

XC Network System

- More Safe Voyage
- Better Ship's Management
- Better Crew Welfare

We hope to realize
on board for marine
and offshore
construction.



ILJIN AND Co., Ltd.
www.iljinamst.co.kr

XC network system, to realize the optimum integrated communication solutions.

- VoIP Auto Telephone System
- IP Clock System
- IP CCTV System
- IP TV
- Video Conference
- Security System
- Digital Information Display
- Shipboard Management System
- Marine Cloud Server System
- Multi Line Communication System



XC Network System

Satellite Communication



Intelligent Marine Router



Integrated Ship's Server Computing System



- Integrated NMEA0183/2000
- ECDIS
 - Navigation
 - Engine Condition
 - Safety Service

- Built-In
- * NTP Server
 - * Streaming Server
 - * NVR

Server Rack



- Intelligent Marine Router
- Fire Wall
- Backbone
- AP Controller
- IP PBX
- * NTP Server
- IP Speaker Gateway
- * Streaming Server
- * NVR

Integrated Ship's Server

FREE

- E-Mail System
- E-Drawing
- E-Manual
- Remote Maintenance System

OPTIONS

- Planned Management System
- Inventory Management System
- Safety Management
- Repair
- Purchasing Supply
- Inspection
- ETA/ETD Report

PoE Switch Hub

Switch Hub

Patch Panel

UPS

PoE IP Phone



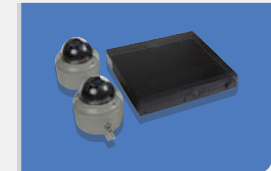
PoE IP Clock



PoE IP Speaker



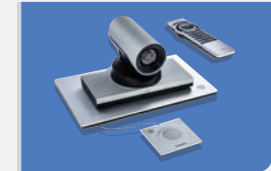
PoE IP CCTV



IP TV



Video Conference



Wireless Network



Security System



Digital Information Display



Shipboard Management System



VoIP Auto Telephone System



IP Clock System



IP CCTV System



IP TV



Video Conference



Security System



Digital Information Display



ShipCloud Server

built on embedded server and optimized for vessel's special environment can reduce maintenance costs for security, operating and asset management by grafting the virtual environment centralized clouding computing technology in the vessels.

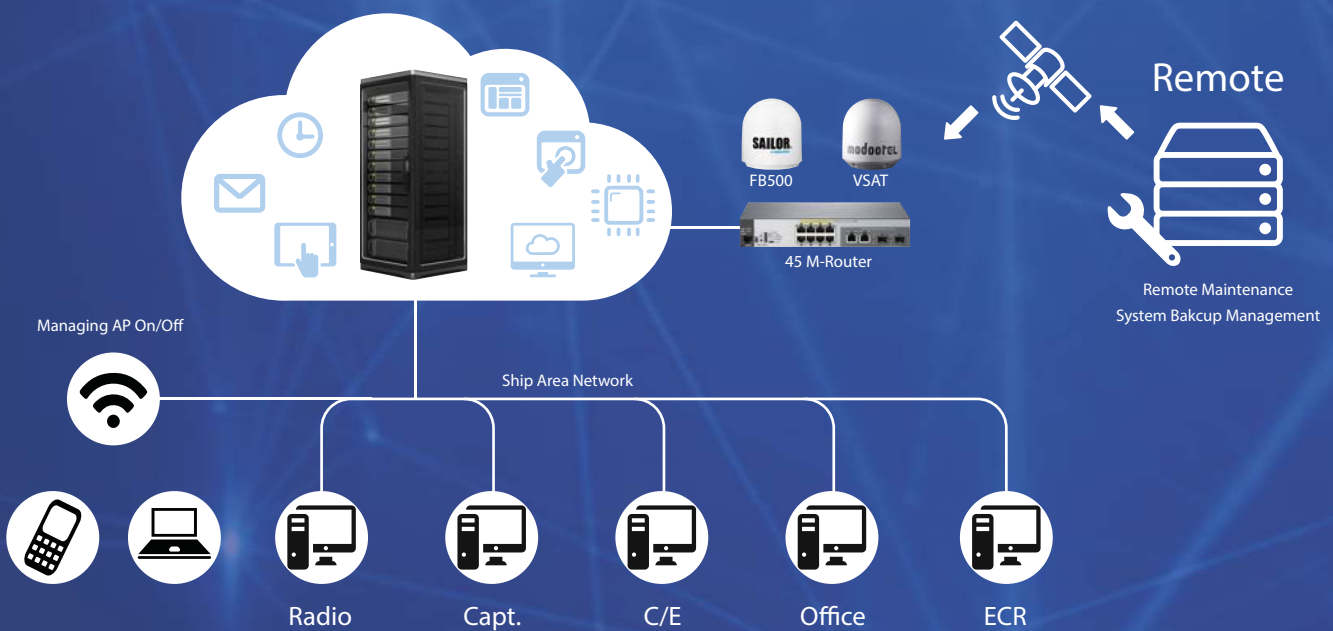
It can be used by simple connection with your preferred operating system and program through the network without additional applications or data using a 'Thin Client' that performs a role as an only terminal, not PC on client.

Based on actual user-oriented UI, you can solve problems on your own without a technician during operation and manage onboard network resources efficiently because you can monitor the server and operation information anytime.



- + Auto Shutdown of Built-in UPS
- + Virtual Desktop Infrastructure
- + Distributing Anti-Virus Database
- + Automatic System Backup
- + Easy System Recovery
- + Network Drive for Each User
- + Automatic Shutdown for Blackout
- + Managing Backup Schedule
- + Sending Backup Log Files to Shore
- + Remote Maintenance

ShipCloud Layout & Function



Features



Economic Feasibility

As for liners, initial introduction cost can be reduced as cloud-based environment can be constructed by supplying server to the computer in use. Considering that replacement cycle is 5 to 10 years, the maintenance cost is reduced by 40% compared to the server and client pc (5sets) of existing systems. Thin client installed in client section can embody Green IT because it consumes much less power than general desk top's.

Also, you can reduce maintenance cost significantly which accounts for 70~80% to supply price of PC.



Application of Anti Virus

Data can be protected from malicious code or virus by updates via satellite twice-daily. When updated, you can also reduce satellite communication costs since the data is transmitted through a very high compression ratio.



Prevention of Heat

Self-manufactured outer shell and shipcloud internal hardware are designed to withstand high temperature and high humidity environments as efficiency deployment of cooler considering heating and ventilation.



Security Tightness

Every important data is installed on a shipcloud server. By centralized control of data, you can strengthen security. In case of consignment management or redelivery of vessel, you can also prevent important data leakage because it doesn't leave any important data anywhere on the ship if HDD of server is removed.



Application of Large Touch Screen Monitor

It has applied to the front with 10.4 LCD touch panel. You can understand the server's operating status at a glance, without additional monitor. Based on this, you can easily deal with the problems with just a few touches when occur.



Application of Recovery Program

It can minimize the data loss and save schedule back-up due to the self-developed recovery software. Also, it prevents data loss when blackout since it has the battery inside of shipcloud.



Application of Anti Vibration Kit

Self-developed vibration prevention device corresponds to 30 ~ 40Hz vibration frequency of vessel applied to inside and outside of case and minimized damages to the hardware for the vibration.



Inbuilt Active UPS

When there is no power in the ship, electrical shock can be prevented since it will be operated by auxiliary power built inside the UPS for a period of time. After a period of time, OS will be shutdown automatically and safely and it will prevent damages.



Automatic Back-Up of Important Data

Important data of server can be double backed up in the way of mirroring the same as hardware back-up. The schedule will be backed up with a self-developed recovery solution. And you can easily recover it at a point you want during the failure with software.



Application of Management

Shipcloud server basically includes e-mail, e-manual, e-drawing.

Specifications



ShipCloud Standard Server (10 User)

- CPU : E5-2620V3 (Haswell-EP) - Main Board : ETC - RAM : DDR4 16G PC4-17000 ECC (64G) - Boot : SSD 1TB
- Storage : SSD 1TB * 1TB - LANcard : PCI-E 10G GIGABIT CARD - Power Supply : 500/450W-S20(With Auto shutdown system)
- UPS Battery : DC 24V / 10A - Anti Vibration Kit : Silicon Mounting - Keyboard : 80key Keyboard (with Touch Mouse)
- LCD : 10.2inch CT Touch LCD - Window Server 2012 R2 - Sophos Anti-Virus(1year) - Auto Recovery System - RMS System
- Shipoffice(Ship E-mail System) - e-MMS(e-Manual Management System) - e-DMS(E-Drawing Management System)

Client PC

- HP 24" Monitor - Thin Client Device - Anti-Vibration SUS Bracket for vessel

Multi Line Communication Network Technology



Multi Line Communication Network Technology is transmitting network signal, TCP/IP based through power cable (AC100~230V), interior communication cable (telephone wire & speaker) and Coaxial cable (CCTV & TV) which are already installed in the ship. If the network should be additionally installed into the specific section of new or current ship building project, its technology makes the communication network available without extra cable routing.

By using a variety of installed cables in the ship, it is effective for cost reduction of additional cable construction and it can dramatically reduce construction time as well.



Economic Feasibility

By using installed cable, network communication is properly operated without extra cable construction so you can dramatically reduce construction expense and time for cable installation. On the basis of UTP Cable 1point, it can reduce 80~90 percent of expense at maximum, subject to 500M installation.



Expandability

It is enable for additional expansion just with installation of simple modem and simultaneous access to 1:32~1:238 node is also available according to the product.



Durability

Since it is produced 365 Day full operation standard, it boasts brilliant durability even in a hard condition.



Compatibility

In case of PLC, DLC and G.hm modem, compatibility is highly excellent as it can be compounded with basic backbone network in the ship.



Security

In case of PLC, DLC and G.hm modem, it can be composed of individual network without additional installation for security device as it is composed apart from backbone network.

Main Features

PLC

Power Line Communication



PLC Modem can communicate at a speed of 10~30 Mbps depending on its distance -Maximum 500m- and condition. Also it is possible to scale up to 128 users.

PLC Modem, industrial communication modem, enables data communication by using vessel's power line. And it is suitable for old or existing vessel's data acquisition which uses small packet usage.

DLC

Data Line Communication



DLC Modem can communicate at a speed of 50~100 Mbps depending on its distance-maximum 1.2 Km- and condition. Also it is possible to scale up to 128 users.

DLC Modem, industrial communication modem, enables data communication by using vessel's speaker or telephone line. And it is suitable for old or existing vessel's PC communication and CCTV Monitoring in HD.

G.hm Modem

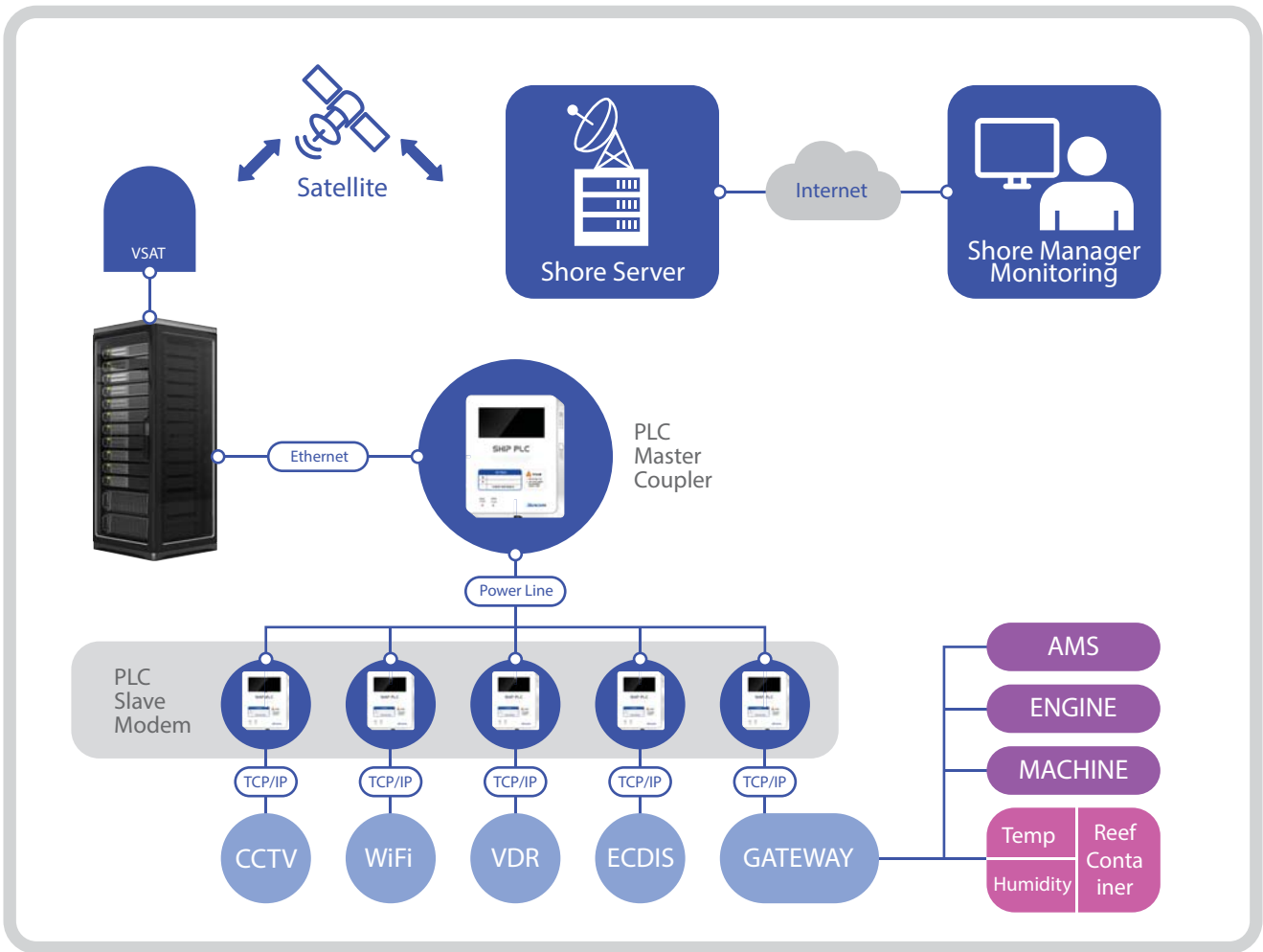
Coaxial Line Communication



It is the most newly developed modem, available to expand up to 32 user at maximum and communicate at gigabyte of 500~730 Mbps speed, depending on communication distance and condition.

And it is an industrial communication modem, using coaxial cable in the ship to make data communication operate possible, and it is appropriate to PC and CCTV monitoring (Full HD level), with big amount of packet in the old or new ship.

Multi Line Communication Network Layout



Comparison Table of Modems

	PLC Power Line Communication	DLC Data Line Communication	G.hn Coaxial Line Communication
Speed (bps)	10~30m	50~100m	500~730m
Max. Cable Length	Up to 0.5km	Up to 1.2km	Up to 2km
Max. Node	128 port	128 port	32 port
Application	Server & PC Network Ship Data & Sensor Data Network	Include PLC Range + HD Class CCTV	Include DLC Range + HD Class CCTV
Suitable Network	Small Packet	Middle Packet	Large Packet
Advantage	Reduction in Network Installation Cost	Reduction in Network Installation Cost	Reduction in Network Installation Cost





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To be updated

UK

To be updated



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