Iridium Satellite

Aviation – We are everywhere you want to fly

Cross Polar WG Mtg Ft. Worth, TX

Mike Meza
Iridium Satellite LLC
April 1-3, 2008

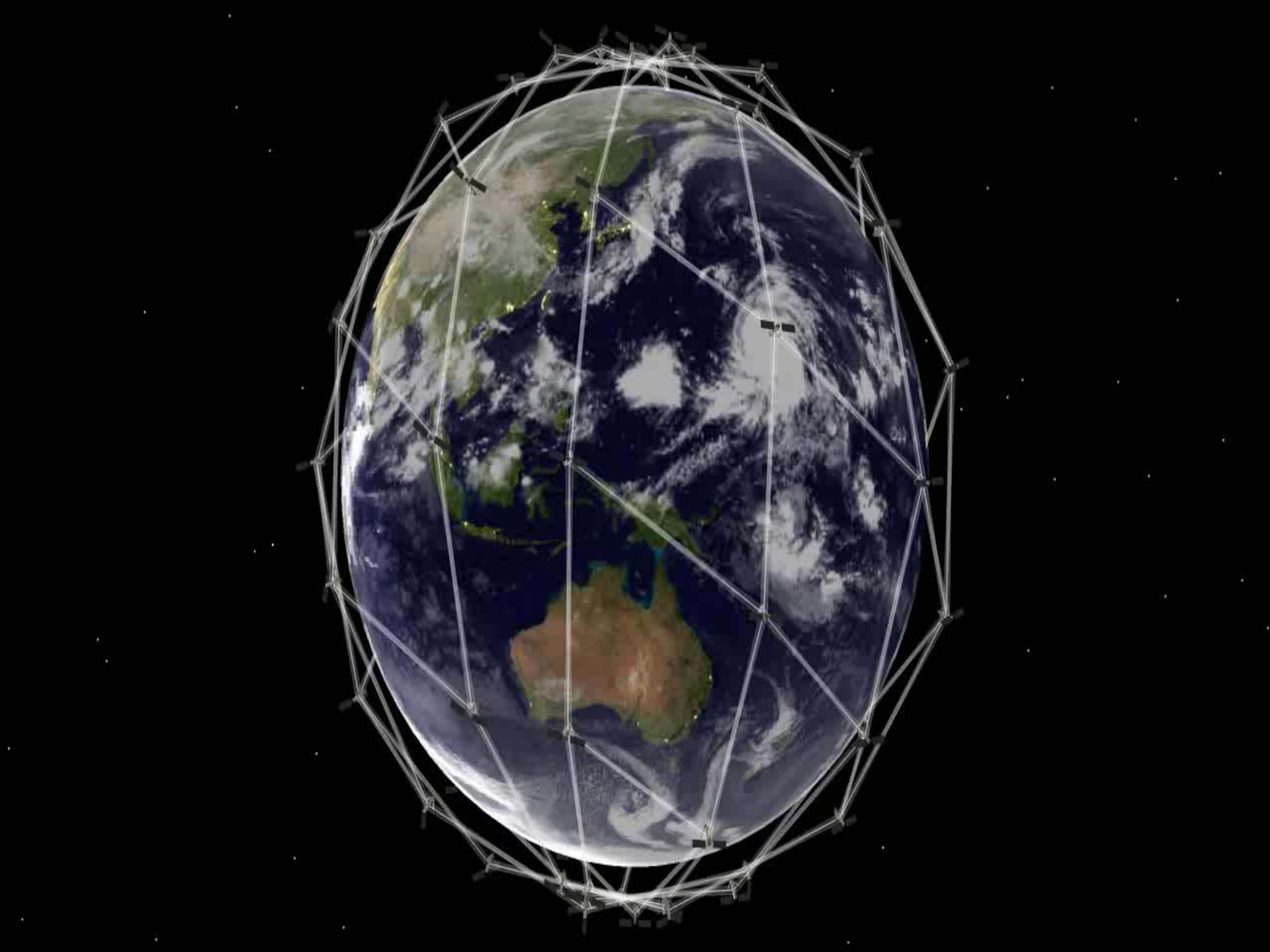
iridium

Agenda

- Overview of Iridium
- Iridium Aviation
- Avionics Equipment
- Aviation Customers
- Industry Working Group Activities
- Datalink Connectivity
- Iridium NEXT (Next Generation Satellites)

Iridium Network Capabilities

- Pole-to-pole coverage
- Requires only one gateway
- No reliance on regional infrastructure/ground routing
- Satellite diversity assures high probability of access
- Security ensured through digital network
- Minimal call set-up time and low latency



Satellite Network Overview

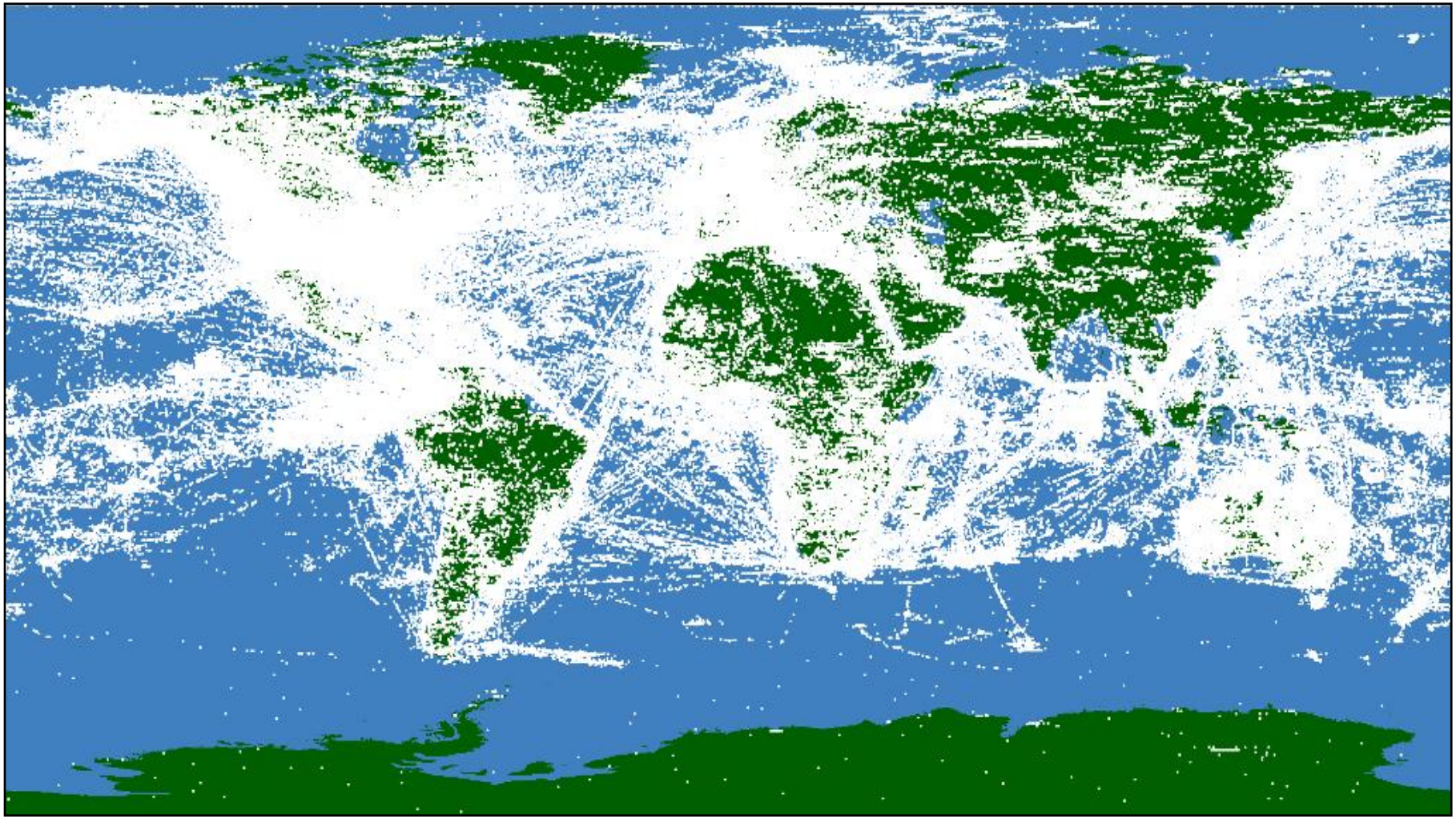
- Satellite constellation
  - 66 fully operational satellites and 9 in-orbit spares
  - Global 24 hour real time coverage
  - Full constellation life to mid-2014
  - Replenishment plan initiated to extend/upgrade constellation
- Gateways
  - Provide terrestrial interconnection and back office
  - Commercial gateway in Tempe, Arizona
    - Redundant architecture
  - Backup facilities in Chandler, Arizona
  - Earth Terminal, Alaska
- Satellite Network Operations Center
  - Main facility in Leesburg, VA
  - Back-up facility in Chandler, AZ

Constellation Health and Longevity

- **Iridium satellite constellation is in excellent health**
  - Hardware attrition rates are stable
  - System is providing a very high level of service availability
  - System is providing robust voice and data services to government and commercial users around the globe
- **Analysis of constellation lifetime updated with current battery life model**
  - At least 66 SVs predicted to remain operational through 2014
  - Expected post-2014 attrition increases gradually and is manageable

Global Communications Traffic

Voice Traffic

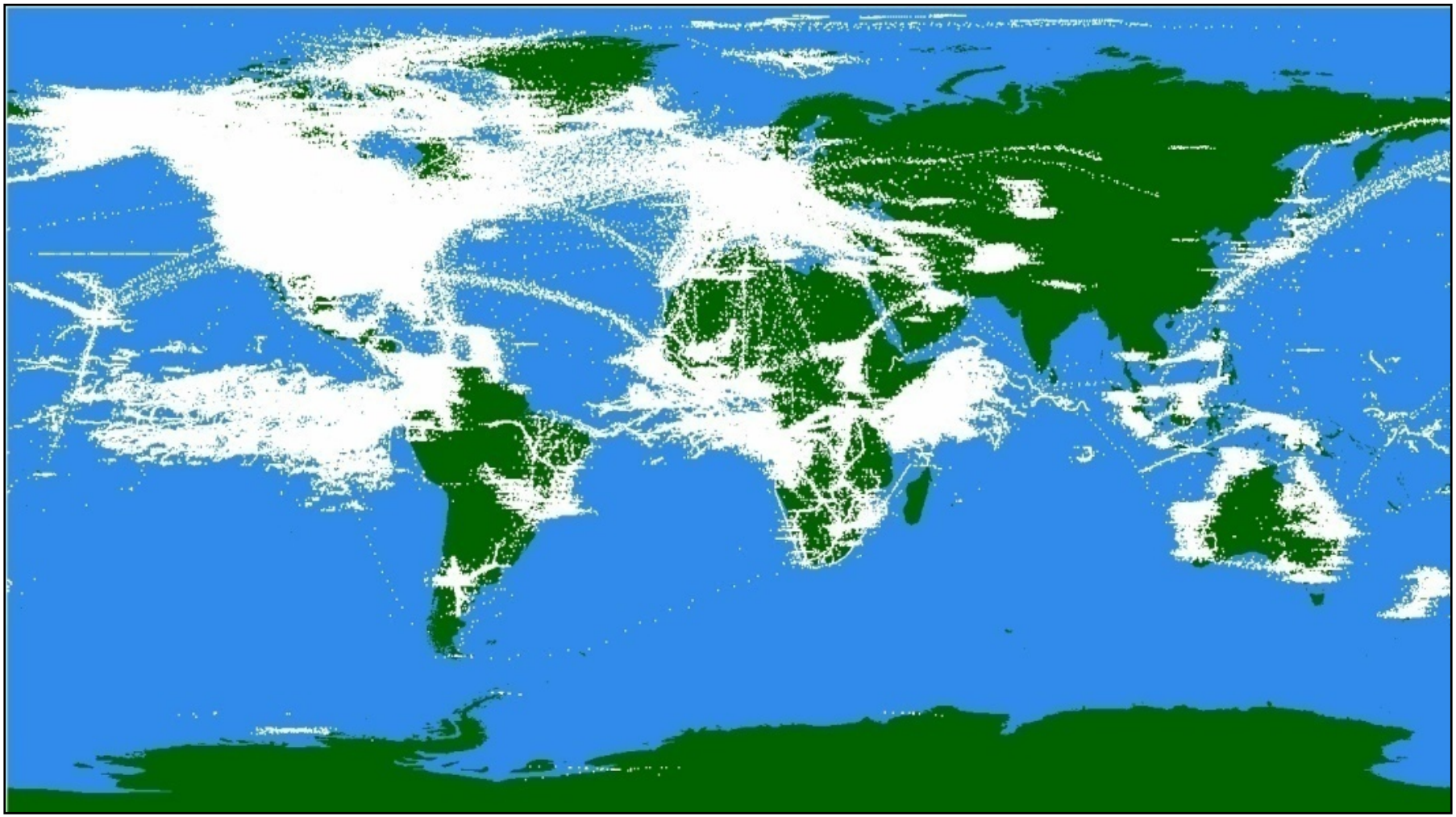


July 2007

iridium

Global Communications Traffic

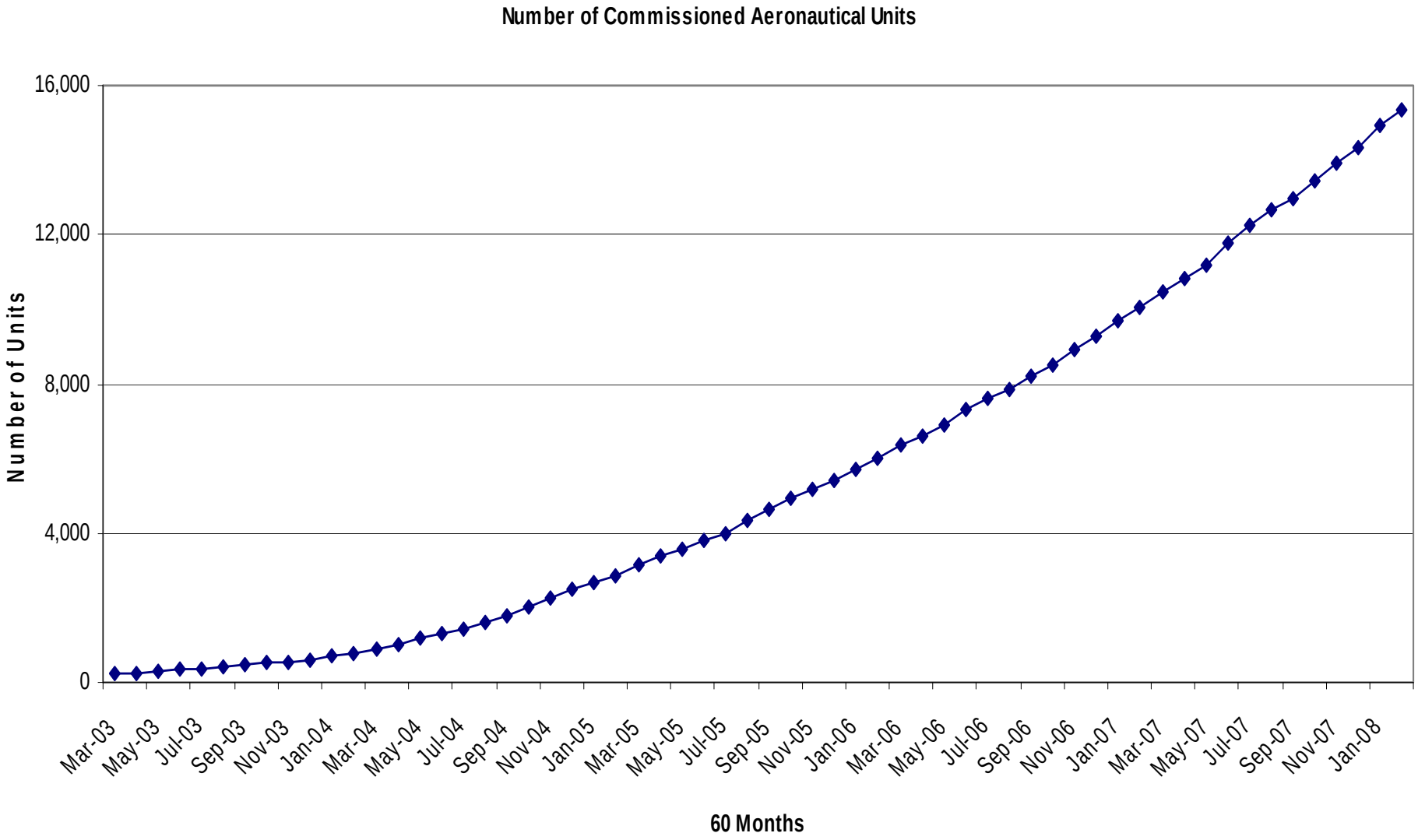
Short Burst Data Traffic



July 2007

iridium

Iridium Aviation Subscribers



Note: Figures are for Iridium transceivers and do not include 9505 or 9505A handsets

Iridium Aviation Customers

Airlines
- Aloha Airlines
- ANA
- Avianca
- Caribbean Sun and Caribbean Star
- Cathay Pacific
- Continental Airlines
- EOS
- FedEx
- Northwest Airlines
- Horizon
- PT Travira
- Tyrolean Airways
- El Al
- First Air
- Hawkair
- Island Air
- Frontier
- Canadian North
- Evergreen Cargo
- Mesaba
- Rockwell Airshow

Charter & Fractional
- World Airways
- Primaris
- NetJets
- Flight Options
- Miami Air
- Air Work NZ

Helicopters
- Air Logistics
- Eagle Med
- Air Logistics
- MedStar
- Air Evac
- ERA Aviation
- Erickson AirCrane
- HeliFlite Shares, NYC
- Cougar Helicopters
- Australia Nine Network
- Australian Helicopters

Government
- USDA Forest Service
- Alaska Capstone
- U.S. State Department
- U.S. DOD
- U.S. NCAR and NOAA
- U.S. Homeland Security
- Policia Nacional, Colombia
- Alberta Government
- Queensland Emergency Services
- South Australian Government
- German Border Police
- Japanese Fire and Disaster Management Agency
- Luxembourg Air Rescue service

Aircraft with Iridium Based Systems

- A319
- AB139
- Bell 206
- Bell 207
- Bell 212
- Bell 214
- Bell 407
- Bell 430
- Bell UH1
- Bell Super Huey 2
- MBB-BK117
- B717
- B727
- B737-200
- B737-300
- B737-400
- B737-600
- B737-700
- B737-800
- B747
- B757
- B767
- EMB-120
- MD11
- Beech 1900
- Beech King Air
- Bombardier DHC-8-100
- Bombardier DHC-8-200
- Bombardier DHC-8-300
- DeHavilland Twin Otter
- DeHavilland Buffalo
- DHC-6
- Raytheon Bonanza
- Raytheon Baron
- Raytheon Hawker
- Raytheon Beech Jet
- Raytheon Premier
- Piper Seminoles
- Saab 340
- C26 Merlin
- BV234LR
- Canadair RJ
- Lear Jet family
- Gulfstream family

Iridium Avionics Equipment

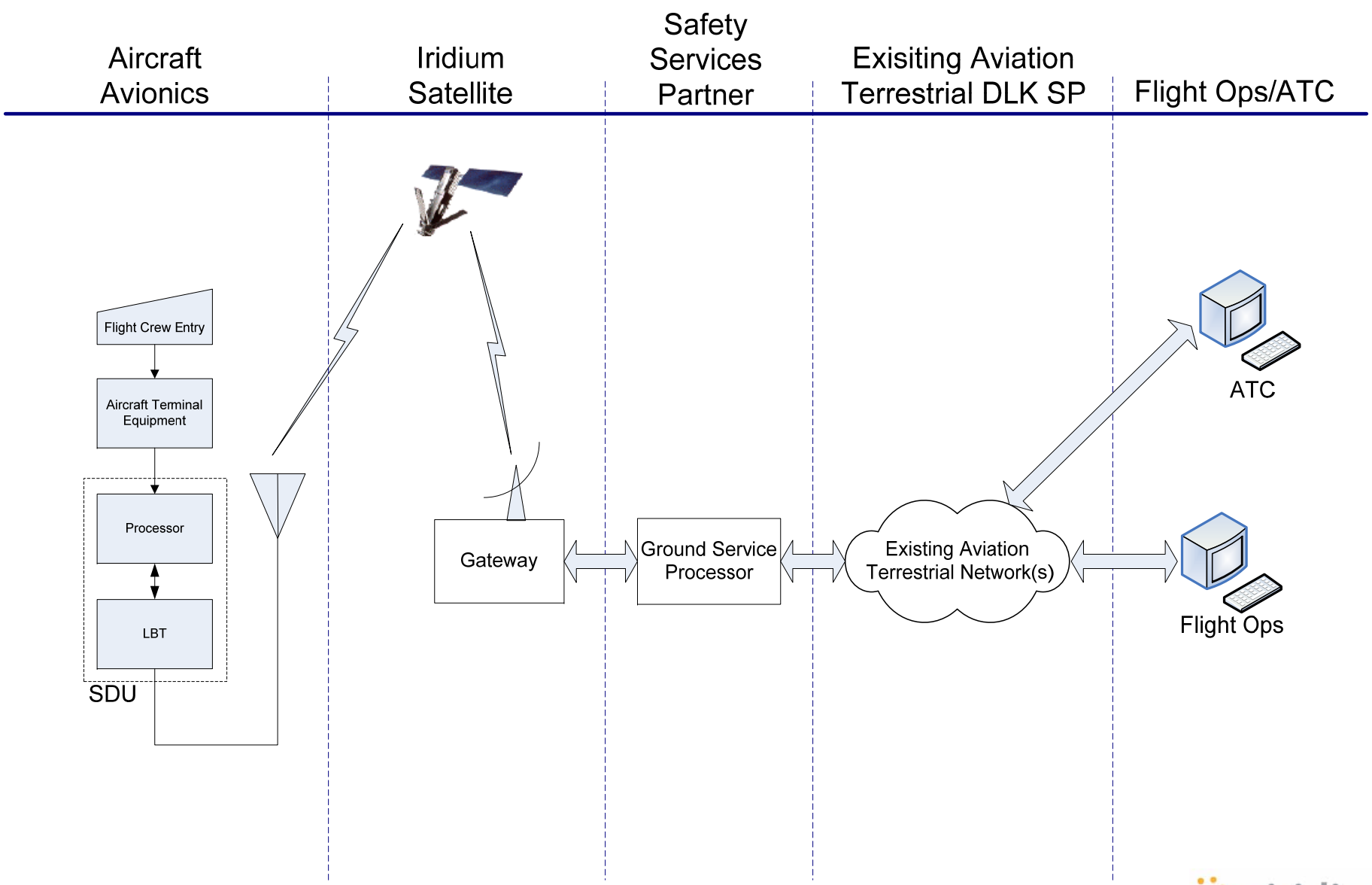
There are a number of avionics and antenna manufacturers of Iridium avionics equipment

- All avionics are based upon Iridium developed and manufactured L Band Transceiver (LBT) and L Band Transceiver Data Modem (9601)
- Avionics range from single channel voice to multi-channel voice and data units
- Integrated ACARS units are available (ARINC integration)
- Omni-directional, low drag, low cost, top mounted antenna
- Low weight, low cost, truly global communications equipment

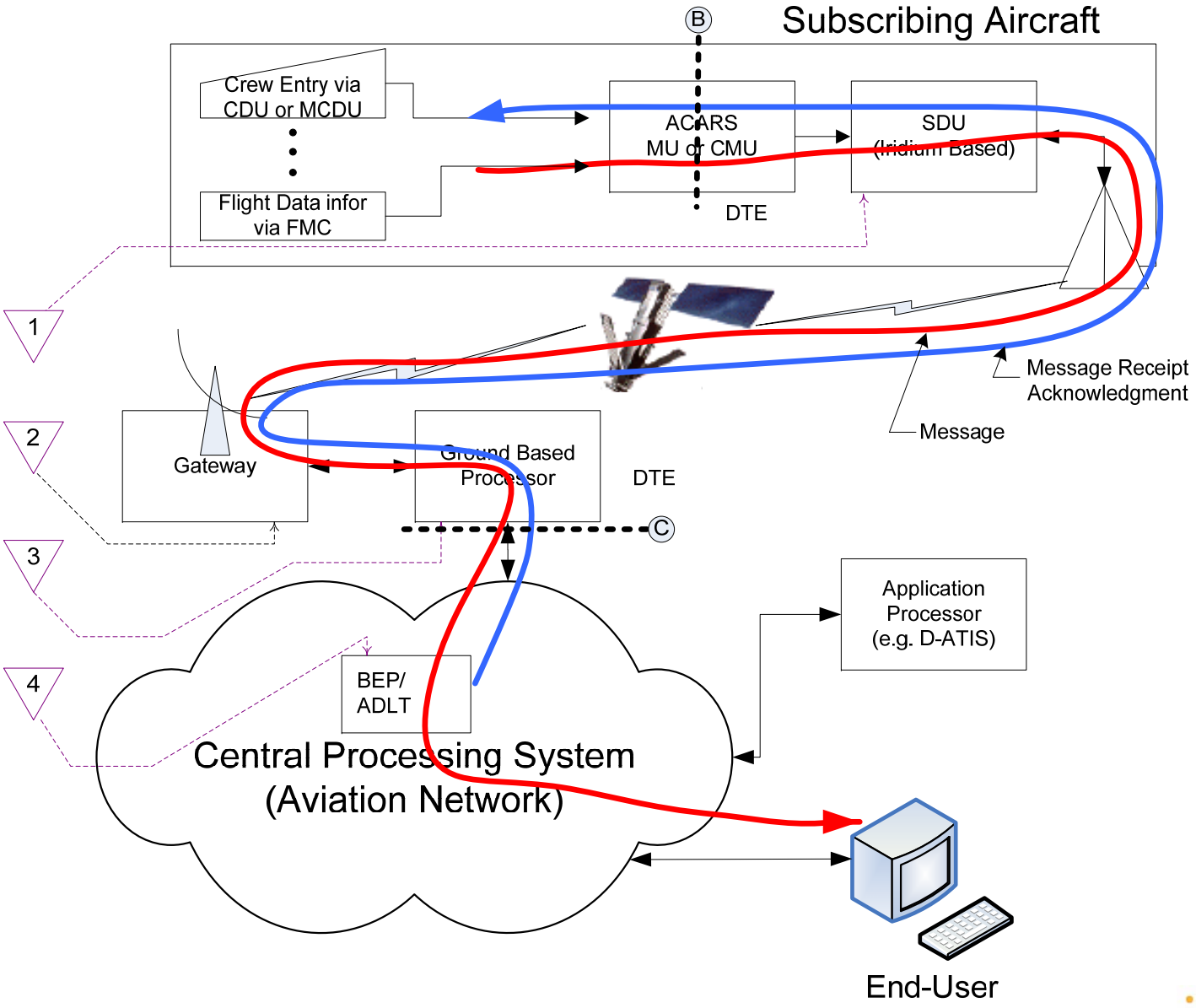
Industry Working Group Activities

- ICAO AMS(R)S SARPS and Guidance Material
- AEEC Standards
  - On-going
- RTCA Efforts
- FAA PARC CWG
  - Coordination with Regions

Aviation Datalink via Iridium



Message Delivery Timing

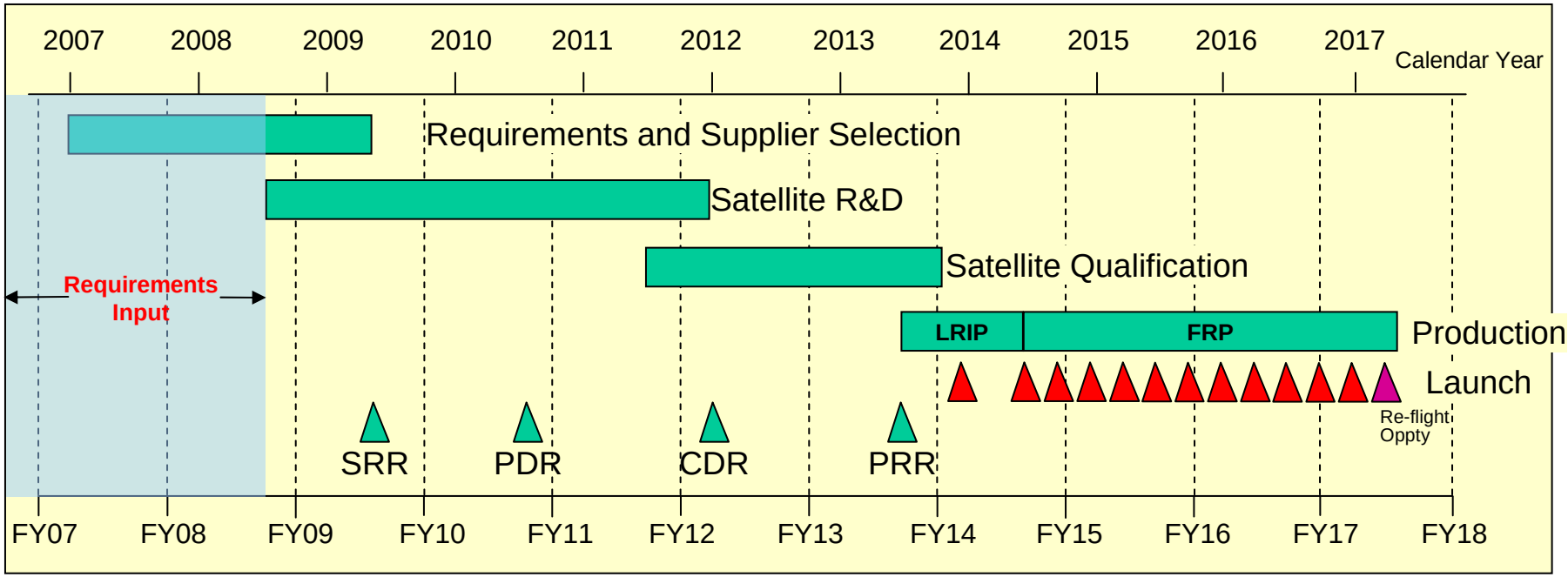


iridium

Iridium NEXT

- Iridium's next-generation satellite constellation
  - Seamlessly replaces current constellation; ensures mission continuity
  - Backward compatible with present applications and equipment
  - Maintains attributes which make Iridium unique: global coverage, security, availability, LEO architecture
  - Provides new and enhanced capabilities -- speed, bandwidth, flexibility – and enables new generation of user equipment
  - Potential for new applications beyond mobile communications
- Provision for government and commercial partnerships which leverage NEXT's unique architecture

NEXT Deployment Schedule



Subject to change

Project timeline will be managed to ensure service continuity