Upper E Traffic Management (ETM) Concept

Why is ETM needed?

- New entrants to Upper E airspace are emerging
- Demand for airspace access is projected to increase
- A diverse set of vehicle and operation types are expected
- In the US, ATC services are limited or not provided in Upper E, which will impact the ability for industry to scale

The solution

- Leveraging the distributed, service-based architecture developed through NASA’s revolutionary UAS Traffic Management (UTM) concept, ETM will enable a safe, scalable, and efficient approach to air traffic management in Upper E airspace.
Upper E Traffic Management (ETM) Concept

• **Fundamentals of Concept**
  - Digital
  - Interoperable
  - Cooperative for planning and execution including separation
  - Intent sharing
  - Service oriented architecture
  - Possible third-party services
  - Manage by exception paradigm

• **Approach:** Concept development, feasibility simulations and demonstrations, off-nominal conditions assessments, and recommendations for requirements
Progress

- ETM Concept of Operations document in development with Industry and FAA

- Collaborative stakeholder meeting held at NASA Ames Research Center in April 2019

- Architecture and information exchange discussions ongoing

- Tabletop exercise planned for December 2019
Next Steps

ConOps Development

Collaborative Tabletop

Architecture Development

Performance Modeling

Connectivity Testing

Collaborative Simulation

Live Flight Demonstration

NASA will be working closely with Industry, the FAA, and other federal agencies to define the ETM concept and bring it to reality.