

# Broadband for a mobile planet™



## An introduction to BGAN

Broadband Global Area Network

April 2005



# BGAN: the elevator pitch



The 1st mobile satellite service to offer:

- Broadband data (up to half a meg)
- ... plus voice
- accessible simultaneously
- through a single compact device
- with on demand guaranteed data rates
- that will be available globally



# Key benefits

## Reliable

- Dependable, peace-of-mind communications
  - Robust satellite terminals
  - 24/7 customer service
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## Global

- Network coverage wherever you go
  - Use the same device worldwide
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## High-speed

- Up to half a megabit – symmetrically if required
  - Plus on-demand guaranteed data rates
  - Replicate your broadband office environment on the move
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## Portable

- Service accessible via small, lightweight devices
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## Flexible

- Integrated solution for voice and broadband data
  - Supports IP and circuit-switched applications
  - Terminal options for single or multiple users
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## Easy to use

- Easy to set up, use and support
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## Secure

- Secure access to VPNs.
  - Supports all major encryption standards.
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## Value for money

- Competitive with other MSS operators
- More cost effective than international cellular roaming



# A new generation of satellites (I-4)

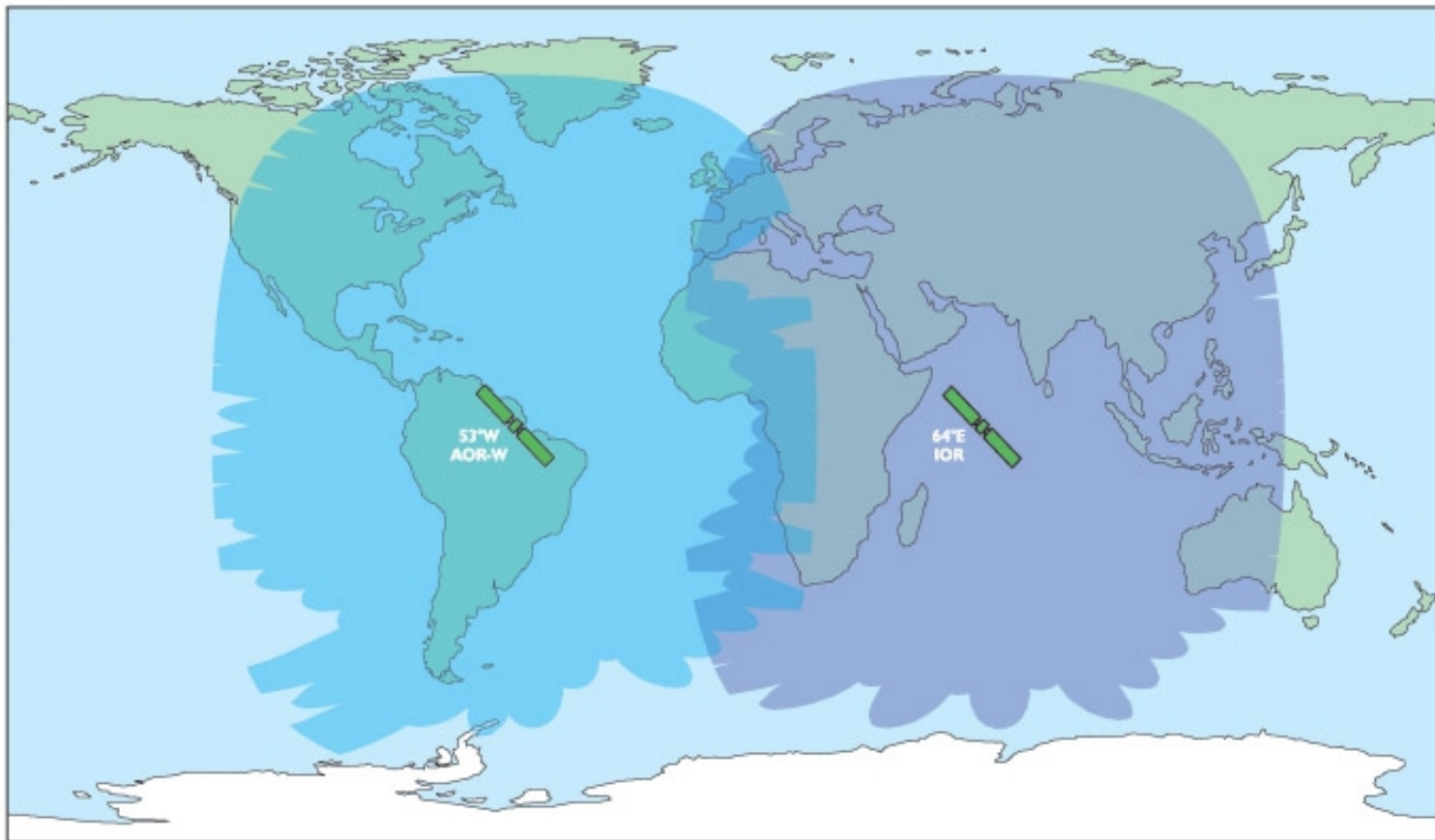


- Largest commercial satellites ever launched
- 16 x capacity of I-3
- Satellite capacity can be redeployed real-time to service areas of high demand
- Current schedule for launch:

Satellite	Satellite launch	Service launch
F1 – IOR 64° E	11.03.05	Q4 2005
F2 – AOR 53° W	Q3 2005	Q1 2006
F3 – POR (tbd)	Tbd 2006	Tbd 2006

# Phase One I-4 coverage

Providing around 85 percent coverage of landmass

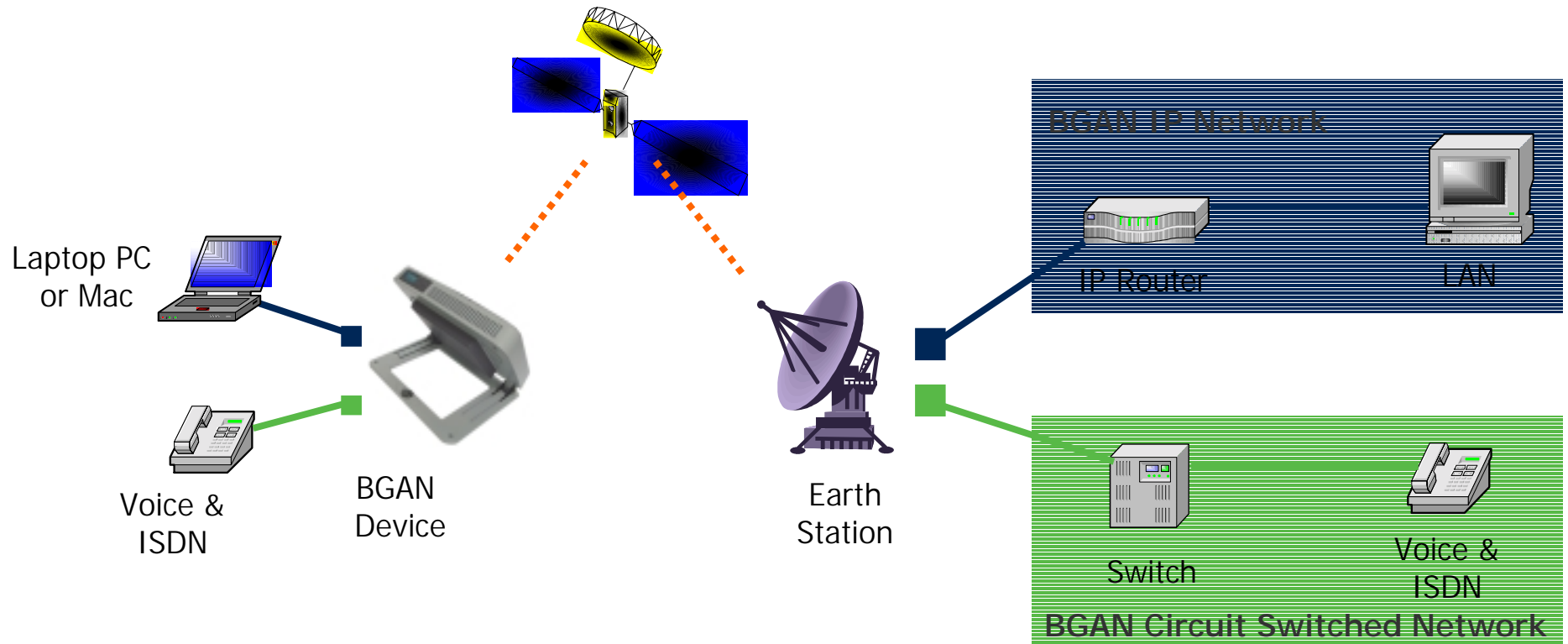


 F2 I-4 Satellite  F1 I-4 Satellite

**2 x 228 narrow spot beams**



# BGAN: one device, two networks



# 3G IP Data

Two classes of service:

## 1. Standard IP service

- Background Class QoS IP bearer – up to 492kbps
- Variable bit rate (dependent on traffic)
  - Web access, file transfer, email
  - Contention ratio to maintain minimum data rates
  - Pay for data sent and received

## 2. Streaming IP service

- Streaming Class QoS IP bearer
- Reserved capacity – guaranteed bit rate over the satellite
  - 32, 64, 128, 256kbps (symmetrical)
  - Available “on demand”
  - Pay for duration of connection
  - Ideal for time critical data; streaming video



# Voice

- Direct dial voice service
  - Landline quality voice, 4kbps + voice compression
  - To and from mobile calls
- One number accessible globally
  - Inmarsat subscriber number range: +870 77 \*\*\*\*\*
- Supplementary services (3G network)
  - Call waiting
  - Call barring
  - Call hold/retrieve





# ISDN and messaging

- ISDN
  - Supported by one device only at launch
  - 64kbps service – identical to Inmarsat GAN service
- SMS
  - Send and receive text messages from a PC/PDA connected to a BGAN device or from the handset keypad
  - Send/receive SMS to/from terrestrial mobile phones
- Voicemail
  - Shortcode to access



# BGAN is designed to support....

- Common terminal equipment operating systems
  - Windows 98se / 2000 / XP
  - Mac OS 10.1 onwards
  - Linux
- VPN
  - Cisco / Nortel / Netscreen / Checkpoint
  - VPN products based on Ipsec, L2TP, PPTP, L2F
- Email
  - POP3 / SMTP / IMAP
- H.323 based applications



# Nera

*Smallest, lightest device of the range*



Size	200 x 140 mm
Weight	< 1 kg
Standard IP Service	Up to 384kbps downlink / 240kbps uplink
Streaming IP Service	32, 64kbps (symmetrical)
Circuit-Switched Data	n/a
Voice	Via RJ45 or Bluetooth handset
Data interfaces	USB, Bluetooth
Ingress Protection	44
Target markets	Mobile (portable) use

# Add Value

*A small, entry-level device*



Size	210 x 140 mm
Weight	1.25 kg
Standard IP Service	Up to 384kbps downlink / 240kbps uplink
Streaming IP Service	32, 64kbps (symmetrical)
Circuit-Switched Data	n/a
Voice	Via RJ11 or Bluetooth headset/handset
Data interfaces	USB, Bluetooth, Ethernet
Ingress Protection	44
Target markets	Mobile use / back up comms



# Thrane & Thrane

*High bandwidth, portable device*



Size	300 x 200 mm
Weight	1.3 kg
Standard IP Service	Up to 464kbps downlink / 448kbps uplink
Streaming IP Service	32, 64, 128kbps (symmetrical)
Circuit-Switched Data	n/a
Voice	Via RJ11 or Bluetooth handset; 3.1kHz audio
Data interfaces	USB, Bluetooth, Ethernet
Ingress Protection	54
Target markets	Mobile / Semi-fixed use

# HNS

*High bandwidth, multi-user device*



Size	365 x 275 mm
Weight	2.2 kg
Standard IP service	Up to 492kbps downlink / 492kbps uplink
Streaming IP service	32, 64, 128, 256kbps (symmetrical)
Circuit-Switched Data	ISDN – 1 x 64 kbps
Voice	Via ISDN handset
Data interfaces	USB, Ethernet, in-built WiFi hub 802.11b (multi-user)
Ingress Protection	55
Target markets	Mobile / semi-fixed use





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