FleetBroadband gives Maritime users........

| Voice                  | 4kbps circuit-switched service (+870)  
|                       | Voicemail                              
|                       | Enhanced services: call waiting, forwarding, barring, holding  
|                       | Broadcast quality voice                |

| Data – Standard IP     | High Speed Standard IP                
|                       | Variable bit rate service – Shared & Best Effort  
|                       | Up to 432/432 be kbps (send /receive) |

| Data – Streaming IP    | On-demand Guaranteed bit rate service  
|                       | 32, 64, 128*, 256* kbps (send & receive)  
|                       | ISDN – Legacy compatibility.            |

| Text                   | Send and receive text messages via your Pc |

**Simultaneously**

**From an Easy to operate, Compact, Light weight Proven product.**

**Plug & Play** IP Connectivity

**On-Demand Choice of Services**

**Quick, Convenient & Painless DIY installation**
So, what is the FB Managed Service?

Features

(a) INMARSAT
- Bandwidth management by core network
- Priority IP connection to business applications
- Controlled IP access to crew applications

(b) CHANNEL PARTNER
- Optimises application performance (via VAS) by doing caching, compression & content filtering.
- Combines with Inmarsat provide the ultimate effective solution.

BANDWIDTH CONTROL

BANDWIDTH OPTIMISATION
FB Managed Service Deployment
(c) Smart Router – for the complete Network topology

Operations
Mail Server
ShipSat
CR1, CR2
Crew Café

I-4 Satellite
Managed – IP Connection
DP PoP
IP
Customer HQ

End to End - FB Managed Service

inmarsat
Understanding
Flat rate & Unlimited

Flat rate: by definition: A price that remains constant regardless of the number of units used

Unlimited: by definition – Not limited or restricted in terms of number quantity
Managed Service Solution
ShipSat

If resource is limited and is limited it must be managed
Global Coverage until 2020’s
(L-Band Seamless Coverage)
What is FB Managed Service Solution?
Enables Onboard Users to…..

» **Run Critical Business Applications** – which can be *prioritised* over other traffic.

» **Browse efficiently** over the internet.

» **Allow crew** to Socialise, Communicate via Email, Chat, Stay in touch and generally **ACHIEVE** things important on a **daily basis**.

» **Control filtering** Advertising, Reduce resolutions of Pictures

» **Rationalising** Peer-to-Peer traffic

» **Rationalising** Streaming Video / Radio.
Unique Capability of FleetBroadband

(1) Single FB Terminal with single SIM card – starts with STD-IP connection. With other simultaneous connections from different locations onboard.

(2) Crew can begin Browsing or Email or Interactive access sharing this connection.

(3) The Captain receives a Telephone calls, Superintendant can call from HQ, Officer can make call to suppliers.

(4) Engineer from Engine Room, liaises with expert on shore check the parts or fittings – so starts a simultaneous streaming channel dedicated for the camera.

(5) Meanwhile, your file exchange server sets up another simultaneous connection dedicated for its batch FTP to HQ.

(6) A crew member realises he needs to call his wife and sets up a VOIP call on another dedicated connection.

(7) Crew are also sending/Receiving SMS.

- 64kbps Batch/FTP
- 128kbps Video
- 32Kbps VoIP
- 128kbps Video
- SMS
- WebMail
- Chat / Browsing
- Voice
- Voice
- Voice
- Voice
- Voice
- Voice
1. **Digital Photos**: Transmission of damage, insurance claims.

2. **Video Chatting**: MSN, Yahoo Messenger. Typified by webcam quality images during text-conferencing sessions.

3. **Store & Forward Video**: FTP of large, compressed video files of High resolution, High quality.

4. **Video Streaming**: Real-time Surveillance, Tele-Training. Typified by Text/Audio/Video being transmitted in **one direction** mainly.

5. **Video conferencing**: Typified by High Quality Audio/Video transmission **synchronised** in both directions. Tele-training. User expects high quality images & audio clarity. Disturbance upsets purpose of this application.
Where are we going
What’s next? (Huge Upgrade to our Network)

1. Multi-Voice on FB
2. Data Reporting on FB - Dynamic Telemetry Service (DTS)
3. GMDSS on FleetBroadband – Non-solas / Solas
4. GlobalXpress

Not to forget:
1. Emergency Calling 505
2. IsatPhone Pro, Docking units, Data
3. Fleetphone Oceania 400 / 800
What is Global Xpress?

- $1.2bn investment in new IP based Ka-band Satellite Network
- 3 Ka-band satellites commissioned from Boeing, each offering two types of payloads baseline (fixed beams) and HCP (steerable beams)
- Ground network and Satellite Terminal Core Modules to be developed by iDirect
- A range of product and services for
  - Maritime
  - Energy
  - Government
  - Enterprise & aeronautical
Global Xpress I-5

Global Service
- 89 fixed beams per satellite for global coverage in three satellite configuration
- 72 pairs of Fwd/Rtn 40 MHz Channels for Global Service
- ~5 GHz aggregate bandwidth

High Capacity Overlay Service (HCO)
- 6 steerable spot beams per satellite for multi-regional, dynamic coverage
- 8 pairs of Fwd/Rtn 100 MHz channels for commercial Ka-band services (per satellite)

Satellite Delivery expected to be at Launch site:
- F1 July 2013
- F2 January 2014
- F3 July 2014
Proposed baseline global coverage

- Three satellites for global coverage
Key Features

Services
• Supports native IPv6
• Global multicast traffic will be supported using standard IP protocols
• The system will also support voice over IP

Security
• Signalling and User Data encryption based AES 256 standards

Terminals support very high data rates

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<tr>
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<tbody>
<tr>
<td>EIRP</td>
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<tr>
<td>G/T</td>
<td>15.0 dB/K</td>
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<tr>
<td>RTN (Typical)</td>
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QUESTIONS?