



EVERYWHERE

Iridium: The Global, Reliable Network

Executive Summary

We live in a “plug-and-play” world. We turn on the TV and the picture appears. We hit the send button and our email flies to its destination. We click a mouse and all the riches of the Internet are at our fingertips. We are blissfully unaware of the enabling technology that makes it all happen yet we expect it to work when we need it wherever we might be.

The same goes for mobile satellite communications.

Iridium subscribers are the beneficiaries of a very sophisticated network that provides high-quality telephone and data connections anywhere on the globe. Many of them rely on Iridium as their only communication lifeline in places where landlines and terrestrial wireless services are nonexistent, overburdened or damaged. They include first responders rushing to the aid of earthquake victims, firefighters struggling against wildfires, ships on the high seas, aircraft flying across wide open spaces, oil and gas workers in the far northern regions of Alaska, and soldiers on combat duty in Afghanistan. For these users, failure is not an option.

It's Iridium's robust and resilient network that makes all this possible.

The Iridium network consists of three basic components: (1) the satellite constellation, (2) the ground infrastructure and (3) the team behind it.

The Satellite Constellation

Iridium's constellation of 66 interconnected low-Earth orbit (LEO) satellites provides inherent advantages in terms of performance and reliability. Their low altitude means a shorter transmission path and stronger signals, permitting the use of smaller omnidirectional antennas for mobile handheld units. It also provides lower end-to-end latency for satellite voice and data traffic. The large number of fast-moving, overlapping spot beams and satellite footprints reduces the possibility of signal blockage from nearby structures and provides system resiliency, since calls can easily be rerouted around the satellite constellation in the event of an anomaly.



The Ground Infrastructure

On the ground, Iridium's network includes gateways in Arizona and Alaska; a satellite network operations center in Virginia; a technical support center in Arizona; and four tracking, telemetry and control (TTAC) stations in Canada, Alaska, Norway and Arizona - all interconnected by advanced fiber-optic and broadband satellite links. As with the satellite constellation, the ground infrastructure is designed with resiliency, permitting voice and data traffic, as well as satellite backhaul data links, to be rerouted as needed. The U.S. Department of Defense also has its own gateway in Hawaii to support U.S. government traffic.

The Team

Behind the scenes are more than 400 engineers, experts, service technicians and customer support personnel. Iridium constantly monitors, measures and analyzes Quality of Service (QoS) metrics and responds to any issues or anomalies that may occur in the satellite constellation or ground infrastructure. The team includes Iridium direct employees and the many subcontractors who are involved in the critical components of the network. The team also includes the more than 200 value-added partners who manufacture, develop, market and support innovative applications leveraging Iridium's unique value proposition to serve their niche markets.

In the following series of Network Reliability Reports, we will explain the reasons behind Iridium's extraordinary record of reliability - now and in the future.

Only one communications company connects the entire globe

Iridium is the world's only truly global mobile communications company, with coverage of the entire Earth, including oceans, airways and Polar Regions. Iridium voice and data products provide communications solutions that allow global companies, government agencies and individuals to stay connected, everywhere. The unique Iridium constellation of 66 Low Earth Orbiting (LEO) cross-linked satellites routes communications traffic through space and around the world, creating highly efficient and reliable connections.

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