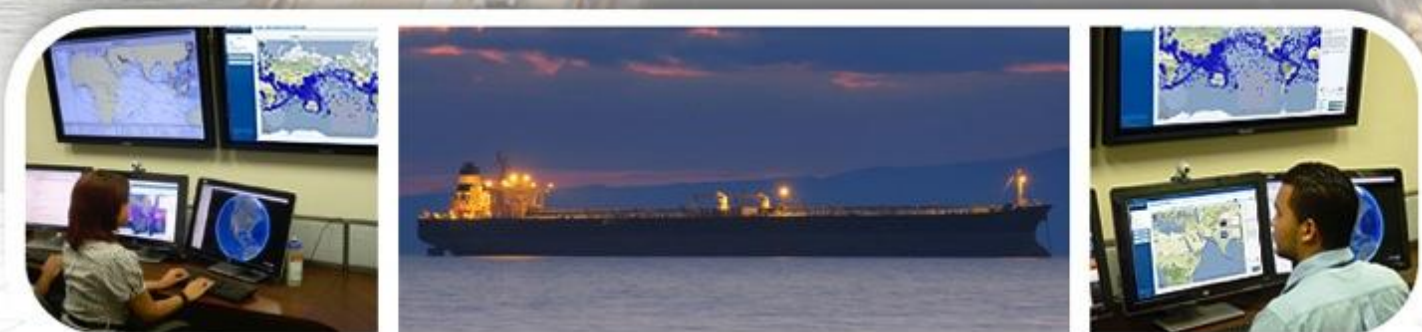




88th Session
Maritime Safety Committee
1st December 2010



Republic of Panama LRIT Implementation



Panama Maritime Authority (AMP)

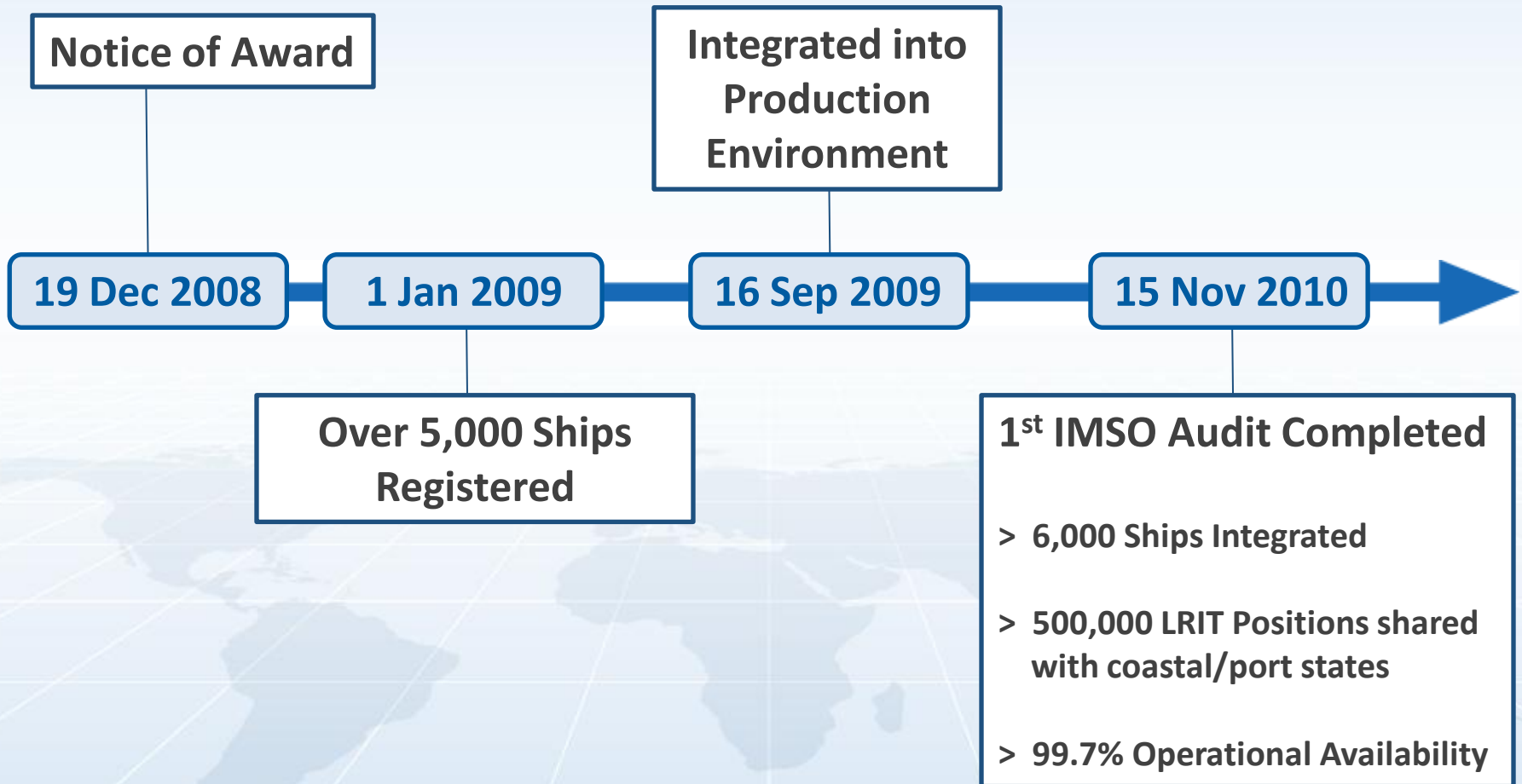
- ▶ Over 8,000 SOLAS Class ships on registry – the majority requiring LRIT

- ▶ Purchased the LRIT System in December 2008 via:
 - International Public Tender
 - Four bids evaluated
 - Contract award to *Absolute Maritime Tracking Services*

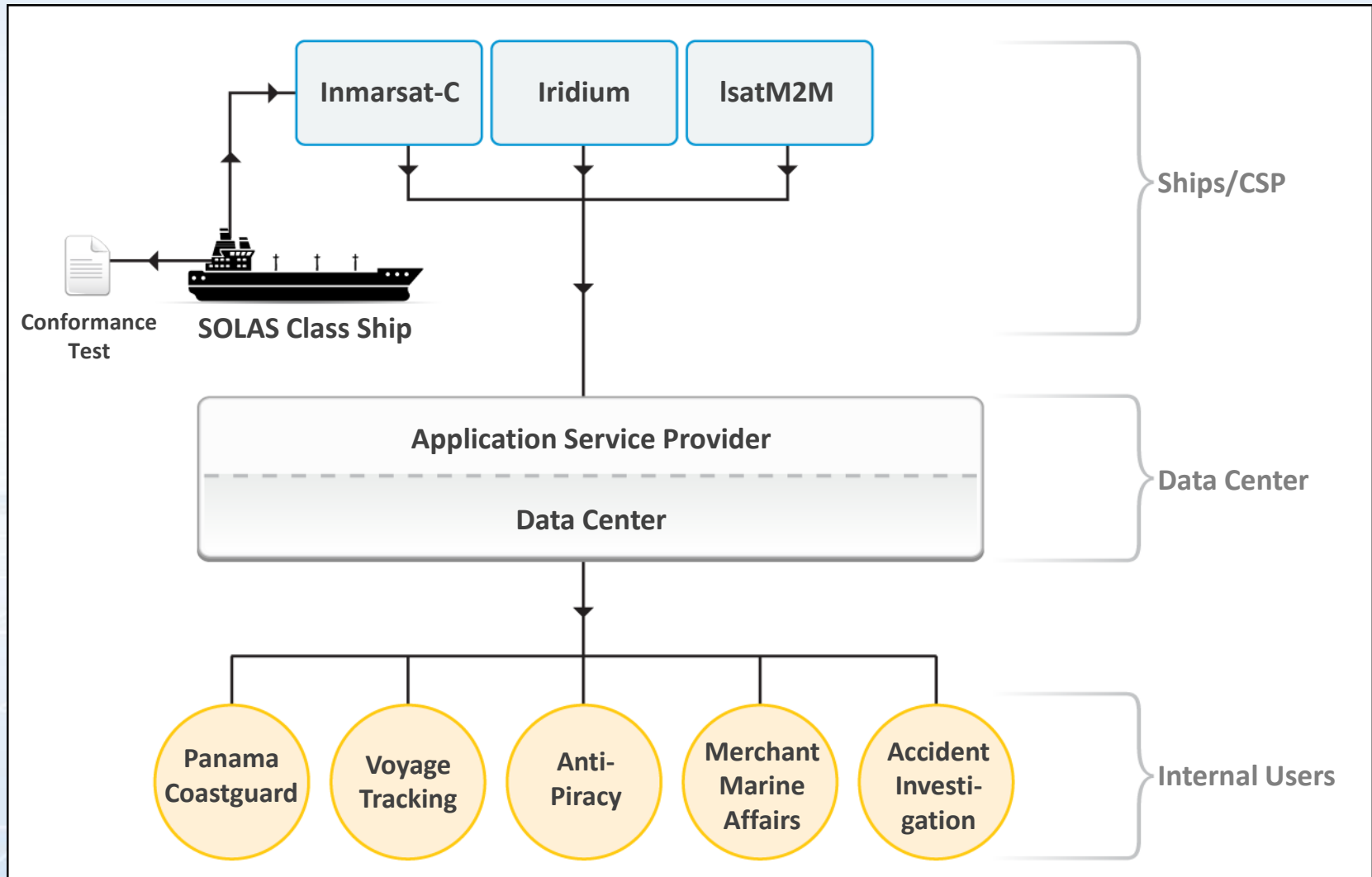
- ▶ Scope of the LRIT contract includes:
 - ASP Services
 - Conformance Testing Services
 - Datacenter Services
 - Outsourced Monitoring Center

- ▶ The Panama National Data Center is primarily operated from the *City of Knowledge*, a government sponsored technology park located in Panama City, Panama

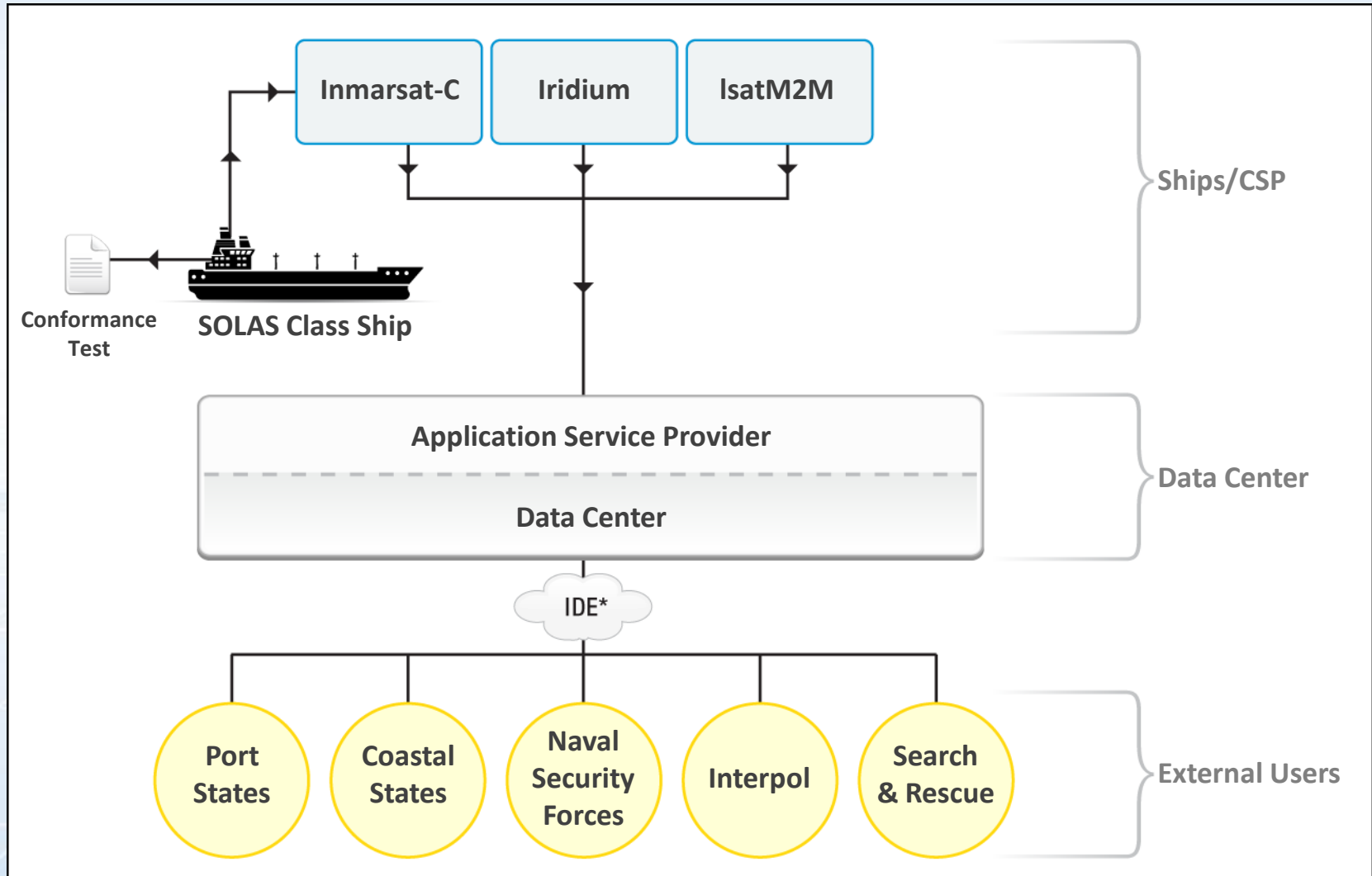
Project Timeline



LRIT Data Users (within Panama)



LRIT Data Users (outside Panama)



* Via the International Data Exchange (IDE) and OTH-GOLD format for Security Forces



Panama LRIT System

- ▶ Application Service Provider
- ▶ Conformance Testing
- ▶ National Data Center
- ▶ 24 x 7 Operations Center
- ▶ The Fleet Information System

Application Service Provider

- ▶ Recognized ASP is *Absolute Maritime Tracking Services*. Compatible with all major makes/models of LRIT shipboard equipment (both Inmarsat and Iridium)
- ▶ Each Shipboard Device is thoroughly tested before use, via an automated Conformance Testing procedure
- ▶ Extended diagnostic information from specific models of shipborne equipment. Aids in troubleshooting and ensures only 4 position reports/day maximum paid by flag
- ▶ Supports both primary and backup terminals for LRIT



Ships Registered	8,248
Conformance Tests Passed	7,185
Commands to Shipboard Equipment	250,000+
Average Daily Position Reporting	24,000+
Total LRIT Positions Received	12,000,000+



Conformance Testing

- ▶ Panama's policy is designed to maximize the usage of existing shipborne equipment
- ▶ All operations are conducted in accordance with an ISO-9001 quality assured process
- ▶ Data Accuracy Crosscheck verifies details submitted by shipowner/agent match those recorded within:
 - ESAS (Inmarsat)
 - SEA-WEB
 - EQUASIS and MARS
- ▶ 24 x 7 support to Surveyors and Port Administrations - including direct on-line access to Conformance Test Reports (from 2011 onwards)

Total Models	50+
Conformance Tests Performed	7,800+
Percentage of Equipment Passed	85%
Average time to Complete Test	48 hrs

LRIT CONFORMANCE TEST REPORT

Issued under the provisions of MSC.1/Circ.1296 on Guidance on the survey and certification of compliance of ships with the requirements to transmit LRIT information
 Issued by **ABSOLUTE MARITIME TRACKING SERVICES, INC.** No. 03009
 On behalf of the **GOVERNMENT OF PANAMA** PHOENIX SHIPPING
 AMP Circular No. 195

Name of Ship	AGIOS NIKOLAS
Port of Registry	Republic of Panama
Distinctive number or letters	3FTY7
IMO Number	8306802
Maritime Mobile Service Identity	353864000
Gross tonnage	16985
Sea areas in which ship is certified to operate	A1 A2 A3
Sea areas for which this report is valid	A1 A2 A3
Application Service Provider conducting the test	Absolute Maritime Tracking Services, Inc.

THIS IS TO CERTIFY that the shipborne equipment designated to transmit LRIT information and specified below:

- has been found to meet the requirement of the provision of regulations V/19-1.6 and V/19-1.7 and of the Revised performance standards and functional requirements for the long-range identification and tracking of ships adopted by resolution MSC.283(84) and:
 - 1. is of a type approved by the Administration in accordance with the provisions of regulation V/19-1; Yes No
 - 2. is of a type approved by the Administration in accordance with the provisions of regulation V/14; Yes No
 - 3. has been certified by the Administration as meeting the requirements of IEC 60945 (2002-08) and IEC 60945 Corr.1 (2009-04) on Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results; Yes No
 - 4. is the ship security alert system of the ship and has been found to comply with the provisions of regulation XI-2/6; and of resolution MSC.136(76) on Performance standards for a ship security alert system/resolution MSC.147(77) on Adoption of the Revised performance standards for a ship security alert system; Yes No
- has undergone conformance testing in accordance with the procedures and provisions set out in MSC.1/Circ.1296, and has shown that it can operate within the tolerances of the acceptance criteria stated in the aforesaid circular.

The conformance test was satisfactorily completed on 3/17/2009 16:11:00.

Details of the shipborne equipment used to transmit LRIT information			
Maker	Model	Serial Number	Shipborne equipment identifier
Thrane & Thrane	MINI_C TT-3000SA	4T999206E97	435386413

Issued at Panama City, Republic of Panama on 25 March, 2009.

John Ramcauer
 Managing Director

Apartado Postal 0816-02168, Panama, Republic of Panama
 phone: +507 225-1142 fax: 507 225-1203 email : activations@panama-lrit.com

To verify the authenticity of this certificate you may download the original from <http://panama-lrit.com/lor/lor/cas/fin-030009-0009-0009012.pdf>

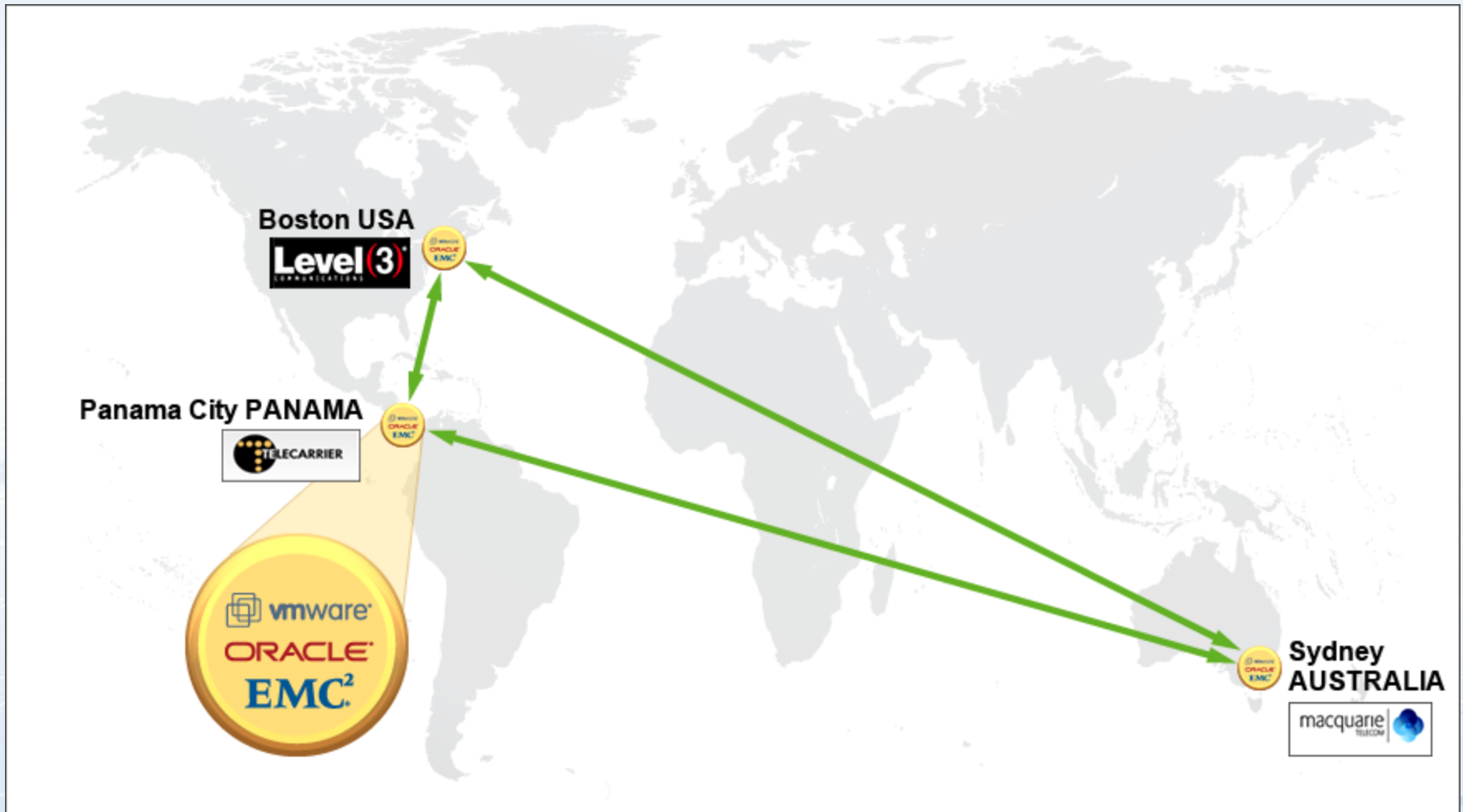
National Data Center

- ▶ Processes LRIT position reports to determine which reports are forwarded to other Coastal/Port administrations via the International Data Exchange (IDE)
- ▶ Three server clusters for redundancy (Panama, The United States and Australia). Fault tolerance is achieved through the use of Oracle 11g, replicated HP Servers, EMC Storage and VMWare Virtualization
- ▶ Redundant Mechanical Systems, Internet and Power; with no single point of failure. Provides Tier IV Uptime; 99.95%
- ▶ Biometric and 24 x 7 manned security



Average positions forwarded daily	4,800
Total positions forwarded via IDE	900,000+
Average Number of Ships Reporting	6,000+
Countries requesting LRIT Data	24

Primary & Disaster Recovery Locations



24 x 7 Operations Center

- ▶ The Monitoring, Control and Surveillance Center is staffed by a team of LRIT trained duty officers
- ▶ The center is manned twenty-four hours a day, seven day a week, every day of the year
- ▶ Provides real-time support to flag administrations and multinational forces engaged in combating piracy - including data feeds in military tactical (C2/C4) formats
- ▶ Live support to shipowners, port states (in relation to inspections) and surveyors (for queries regarding LRIT Conformance Tests)



Measured System Availability	99.67%
Number of 24x7 Duty Officers	6
Search & Rescue Positions Sent	9,000+
Realtime Piracy Alert Responses	15+

The Fleet Information System

▶ A Complete Web Based Monitoring Solution

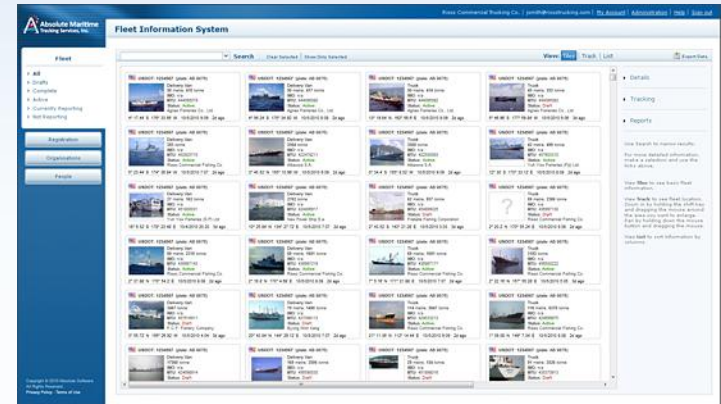
Compatible with all major browsers including Internet Explorer, Firefox, Chrome and Safari. Features include:

- Ship Registration Details
- Photos/Documents
- Position Data
- Voyage Capture and Trip Reporting

▶ 2D and 3D visualization tools provide an integrated view of the ship's activity, location and past voyages

▶ Configurable Alarms include:

- Entry/Exit to port
- Entry into high piracy risk areas
- Unexpected slowdown at-sea
- Faulty or non-reporting LRIT Equipment



The User Interface for the LRIT System



Security & Access Types

- ▶ **Flag** (full access to all ships under flag)
- ▶ **Shipowner**
(access restricted to their own ships)
- ▶ **Surveyors**
(restricted access to verify conformance tests)
- ▶ **Agents or Charterers**
(selective access when granted by shipowner)
- ▶ **Coastal/Port Administrations**
(enhanced LRIT information and reports)
- ▶ **Piracy Prevention Taskforces**
(automated OTH-GOLD tactical feed)

The screenshot displays the 'Fleet Information System' interface. The main content area is titled 'Characteristics' and shows a list of ship attributes with dropdown menus for selection. The attributes include: Gross Tonnage (2019 tonnes), Length (Overall: 81 metres, Registered: 75 metres, Perpendicular: 22 metres), Hull Material (Steel), Rated Speed (11.7 knots), Country Built (France), Initial Launch Date (1/1/1979), Engine Model (PELSTOCK), Engine Power (2000 kilowatts), Fuel Capacity (30280 litres), and Normal Crew Complement (4). The system is updated as of 8/12/2010. Navigation buttons for 'Back', 'Skip This Step', and 'Next' are visible at the bottom.

The screenshot shows a detailed report table within the 'Fleet Information System'. The table has columns for 'Ship #', 'Total', 'Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec', and 'YTD'. The rows are categorized by 'Ship # Summary', 'Ship #', 'Company', 'Company Reporting', and 'Ship Reporting'. A 'Registration' section lists various countries like Ecuador, Panama, and Liberia with their respective ship counts. A 'Status' section shows counts for 'In-Service', 'Out-Of-Service', and 'Total'. A pie chart at the bottom right visualizes the data, with a legend indicating categories like 'Apr 2010 - Piracy', 'Apr 2010 - Non-Piracy (Private)', 'Apr 2010 - Non-Piracy (State)', 'Apr 2010 - Included - Piracy (State)', and 'Apr 2010 - Included - LR Treaty'.

The User Interface for the LRIT System

User Interface Platforms

Monitoring Console



Laptop



Tablet



Smart Phone



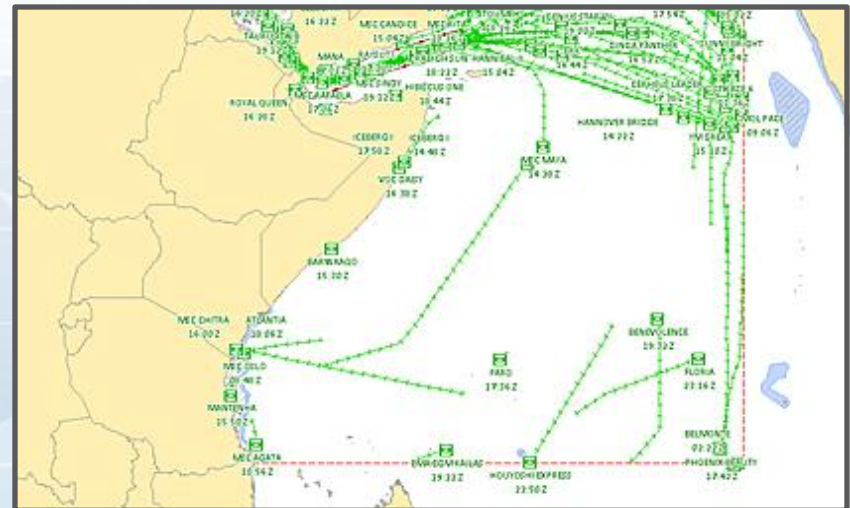


Case Studies

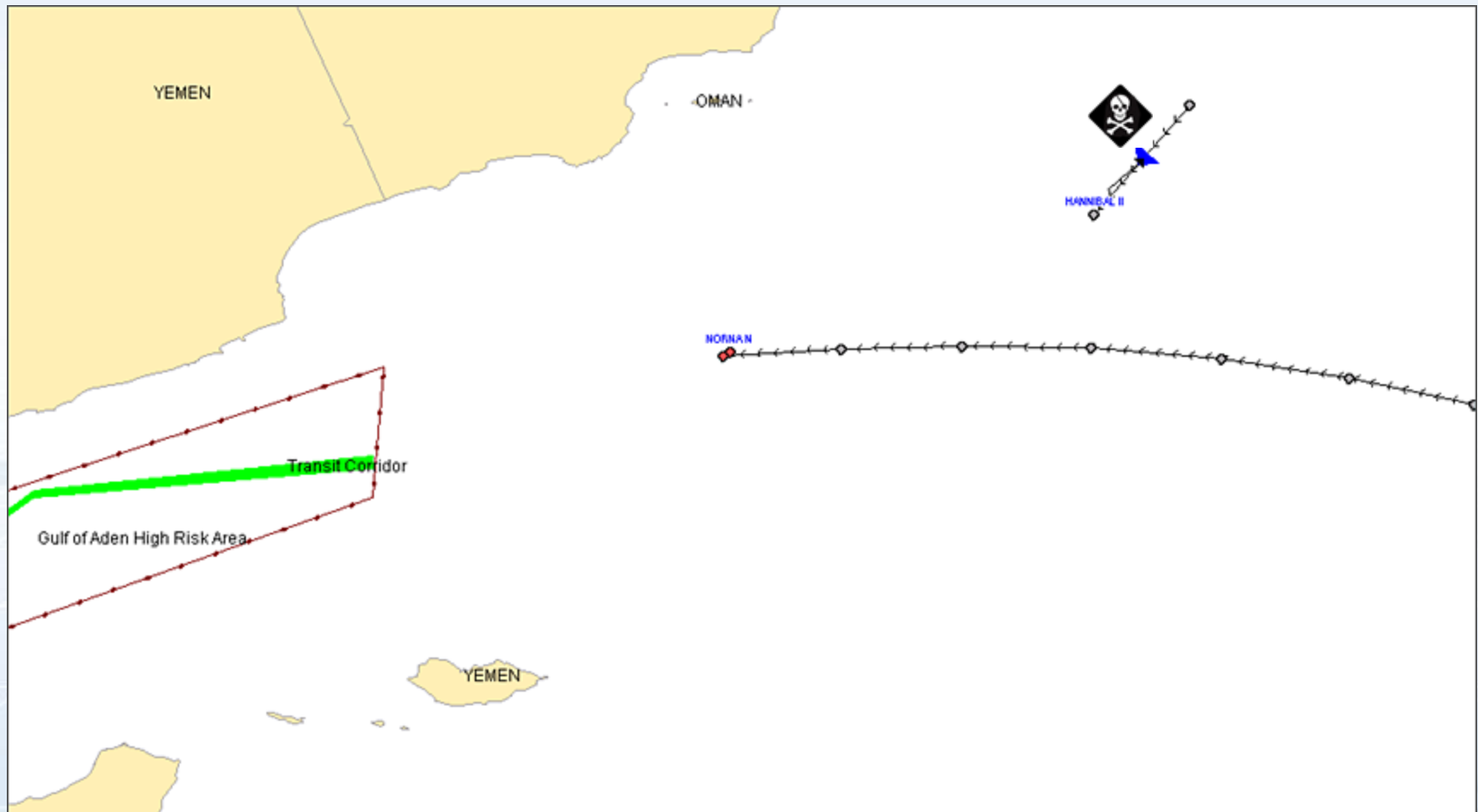
- ▶ Piracy Countermeasures
- ▶ Real-time Piracy Warnings
- ▶ Distress & Safety Alert
- ▶ Search & Rescue Operation

Piracy Countermeasures

- ▶ Extends the capabilities of SSAS
- ▶ 24 x 7 manned surveillance of Panama fleet with proactive/predictive alerting capabilities
- ▶ OTH-Gold interface to NATO Shipping Center
- ▶ A unique aspect is proactively monitoring ship behavior at-sea (alert on entry to high risk areas or when a ship exhibits unexpected behavior such as stopping suddenly at sea)
- ▶ Our Databases have registered all Inmarsat-C, SSAS and LRIT terminals fitted on board Panama Flag vessels
- ▶ Redundant terminals listed (in case of GMDSS/SSAS being disabled intentionally)



Pirates Using Captured Ship for Pursuit



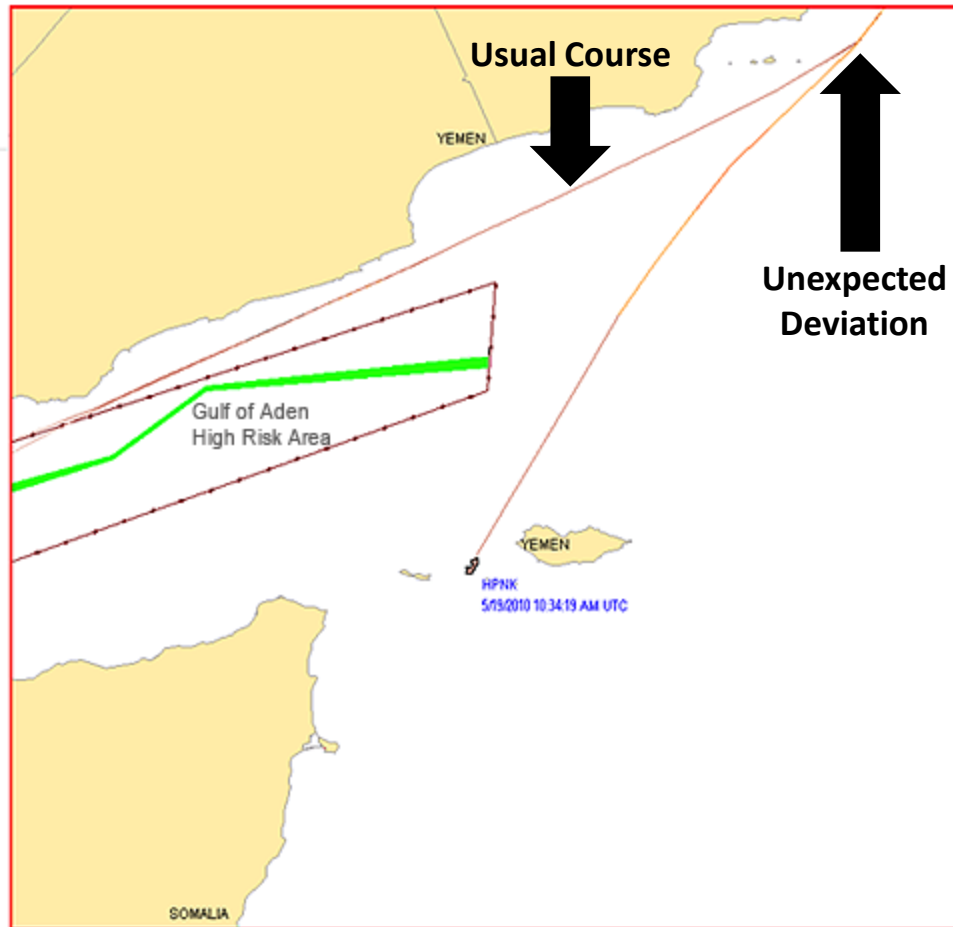
Alert Indicating Ship in Distress

From: Activations Activations <activations@panama-rit.com>
Subject: TRAYECTORIA SOSPECHOSA - DUBAI MOON / HPNK
Date: May 19, 2010 8:07:24 AM EST
To: John Ramsauer , Vilamizar Ivan , jramsauer@cwmovil.blackberry.com
Cc: Crompton Paul
1 Attachment, 22.5 KB [Save](#) [Quick Look](#)

Buen Día

Una Nave de CARGO con trayectoria sospechosa

Latitude:	12° 19.3163' N
Longitude:	52° 50.5835' E
Date:	5/19/2010
Time:	10:34:19 AM
Speed:	7.25
Course:	210.74



Rescue Operation



- ▶ All 23 hands accounted for
- ▶ LRIT and GMDSS used effectively in combination



Fleet Tracking for Shipowners

- ▶ Shipowners will have access to LRIT position reports for their own ships
- ▶ Access policies in place to preserve the security and confidentiality of LRIT data:
 - Only the Document of Compliance Holder (DOC) may request access
 - The DOC Holder may then grant access to other parties (such as charterers or agents), including placing restrictions on the duration and scope of access
- ▶ All data is protected within a secure database and encrypted with the industry standard HTTPS protocol during web access
- ▶ Alert functions are available to shipowners - including email notification if LRIT equipment ceases to report properly
- ▶ The base four LRIT position reports per day provided free-of-charge to shipowners - offering a tangible benefit to industry from the introduction of the LRIT System



Thank You

For further information please
contact us at:

activations@absolutemaritime.com

Panama National Data Center
supplied by:

