

The Digital Ship

March 2006



TORM AND KEEPUP@SEA

PAGE 1



VISION ANCHORED IN EXPERIENCE

A presentation
to:

The Digital Ship
Oslo 2006

Presented by:

Martin Bech

28. March 2006





- Company overview
- The old time IT-Challenge onboard.
- A "futuristic" support call.
- What is KeepUp@SEA (, and why Torm believes in it.)
- Whats in it for Torm
- Challenges building KeepUp@SEA solution
- Practical use and benefits vs. old infrastructure
- Optimization of PC's (destroying an Application and reinstalling it within minutes)
- Updating server – with no server access!
- Current plans for the future of KeepUp@SEA
- Questions

- Founded by Captain Ditlev Torm in 1889.
- Listed on Copenhagen Stock Exchange (1892) and NASDAQ (TRMD) (April 2002).
- Focus on two segments, product tankers and dry bulk - primary investment and growth area is product tankers.

Product Tankers

- Owns 29 vessels.
- Order book: 11 vessels, delivery 2006 – Jan. 09, remaining CAPEX about USD 395 mill.
- Operates 3 pools totaling more than 75 vessels.
- Product tanker fleet average age less than four years - all vessels double-hulled.

Dry Bulk

- Owns 10 vessels – several chartered in.
- Main focus on Panamax vessels.
- Participates in IHC Handysize pool.

- Lack of resources.....
no upgrade of the E-mail systems this year...
- 3 days onboard cost's more than 20 days onshore.
- We have to "hit and run" all over the world, all the year.
- Stand alone computers, connected through a workgroup LAN
- Administrative rights on all computers
- Organizing / Keeping cd's onboard
- General IT-skills
- Keeping systems updated

From a captain

- Our skills is not on IT, why do We have to do all this firefighting on the IT&C systems, we should run the vessel.....



Case:

- Call received : Rydex configuration out of order, bridge pc acts funny
- Symptoms: Virus infection, cause by unauthorized program installed by crew member
- Possible solutions:
 - Virus to be removed by up to date antivirus
 - PC to be reinstalled



Day 1:

- Support call received
- Problem identification
- Attempt to remove virus manually
- Problem not solved
- Reinstallation of PC's using GHOST cd's onboard
- Ghost CD's has disappeared
- Support will forward new ghost CDs

Day 5:

- GHOST cd's delivered to vessel by courier
- PC reinstalled
- Missing Rydex configuration
- Calling Rydex support
- Unable to complete Rydex configuration successfully due to lack of it skills.



Day 6:

- After hours and hours of work, request of Rydex technician is sent to TORM
- TORM evaluates the procedures being followed
- TORM evaluates the need of technician
- TORM orders IT technician to attend vessel at next possible location

Day 15:

- Rydex technician arrives, completes the configuration
- Vessel back in business
- Cased closed.

Day 1:



- Support call received
- Problem identification
- Vessel is instructed to reinstall PC by following procedure:
 - Turn off the computer
 - Turn on the computer, and wait for green light in the keyboard
 - Press F12 at the following boot dialog
 - Press "Enter"
 - Press "Arrow down" twice
 - Press Enter
 - Press Enter
 - Press Enter
 - Wait for approx 30 minutes
 - Logon and test
- Case closed

Previously the old time scenario was quite realistic what could happen in Torm.

KeepUp@SEA is a customized solution from Palantir A/S, providing a solution for implementing af standardized IT-infrastructure

Due to design of the solution, following support costs are very low compared to "old time solutions".

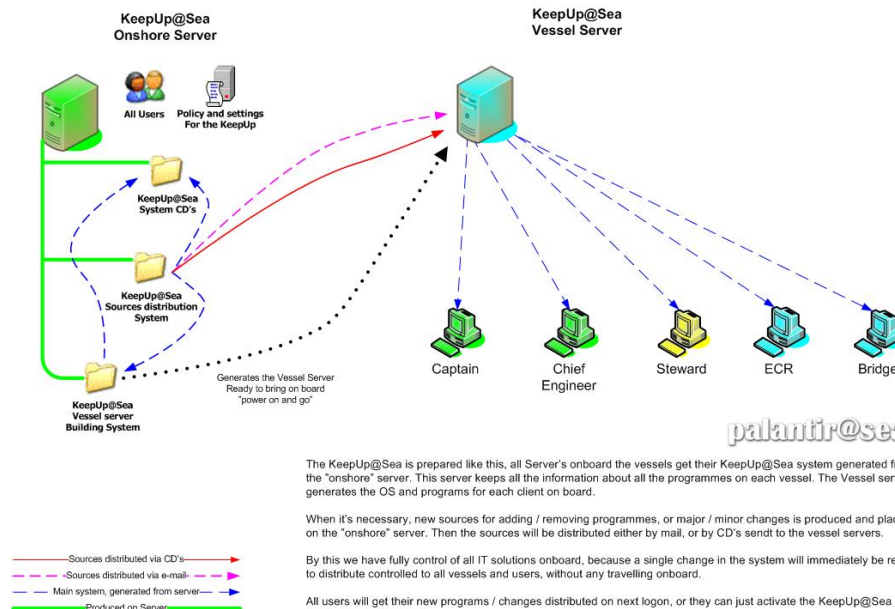
Easy preparations for new vessels

Easy maintenance on the complete IT systems onboard.

- One standard IT solution on all vessels.
- Crew members will not have access to vital parts of the configuration
- Crew members will be able to handle most support requests themselves – even with no IT skills.
- Support will cost a minimum – compared to old times
- Support to vessels will be an much easier task
- Easier control of software versions and licensing
- Expected low running cost.
- Crew will have more time sailing the vessel, instead of dealing with computer problems.
- The overall responsibility of the solution has been taken away from the master, and transferred to TORM
- Crew are expected to be more happy about the IT onboard, which will encourage them to spend more time on e-learning

- Many maritime applications has "old" application design
- Getting detailed information from vessels
- Quality testing
- Preparing vessel crew
- Logistics of implementation

- Applications when you need it
 - Installing through KeepUp@SEA menu
- Where you need it
 - Logon to any computer and gain access to your applications
- Remaining flexibility
 - Keeping administrative rights on the local client PC



Some crew members:

- will never be happy about the IT systems onboard
- believe they have plenty IT-skills
- wants to optimize IT installation, without prior accept
- just don't know how to keep their fingers off.
- will never learn (just to use the IT systems as supposed)

Solutions:

- Re-installing through KeepUp@SEA menu
- Restoring the computer, by booting on the LAN

KeepUp@SEA offers:

- Distributing patches through satellite connection on file basis
- Distributing patches by email
- Distributing patches by cd

- All patches are applied to the server, and then clients, automatically
- When distributing patches by cd, cd's are inserted into client pc's and automatically installed on server with no breach in security.

This gives TORM a very easy, yet flexible way of distributing Software updates.

Possible plans for the future:

- Synchronization of data with office
- Streamlining all applications on board
- System health check (Our supplier has made a PSE, Patch Scan Engine)

- After approx 30 minutes, clients is back in business
- End users need no IT-skills to restore computers/re-install applications
- A heavy support task – made easy.

Martin Gertz Bech
IT-Consultant & KeepUp@SEA project manager
Dampskibsselskabet Torm A/S
Tuborg Havnevej 18
DK-2900 Hellerup
Denmark
E-mail: mbe@torm.com
Phone: +45 39 17 93 73
Cell: +45 22 27 11 77