



Business Continuity & Disaster Planning Guide to Satellite Communications

**Meeting the Qualifications and Needs for
Business Continuity Communications**



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WELCOME

“Communication is key before, during and after disasters. Make sure Globalstar is part of your disaster Plan.” – General Honoré



The entire country saw the devastation that was left after Hurricanes Sandy, Katrina and Rita. It's always easy to look back and think about what you SHOULD have done to be better prepared. Lt. General Russel L. Honoré, U.S. Army (retired) knows a thing or two about being prepared. Best known as an expert on global disaster preparedness, he led the joint task force responsible for the massive search-and-rescue mission and restoration of order in New Orleans and the Mississippi Gulf Coast following Hurricane Katrina in 2005. Additionally, he served in a variety of planning and response operations, including Hurricanes Floyd, Isabel, Charley, Frances and Ivan, and has supported U.S. military emergency response abroad.

General Honoré states, “My motto is simple – you should prepare not just when you notice something is headed your way, but prepare now. You need the ability to maintain communications continuity at all times, should the grid go down. Globalstar provides that with the world’s newest MSS network: a long-term, reliable investment with system redundancy that users can count on to reduce their response time, clearly be heard during critical phone calls and transmit data faster than any other competitive network.”

Globalstar provides innovative solutions for emergency management and business continuity applications. General Honoré’ knows how important it is to have a mobile command center up and running ASAP after a disaster strikes. “First responders and industries off-the-grid will find that Globalstar is something they can’t do without.”

In the aftermath of these recent events, businesses now routinely incorporate satellite phones in their disaster recovery and backup communications planning. Further, as a direct result of Hurricane Katrina, governors have put a renewed focus on statewide disaster preparedness programs, and interoperable emergency communications are a required component of the National Preparedness Goal put forth by the Department of Homeland Security in September 2011. Known for setting the standard in high quality voice and mobile data communications, Globalstar has already been adopted as the preferred statewide backup communications system in many parts of the country.

COMMUNICATIONS

Disaster recovery is the process in which business is resumed after a disruptive event. This event could be something like a hurricane, earthquake or even a blizzard. Business continuity starts with communication. Communicating the right information, to the right people, at the right time is essential to keep your business running. Many business executives ignore business continuity and disaster planning to their detriment. The critical first moments in implementing a business continuity plan is key! Having a communication plan in place will help mitigate risk and allow your company to continue to remain operational, not only after a natural disaster, but also major power outages, supply chain partner problems and other numerous challenges business face on a daily basis.

During Hurricane Sandy, service disruptions were reported in 158 counties and 10 states stretching from Maine to Virginia. At one point, approximately 25% of cell sites across these affected areas were out of commission and some 911 emergency call centers were disabled. In the New York City area, over 500,000 wired telephone lines and almost 60% of the wireless service networks were inoperable, with nearly 3,500 cell sites knocked off line.

During the Northeast Blackout of 2003 a widespread power outage occurred throughout eight states in the Northeast and Midwest of the United States, along with the province of Ontario Canada. Over 55 million people were affected. Cellular communications were severely disrupted and the wired telephones lines in large urban areas were overwhelmed by the volume of traffic. A large number of businesses and industry were closed in the affected area, and others were forced to close or slow work because of supply and communication problems.

More and more organizations around the world are moving towards satellite communications to maintain day to day operations. Globalstar provides "Communication Insurance," an inexpensive off the network communication solution allowing for voice, email and data that can pay for itself by minimizing business impact of a disaster or and outage.

Unique Benefits

Operability

The range of communications services used for business continuity and disaster recovery are broad, and often unpredictable. Given the complexity and cost inherent in building and operating satellite communications systems, many providers focus on a very narrow set, if not just one primary service. Globalstar however is unique in that it balances the diverse needs of businesses providing them with:

- **Instant Infrastructure** – Provides instant communications where no terrestrial infrastructure is available. Terrestrial communication can be disrupted by natural disasters such as hurricanes or earthquakes and Globalstar is the best and most reliable communication platform available.
- **Continuity of Operations** - A redundant communications network capable of providing real-time voice and data in the event of a landline failure or system overload.
- **Rapid Provisioning (Temporary Network Solution)** – Globalstar is the most cost effective, practical and easy to deploy solution for sending and receiving information.
- **System Scalability** – Globalstar is the only satellite operator in the country whose network capacity is scalable and can adapt to any abrupt change or event.
- **Ubiquitous Coverage** – Globalstar’s satellite network covers most of the inhabited Earth’s surface between 70° north and 70° south.
- **Communications Operability** – Globalstar provides a highly secure, digitally encrypted private network that remains operable even if all land-based communications fail and/or destroyed.

Practical

- US based 10 digit dialing with Florida, Texas or Alaska Area Codes, seamlessly connect to all telecommunication systems
- Dial 911 anywhere in North America - No special provisioning for 911 immediately connects to the GEOS International Emergency Response Center
- True Mobility – Omni-directional antennas allow for continuous movement in any direction at any speed without losing satellite connection
- Hands Free capability with car kit

- One touch dialing

Reliable

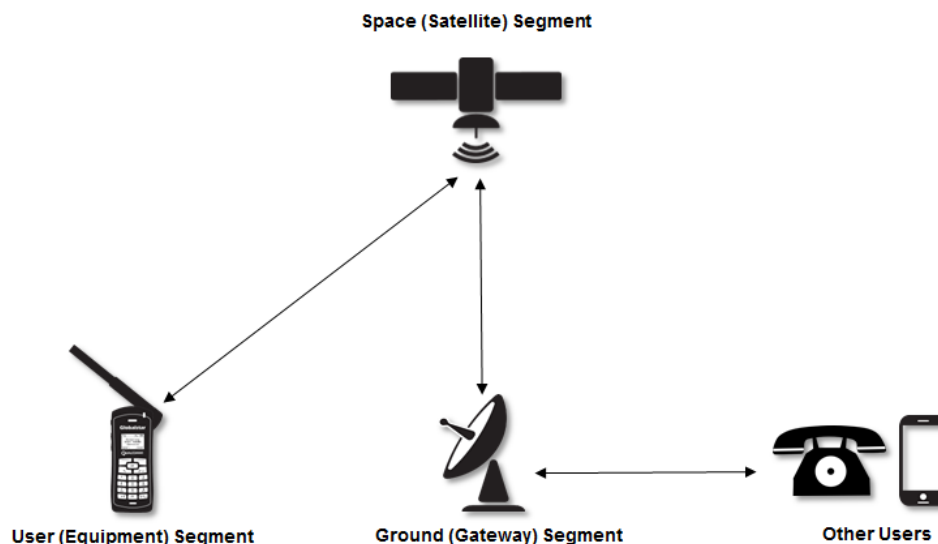
- Only satellite system built with redundancy features – All Gateways can add capacity to adjacent ground stations, and serve nearby area in event of localized outage
- Newest most modern satellite constellation with 15 year life
- CDMA platform provides the industry's best audio-quality, enables higher capacity, process more calls and provides faster data speeds

THE GLOBALSTAR SATELLITE NETWORK

Globalstar recently launched the world's most modern satellite communications network. "As the first in the mobile satellite communications industry to establish a new and modern network, Globalstar is leaps and bounds ahead of the competition," says Jay Monroe, Chairman and CEO of Globalstar, Inc. "With the most modern network in place, Globalstar customers will be connected when it matters most, in emergencies, to continue business, or to connect with a loved one."

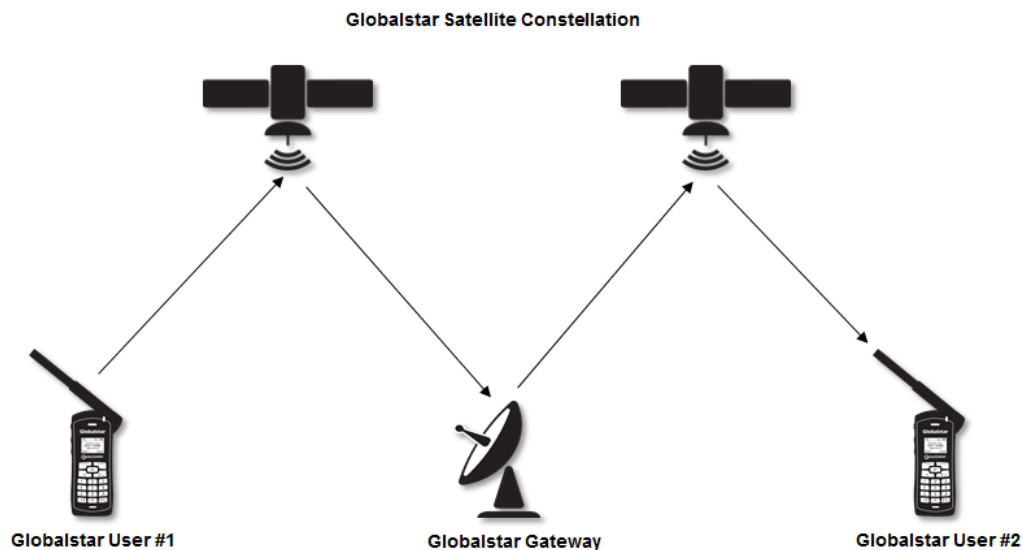
Globalstar uses Low Earth Orbit (LEO) Satellites in an orbit around 900 miles. There are advantages of LEO satellites over Geosynchronous (GEO) systems for delivery of Mobile Satellite Services (MSSs). LEO satellite technology allows the use of low power handheld devices allowing users to be continuously on the move without a disruption of service. In land-based GEO satellite applications (i.e. VSAT or BGAN) the terminal must be stationary to acquire a satellite signal. GEO satellite systems are normally 28,000 miles above the earth and are commonly used for television transmission, high-speed data, and other wideband services. The time delay and echo inherent with GEO systems can be detrimental in relaying key business communications and decisions.

The Globalstar Satellite Network is comprised of 3 segments:



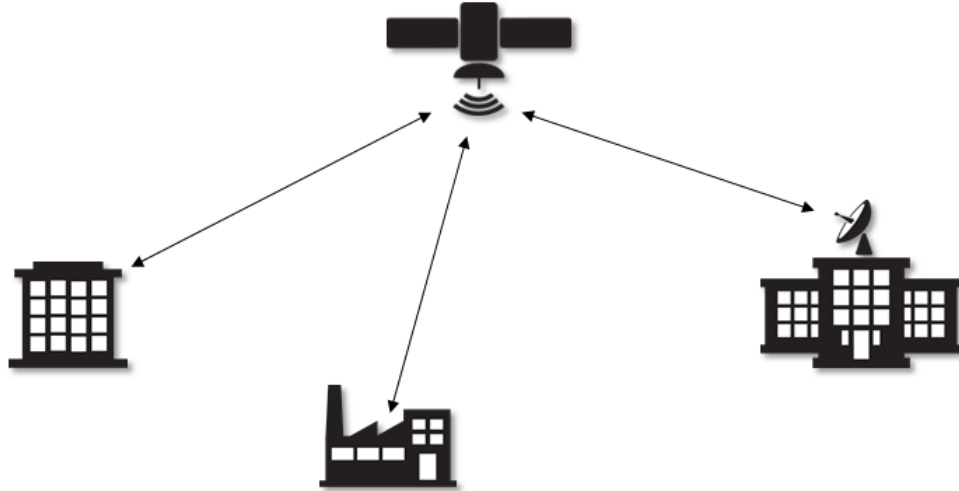
- **Space (Satellite)** – The Globalstar space segment is a constellation of 32 LEO satellites, providing global communications. Operating at an altitude of 860 miles above the Earth, the spot beam coverage (footprint of an individual Globalstar satellite) is the largest among all LEO satellite operators
- **Ground (Gateway)** – An operational gateway is required to send and receive voice and data to other Globalstar phones, landlines, cellular, other satellite networks, or the Internet. The Globalstar ground segment consists of 25 gateways around the world. Each gateway has between three and four large antennas following the movement of the orbiting satellite
- **User (Equipment)** – The Globalstar user segment consists of Globalstar satellite phones, Globalstar Sat-Fi, and other Globalstar equipment used to send/receive voice and data.

Globalstar to Globalstar Satellite Phone Call “Double Hop” Bypass 100% of Terrestrial Infrastructure

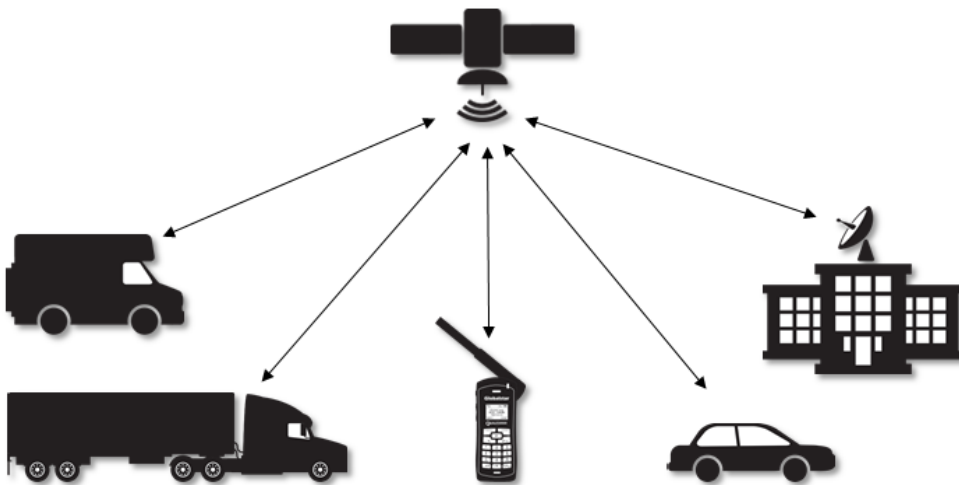


GLOBALSTAR SATELLITE CAPABILITIES

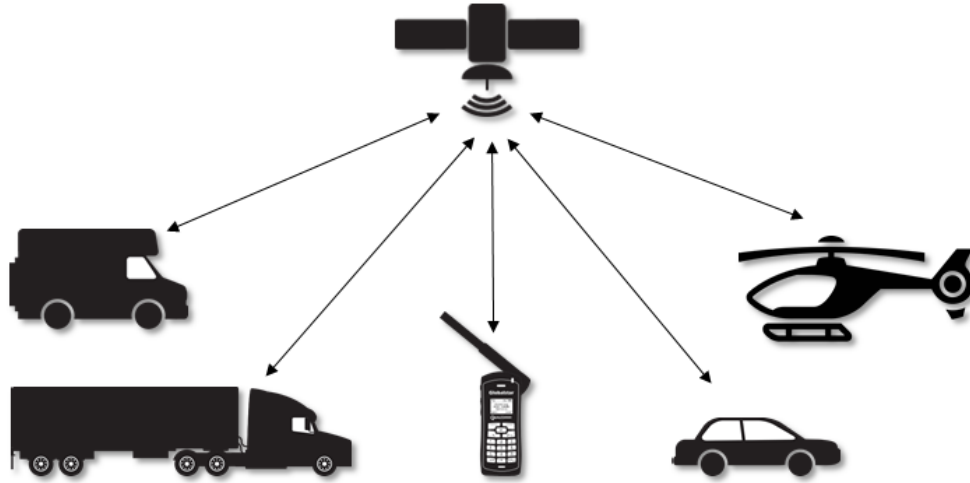
Facility-to-Facility



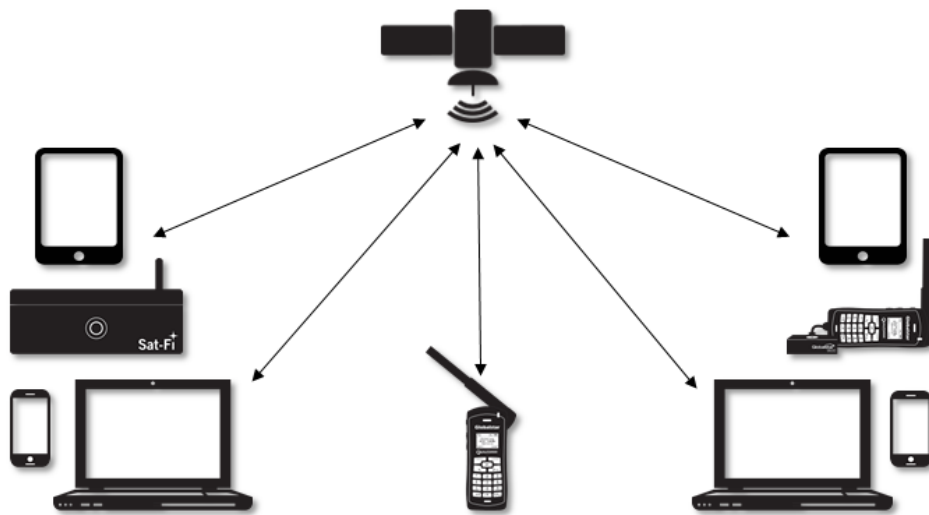
Facility-to-Mobile



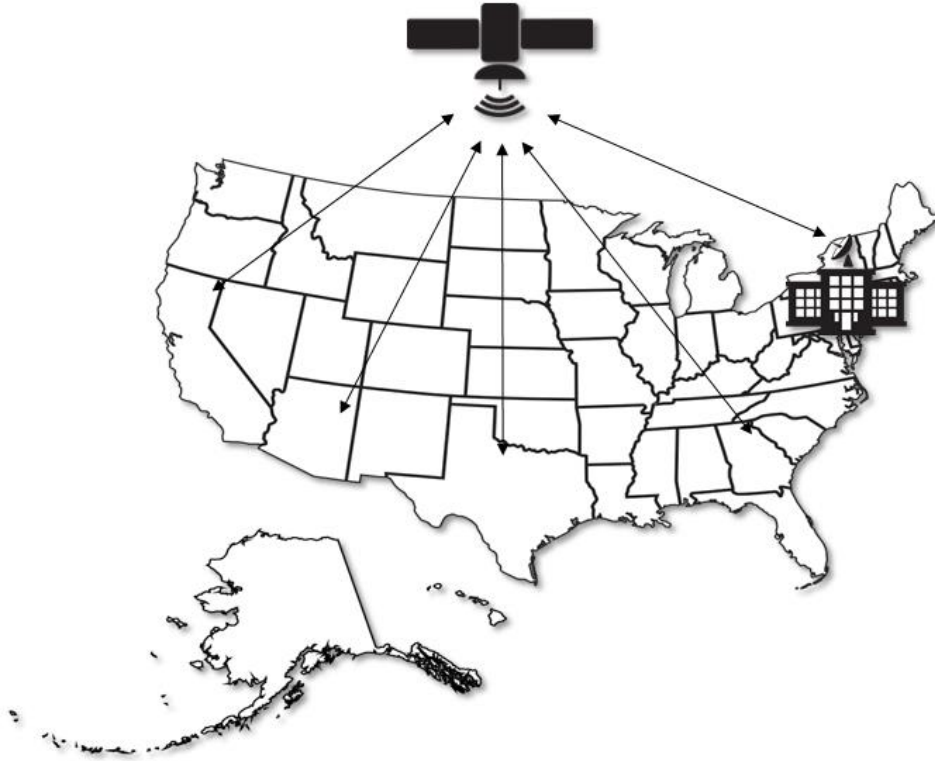
Mobile-to-Mobile



Device-to-Device



Point-to-Multipoint



GLOBALSTAR VOICE & DATA

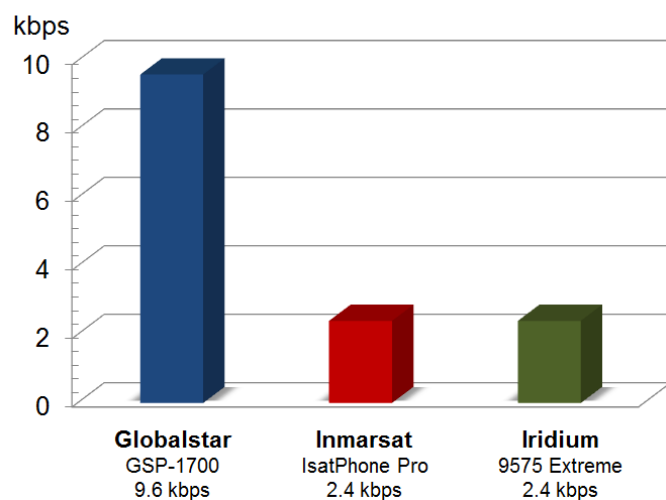
Globalstar is a Mobile Satellite System (MSS) providing communications on the move including equipment that can be used from inside a car, truck, maritime vessel, as well as helicopters and other aircraft. Globalstar can provide the voice and data connections necessary to expedite corporate communications, damage assessments, business continuity, or any of the following:

- Mobile Voice Communications
- Messaging
- Data Transfer
- Dispatch Coordination
- Asset Tracking
- Environmental Monitoring
- Event Reporting

Globalstar communication solutions can be deployed and operational within minutes, without the need of expert technical staff, providing executives and managers with:

- **Crystal-Clear Voice Quality** - Globalstar is the only MSS provider using the patented Qualcomm-based CDMA technology, which provides crystal-clear voice quality similar to modern day digital cellular service
- **No Voice Delay** – Calls occur with no noticeable time-delays
- **Simplicity** – Simple 10-digit dialing, just dial area code + telephone number and press connect
- **Superior Data Speeds** – MSS industry’s fastest data speeds, allowing you to send more in less time. 4 times faster than all other MSS providers.

Globalstar MSS Data Speeds 4x Faster



FREQUENTLY ASKED QUESTIONS (FAQ)

Do Globalstar satellite phones work like cell/mobile phones?

Globalstar satellite phones offer many of the same characteristics as cellular/mobile phones including a similar user interface and design. Satellite phones are slightly larger in size than cellular/mobile phones because the antenna required to communicate on the satellite frequencies must be larger than a cellular phone antenna. Another fundamental difference between traditional cellular/mobile phones and satellite phones is that a satellite phone mode must be within line-of-sight of the satellite in order to make and receive call. The satellite phone antenna must have a clear view of the sky without any obstructions. Therefore, a satellite phone will not work indoors unless there is an external antenna, located outside, that is connected to the phone.

Are Globalstar's satellite services and hardware reliable?

Yes, Globalstar's satellite service and hardware is extremely reliable. A significant portion, if not the majority, of problems encountered in the field with dropped service is traceable to operator error resulting in the lack of training or familiarity with the equipment. A common example is not fully extending the satellite antenna and pointing it up to the sky.

Isn't purchasing satellite services expensive?

Globalstar offers the most affordable satellite communication services in the industry. With the purchase of specific airtime plans Globalstar satellite phones are either FREE or extremely discounted. Additionally service rates are available for under a dollar a minute.

Why can't I just rent a satellite phone during or after a disaster?

The critical first step in implementing a business continuity and disaster recovery plan is communications. Having satellite phones on-hand and operational, along with personnel trained on their use, ensures your company and business remains working. You can't afford to wait a few days for satellite phones to arrive and then train your staff on how to use them.

Why are satellite communications an essential component for all critical telecom network planning?

To enable rapid deployment and/or restoration and truly mobile communications, businesses should incorporate Globalstar satellite services as a redundancy requirement in any communications network or architecture. Satellite communications should be emphasized and included in the early business continuity and disaster planning to ensure there is a back-up communications solution when the terrestrial network is damaged or destroyed. Without a satellite component to any business continuity plan, your business communications network will be rendered useless when the terrestrial network next sustains damage or is overloaded.

For more information, please visit www.globalstar.com