Global Xpress

Changing what is possible in maritime communications

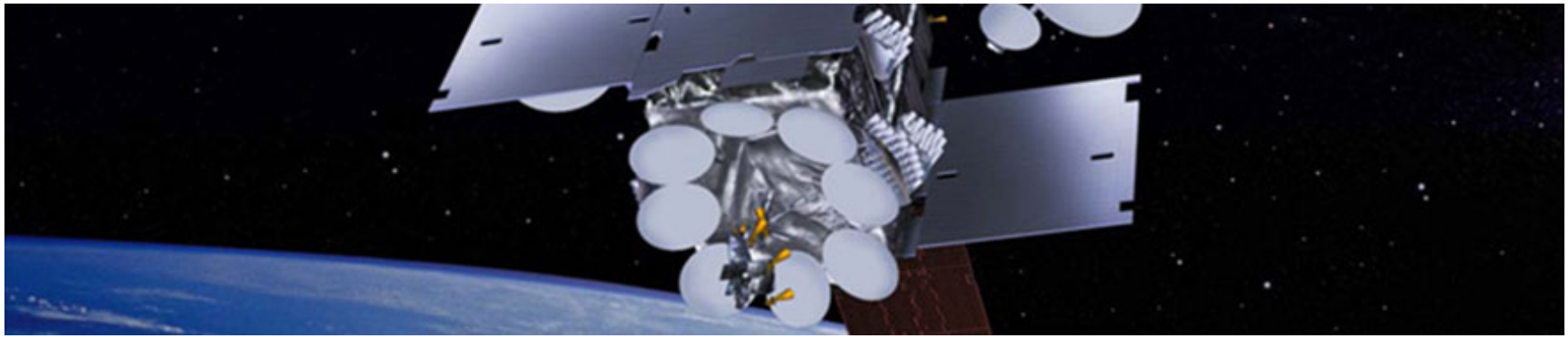
Mike McNally

Head of Inmarsat Maritime, Americas

Revision 2

Inmarsat Global Xpress Maritime

The new standard in maritime satellite communications



Reliable

- 5th Generation constellation
- Fully Funded
- Designed for global mobility
- Inmarsat quality standards, end-to-end

End-to-End Service

- Cost effective
  - Terminals
  - Airtime
- High performance
- Includes FleetBroadband

Managed Solution

- For business & Crew
- Voice, video, data
- Application & Content
- Prepaid & Postpaid billing

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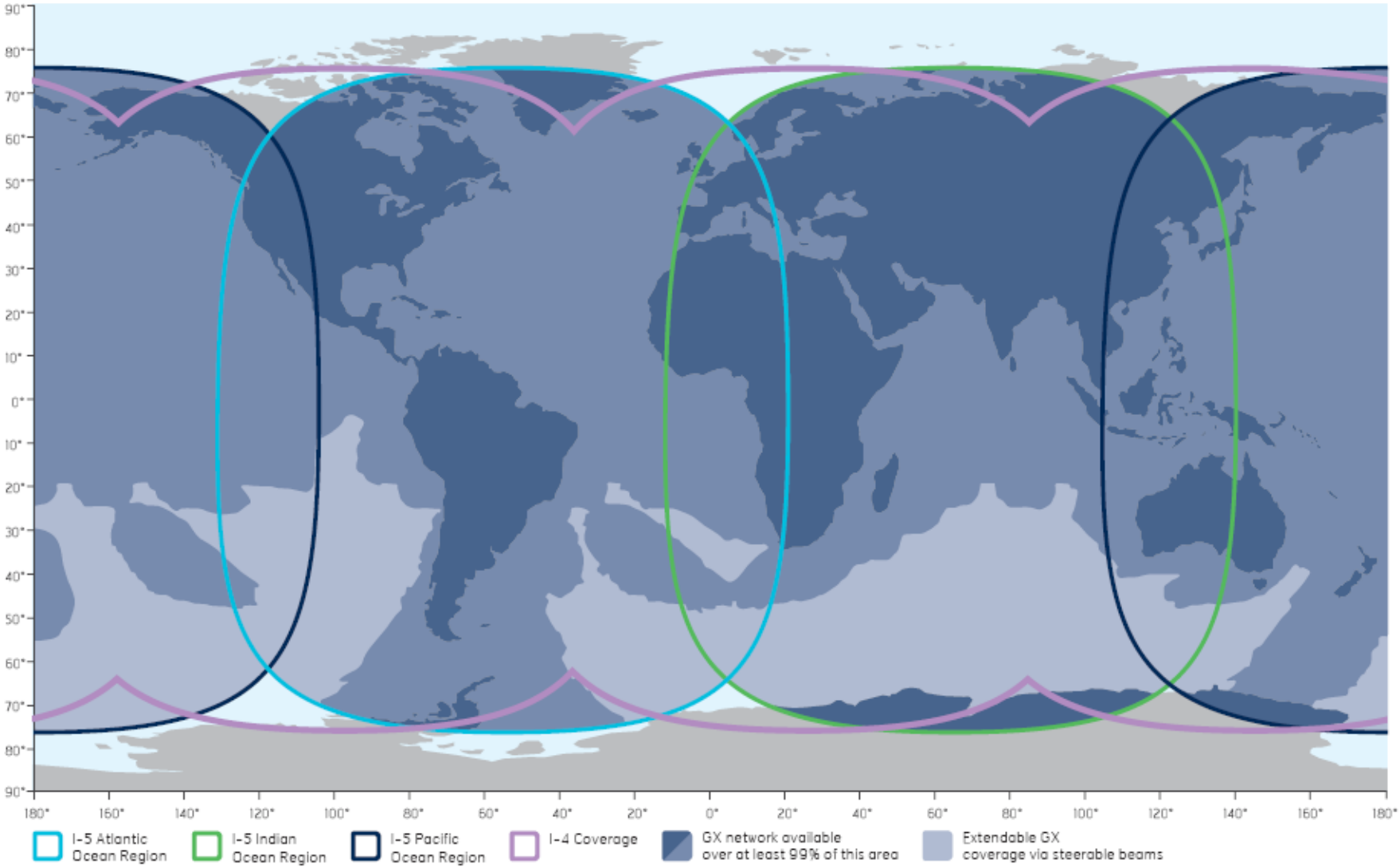
Global Xpress Coverage



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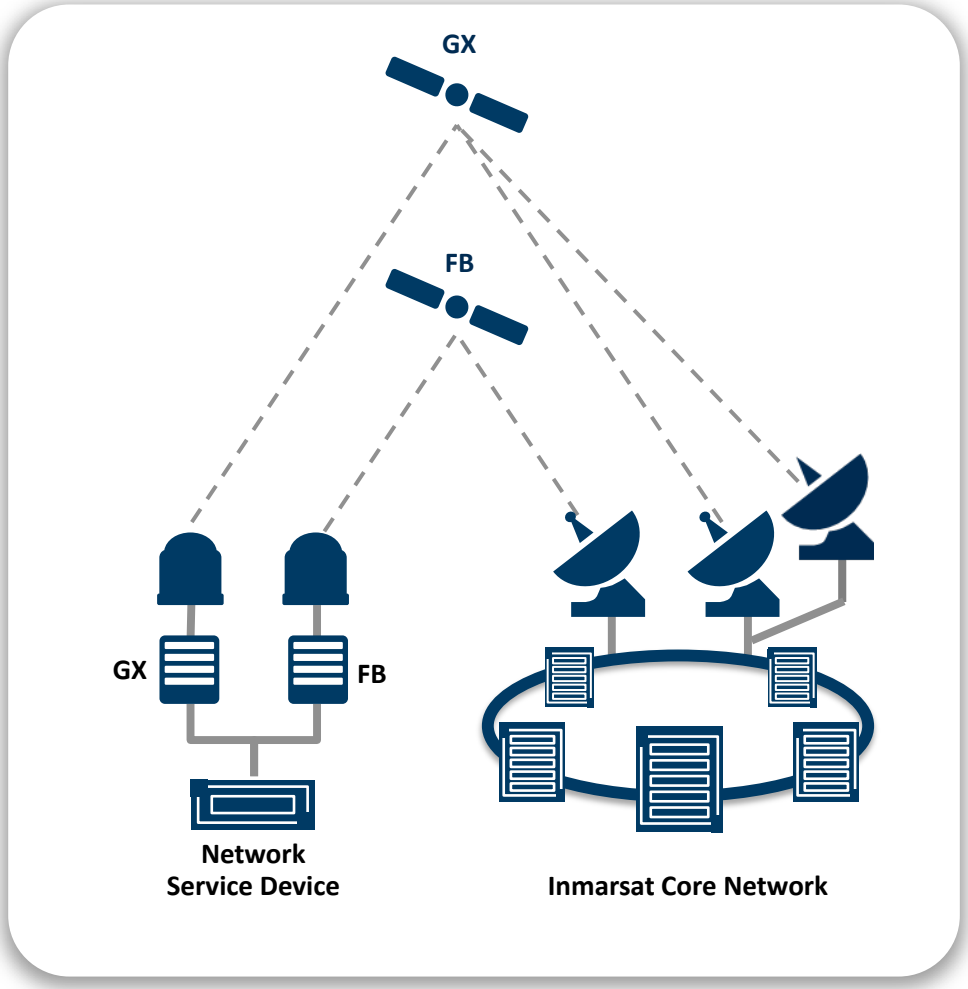
The Global Xpress Solution



Empowering Maritime Community Solutions

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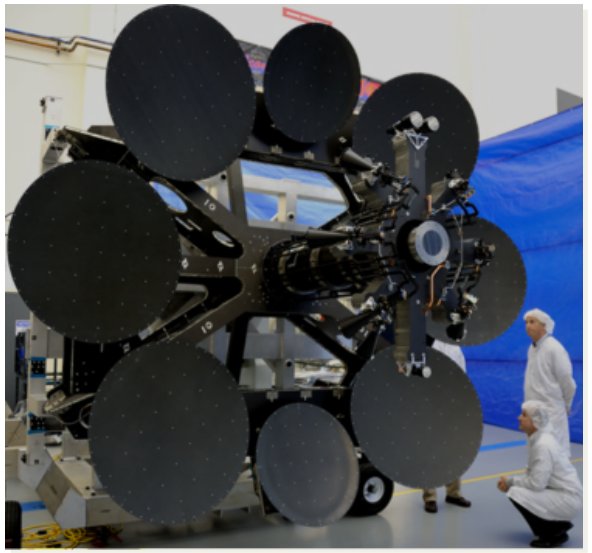
The Global Xpress Solution

- Designed and built by Boeing
  - 802HP Platform
- Owned and operated by Inmarsat
- Well tested, reliable platform
- 3 satellites provide global coverage



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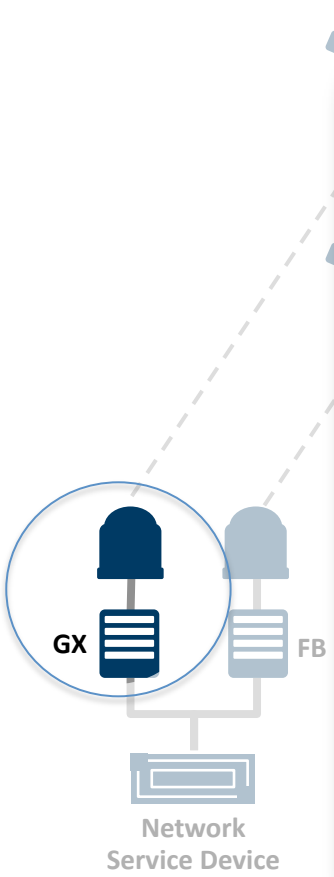
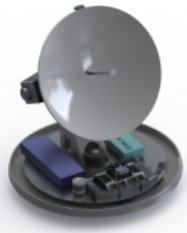


Shipboard Terminals

- Top quality, high throughput performance
- 60cm and 1m models available
- Inmarsat Type Approval ensures quality
- Upgradable Ku-Band terminals



Sea Tel COBHAM

Intellian

JRC

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The Global Xpress Solution

Satellite Communications

- Designed by iDirect specifically for GX
- Close coordination with Cisco
- Enables advanced services to work between Cisco and iDirect platforms
  - Traffic prioritisation
  - Bandwidth management
  - Multicast

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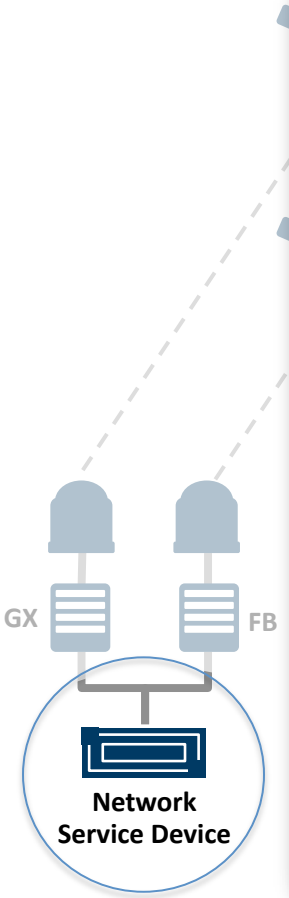
The Global Xpress Solution



The Network Service Device

- Cisco 2911 Router platform
- On-board LAN, WAN, Telephone interfaces
  - Connect ship users to satellite terminals
  - Routing control of GX vs. FB
- Mass storage device for content hosting
- Cisco Cloud Application Hosting platform

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Global Xpress End-User Services

Browsing

- A high performance, fast browsing experience
- Optimal performance through compression & acceleration
- Ship owner controls: Whitelist and blacklist by site or categories

Multi-line Voice Service

- Cost effective voice services for the business and crew
- Smart phone apps will enhance service
- national number support

Video Chat

- Satellite optimized video calling service designed for GX

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GX network design advantages

- **Redundant**
  - Dual Teleport design
  - Weather, maintenance, local outages
- **Expandable**
  - Additional Ka-band satellites can be added as needed
- **Hybrid L-band network**
  - Handles any Ka-Band interruption
  - Blockage, coverage, atmospheric, regulatory, equipment
  - Maintains IP and VoIP services
  - No additional costs
- **Futureproof**
  - Terminals capable of throughput over 10x current VSAT plans
  - Scalable Ka-Band network capacity – fourth satellite already on order

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GX Application Development Platform

– Because the solution needs to be more than just fast

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Empowering Applications and Content

New ways to Distribute Applications

- Third Party companies can list their applications on the GX portals
- Presented directly to the Ship Operators and Crew

New ways to buy services

- Shipping companies can subscribe to services
- Crew can purchase applications and services directly
- Facilitated through GX billing platform

New ways to use airtime

- Applications can dynamically allocate bandwidth
- Content Pre-Positioning services

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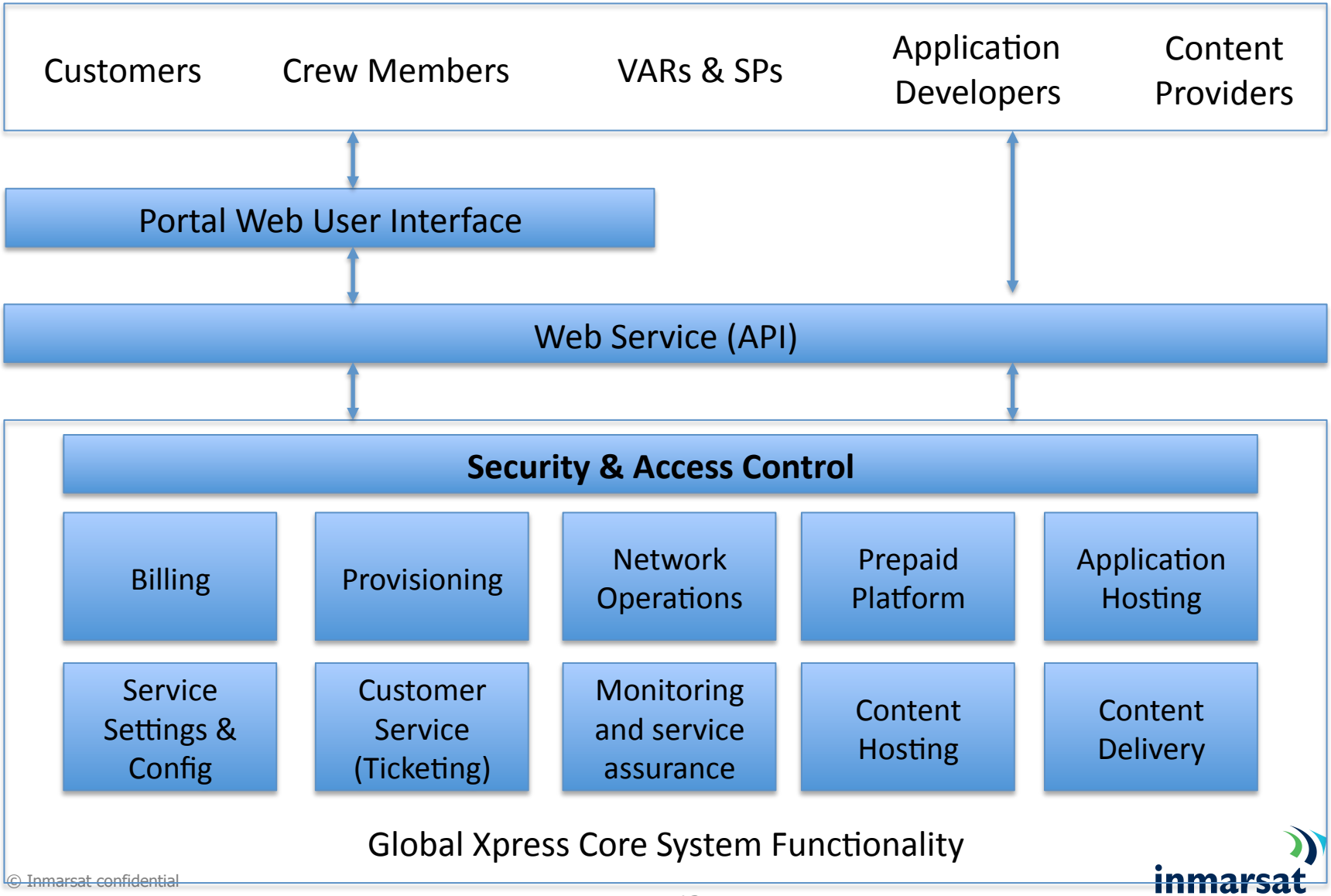
Designed as an Open Architecture



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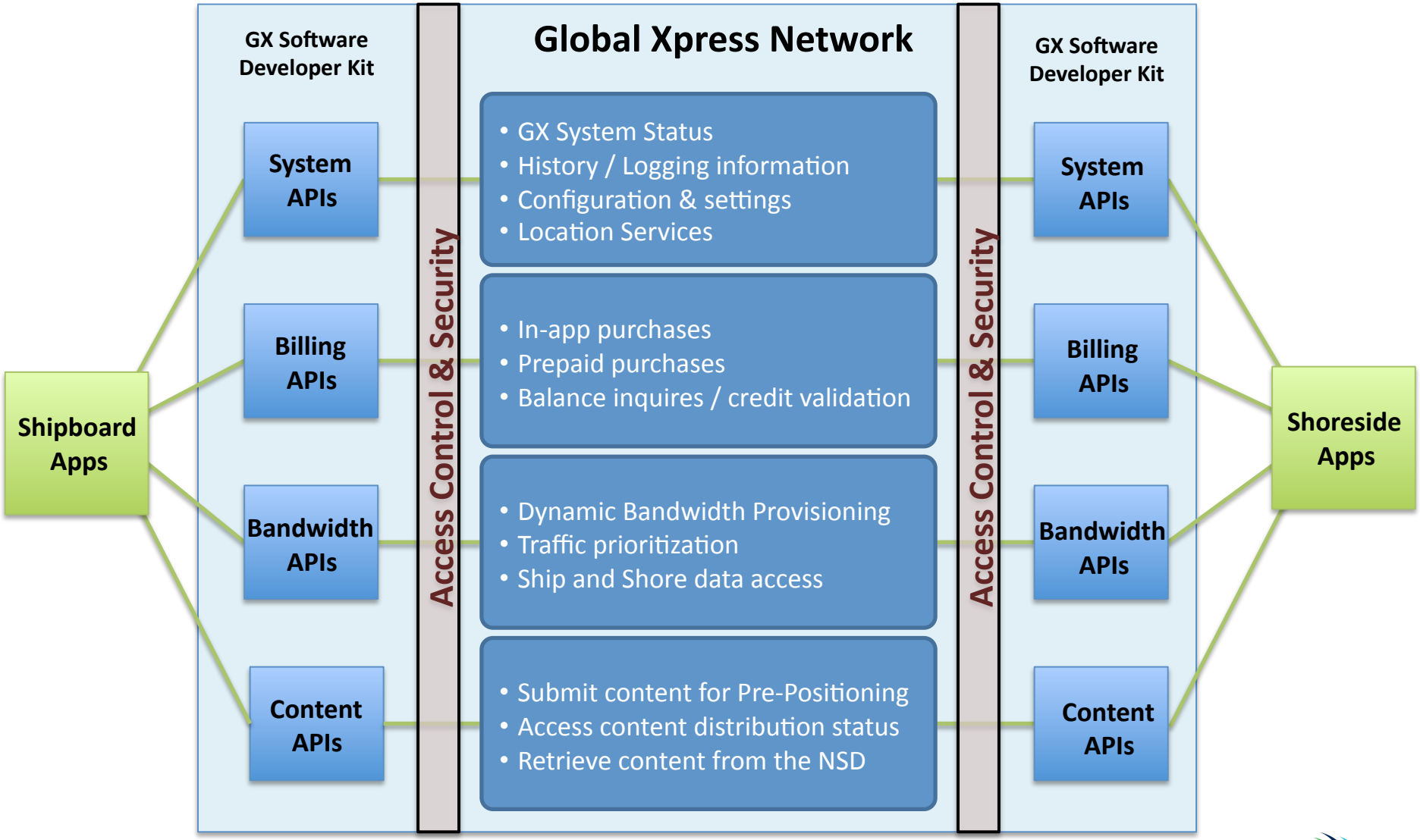
Categories of APIs



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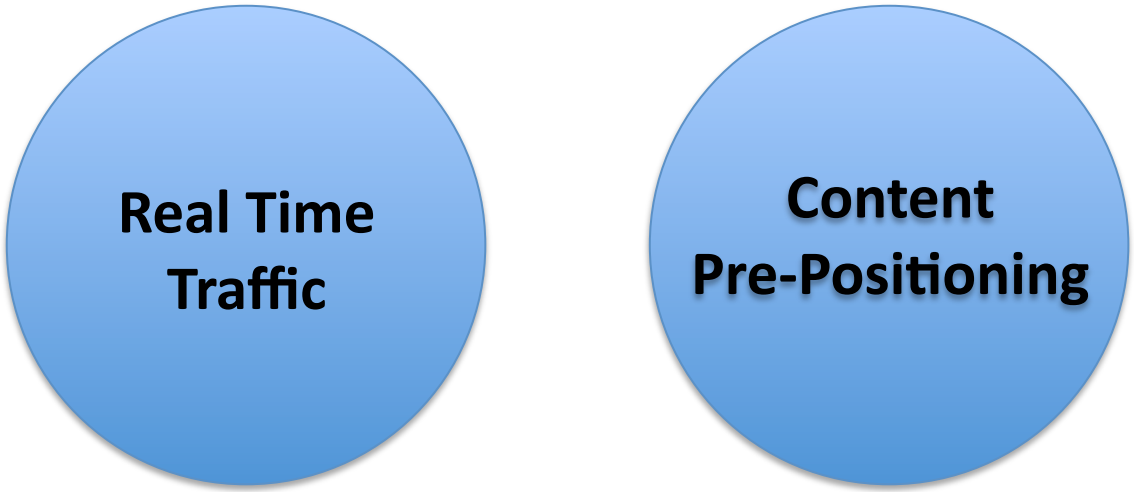
Optional Services Available with GX



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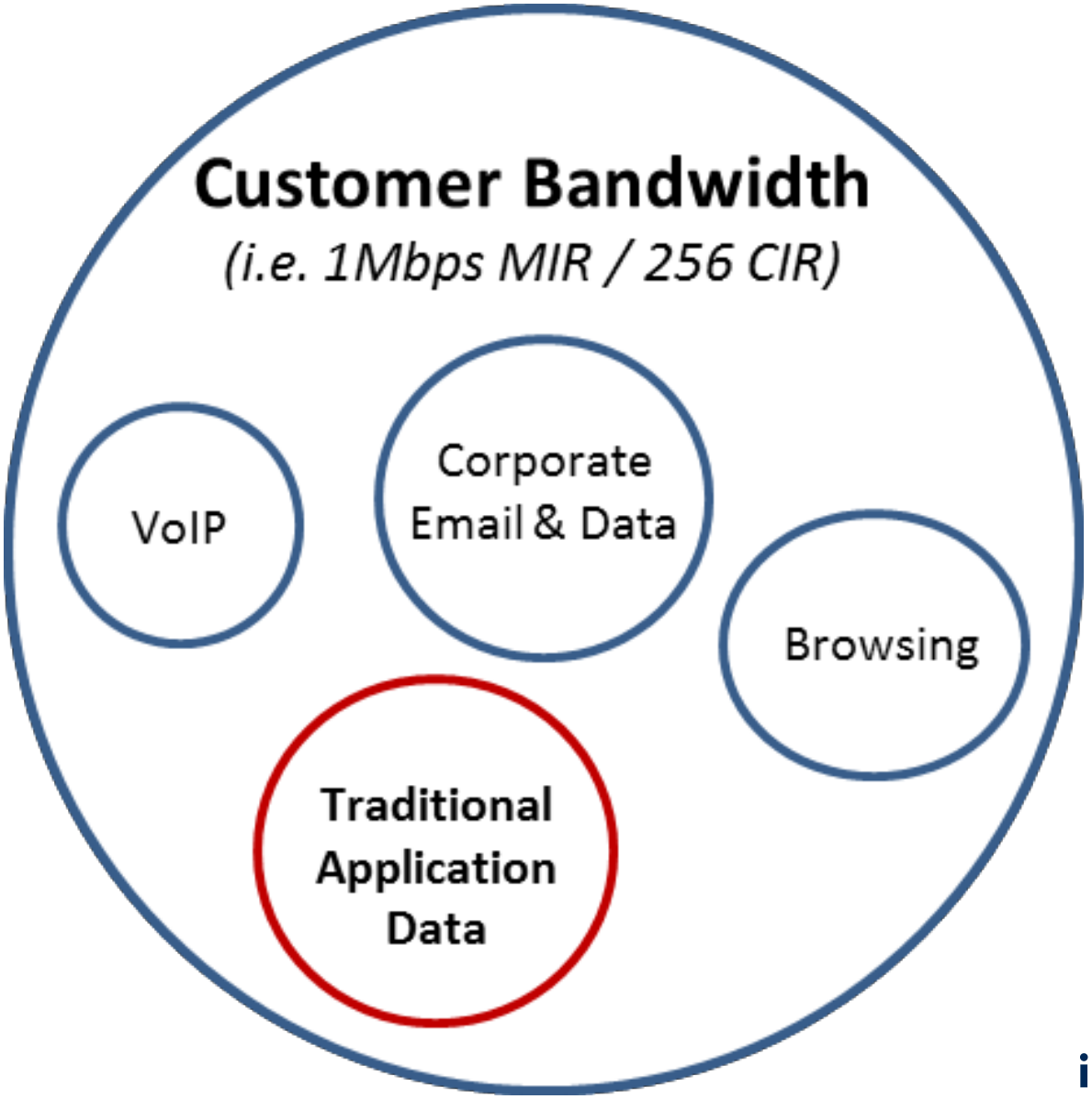
Flexible Real-Time Bandwidth Control



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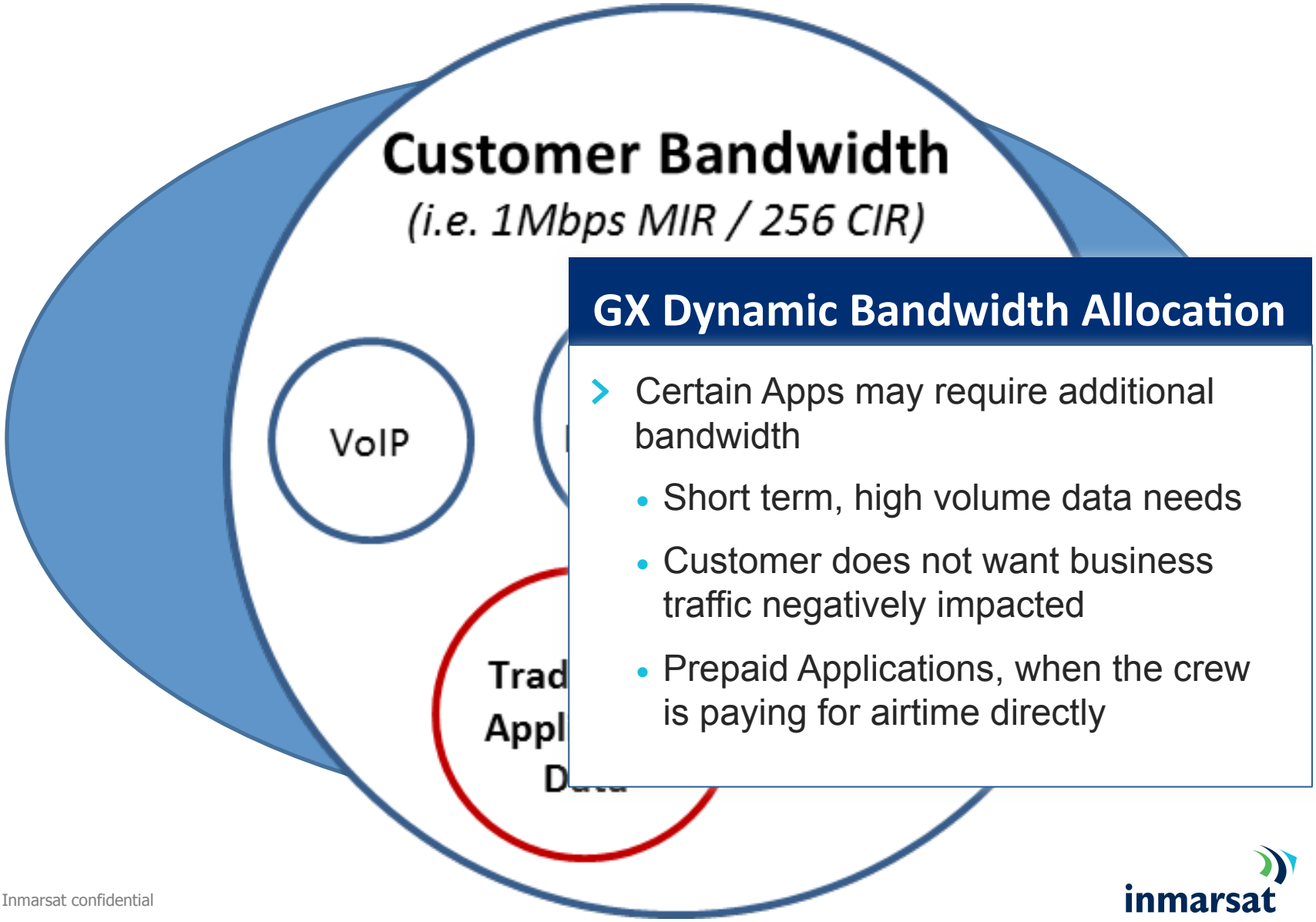
Flexible Real-Time Bandwidth Control



GX Dynamic Bandwidth Allocation

- Certain Apps may require additional bandwidth
  - Short term, high volume data needs
  - Customer does not want business traffic negatively impacted
  - Prepaid Applications, when the crew is paying for airtime directly

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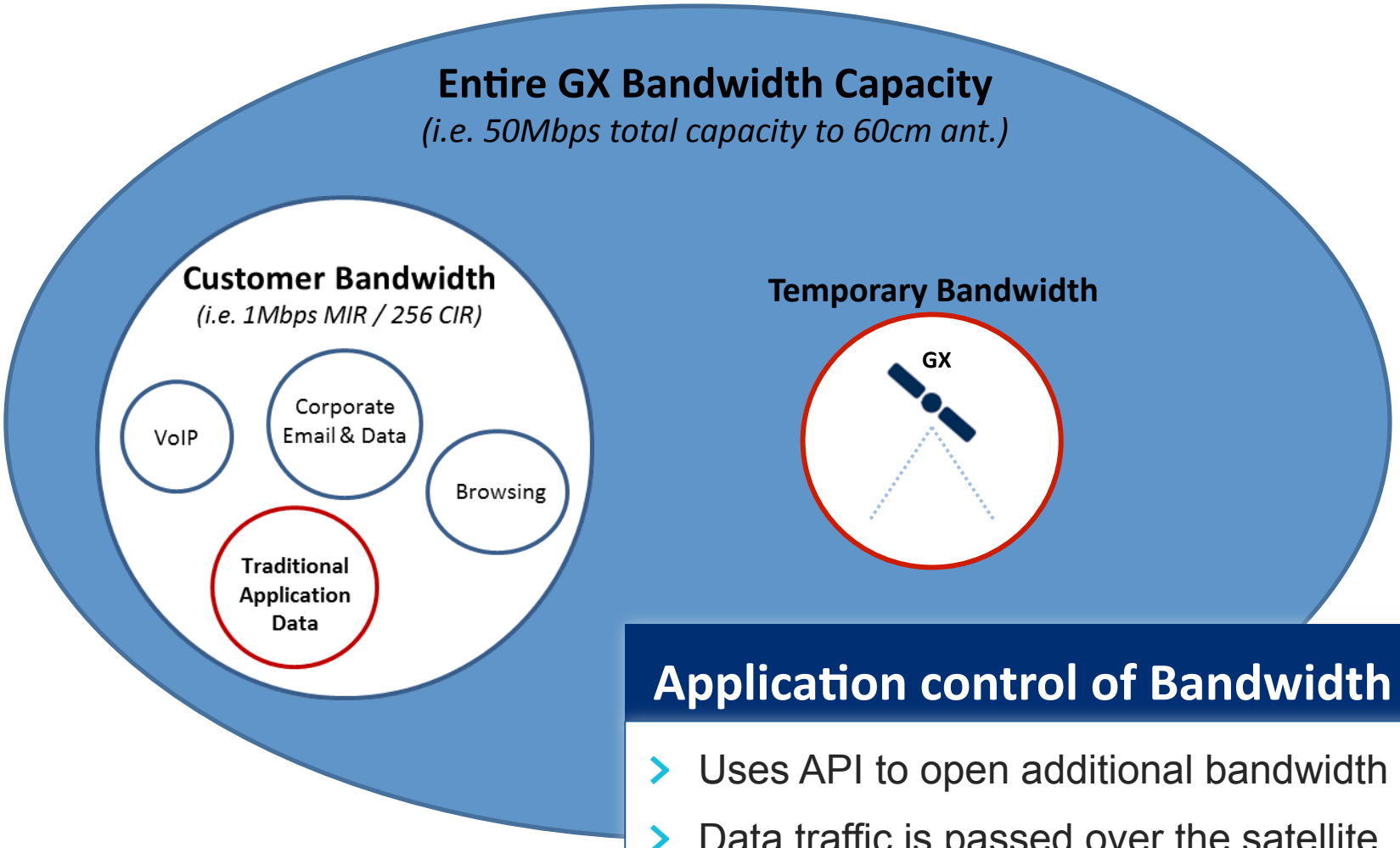
Flexible Real-Time Bandwidth Control



Application control of Bandwidth

- Uses API to open additional bandwidth
- Data traffic is passed over the satellite
- Application closes bandwidth

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Content Pre-Positioning Service

- Allows Data Files to be Pre-Positioned to the NSD
  - Content is uploaded to the Inmarsat core network
  - Peak and Off-Peak Delivery options
  - CAP is charged for successful deliveries only
  - Time to deliver files is dependent on file size
- Downloaded files are not ‘browseable’ to the shipboard users
  - Application is responsible to access files from the NSD
  - APIs to access Pre-Positioned files provided as part of the Inmarsat SDK
  - DRM (Data Rights Management) / encryption is the responsibility of the CAP

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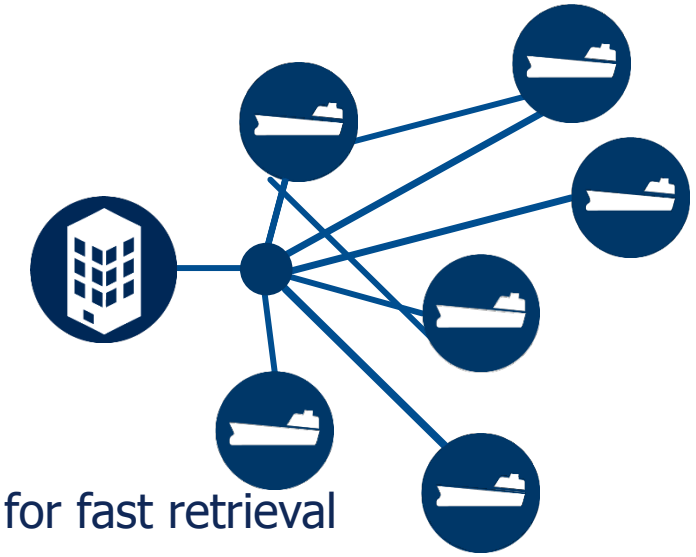
MultiCast Capabilities

GX Multicast introduces a step change in capabilities

- Highly flexible delivery options
  - To all ships in a fleet
  - To groups of ships
  - To ships in a geographic area
  - To all ships subscribing to specific services
- Broadcast data is stored within shipboard NSD for fast retrieval
- Minimal impact on network



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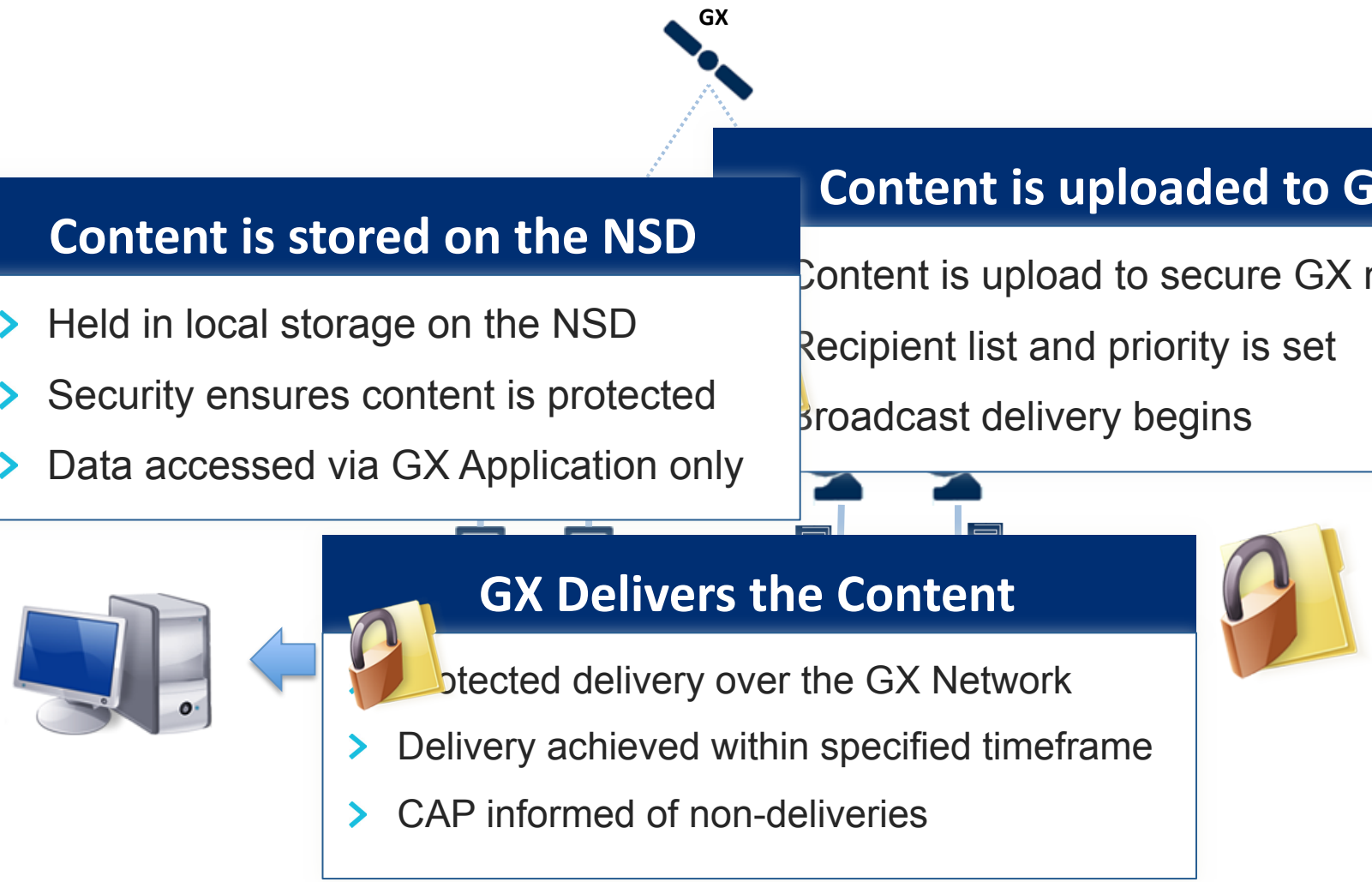
Content Pre-Positioning Service



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A revolution in maritime communications:

Telemedicine

- Telemedicine application get airtime when needed
- High quality without impact on business traffic
- Reduces cost for the shipping company

Ship security

- Dynamically open airtime during security event
- Immediate, no delays waiting for more bandwidth
- Secure, separated from normal Internet traffic.

Crew services

- Crew can buy a host of products and services directly
- No impact on business traffic
- Great end-user experience, reduces satellite usage

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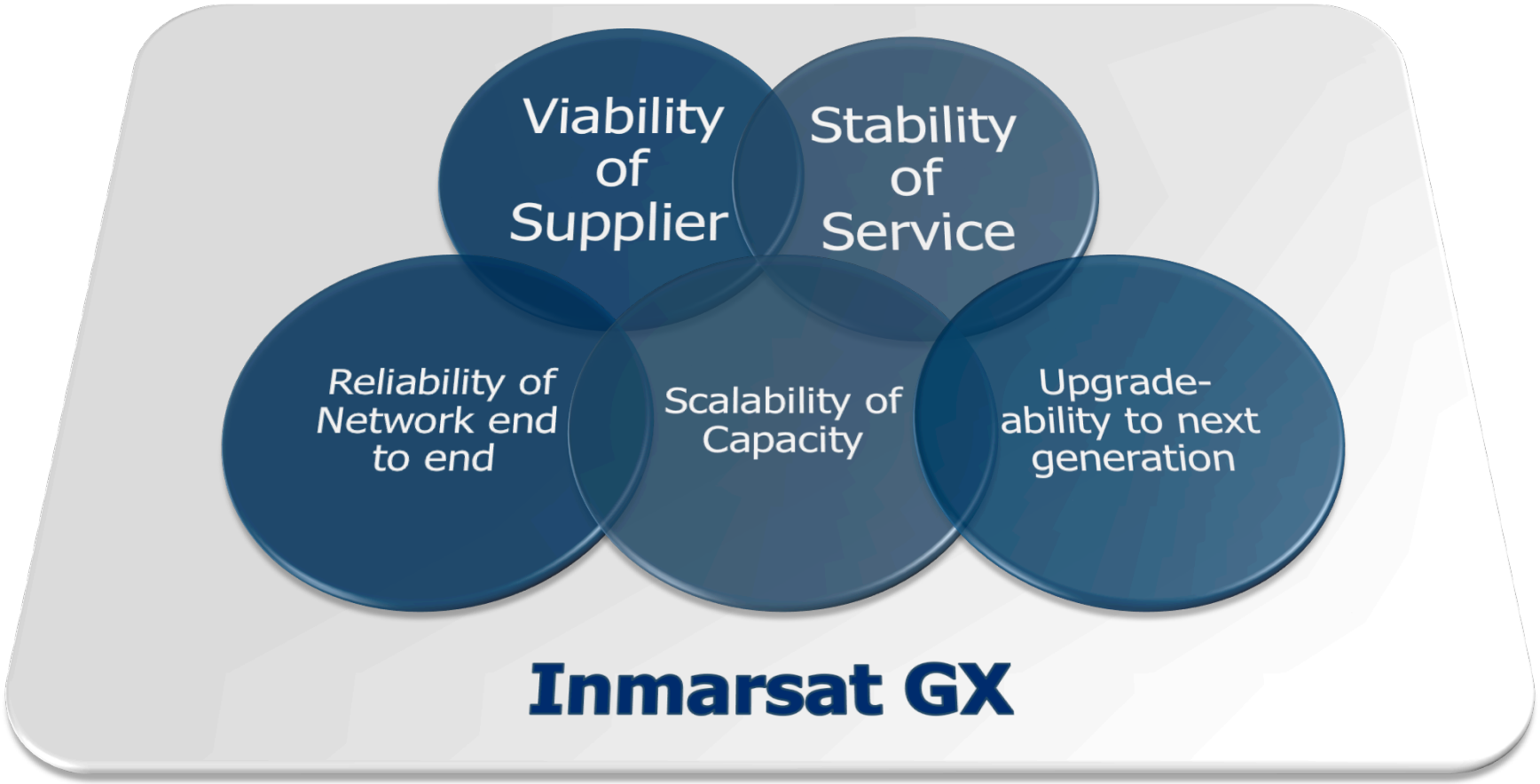
Providing five abilities to consider



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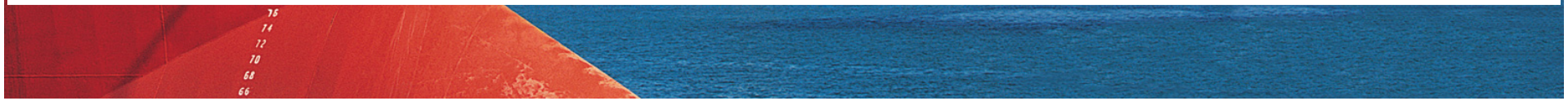
The high capacity, reliable, future-proof solution for maritime communications