FANTOM Core Service architecture (ref Fig 4 of the SDK User Guide or GHA Services view of the MBSE model). If you would like to submit an MBSE model with your white paper ensure that it is in Cameo 2024 or earlier and does not depend on external plugins.
4. What limitations of the FANTOM architecture do you recommend be addressed to support the integration of your service and how? How can you help solve these?
5. What is the demonstrated TRL of your service, please include simulation, surrogate, and flight events?
6. What developmental services (e.g. dev ops pipeline, simulation environment, hardware integration support, HMI) do you require from the integrator, GTRI, to support your service integration and demonstration?
7. How do you propose to protect your IP, both technically and legally, in a multi-vendor with 3rd party integrator, development environment?
8. How do you view requirements, competition, pricing, quality, accountability changing when migrating to a government owned Autonomy Architecture?
9. What are the risks you need addressed to perform within the FANTOM autonomy architecture?

