ipstar
Broadband Satellite

Case Study

Disaster Recovery and Emergency Communications

IPSTAR Joins Forces with C-COM Satellite Systems to Provide Mobile Satellite Solution for New Zealand Fire Services

One of the problems that first responders face in emergency situations when they reach their deployment site is that of communication. Even though telecom facilities are among the most crucial requirements for proper co-ordination of their activities, emergency responders cannot have any idea where they will be deployed next or what type of communication facilities will be available in that area. Emergency service providers have generally used hand-held radio devices in the past, but it has its own limitations because of low range and background noise. Mobile phone systems have been a somewhat helpful means; however it has been observed that when a disaster situation occurs, the number of mobile phone calls in that area increases significantly which results in reduced possibility of emergency responders making successful calls. What is required is an assured channel of communications at any time and from any place which a broadband satellite system like IPSTAR can easily provide.

Challenge

- Provide nationwide coverage for mobile vehicles which can be deployed anywhere.
- Provide an intelligent auto pointing antenna system which can re-align towards IPSTAR at the push of a button.
- Provide high-speed bandwidth; enough to upload high resolution videos in real-time.
- Support multiple applications of Internet, VoIP and video.

Solution

- Use IPSTAR broadband service with high bandwidth capability.
- Use of C-COM iNetVu antenna system to automatically point to IPSTAR from anywhere.

Benefits

- **Rapid Deployment**
  Quick setup of communication networks for rescue operations command and co-ordination
- **IP Compatible**
  Capable of interfacing with a wide range of IP network applications, utilities and devices first responders may want to use.
- **Rugged Features**
  IPSTAR User Terminal has a rugged enclosure, air ventilation and anti-dust features.
- **Reliable Communications**
  IPSTAR user terminal also supports Adaptive Coding and Modulation (ACM) for seamless, reliable operation under the most severe weather conditions.

The Situation

The New Zealand Fire Service were in need of Internet access in several of their fire trucks, which would provide email service as well as access to an online technical database for the emergency response crew. Access to such technical database can provide information about specific chemical agents and the amount of agents to be used, which can be decisive in handling fires of big scale. The vehicles also required several telephone sets which could be used over cellular service wherever available, or over a VoIP (Voice over IP) service through Internet. Each command vehicle of the Fire Service is equipped with a PTZ (Pan, Tilt, Zoom) camera mounted on a telescopic pneumatic mast, the images and videos from which needed to be uploaded to a secure server. Any senior personnel of the Service would then be able to access the server to view the live feeds from the command vehicle and be a part of the decision making or advisory process in real-time. The capability to push live video in good resolution requires high bandwidth capability.

Besides satellite bandwidth capability for Internet access, such a service also requires a mobile auto-pointing antenna. For a vehicle like a fire truck that is moving from one place to another, an automatic antenna system that can quickly re-align towards the satellite is essential.

The Solution

The IPSTAR satellite platform was used to provide Internet, email, and VoIP services on 17 vehicles of the New Zealand Fire Service. The high-speed bandwidth capacity of IPSTAR was also ideal to satisfy the requirement to transmit real-time high resolution video. IPSTAR has coverage over all of New Zealand which has enabled the Fire Service to get a nation-wide communication capability from any location at all times from their vehicles.

The antenna system capable of pointing to the IPSTAR satellite at the push of a button was provided by C-COM Satellite Systems through their iNetVu line of products. This allows the delivery of 2-way high speed communication service from IPSTAR to mobile vehicles anywhere, while stationary. The system integration was done with the involvement of BayCity Communications Limited, the NSO (National Service Operator) for IPSTAR services throughout New Zealand.

Proof-of-Concept

IPSTAR service can be subscribed using small sized antennas which can easily be mounted on vehicles. IPSTAR also uses energy efficient UT (User Terminal) technology, making it possible for emergency responders to use solar panels, battery banks, or small generators where electricity is not available. Fully IP compatible, the IPSTAR platform is capable of interfacing with a wide range of network applications, utilities and devices that first responders may want to use. Specially designed for rugged environments, IPSTAR is also suitable for continuous and heavy-duty operations in the field. The IPSTAR Enterprise Series satellite terminal has a rugged enclosure, air ventilation and anti-dust features to withstand the harsh environments during fire rescue and other emergency missions.

About IPSTAR

THAICOM-4 (IPSTAR) is the world's largest and most advanced commercial satellite serving up to 10 million users in Asia-Pacific. The breadth of the satellite's geographical reach in the region – covering an area inhabited by 4 billion people or roughly 60 percent of the world's population – positions IPSTAR as the preferred gateway in 14 countries across Asia-Pacific. IPSTAR has achieved a critical milestone in its pursuit to bridge the digital divide in the region. With a combined 100,000 subscribers in Australia and New Zealand alone and still growing, IPSTAR has become the single largest VSAT network operator in both countries. Across the region, IPSTAR has sold nearly a quarter of a million user terminals.

For more information, visit www.ipstar.com.

Distributor: