The Future of Maritime Communications... (has arrived)

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Technology Evolution = More DATA!!

- C-band Global
- C-band Hemi
- Ku-band Spot
- High Throughput Spot (Ku/ Ka)
The future is digital in every aspect!

• Requirement to be connected is exploding!

• Satellite capacity and connectivity will become more available, applications become the new connectivity!

• Power of digitalization and Internet of Things will be widely adopted.

• Accommodating Big Data as more smart vessels come into waters with output of real value!

• Move from a technology centric focus to a customer centric focus to deliver and succeed.

“We need to think out of the box - how can we ahead be able to more proactively enable a new level of preventive maintenance and the ability to act immediately on abnormalities - a huge element of savings is present in this field of work which we are exploring.”

Quote: United Arab Shipping Company
Maritime Industry: Turning digital ...

**TRENDS**
- Ongoing consolidation: Largest ship owners become even larger
- Future is about size and volume
- Budgets: Reducing operational costs by operating smarter
- More IT requires more automation, more support, more maintenance, more bandwidth and more remote management
- Return On Investment (ROI) becomes more measurable and defined

**SMART SHIPPING**
Modern & complex vessels:
- Sensors and monitoring equipment – in real time
- Ship performance models
- Scheduling in ports
- Reduced fuel consumptions and emissions
- Optimising ship hull and propeller performance
- Pro active maintenance
- System and components alerts
- Pro active interventions on abnormalities and performance deviations
- Safety and regulations

**SMART I.T.**
- Capitalize value of the satcom / IP link per segment needs
- Integrate IT networks
- Improve automation of processes
- Provide data monitoring & processing
- Move to intelligent data: Abnormalities / deviations
- Smart IT requires paradigm change in how we integrate with ship operators
What exactly does this mean for us?

Improvement of:

• Performance management of assets and missions
• Remote diagnosis & management of equipment / systems
• Well-being & safety of crew & staff
• Track incidents that increase risk
• Compliance with environmental policies

> Reach beyond satcom connectivity: Integration to enable digitalization of fleet operations
STOLT Tankers

- One of the world’s largest sophisticated fleet of chemicals and bulk liquids tankers
- Worldwide transportation, storage and distribution of bulk liquid chemicals, edible oils, acids and other specialty liquids
- Highest demands on safety and environmental protection
- Monitored hi-tech vessels (e.g. heating/cooling systems, specialized cleaning etc.)
"Real-time link between ship- and shore-side systems"

• More application onboard drive demand of bandwidth ad increased need for QoS
• Need reliable system to terminate data communication from and to vessels
• Scalable solution onboard: Combine satcoms with terrestrial solutions (3G/4G, WiFi)

“Now that we have the VSAT solution in place, we have 24/7 coverage on a global scale on our ships and this really provides a sort of transparent communication towards our ships - like it is a remote office”

“... it provides additional opportunities for remote monitoring and remote management of our equipment which gives us a better use of our assets.”
United Arab Shipping

- Industries largest and most technologically advanced new builds
- First ultra large containerships in the industry to be delivered ‘LNG ready’
- Will significantly reduce environmental impact and reduce fuel costs
BIG data – BIG value?

• Technical Operation and Maintenance
• Energy Efficiency
• Safety Performance

• Management and Monitoring of accidents and environmental risks from shipping traffic

• Commercial operation (as part of logistics chain)

• Automation of ship operation
How to turn Big Data into value

- 28/10/15
BIG data – BIG value?

• Turn big data into intelligent information

• But – who owns the data?
  • Ship manager collects data
  • Equipment manufacturer want to measure performance
  • Ship owner wants to benchmark
  • No Common standards
  • No clear definition of ownership
Digital turn – a natural evolution for experts!

**Today … :**

- VSAT / Satellite IP is a given link
- Provision of software & apps & management platforms to monitor VSAT IP link and improve ship operations & performance
- Data collection to optimize operations, e.g. reduced emissions and fuel consumption
- Solutions to comply to safety and regulations
- Sophisticated crew with welfare offerings for their well being and retention

**… the way forward:**

- Capture full potential of Smart Shipping
- **Customer centric approach:** Innovations driven by customers needs, not vice versa
- **Multi-band network:** Combining all relevant frequencies into one network to fit different requirements from a diverse fleet of ship owners
- **Variety of applications:** Ensure business, crew & safety comes first
- **Ready for the future:** HTS ready networks and services to ensure to meet ship owners needs of tomorrow
Thank You!
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Traditional System Setup

Global Ku-band Coverage

Need More??
Project Based VSAT

• VSAT service delivery defined by customer and clients requirements
• Typically outside any standard SLA, but made possible due to flexibility in the service delivery

Typically characterized by:

➢ Short notice of order
➢ Short delivery time
➢ Short or limited provision time
➢ Already users of a customized VSAT service
➢ Typically high throughput to accommodate our customers clients requests
Simon Møkster Shipping
Operational Pattern

• Vessels mainly operate in same geographical area
• Vessels within coverage of Terrestrial Network (3G/4G/ICE)
Tailor Made!
Tailor Made!

4G LTE
• Global standard for wireless communications
• Small footprint
• Low latency
• High capacity
• High availability
• Easy installation
• Low equipment cost
• Flexible subscription
• Integrated with existing solution
Simon Møkster Shipping
Requirements

- Good user experience onboard
- Separate Client bandwidth
- Cost Efficient
- Scalable
- Lync as standard collaboration tool on all vessels and HQ
  - Video conferencing
  - Shared desktop
  - Always updated status (Available, Busy, Back in 5 minutes..)
  - Integrated VoIP with PBX system
  - Chat
- Making floating units into integrated branch offices...
- Adaptable to Client requirements – Specific SLA for several clients
- Highly scalable for specific projects
- Give Simon Møkster a competitive edge in the market
Summary
Project Based VSAT

Standard solutions will not meet your requirement due to:

• Specific coverage and bandwidth needs
• Voice, data network and/or routing needs to be specific and may include one or more secure terrestrial connections
• Optimisation or automatation needed to access or transfer information
• Integrated voice applications
• Managed networks on-board
• And more

Other Examples:
Thank You!
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