Everthing-as-a-Service
- An Agile Approach to Unified Vessel IT

Introductions

- **Speakers**

- **KVH & IQ Solutions partnership**

- **Three topics**
  - AgilePlans
  - Vcell by IQ Solutions
  - Next generation VSAT

- **= Unified Vessel IT aaS**

Unified Vessel IT as a Service

AgilePlans

Vcell

Next generation VSAT
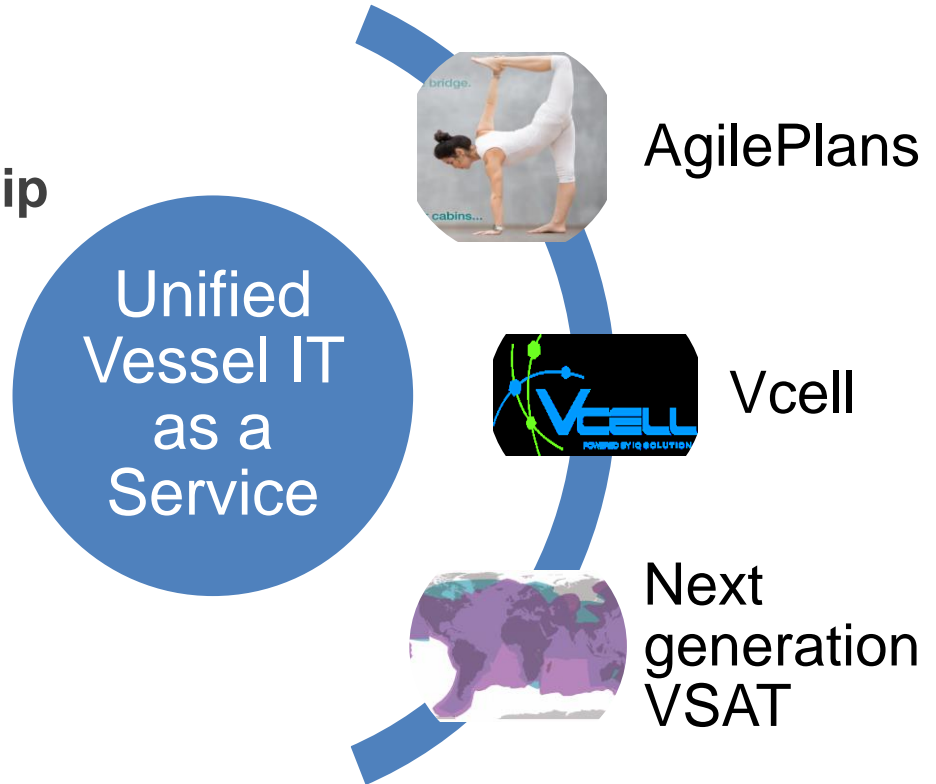
XaaS is a Megatrend fueled by Cloud

- **Affecting all industries**

- **Multi-tiered**

- **Offering**
  - Scalability
  - Cash flow
  - Flexibility
  - Reliability
  - Security
  - Agility

SaaS

PaaS

IaaS
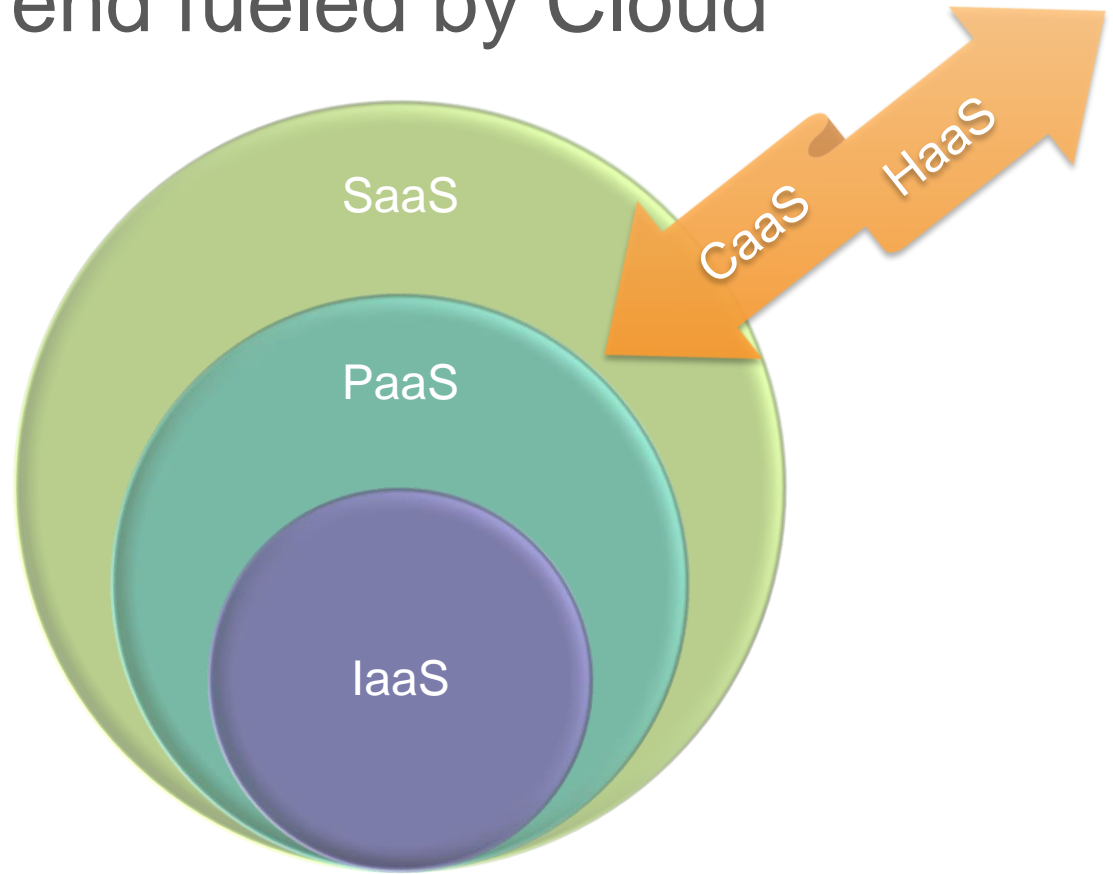
CaaS   HaaS

AgilePlans by KVH – CaaS/HaaS

- **Everything you need in a single monthly fee**

Vessel ICT Governance

Vcell Provides

- Manageability
- Availability
- Auditability
- Integrity
- Encryption

Provide High Availability
- Redundant servers, switches, UPS .
- Vibration proof rack to eliminate impact from vessel's vibrations

Enforce Secure Environment
- Controlled, personalized access , Security Policies, Approved Applications, Firewall & Antivirus.
- Cyber Security compliance

File Transfer – Application Sync
- Scheduled or manual file transfer jobs. Vessel's applications synchronization with HQ Servers.
- Integrated with major software houses.

Data Back-up
- Daily Data backup on board and Replication of critical files to HQ Servers.
- Compressed and encrypted backup

Data Encryption
- Full control, limitations, compression and encryption for the incoming and outgoing communications and emails.
- Corporate email account and auditing of vessel's emails

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Vessel ICT Revisited by KVH & IQ = Agile

Managed Services

1. Managed VSat Services
2. Managed Networks
3. Managed Compute Infrastructure
4. Managed Client Infrastructure
5. Managed Voice
6. Managed Printing
7. Managed Security
8. Managed Disaster Recovery
9. Managed Shore Replication
10. Full Remote Support
11. Live Logging
12. Live Monitoring – ICT HW & SW

Engineering

13. Virtualization
14. VDI
15. Load Balancing & Failover
16. Firewall
17. Remote Deployment of Software
18. Business Network Segregation
19. Antivirus Automated Updates
20. File Storage + File/Folder Sync
21. Critical Applications Automation
22. Crew Welfare Services
23. Maritime CCTV Monitoring

In 2018 We Will Still Be Counting…

Agile SatComms + Agile IT + Engineering =

One Team, One Service, One Bill
Blueprinting the Modern, Efficient, Data Driven & Secure Vessel

FIELD SURVEY & INSTALLATION

Install – Align – Test.
Connect – Commission.
Manuals - Reports.

VESSEL IT INFRA

Shock Resistant Rack.
Highly Available Switches.
Highly Available Servers.
UPS Redundancy & Cabling.

ONE MANAGED SERVICE

Knowledge of ICT Equipment.
Knowledge of Systems.
Direct Acquaintance With Crew.
Maintain and Repair ICT on Vessels.

ONE BILL – YOUR ICT

Agile VSat Plans.
Agile KVH Equipment.
Agile ICT Infra & Systems.
Agile ICT Services.

Everything as a Service!

Unified Vessel IT – A Holistic Approach

- **Security Assessment and Plans**
  - Vessel to Port Facilities to HQs
  - IT to SCADA and Communications

- **Manuals and Guidelines**
  - Requirements and Responsibilities
  - Threat, Breach and Incident Manuals

- **Managed ICT Systems for Off and On Shore**
  - Access Control and Intrusion Detection
  - Governance and Oversight
  - Network Design
  - Secure and High Throughput Communications
  - Recovery

High Throughput Satellite Service from KVH

- **This year marked the 10th anniversary of KVH mini-VSAT!**

- **With more than 7000 systems shipped and a leading market share there is no doubt about its success**
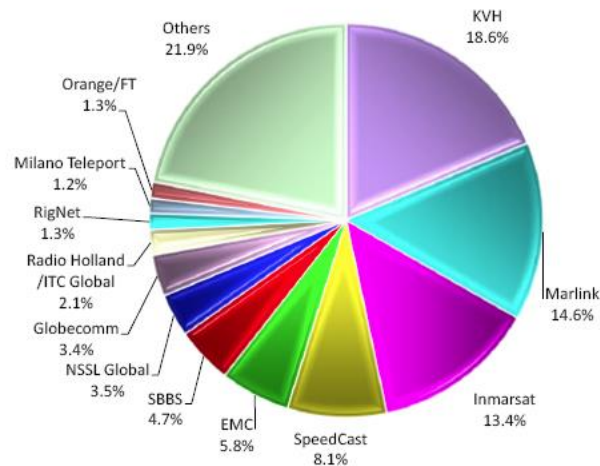
Others 21.9%
Orange/FT 1.3%
Milano Teleport 1.2%
RigNet 1.3%
Radio Holland /ITC Global 2.1%
Globecomm 3.4%
NSSL Global 3.5%
SBBS 4.7%
EMC 5.8%
SpeedCast 8.1%
Inmarsat 13.4%
Marlink 14.6%
KVH 18.6%

Figure 31 - Maritime/Offshore VSAT Service provider Market Share, 2016   **Source: 14th COMSYS VSAT report**

- **But even the best can be improved upon**

- **Commercial operators and leisure owners expect that data speeds will increase while costs will be stable or decrease**

High Throughput Satellite Service from KVH

- **Today, in cooperation with Intelsat, we are launching the next generation of mini-VSAT High Throughput Services**

- **By selecting the IntelsatOne Flex platform, KVH believes to have chosen the best available option for the end users.**

- **HTS are expected to be the SATCOM connectivity source for the next 5-10 years**

- **Adds about 65 mio sq km of coverage to our network**
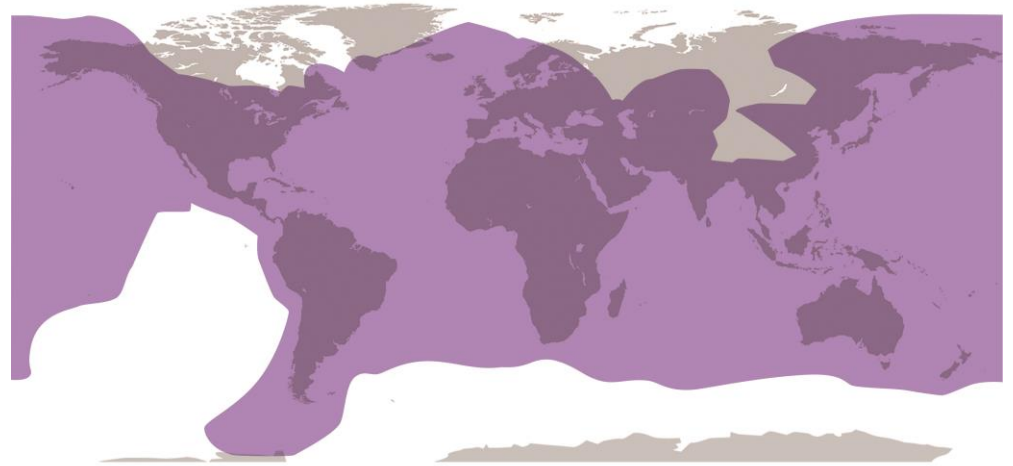
TracPhone V7HTS

- **There is no end in sight to the demand for faster, higher-value broadband services globally**

- **Fleets remain focused on concept of "unlimited" data plans at a fixed cost even if the end result is a negative experience**

- **KVH launches new state of the art VSAT system with exclusive dual channel configuration:**
  - 10 Mbps x 3 Mbps channel
  - Free unlimited channel

- **All previously shipped V7IP systems can be easily upgraded**

Recap of benefits

- **Benefits to customers**
  - Flexibility
  - Scalability
  - Access to Specialists
  - Economics (Source: Forrester Research inc.)

Factor	On-premise	Cloud computing
Expense type	Capital expenditure	Operating expenditure
Cash flow	Servers and software up front	Payments are made as the service is provided
Financial risk	Entire risk is taken up front, with uncertain return	Financial risk is taken monthly and matched to return
Income statement	Maintenance and depreciated capex	Maintenance only
Balance sheet	Long term capital assets	Nothing appears on the balance sheet