inmarsat
1101 Connecticut Ave, NW
Suite 1200
Washington, DC 20036

December 4, 2009

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Notice of Ex Parte Presentation
National Broadband Plan, GN Docket Nos. 09-47, 09-51, 09-137;
WC Docket No. 02-60

Dear Ms. Dortch:

On December 3, 2009, the following representatives from Inmarsat, Diane Cornell, Vice President, Government Affairs, Jack Deasy, Director, Civil Programs, Government Services, Joel Schroeder, Business Development Manager, Land Mobile Services, and Chris Murphy, Senior Director, Government Affairs, met with Public Safety Homeland Security Bureau and Office of Strategy Planning & Policy Analysis and Broadband Task Force staff including Jennifer Manner, Ronnie Cho, Kerry McDermott, Behzad Ghaffari, and Aaron Garza.

The Inmarsat representatives discussed the importance of Inmarsat's Broadband Global Area Network (BGAN) mobile satellite service (MSS) applications as part of the FCC's Broadband Task Force effort to understand how broadband can be deployed immediately and cost-effectively for public safety and health care delivery in areas where terrestrial service is not readily available. They reiterated the points made by Inmarsat in recent filings in response to FCC Broadband Task Force National Broadband Plan Public Notices[1] and about the public interest benefits that inclusion of BGAN and MSS applications will have for deployment of

---

[1] *Reply Comments of Inmarsat Inc., Comment Sought on Spectrum for Broadband, NBP Public Notice #6,* GN Docket Nos. 09-47, 51 and 137, DA 09-2100 (rel. Sept. 23, 2009); *Comments of Inmarsat Inc., Comment Sought on Public Safety Issues Related to Broadband Deployment in Rural and Tribal Areas and Broadband Communications to and from Persons with Disabilities NBP Public Notice #14,* GN Docket Nos. 09-47, 51 and 137, DA 09-2369 (rel. Nov. 2, 2009); *Inmarsat Comments, Public Notice, Comment Sought on Health Care Delivery Elements of National Broadband Plan NBP Public Notice #17,* GN Docket Nos. 09-47, 51, 137 and WC Docket No. 02-60, DA 09-2413 (rel. Nov. 12, 2009).

public safety and health care delivery applications throughout the United States. A copy of Inmarsat's presentation to the staff is attached to this filing.

Inmarsat emphasized that the Broadband Task Force's Broadband Plan should recognize that mobile satellite-provided broadband solutions can play an important role in serving critical public safety and telemedicine needs. Because satellite-delivered mobile services are available anywhere in the country, regardless of density of population or local conditions, they can be a far more cost-effective solution to provide access to vital mobile broadband applications in hard-to-reach areas than building out terrestrial infrastructure.

In addition, in response to questions asked by the Commission staff, Inmarsat provides the following specific recommendations for consideration by the Commission's Broadband Task Force in order to encourage the use of mobile satellite-delivered services as part of the broadband "toolkit":

- Satellite should routinely be considered as a cost-effective means of delivering mobile broadband reliably and ubiquitously in hard-to-reach areas, compared to building out terrestrial wireless or wired infrastructure. This approach would help ensure that broadband is delivered to unserved and underserved users quickly and cost-efficiently.

- Gating criteria adopted in guidance, grants and universal service fund eligibility criteria, or other similar contexts, should encourage meaningful consideration of satellite-delivered mobile broadband in circumstances where a satellite solution would be more cost effective in serving hard-to-reach areas than building out terrestrial infrastructure.

- Funding should be provided for pilot projects to evaluate the cost-effectiveness and desirability of mobile satellite broadband solutions for addressing national purposes needs such as telemedicine and public safety broadband in hard-to-reach areas. Funding should help support training, equipment, and airtime requirements.

- In contexts addressing mobile broadband services, particularly to remote areas, there should not be an arbitrary speed cut off. Broadband should instead be defined in a flexible and technology-neutral manner that focuses on delivering an optimized broadband experience to users in a cost-effective manner. Criteria should include the availability of commonly-used broadband applications, speed, extent of reach/coverage, mobility, reliability and cost effectiveness.

- In the adoption context, first responders, health care professionals and other users of mobile broadband services are less familiar with satellite-delivered broadband than terrestrial alternatives because such offerings have entered the market so recently. To encourage such users to become familiar with the ability of satellite-delivered broadband to offer a cost effective, reliable and ubiquitously-available alternative to terrestrial offerings in appropriate circumstances, the Broadband Plan should encourage targeted training programs for first responder, health care and other potential users of mobile broadband. These training programs should include support for users in how to use the equipment, as well as funding for airtime to enable users to gain familiarity with the satellite broadband capabilities.

Inmarsat appreciates the opportunity to discuss the importance of BGAN mobile satellite service applications and urges the Commission to take Inmarsat's recommendations into account in developing the National Broadband Plan.

Please contact the undersigned if you have any questions.

Sincerely yours,

/s/

Diane Cornell
Vice President, Government Affairs

cc: Jennifer Manner
Ronnie Cho
Kerry McDermott
Behzad Ghaffari
Aaron Garza

Attachments: Presentation

Introduction to Inmarsat

Mobile Satellite Public Safety & Telemedicine Applications

FCC Broadband Task Force
& PSHS Bureau
Public Safety & Telemedicine
December 3, 2009

www.inmarsat.com

A Brief History of Inmarsat as a Mobile Satellite Services Provider

1979	Inmarsat, an international treaty organization, created by the International Maritime Organization to provide maritime satellite communications, including maritime distress and safety services via satellite
1989/90	Land Mobile and Aeronautical services introduced
1999	Inmarsat privatised – no longer an IGO
2005	Launch of first two Inmarsat-4 satellites
2005	Listed on London Stock Exchange as public company
2006	Launch of Broadband Global Area Network (BGAN) land service
2007	Launch of FleetBroadband (maritime), SwiftBroadband (aeronautical) and handheld in Asia
2008	Launch of third Inmarsat-4 satellite, listing in FTSE 100
2009	Hawaii SAS completion, full U.S. market access and licensing

inmarsat

Mission Critical Applications to Diverse Users

First Response/Disaster Relief

Government/Military

Enterprise

inmarsat

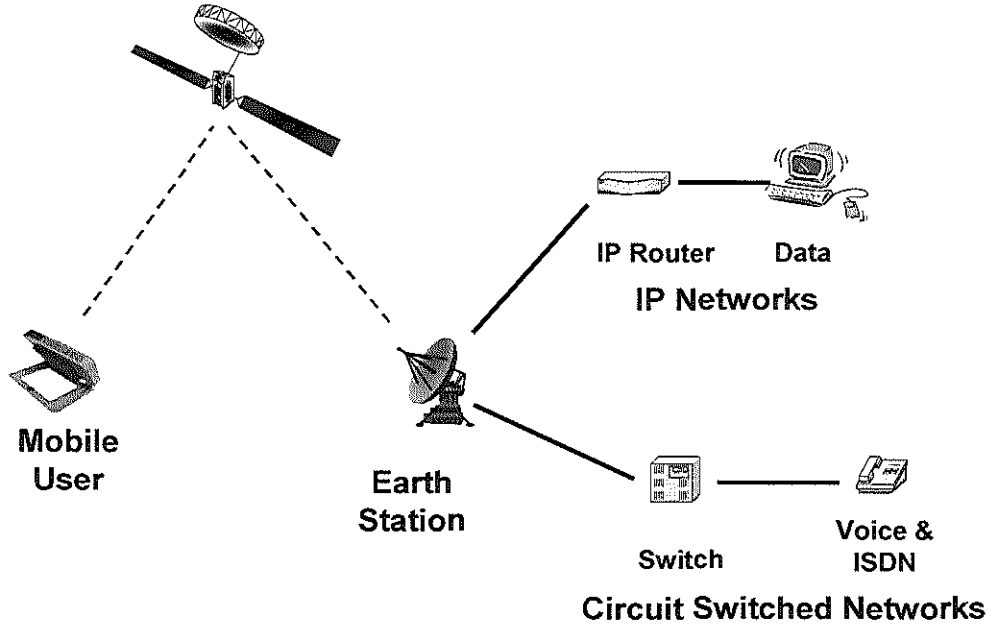
Unique Global Communications Network

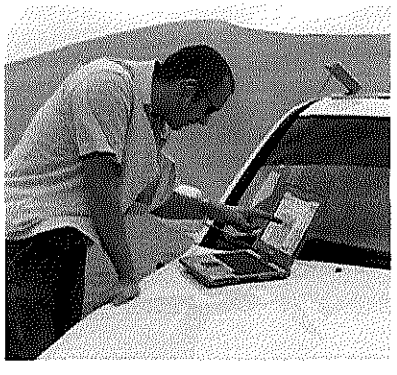
- 11 geostationary satellites in orbit today using L-Band
- Three 4th Generation satellites operational
  - Commercial life 2020+
  - 193 spot beams per satellite
- Flexible power allocation (hot spots)
  - Satellite capacity can be redeployed real-time to service areas of high demand
- 100 satellite years without operational failure - 99.99% network availability

inmarsat

Broadband Global Area Network (BGAN) Services

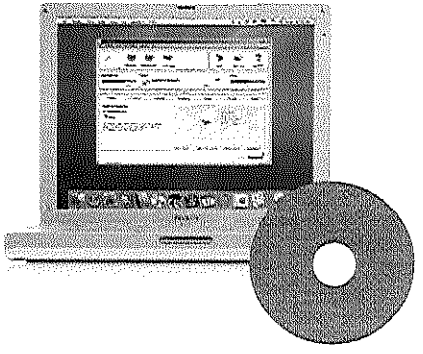
- High-speed Broadband data (up to 492kbps) in both directions, with built-in WiFi LAN extension
- ... plus low-cost voice
- accessible simultaneously
- through a single, compact device
- with on-demand guaranteed data rates



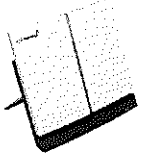


inmarsat

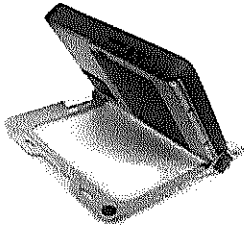
BGAN – a common interface



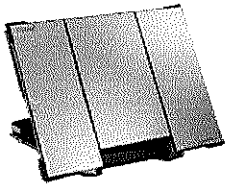
Thrane



HUGHES.

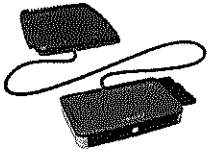


Thrane

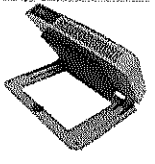


Thrane

Thrane



wideye



inmarsat

Broadband Mobile Satellite (BGAN) Supports Emergency Response

- Continuity of Government
  - NY Fire and Police Departments; New Orleans Police Department
  - Florida National Guard
- Large scale disaster response
  - Federal Emergency Management Agency (FEMA)
  - Urban Search & Rescue teams: California, Massachusetts
- DHS/U.S. Border Patrol
  - Live video surveillance
- DHS/U.S. Coast Guard
  - Boarding teams; harbor patrols
- Wildfire Suppression
  - CalFire/US Forest Service/LA County
- Public Health
  - Emergency communications for Louisiana hospital system
  - Kentucky Department of Public Health Pandemic Response teams

inmarsat

Mobile and Ad Hoc Teams

Typical user profile	➔ Police, fire, EMS commander ➔ Support staff ➔ Multiple users, multiple tasks
Key need	➔ Multi user functionality ➔ Rapid set up ➔ Ease of use
Applications used	➔ Voice, Video, Data ➔ Up to 11 data users simultaneously plus voice callings
Business tasks	➔ Situational awareness ➔ Command and control ➔ Operational support

Mobile Command Post

inmarsat

Ad Hoc Networks: pico cells, land mobile radio extensions

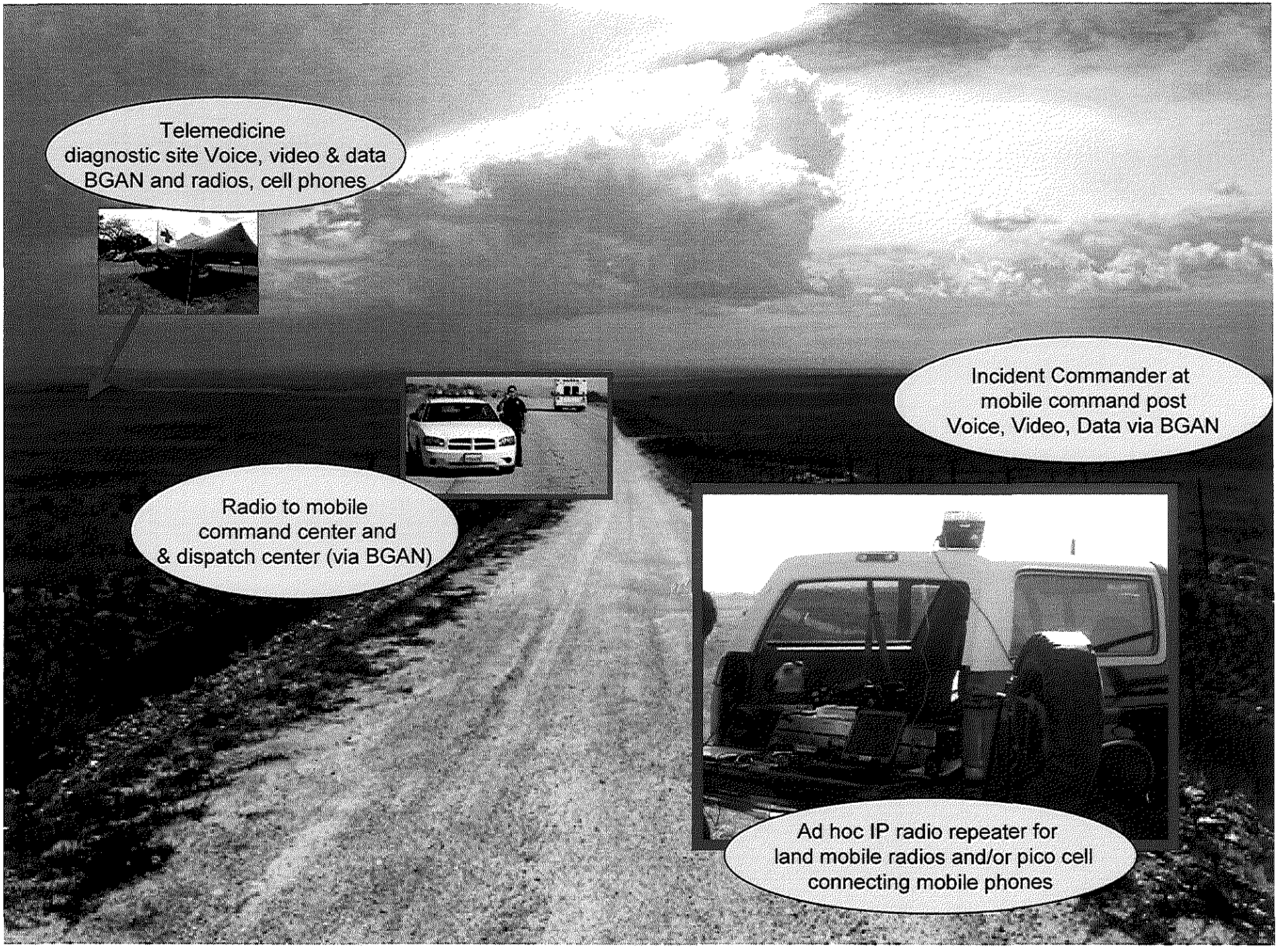
Typical user profile	➲ Police, fire, EMS commander ➲ Support staff
Key need	➲ IP backhaul ➲ Rapid set up ➲ Ease of use ➲ Use of everyday cell phones; radios
Applications used	➲ Data – VOIP ➲ Voice
Business tasks	➲ Backhaul for LMR and cell phone restoration technologies

inmarsat

Growth Areas

- Situational Awareness to/from remote teams
  - San Diego State University partnership for wildfire geographic information systems (GIS) applications for fire lines
  - Florida Fire Chiefs' GIS seminar, Dec. 10 (with Redlands. California-based ESRI corporation, industry leader in government applications for GIS)

- Backhaul for ad hoc networks
  - Pico cells for instant mobile phone restoration
  - Land Mobile Radio bridging solutions for law enforcement


Telemedicine
diagnostic site Voice, video & data
BGAN and radios, cell phones
Incident Commander at
mobile command post
Voice, Video, Data via BGAN
Radio to mobile
command center and
& dispatch center (via BGAN)
Ad hoc IP radio repeater for
land mobile radios and/or pico cell
connecting mobile phones

Telemedicine: Mobile Satellite Opportunity

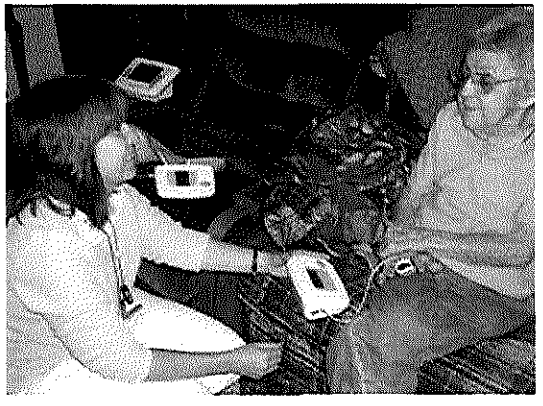
- Global trend in funding for telemedicine and healthcare IT initiatives
- Telemedicine service drivers:
  - Data: basic Internet connectivity, VPN access (medical records, other resources), store and forward test data => ***BGAN Standard IP***
  - Video: videoconferencing, real-time streaming of diagnostic tests (EKGs, sonograms, etc), live remote procedures => ***BGAN Streaming IP***
- BGAN offers a mobile satellite network extension that bridges gaps in terrestrial coverage
- BGAN reaches beyond fixed sites to deliver services **anywhere**
  - Ambulances: perform lifesaving procedures in the field or 'on the move'
  - Mobile clinics: deliver primary and specialty care in rural communities
  - Hospice and homecare: access to electronic medical records and support

inmarsat confidential

Telemedicine: *Primary Care*

- **Mobile health clinic**
  - vehicular BGAN helps deliver basic healthcare services in underserved, rural communities
  - basic voice and data connectivity for patient communications and access to medical records
  - real-time transmission of diagnostic tests and live, interactive consultation with specialists

- **Rural homecare service**
  - portable or vehicular BGAN connects homecare nurses to fixed clinic or hospital from rural sites
  - location based services improve personnel security and time management
  - online access to medical records
  - real-time transmission of diagnostic tests and live support from other medical staff



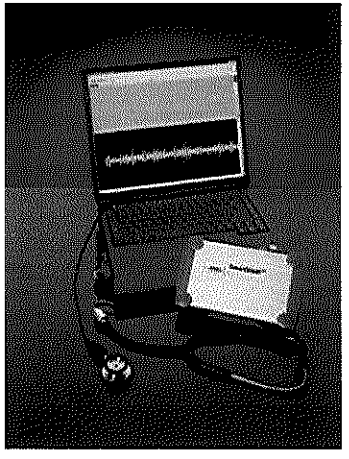
inmarsat confidential

inmarsat

Telemedicine: *Emergency Response*

- **Mobile connectivity in ambulance**
  - vehicular BGAN as back-up to cellular data services or as primary comms in remote locations
  - extends the reach of fixed facilities and medical personnel to any location and 'on the move'
  - fail over solution ensures BGAN connectivity when cellular networks are out of reach

- **Portable telemedicine response kit**
  - BGAN connects portable exam kit to transmit diagnostic data to fixed site for evaluation
  - voice and video capabilities allow live, real-time support for emergency treatment
  - easy deployment for emergency response, disaster relief, or search and rescue
  - enhanced field care minimizes medical evacuations



inmarsat confidential

inmarsat