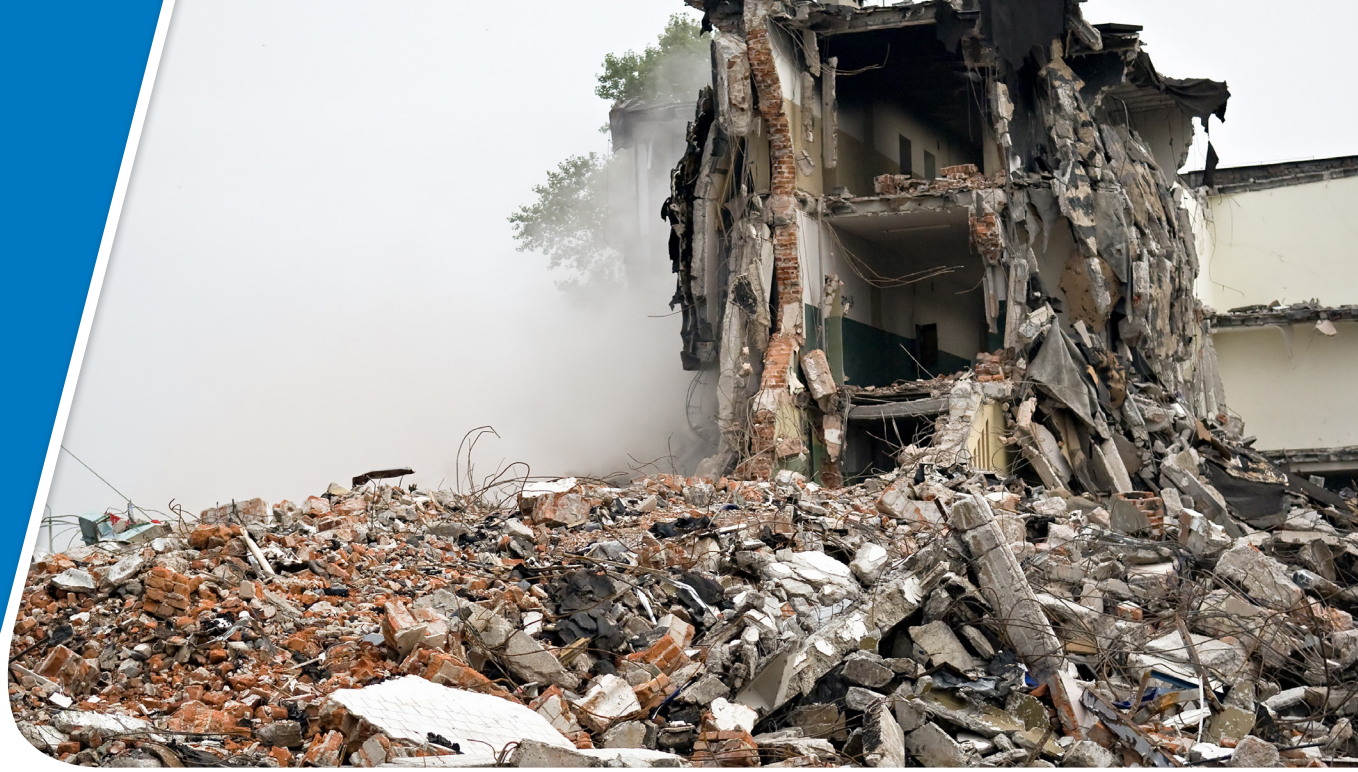

Satellite Communications:
A COOP Game Changer

Protecting communication infrastructures is a lot like purchasing an insurance policy. You often don't see the benefits until you need them.

One of the most valuable services that an organization can provide is essentially a backup plan. It is critical to any operation, and like an insurance policy, when it's missing; it's often at a devastating price. Known as a Continuity of Operations (COOP) plan, a communications backup plan can help ensure that voice, video and data communications are not lost forever when emergency strikes.

Military and emergency response organizations rely on their terrestrial networks to safeguard critical information. These networks can experience outages for a multitude of reasons – ranging from poor weather conditions, human error and even malicious intent. Loss of access to critical information for even short periods of time can do irreparable damage across an organization, and even cause loss of life.

COOP makes the communications effects from the outage less damaging.

iDirect Government

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Traditionally, organizations rely on diverse path routing of terrestrial links for COOP plans. However, there are countless examples of how route diversity has proven to be not as robust as originally intentioned. There is a better path for COOP networks, one that combines network redundancy over a secure satellite architecture to eliminate single points of failure.

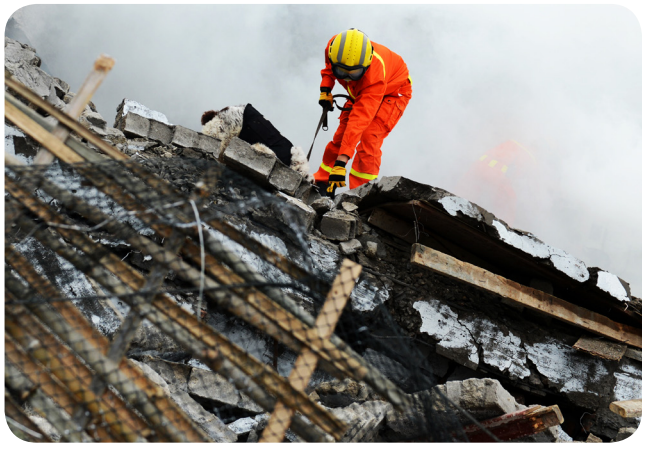
iDirect Government, a wholly owned subsidiary of VT iDirect, Inc. and a leading provider of satellite communications to the military and government, develops satellite networks that can operate independently of a terrestrial infrastructure and integrate seamlessly into any terrestrial network. This capability is available anytime, anywhere and under any conditions.

The technology proves particularly advantageous for the military and emergency responders who need to quickly communicate on the move and set up networks on the fly, even when there is no existing communications infrastructure.

iDirect Government's easily deployable, efficient, fully encrypted satellite solution supports all voice, data and video communications requirements with high network availability. It can be seamlessly integrated into terrestrial infrastructure to ensure operational continuity. During normal operation, the extra bandwidth can be used for day-to-day operations. When network outages occur, iDirect Government's Network Management System, iVantage, reconfigures itself to provide broadband connectivity to response and recovery efforts.

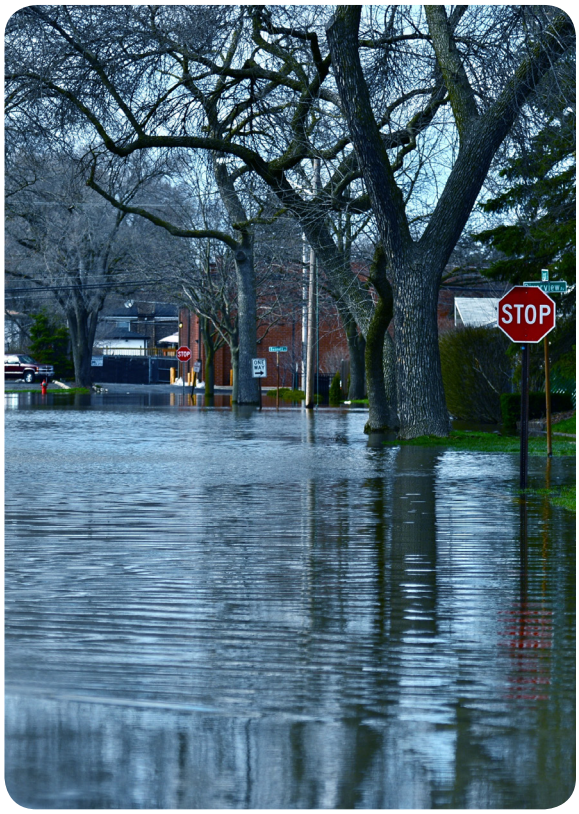
The Group Quality of Service (QoS) technology, developed by iDirect Government, allows for intelligent and extremely efficient bandwidth sharing and priority management while mapping to terrestrial Committed Information Rates (CIRs) and established Service Level Agreement (SLA) guarantees. Group QoS delivers greater traffic management flexibility, which means during a disaster when operational continuity matters most, you can prioritize traffic in a shared network environment.

An additional feature of a strong COOP plan is to implement geographic hub redundancy for your SATCOM services. In a redundant satellite network, a satellite remote will automatically switch over to a secondary network in the event of an outage to the primary network. For example, if the primary hub infrastructure on the East Coast is unavailable due to a hurricane or other disaster, the remotes in the network will fail over to a redundant hub located on the West Coast.



The geographic hub redundancy feature, is under the control of the Global NMS feature, and incorporates configuration and RF redundancy. This allows the operator to configure the geographic hub redundancy feature by defining all of the network information for both the primary and backup teleports in the primary NMS. All satellite routers are configured as roaming remotes, and they are defined identically in both the primary and backup teleport network configurations.

During normal (nonfailure) operations, carrier transmissions are operational at both teleports. In the case of a fail-over condition, (when roaming network remotes fail to see the downstream carrier from the primary teleport) the router would automatically switch over to one of its alternate carriers, allowing quick recovery of the satellite communications infrastructure and reestablishment of vital services.



iDirect Government's COOP solution at a glance:

- Flexible platform supporting multiple satellites and bands – X, C, Ku, Ka, expanded Wideband Global Satcom (WGS) frequency, the new Inmarsat GX constellation, as well as other high throughput satellites
- Delivers fast, non-stop connectivity
- Seamless integration with terrestrial networks
- Support for COTP and COTM applications
- Extending global IP networks when terrestrial is not an option
- Suited for point to multiple-point applications
- Asymmetric capacity for Internet applications
- Geographic Hub Redundancy
- Provides diversity and resilience
- Transmission Security

Satellite Communications:
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Military and emergency response COOP plans tend to be extensive, often covering a wide range of outages from simple failures of IT e-mail servers and order entry systems to widespread, long-term disasters such as hurricanes and earthquakes. Systems failures can include extended power outages. Even if local power can be restored and telco central offices are backed up by generators and batteries, extended power outages can cause the failure of telephone and Internet communications – which further thwarts communications attempts.

Satellite communications has redundancy and backhaul capabilities built in, making it ideal to use for COOP. However, it would be completely impossible to fully back up all the terrestrial fiber optic networks with satellite capacity— and cost prohibitive.

What makes sense is to select certain circuits and applications which must be protected and leverage satellite backup in those instances. In terms of costs, the cost per bit of satellite communications can be orders of magnitude higher than terrestrial fiber optic communications. This should not dissuade disaster recovery planners from choosing satellite, however. There are a variety of cost mitigation strategies and different satellite service offerings to choose from when designing a COOP plan. One such strategy involves leveraging a shared service with a robust prioritization mechanism to ensure a high quality of service during the recovery period. Another savings route is to use a primary overlay.

These strategies can be implemented for the most impactful, layered approach to COOP planning. Satcom is reliable. It provides a high quality of service. It represents a diverse path that offers disaster recovery personnel a great deal of flexibility.

Satcom makes sense for COOP plans for military agencies and those in emergency response organizations. Like an insurance policy, it is there when you need it.

iDirect Government
13921 Park Center Road, Suite 600
Herndon, VA 20171
Tel: 703.648.8118
www.idirectgov.com