



FCC National Broadband Plan Workshop

Global Broadband Connects America and the World: Infrastructure, Services and Applications

December 10, 2009

▲ Network

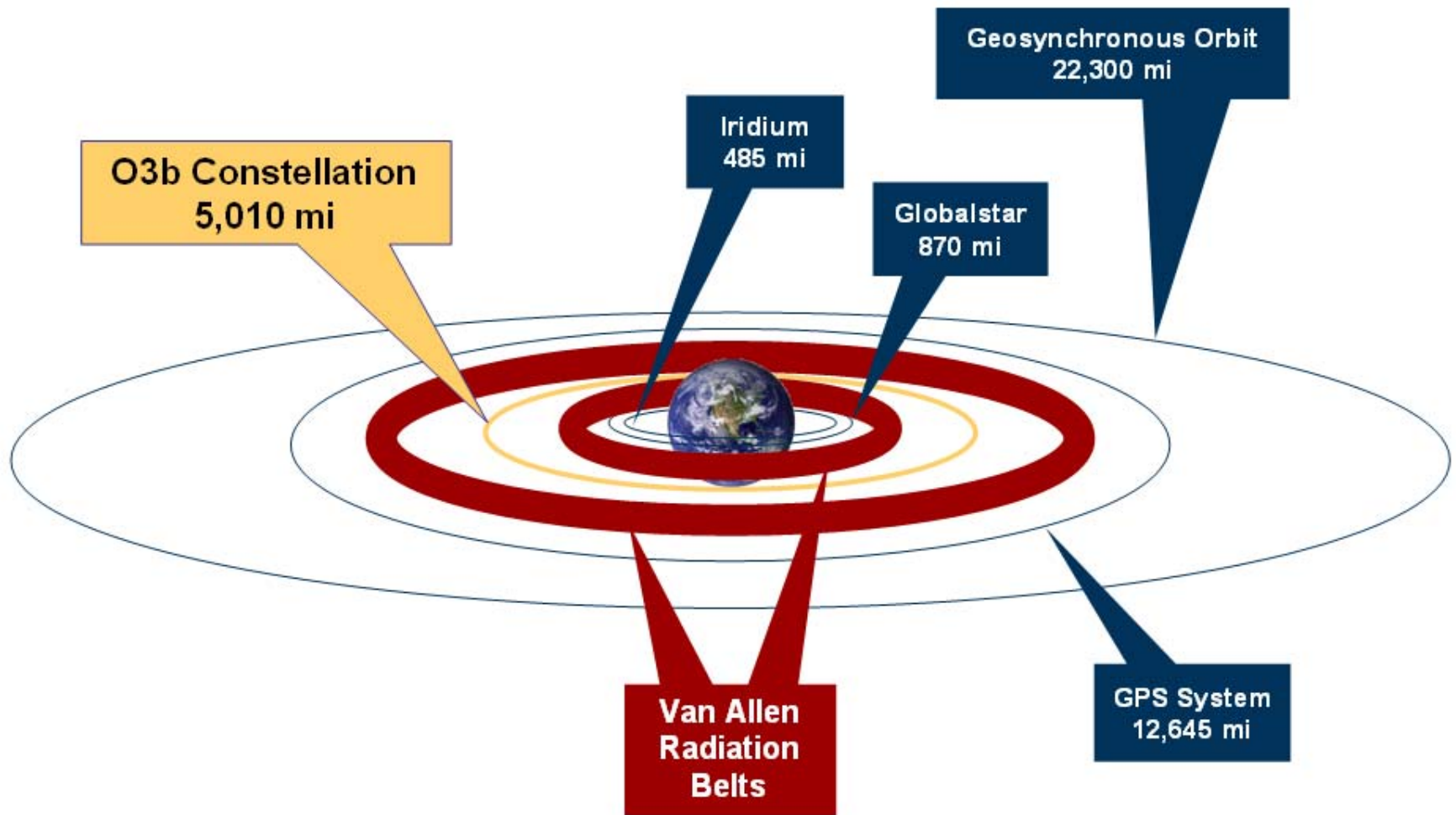
- 8 MEO satellites
- Orbit at 5,010 mi; 4.8 hour period
- 8 satellites in one or two launches
- 5 satellites min for worldwide coverage
- Additional satellites for increased throughput, redundancy
- 7 to 9 gateways around the globe

▲ Satellites

- Each with 10 steerable service beams and 2 gateway beams
- 10 years minimum of life time
- Transponder bandwidth: 216 MHz
- Beam bandwidth: 432 MHz (both polarizations)
- Estimated throughput per satellite 10 Gbits/s



Relative Orbital Planes

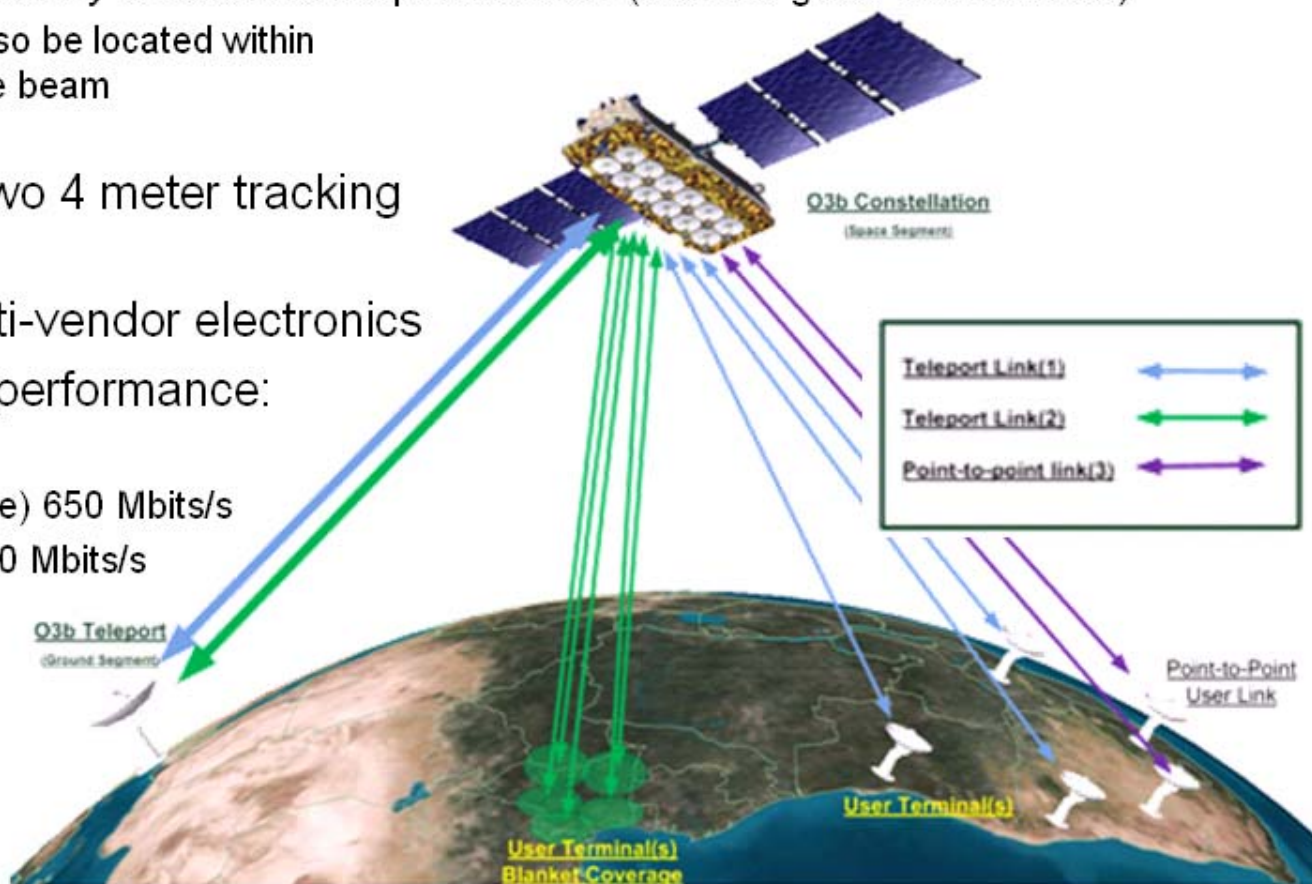


O3b Network

IP Trunking



- ▲ Point to Point
- ▲ Direct IP connectivity from the remote area (beam location) to a teleport connected to the IP backbone network
 - Teleports are generally located in developed countries (blue and green arrows below)
 - Teleports can also be located within the same service beam (purple arrow)
- ▲ Outdoor Unit: Two 4 meter tracking antennas
- ▲ Indoor Unit: Multi-vendor electronics
- ▲ Overall terminal performance:
 - 1.25 Gbits/s
 - Downlink (receive) 650 Mbits/s
 - Uplink (send) 600 Mbits/s



O3b Network

3G / WiMax Backhauling



- ▲ Point to Multi-Point
- ▲ GSM, 3G, 4G / Wimax or 4G towers are backhauled using O3b capacity
- ▲ Traffic is connected to teleport / gateway

