

NORTHROP GRUMMAN
DEFINING THE FUTURE

I-Fleet

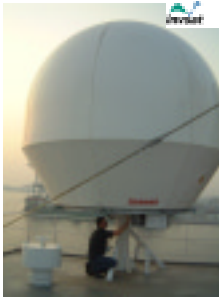
Intelligent Business Resource Management

Presented by: **Malcolm Tindley**
Director Customer Service Programmes
Sperry Marine

Satellite Technology, Nuclear Aircraft Carriers, Unmanned Systems, Defense, Space Systems, Intelligence, Surveillance and Reconnaissance, Navigation Systems, Systems Integration, Shipbuilding, Radar and Electronic Systems

Sperry Marine – iFleet driving factors

- Integration of evolving on board & shore based systems
- Improving Broadband Sat Com Services
- Internet browsing
- Web based email/messaging access
- Ship access to shore based business systems
- Shore access to ships data
- Convergence of voice and data networks



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Trial of iFleet capabilities on board MV “Copiapo”

Partners in the trial:

- Sperry Marine – Network integration & IT services
- Invsat – VSAT C Band terminal
- Peter Doehle – Ship Owner, Hamburg



Sperry Marine



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Phase 1: Technologies available

- Broadband VSAT C Band, with IP coverage Far East - Europe
- Web based information retrieval and monitoring
- Creation of VPN Tunnels
- VoIP
- On board WiFi
- ‘Pocket Bridge’ [roaming navigational data]
- Video Streaming, on board and ashore



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“Copiapo” the ship and its trade route



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“Copiapo” the ship and its equipment

Ships Navigation equip.

- Sperry IBS (integrated bridge system) all sensors



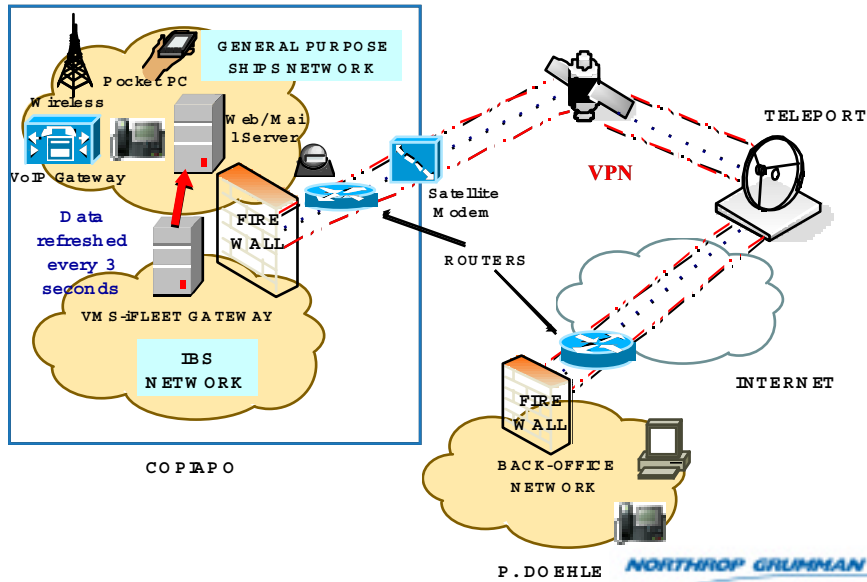
Ships Webpage

- Ship & Company details with links
- Live Navigation Data
- Webcam streamed video
- Diagnostics
- [Copiapo](#)



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Copiapo – iFleet Trial

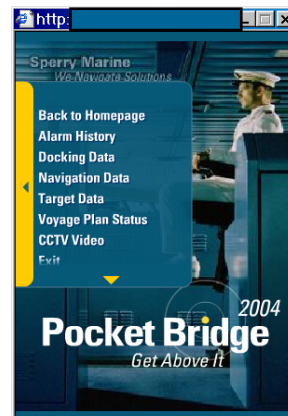


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Pocket Bridge: WiFi, nav data, laptop access

Core Functions

- Voyage Plan** - Status
- Nav Data** - Digital format
- Position** - Latitude / Longitude
- Targets** - ARPA & AIS digital data
- Docking** - Docking display from VMS
- Alarm Mgt** - Displays alarms & status
- Eng Auto** - Engine automation data
- E Chart** - Charts with ship's position
- CCTV** - Security
- ISM** - Quality & Safety Management



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Pocket Bridge: Docking, Navigation, Target

The image displays three overlapping screenshots of the Pocket Bridge software interface, each with a 'http:' browser window title bar.

Docking Data

- COG: 102.0 T
- Heading: 101.7 T

Visual indicators show a ship's path with arrows and distances:

- 0.2 kn (horizontal arrow)
- 22.4 kn (vertical arrow)
- 0.1 kn (horizontal arrow)

Navigation Data

- Heading: 101.7
- Speed: 22.4kn
- POS LAT: 21°33.692'N
- POS LON: 038°44.857'E
- Depth: 417m

Target Data

ID	Range	Course	CPA
833	00017.9	155.0	00002.1
164	00024.5	147.4	00023.6
674	00019.2	250.0	00002.9
684	00022.5	091.0	00003.2
696	00020.0	211.0	00005.8
699	00020.1	149.0	00002.6
725	00020.8	270.0	00005.7
730	00020.7	358.0	00005.8
731	00020.9	000.0	00004.8
765	00021.0	034.2	00005.9
771	00020.8	000.0	00004.9
776	00019.3	n/a	00013.1

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Pocket Bridge: Voyage Status & CCTV

The image displays two screenshots of the Pocket Bridge software interface, each with a 'http:' browser window title bar.

Voyage Plan Status

- WPT: 11
- TTG: 50:15MS
- DTG: 18.8nm
- BRG: 104.3 °
- ROT: 000.0 °/min
- XTE: 325m R
- Plan: TURNING

CCTV Video

04:09:09 2005-06-03

Copiago Bridge

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Navigation Status



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Remote Diagnostics



From Ship

- Computer configuration files
- Computer log files
- 'Ping' status, stop/start

From Shore

- Sperry Marine IT Helpdesk
- Invsat 24/7 support

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Streaming Video

Home of the Coplapo - Microsoft Internet Explorer

Peter Döhle
Schiffahrts-KG

Sperry Marine
iFleet. Your Vessel, Your Office.

- Coplapo Home
- About Coplapo
- Current Status
- Contact Coplapo
- Sperry IBS
- Related Links
- Streaming Video
- PocketBridge

Live Video

Coplapo Bridge (V_0825) 2005/05/02 12:43:28

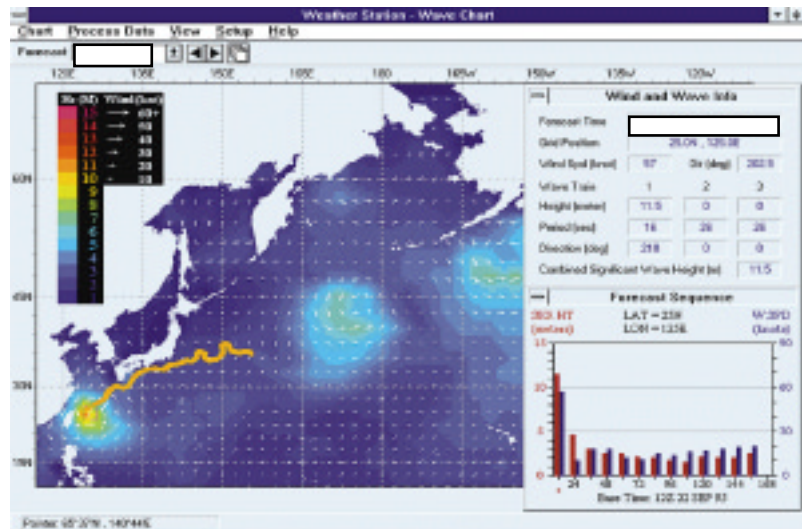
Zoom

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Sperry Marine Weather based routing



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Benefits for P Doehle

VPN Tunnel security of business systems data transfer between ship and office

Remote diagnostics of bridge navigation computers, 'ping' capability

On board, on line, web browsing, office email, ISW docs, purchasing etc

VoIP hotline between ship and HQ

Controlled VoIP to PSTN call termination for low cost incoming and outgoing calls

WiFi Laptop access for crew, Pocket Bridge roaming access for Nav & Security info

Sperry Marine weather based routing

Direct access to Sperry Marine service web page '[ServiceNet](#)'

[ServiceNet](#)

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Phase II: Ongoing activities

- **GMS Global access to mobile roaming**
 - Worldwide termination of calls for mobiles on board
- **Automatic chart downloads**
- **VDR data on line through VPN tunnel**

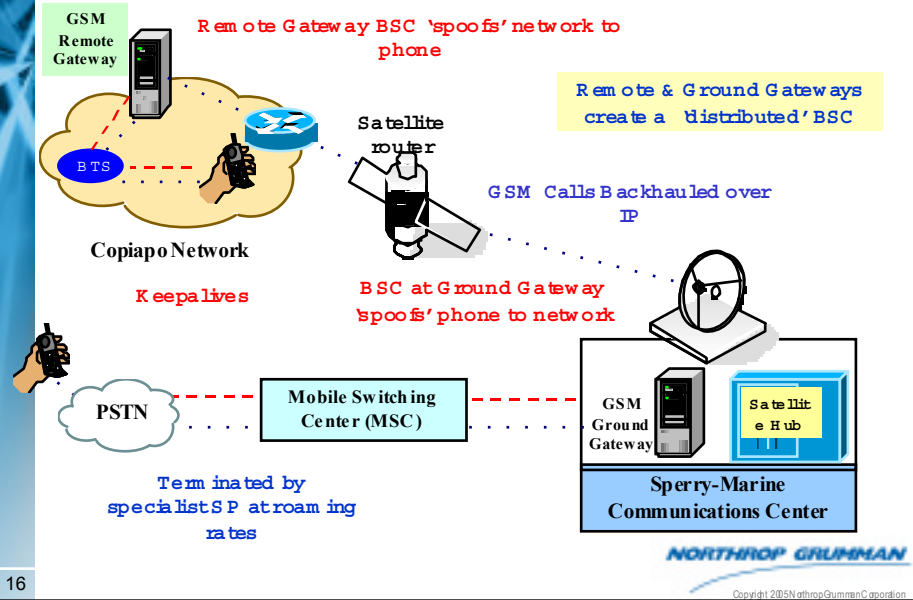


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GSM – Global Access to Mobile Roaming



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SPERRY MARINE

We Navigate Solutions

www.sperry-marine.com
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ServiceNet link

