

Autonomy Plan

Overmatch

Mike Tall, SSTM for Integrated Autonomous C4ISR, Overmatch Autonomy Lead

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Experimentally create Overmatch's
connective tissue for autonomy

Overmatch Autonomy

What are we creating?

- How and when does Autonomy connect to the NOA to support DMO?
- How do you baseline Autonomy capability?
 - Measurement Standards
- What is the platform to deliver Autonomy software?



Baseline Autonomy

The problem

- To rapidly develop Autonomy, it needs to be focused and measurable
- In Machine Learning, we hold-back a “gold” dataset to evaluate performers on
 - We need to do the same with measuring Autonomy



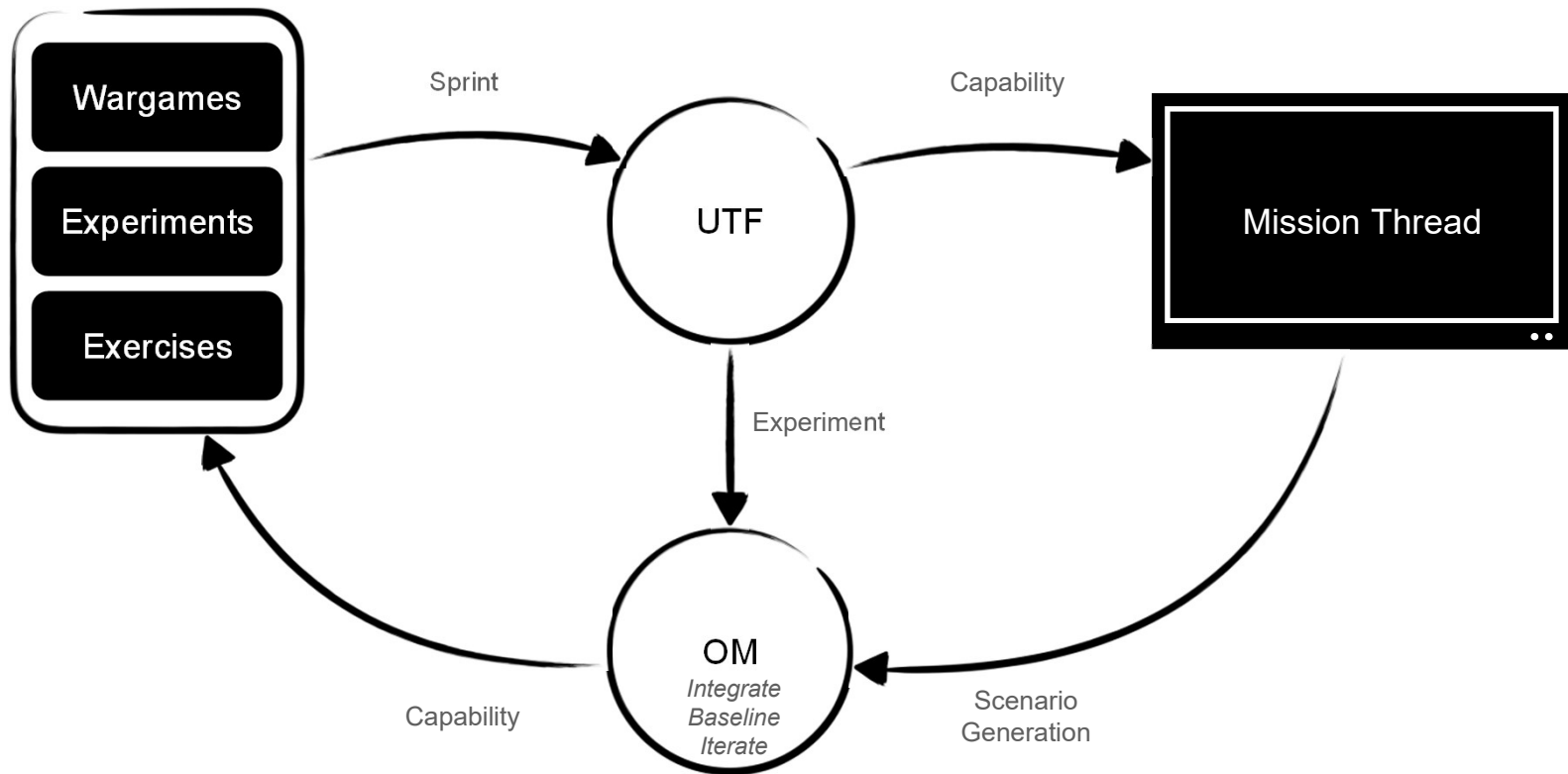
Autonomy Plan

How will we achieve this?

- Use continuous real-world events to incrementally develop the architecture
- Use operationally relevant deconstructed scenarios
 - Government controlled aspects to facilitate a gold dataset
- Create a pipeline that involves War-games, Experiments, Exercises, Unmanned Task Force (UTF), and Overmatch

Notional Pipeline

Wholeness



The Scenario

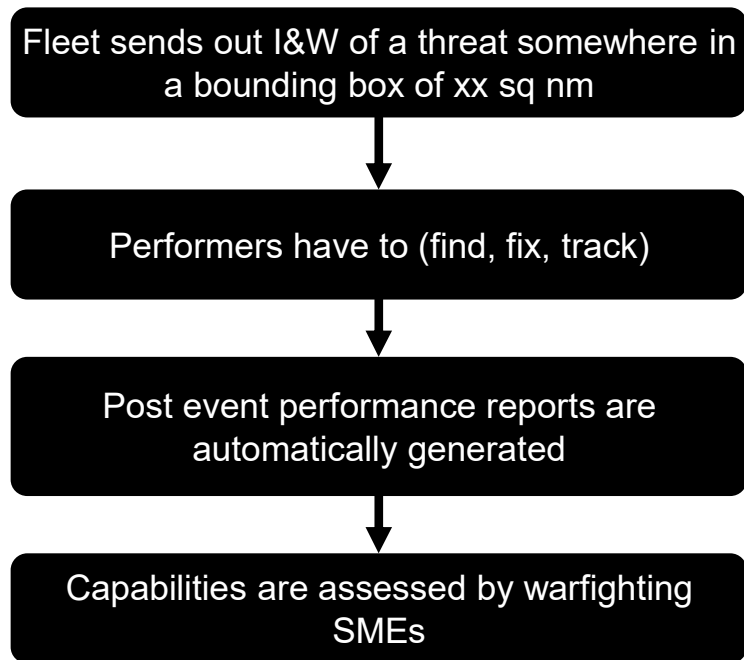
Requirements

Contractually

- Integration into the Network
 - State data for government assessment vs. gold dataset
 - Indications & Warning to cue mission start
- Key algorithm required as a deliverable
 - For example a path planning algorithm
 - Protect IP, but must specify interfaces and government's ability to reuse

Autonomy Scenario

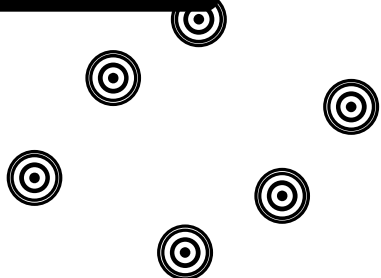
Spiral 1



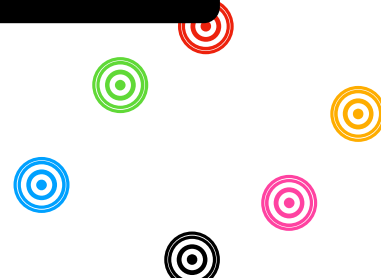
Autonomy Scenario

Spiral 2

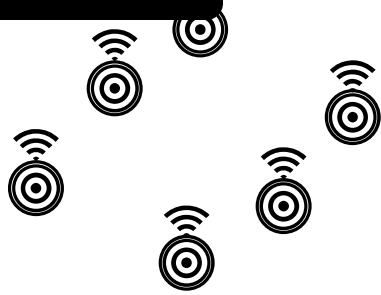
Multiple Targets



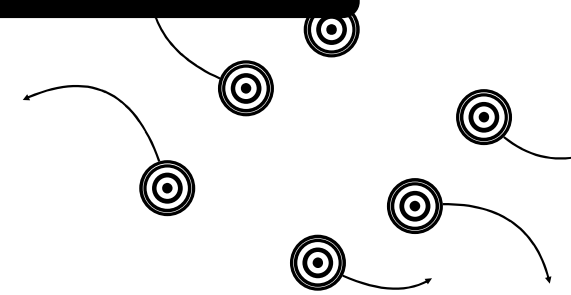
Discrimination



Contested Environment



Avoidance Tactics



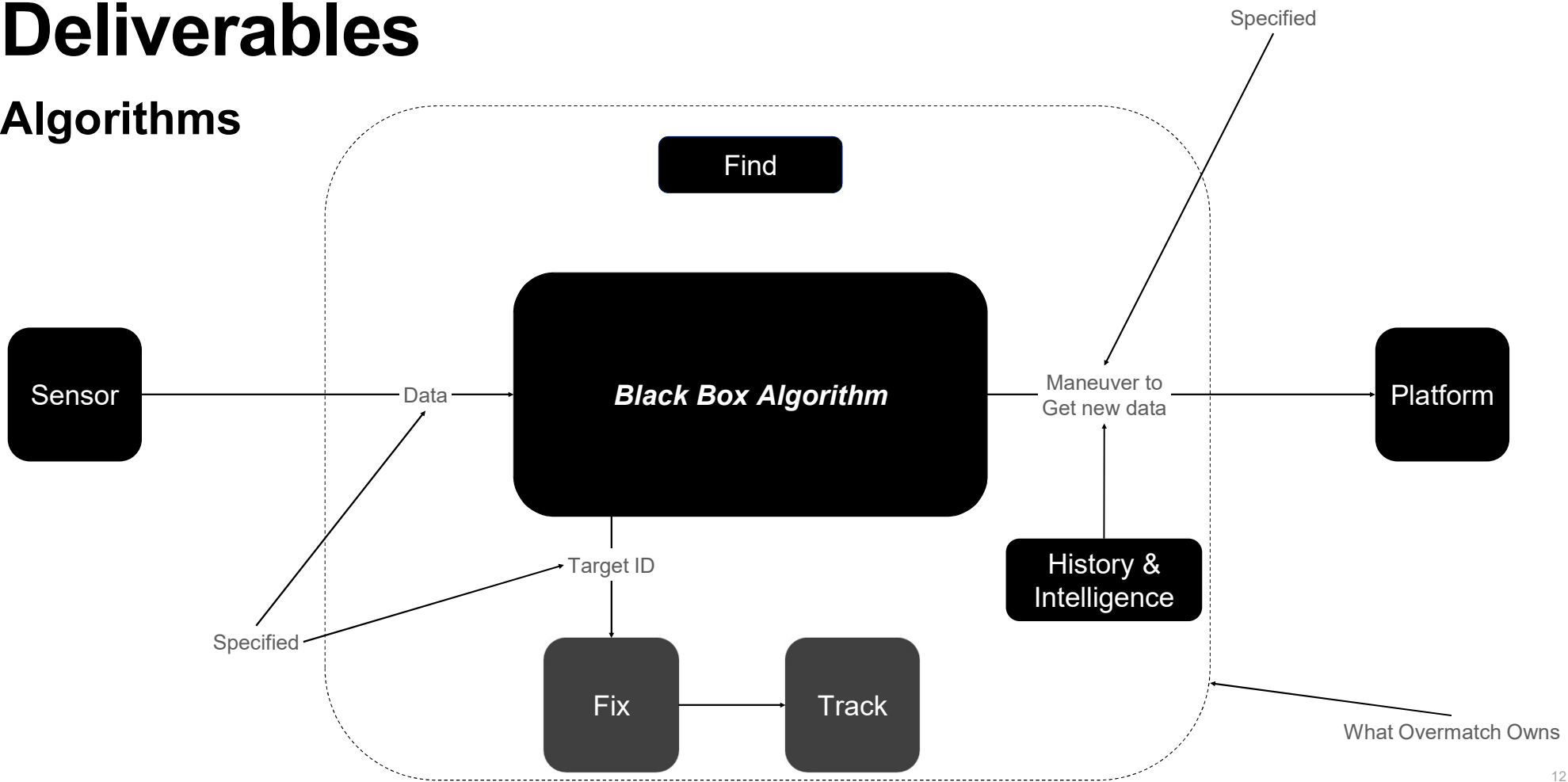
Considerations

For Proposers

- No vehicle requirements; trade space and corresponding mission autonomy is up to the performer
- Government C2 is only the publication on the I&W threat
 - C2 of Autonomy
- Simulation not provided at the tactical level

Deliverables

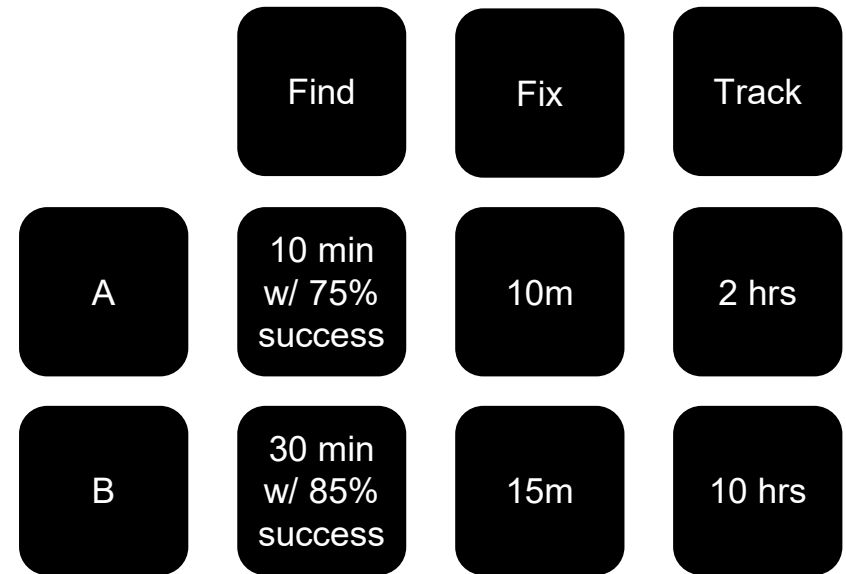
Algorithms



Capabilities Over Time

Overmatch Connective Tissue

- Capabilities based on data
 - Deliverables are the algorithms
- Mix and match capabilities
 - Software integration achievable without vendors
 - Simulation to provide the best combination based on mission



How to run + inputs / outputs specified +
Network = Overmatch can do SW
integration without vendors