



Current operational Status of LEO-Satellite-Based Time and Location

Satellite Time and Location – Continued Investment and Innovation



In June 2016 Satelles launched its Satellite Time and Location (STL) service.

Since then, with our partner (Iridium) we have made significant system upgrades to the service. Today we will highlight these innovations and showcase key capabilities of the system.

- Since 2016 there have been 5 successful launches of “Iridium NEXT” Satellites
- Today there are 50 new Iridium NEXT satellite vehicles in orbit and in use
- The fully replenished constellation will have 66 SVs and 9 in orbit spares
- Iridium also can “reconstitute” based on additional ground spares and has the ability to build and launch additional vehicles
- Total Private Investment for these upgrades is in excess of \$3B
- No U.S. Federal funds were leveraged to support replenishment
- Satelles has continued to invest to enhance its PNT services

Iridium NEXT Positions PNT for the Future

Comprehensive ~\$3 billion plan that supports success for many years

- Compatibility with existing network and devices
- Smooth network transition and customer continuity
- Retains unique LEO architecture with 66 new operational satellites, 9 in-orbit spares and 6 ground spares
- Deployment scheduled between 2016 and 2018 using SpaceX Falcon 9 rockets as primary launch vehicle
- Expanded capacity and higher data speeds

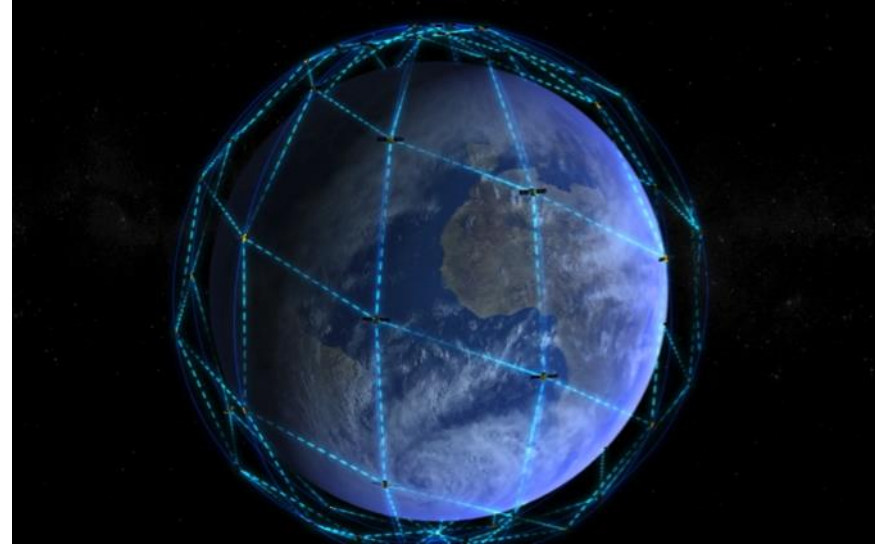


STL Differentiators

Originating from low-earth-orbit, the Satellite Time and Location (STL) service provides **powerful signal PNT capability** with **advanced security features**.

The world's **only** secure, high-powered, global solution for time and location

- STL is capable of providing service anywhere in the world (including the polar regions), today
- STL provides 3D Location
- STL requires no Federal funding for build out
- STL user equipment has comparable (size, weight and power) as GPS systems and is capable of integration into smart phones with no increased equipment cost



STL - Unique Value from Iridium Satellites

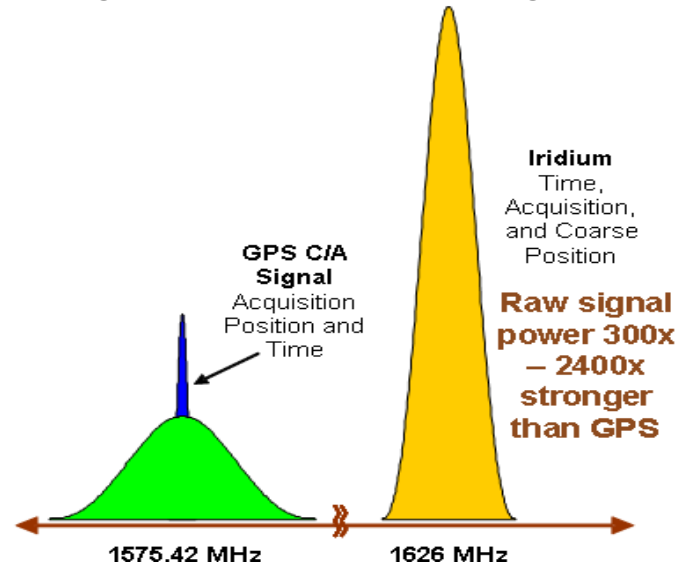
Worldwide Coverage

No local infrastructure



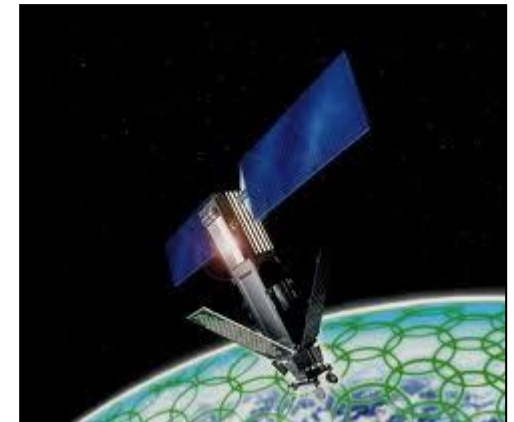
High Power Broadcasts

Signals penetrate buildings

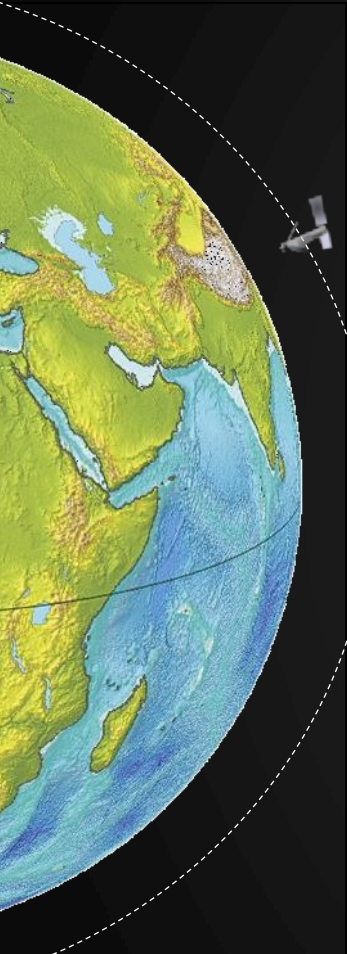


Localized Spot Beams

Enables proof of location



No other asset provides this key combination of features



STL

- 66 existing LEO satellites
- Global coverage
- 500 mile altitude
- 1000x stronger than GPS

GPS

- 24 GPS satellites
- Global coverage
- 12,500 mile altitude
- 25x further away



STL Capabilities

Time Synchronization

Independent of GPS

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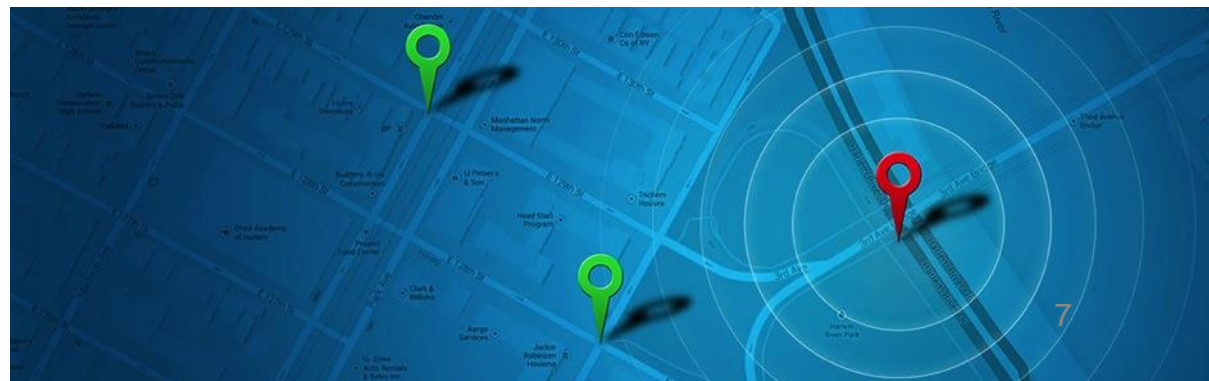
Deep Indoor Penetration

With no local infrastructure



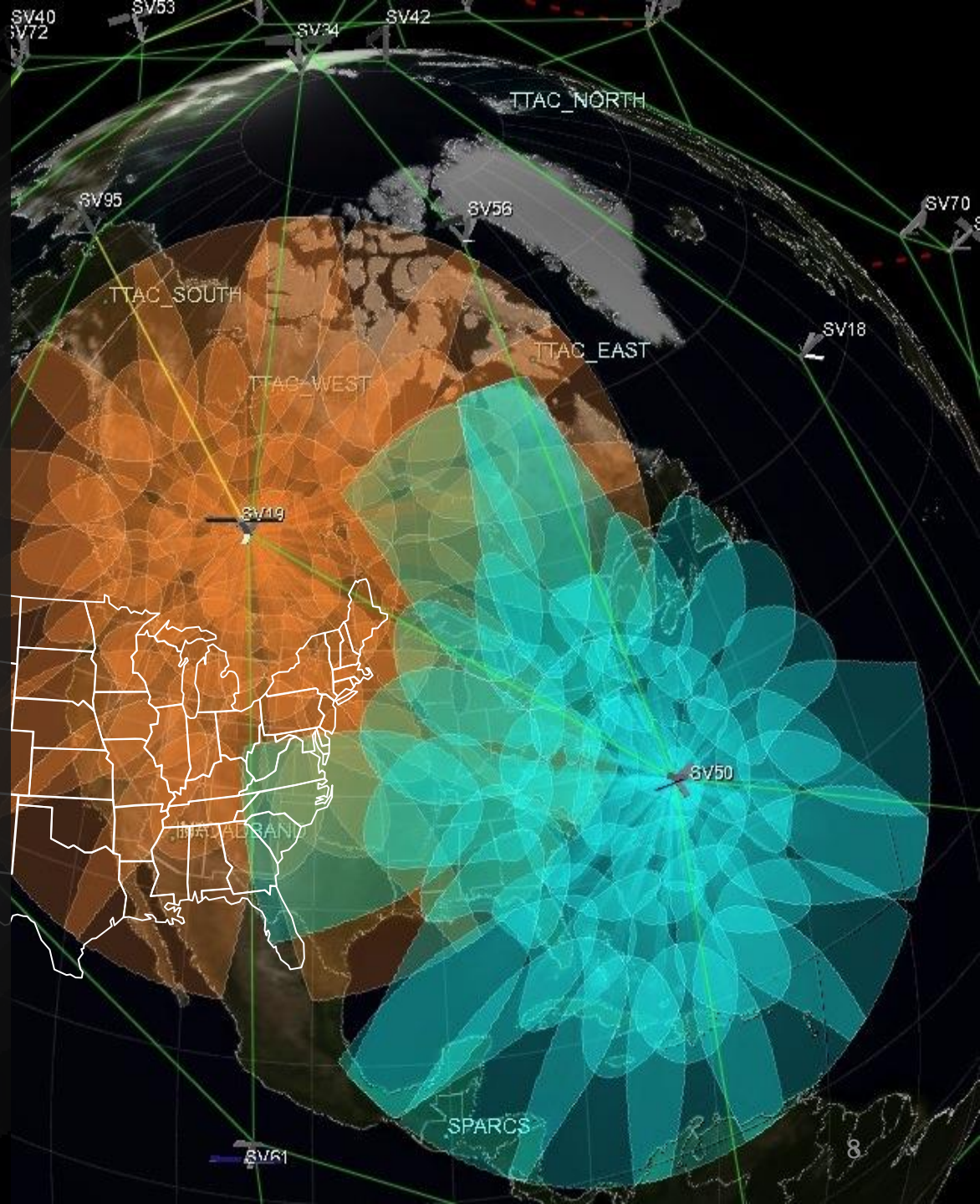
Trusted Location

20-50m

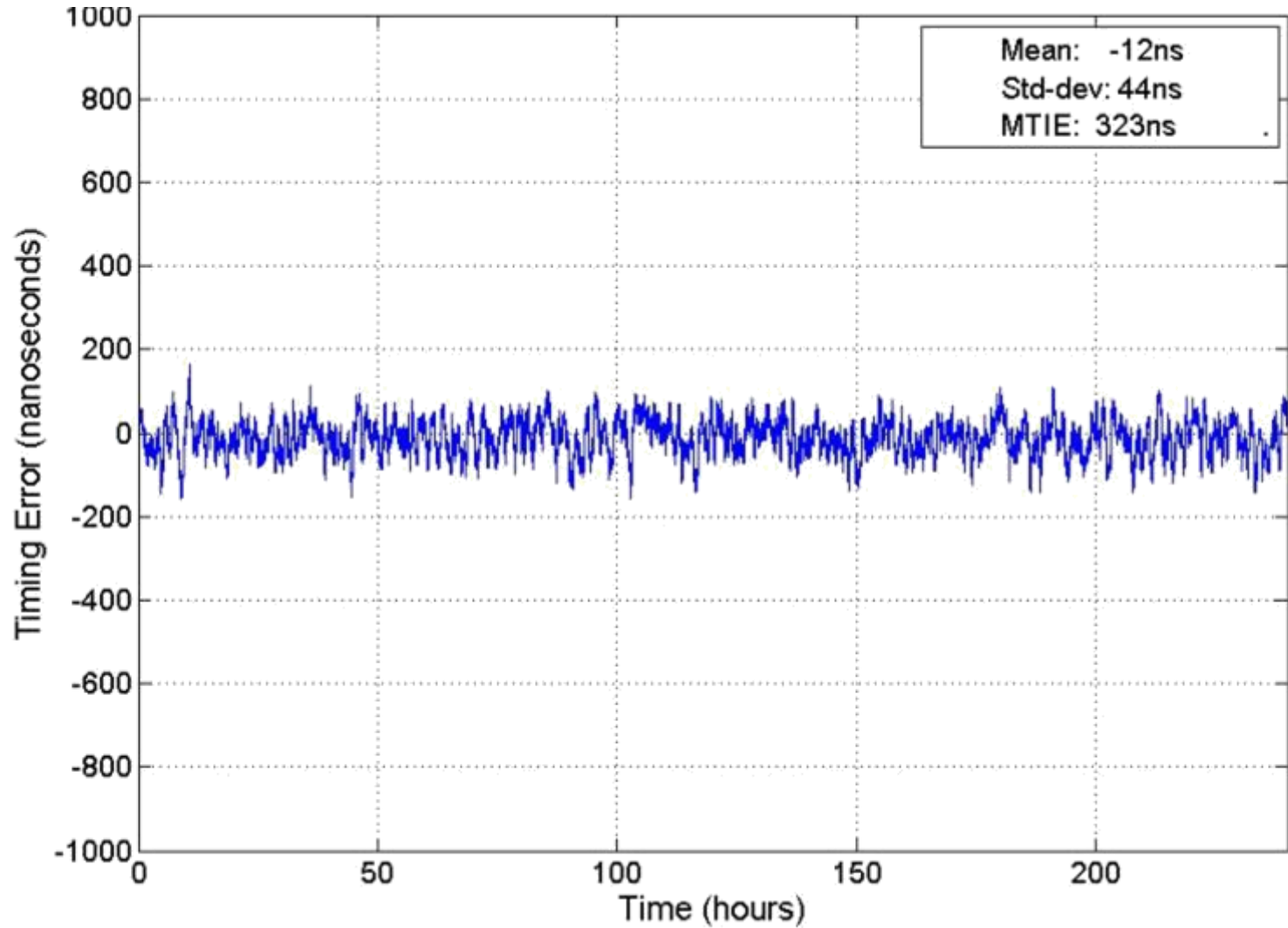


Spot Beams

Overlapping spot beams provide location-specific encryption codes that change every second for maximum security.

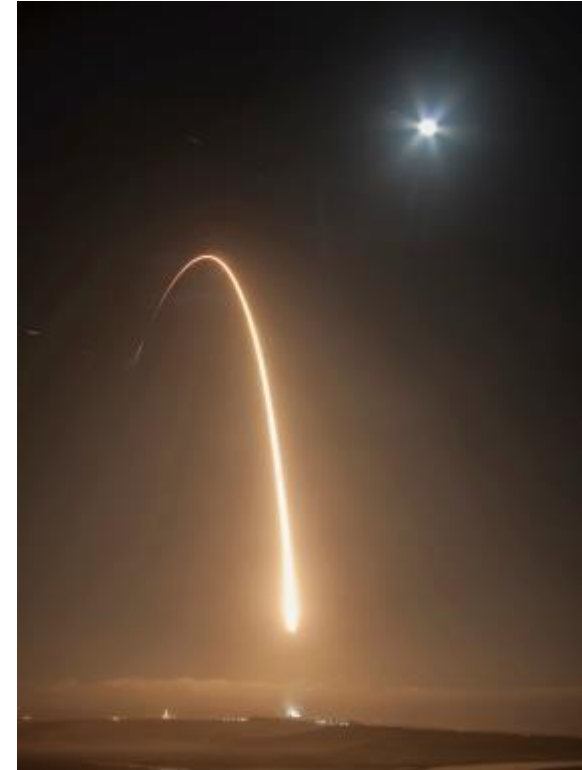


STL Timing Results



Satelles Concerns with Potential Interference

- Satelles STL service depends on Iridium operating free from harmful interference
- Iridium has filed detailed technical analysis with the FCC on potential spectrum encroachment from other radio services



Thank You

