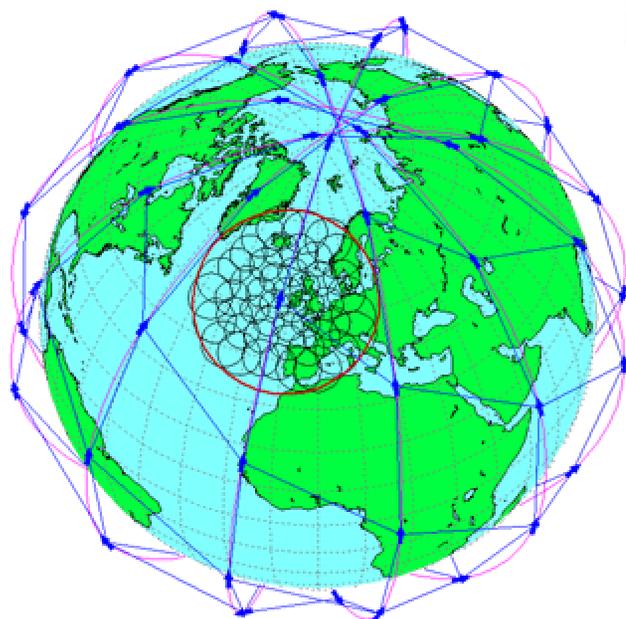




Making the Rural Connection: Public Safety



IRIDIUM

Presentation on

***The Iridium System
And Public Safety***

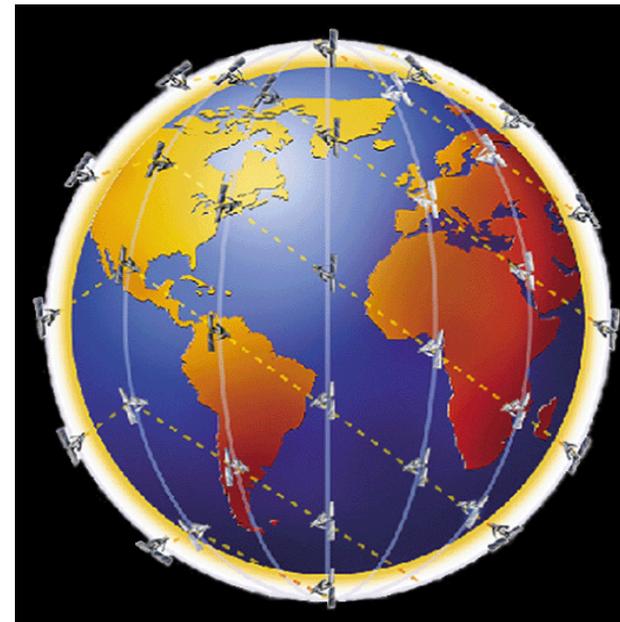
*Before the
Satellite Rural Forum
At the
Federal Communications Commission*

January 27, 2004

The Iridium System

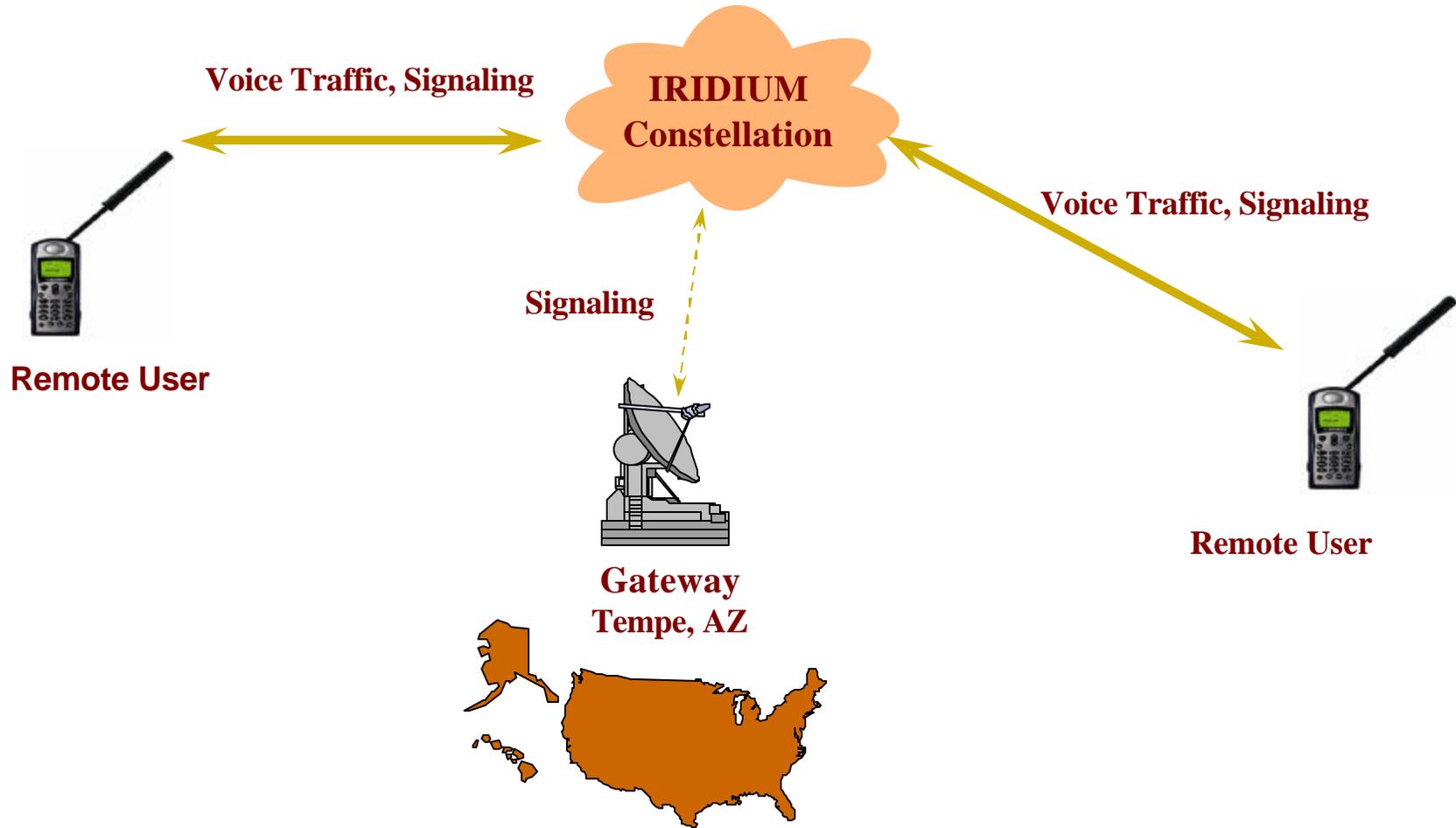


- Global voice, data, SMS, and paging services
- Constellation of 66 LEO mobile satellites in polar orbit
 - Global pole to pole coverage
- Intersatellite links
 - Independence from terrestrial/foreign infrastructure
- Constellation fully operational with sufficient (13) in-orbit spares for high reliability
 - Projected EOL 2014
- Secure communications network



Iridium System Architecture

Iridium Call Topology



Iridium Equipment



- *Versatile, small equipment*
- *Easy to install*
- *Can be rapidly deployed*

- Airborne
- Handheld
- Transport / Maritime
- Fixed in-building
- Paging
- Data Acquisition
- Multi-Line MXU



Iridium Operational Usage



Reliability



- Command and Control
- Targeting
- Tracking

Mobility



- Deployable-on-the-move
- Pole-to-pole coverage

Provides secure on-the-move global voice/data to meet public safety and homeland security requirements

Secure Communications



- NSA Type-1 Security
- TS Accredited

Operational Support

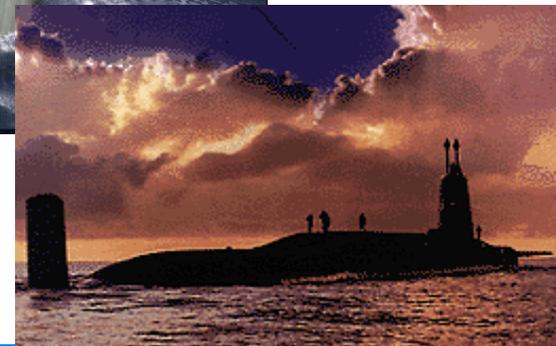


- Homeland Security/Terrorism

Operational Usage

- **Voice and Data services**

- SBD and circuit-switched data
 - Fixed and mobile
- Use Iridium handset with laptop or PDA
 - Wired and wireless connectivity to handset
 - Internet access
- Integrate Iridium modem into multiple sensor platforms
 - Vehicle mounted
 - Sonobuoy
 - Demonstrated on UAV, P-3, etc.



Operational Usage (cont.)



- **Tracking applications**

- Pallet drops
- Blue Force tracking
- Airplanes, e.g. CAPSTONE
- Mobile sensors

- **Leverage Iridium for global reachback**

- SBD or circuit-switched data
- GPS coordinates delivered to fixed or mobile operations center



MSS and Public Safety



- **Communications are essential to any public safety operations**
 - To report emergencies
 - To warn personnel of dangers
 - To keep families informed
 - To coordinate First Responder activities
- **MSS Satellites are uniquely able to provide public safety services in rural areas**
 - They provide ubiquitous coverage
 - They can provide services in the absence of terrestrial infrastructure
 - They complement existing terrestrial services

Public Safety Applications



- **Examples of Specific Iridium Public Safety Programs**
 - Alaskan Beacon System 2004
 - Alaska Search and Rescue
 - FLETC 2004
 - Training and Maneuver operations
 - Emergency Notification System Pilot in Hazard County for National Rural Law Enforcement
 - Beyond 'line of sight' voice and data communications

Public Safety Applications



- **Wildland Fire Suppression**

- Iridium working with US Department of Agriculture, Forest Service, and Department of Interior to provide tracking capabilities for fleet of owned/leased aircraft and aircraft ground support equipment primarily used for mission support for Wildland Fire Suppression

- **Support of State Governments Rural/Remote Communications Needs**

- Iridium voice and data services supplied to all Alaska state agencies

Public Safety Applications



- **Fighting Fires**

- **Fire Department Experience:**

“In emergency situations, such as the forest fires in Arizona, constant communication is vital to our firefighting efforts. While reliable communication is key, we often find that landline and cellular coverage in forested regions is spotty or even non-existent.”

“The Iridium phones allowed our fire fighters to communicate in remote areas, without having to rely on any cellular or terrestrial infrastructure. The phones were an excellent safety tool since our crews were in places where, at times, cell phones could not get reception.”

Public Safety Applications



• Fighting Fires

➤ Police Department Experience:

“In June of 2002 the Rodeo-Chediski Fire and again in July of 2003 the Kinishba Fire threatened the town of Pinetop-Lakeside. As in both events the local telephone and cellular phone companies were "overloaded" with telephone users which hindered the police department's ability to effectively communicate with other public safety agencies. The Pinetop-Lakeside Police Department needed a reliable communication system that it could depend on. With assistance from Iridium Satellite LLC, satellite telephones were used by our Police Department's command staff to exchange vital information.”

“The satellite phones operated effectively and were a valuable communication resource for the police department.”

Public Safety Applications



- **Medical Emergencies**

- Sky Connect TRACKER, aircraft tracking services, supports EagleMed of Wichita, Kansas, renowned for its critical care transport service in the central U.S.

- From Sky Connect PR Newswire:

“EagleMed missions are often performed in remote, rural areas of their territory, so the flight crews currently experience difficulties in maintaining contact with the dispatch centers. Because Sky Connect TRACKER operates everywhere on Earth using the Iridium satellite network, it will immediately provide new consistently reliable communications capabilities to EagleMed’s fleet now and as EagleMed expands service to other regions.”

Homeland Security Applications



- **Port Security**

- Iridium selected as the network provider as part of a team of companies, including The Boeing Company, Parsons, ADT Fire & Security, and Global Marine Security Systems. The contract was awarded by the TSA and is under a grant from the Operation Safe Commerce Program.

Disasters and Emergencies



- **When local/terrestrial infrastructure disappears or service is disrupted**

- Only way to contact others in an emergency

- From customer of Iridium service provider:

“Our ship purchased Iridium service prior to departure gulf coast USA. Our ship sank 75 miles SW Cuba and we were able to speak with our families and agent from the life raft. All is well. Everyone survived. Great Service.”

- From Iridium customer after 911:

“Shortly after the World Trade Towers were struck,...my concern was for my co-workers and friends. My cell phone was essentially useless, as was our landline home line. I walked out to a clear area on our street and turned on my Iridium handset....I called the main number and one of my co-workers answered the call, the call went through! It meant more than I can say to have that call go through at that moment.”

Disasters and Emergencies



- **When local/terrestrial infrastructure disappears or service is disrupted**

- Only way to contact others in an emergency

- **New York and East Coast Blackout in 2003 Resulted in Increased Iridium Usage**

Iridium satellite phone usage increased over 377% in the New York region when the terrestrial networks and cell phone networks failed due to the 2003 electrical power outage. Even the designated “Emergency Backup” system failed, while Iridium service continued without any disruption because of its independence of terrestrial infrastructure networks.

Satellites and Public Safety



- **MSS Satellites are uniquely able to provide public safety services in rural areas**
 - They provide ubiquitous coverage
 - They can provide services in the absence of terrestrial infrastructure
 - They are not vulnerable to natural disasters
 - They offer communications from anywhere to anywhere
 - They offer voice, SMS, data, and paging services with versatile equipment that can be deployed rapidly
 - They complement existing terrestrial services

Satellites and Public Safety



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