



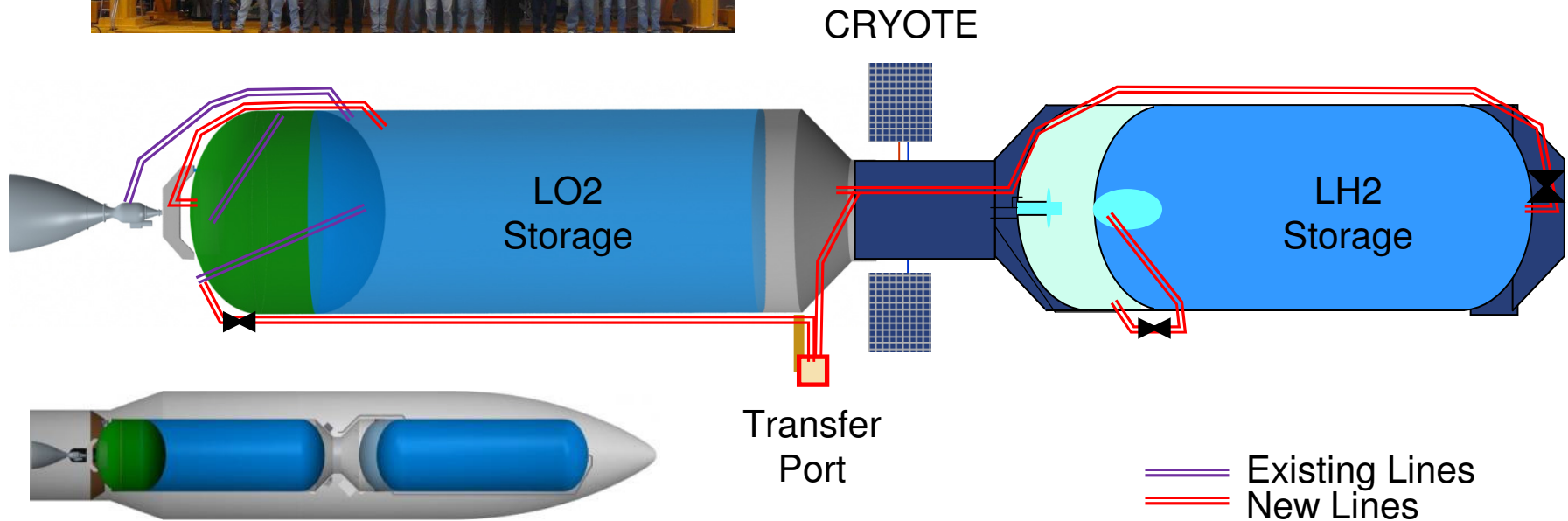
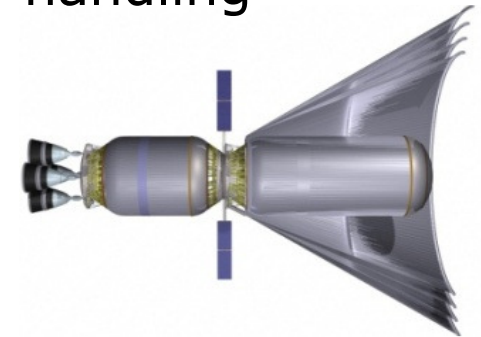
# Near Term Depot United Launch Alliance

**Bernard Kutter  
9 April 2010**



# Orbital Depot System Demo

- Integrated end to end system test
  - Rendezvous, docking, fluid storage, transfer, handling



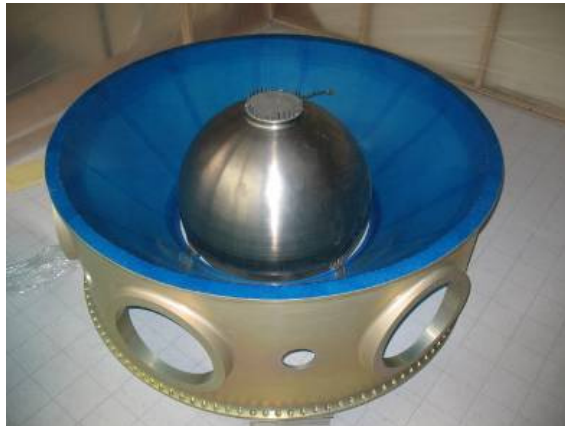
# DMSP Flight Demonstration

- ❑ DMSP provided unique opportunity for orbital CFM demonstration
  - 12 klb propellant at spacecraft separation
- ❑ Demonstrations flown provide data allowing future vehicle enhancements
  - Coast Phase Demos
    - Low-G settling
    - Solid Body Rotation settling
    - GOX venting on-orbit
    - LH2 Pulsed Chillardown
  - Engine Burn Demos
    - GOX venting during Engine Burn
    - MRS with modified shutdown parameters



# CRYogenic Orbital Testbed: CRYOTE

- ❑ Orbiting laboratory for investigating Cryo Fluid Management Technologies
  - Fills Decades-Long Need of In-Space CFM System Tests
  - Affordable: Rideshare Utilizing Excess Centaur LH2
- ❑ Accommodates a Variety of Experiments Including:
  - LH2 Transfer & Tank Pressure Control
  - Liquid Acquisition Device (LAD) Performance
  - Destratification Jet Mixing
- ❑ Launch as early as 2012



Ground Test Unit

