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# Upper E Traffic Management (ETM) Concept

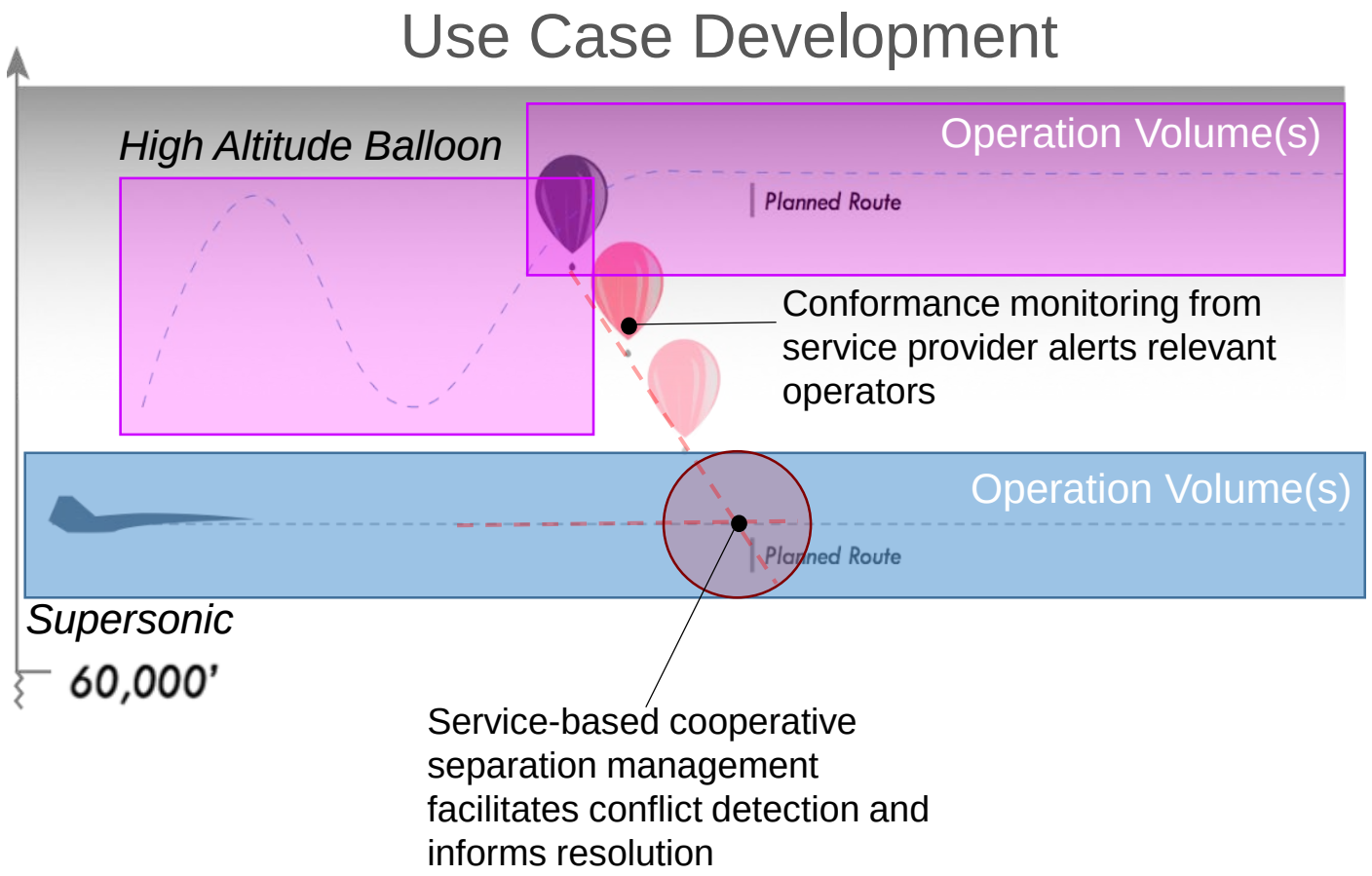
- **Why is ETM needed?**
  - New entrants to Upper E airspace are emerging
  - Demand for airspace access is projected to increase
  - A diverse set of vehicle and operation types are expected
  - In the US, ATC services are limited or not provided in Upper E, which will impact the ability for industry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

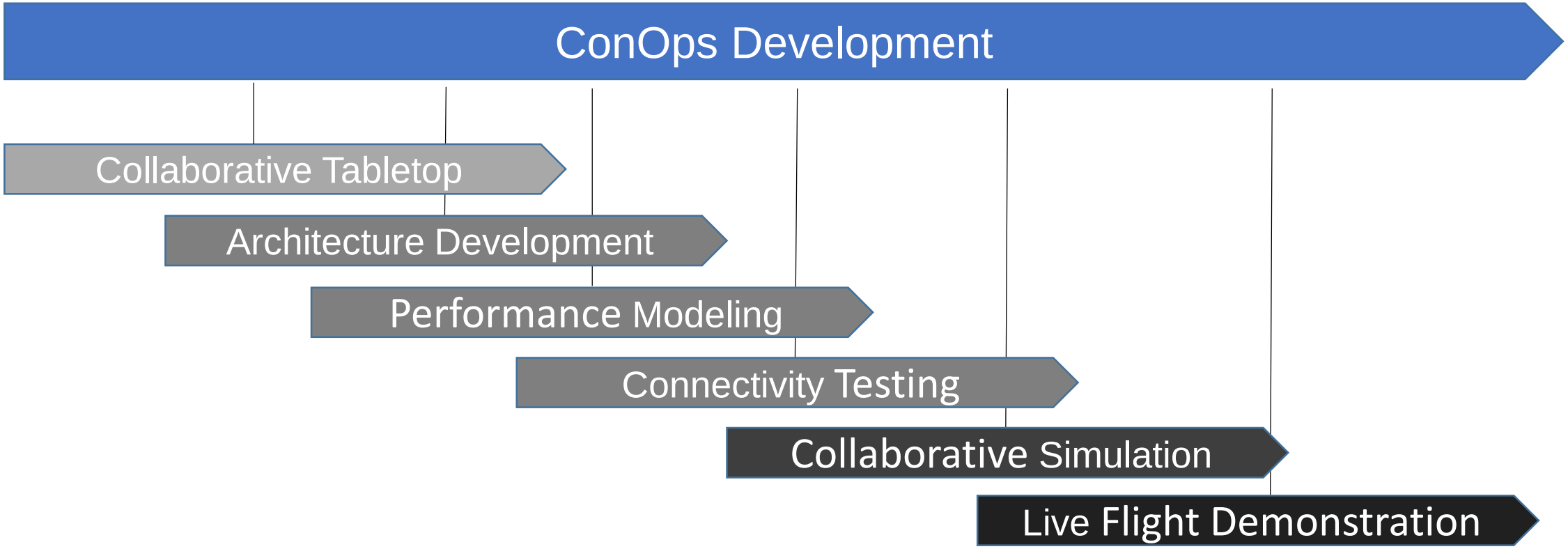
- **Approach:** Concept development, feasibility simulations and demonstrations, off-nominal conditions assessments, and recommendations for requirements

# 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




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