IP Based Integrated Network System in Ships

DIPS - DSME IP Based System

Oct 30, 2012

DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.
BACKGROUND

COMPUTER NETWORK in SHIPs
Background

WHY?

Market Trend

Application of the wireless network

Crew welfare

Unified Communication Protocol

DSME Quality
Technical Issue

LAN (Local Area Network)
IP(Ethernet) Based equipment
Bandwidth
WAN(Wide Area Network) by satellite

Configuration and Coverage of Network Onboard
Which equipment to be integrated
One network, many systems
How to connect to onshore

INMARSAT
The mobile satellite company™
VSAT™
abg Wi-Fi CERTIFIED®
Standard:
Wireless network onboard

Introduction VoIP telephone

Other equipment using Ethernet protocol

Expansion of wireless network coverage

Making/Distribution Brochure

Promotion

Contract

Standard spec.

Expansion of DIPS

Additional contents

Aiming Smartship

DIPS (DMSE IP based network System)
Effective from Jan. 1. 2011

Present

More than 30 vessels (Oct. 1. 2012)
Improved external communication through Satellite communication system (FB500 or VSAT) at each IP telephone with low cost rate.

Multi-function available
(Text message and video conference call, etc.)
DIPS

IP CCTV

Digital recording/playback

Option: Wireless camera

Mobile surveillance
DIPS

IP TV
DIPS

**IP clock**

**IP MASTER CLOCK**

Master clock

Slave clocks

220 V

24 V

DGPS

Cat.7

AP

Smart Display Clock

11:46:43

76°F 78°F 56°F

Orlando Plenty of sunshine

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Mobile Communication

One network for all IP based system

Smart phone and other mobile gadgets can be attached to the ship’s communication network.
## DIPS

### Features

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<th>Convergence</th>
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<td>Crew welfare</td>
<td>Relative low call charge*1</td>
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<td>Various entertainment system</td>
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<td>M/H*3 -20%</td>
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*1 Average value / Depend on the Owner’s satellite contract plan
*2 Higher than conventional one / The more contents DIPS integrate, the less cost difference there would be.
*3 Base: 150K LNGC, LAN, Tel., Clock, IP TV(VoD & CAS)
   (VoD: Video on Demand / CAS: Communal Aerial System)
Contents:
A unit for additional integration which is compromising SW as well as HW.
Benefit

- Safely loading and trimming the vessel to an optimum floating position with an optimum cargo intake
- Efficient planning of voyages, taking into account weather and environment—wind, waves, current and water depth
- Recording, combining and displaying data from several different shipborne systems on one screen, thus greatly increasing awareness onboard
Additional Contents

DSME CMMS ® (Computerized Maintenance Management System)

- Equipment Maintenance Management
- Drawing management
- Interface
- Procurement Management

Reliability Increase
- Standardization
- Work Efficiency
- Equipment History Analysis & Management

Maintenance Cost Reduction
- Preventive Maintenance Schedule & Equipment Failure Information Management
- Material Management
- Work Order Automation

Capital Cost

Operation & Maintenance Cost

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Benefit of DIPS

Latest IT technology onboard
- IP based Network System
- Optimum Voyage Plan *(No additional HW)*
- Maintenance/Management system *(No additional HW)*

Additional Contents: Linkage with IP device
- Alarm on the VoIP device
- Mobile monitoring with mobile gadget

RMS (Remote Maintenance System)
- Status and health check for IP device and network itself
- Management for IP address

Expansion of integration
- Plug in play (IP device)
- Various application (E.g. Security system)
- No additional cabling (control),
  No additional computer based HW
DSME SmartShip

SMARTSHIP

DIPS

DIPS is INFOSTRUCTURE
Ships equipped with **IT technology** for **Customer’s Value**

- Independent communication systems
- Unified comm. protocol
- Wired & wireless
- Whole vessel coverage
- Future expansion

**Existing Systems**

**Integration**

**Convenient / Smart**

**Optimum network environment**

**Optimum Voyager Plan**

**Maintenance/Management system**

**Integration expansion**

**Valued contents**

**New value**

**New system**
Thank You