

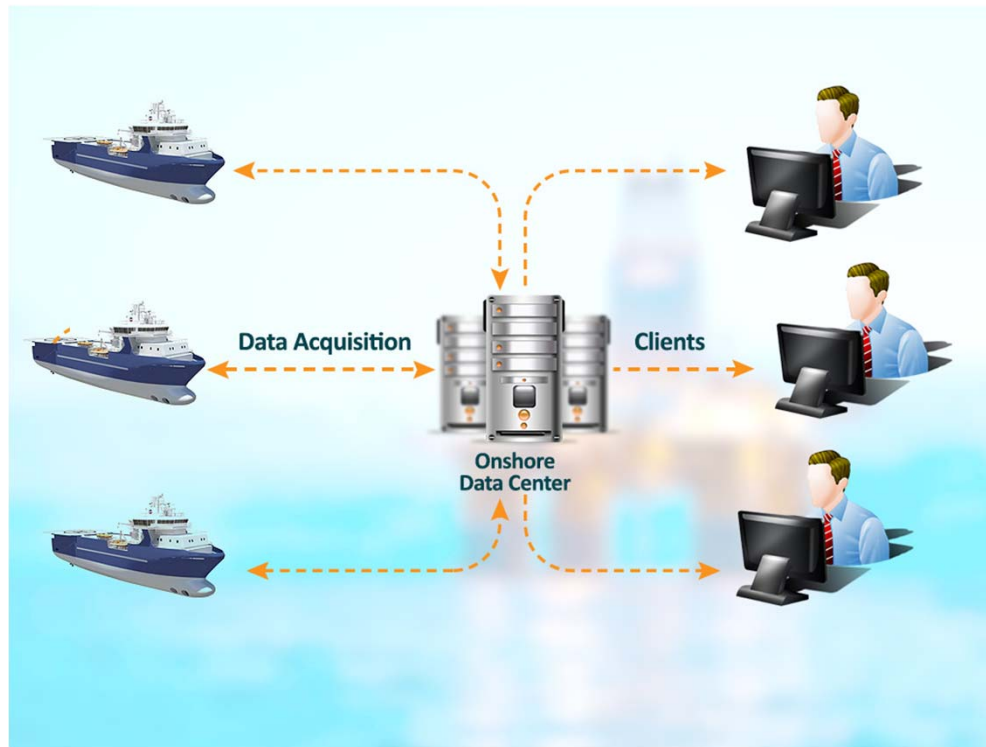
Offshore Automated System

Technical Presentation



Introduction

OAS is a server application that enables the data processor to be virtually on the vessel logging, processing and QC data, however physically onshore. All logged sensors data including multiple video streams are recorded, compressed and transferred online during inspection projects utilizing the limited internet bandwidth available offshore.



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Application Modules

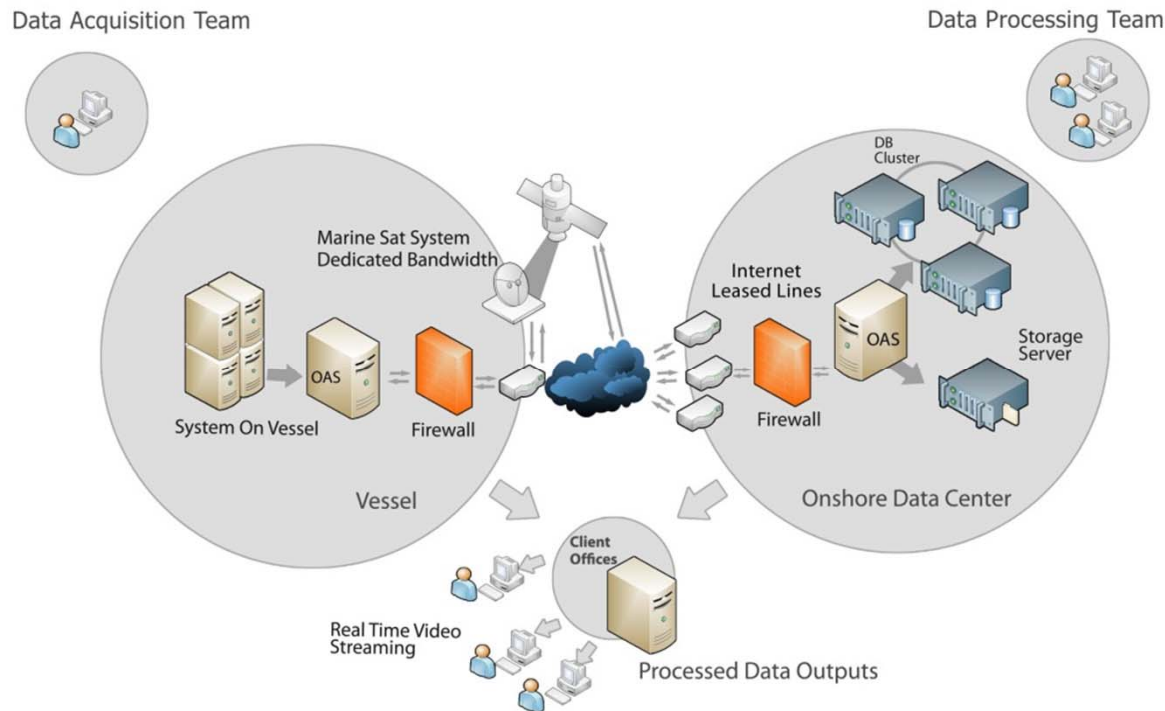


Consists of Three Modules:

- OAS Service
- Vessel Admin
- Office Admin

1. OAS Service

This is the main service for the system to communicate and integrate, it is responsible for data transfer, and handshaking between vessels and office base onshore, and it doesn't need any special setup or installation.



2. Vessel Admin

- Application used to administrate OAS system on the Vessel.
 - Defining Vessel.
 - Defining Offices.
 - Define data Packs preparation settings.
 - Setting the sensors to be available.
- Responsible for data Packs preparation.
 - Every Time Interval:
 - This sets the OAS to prepare a data Pack every defined time Interval by the user (minimum 15 minutes)
 - Video File End:
 - This sets the OAS to prepare a Data Pack for every Video File Recording End.
- Responsible for Sending Notifications to the Offices.
 - Sends a notification to the office for every data Pack prepared to be uploaded to offices.

3. Office Admin

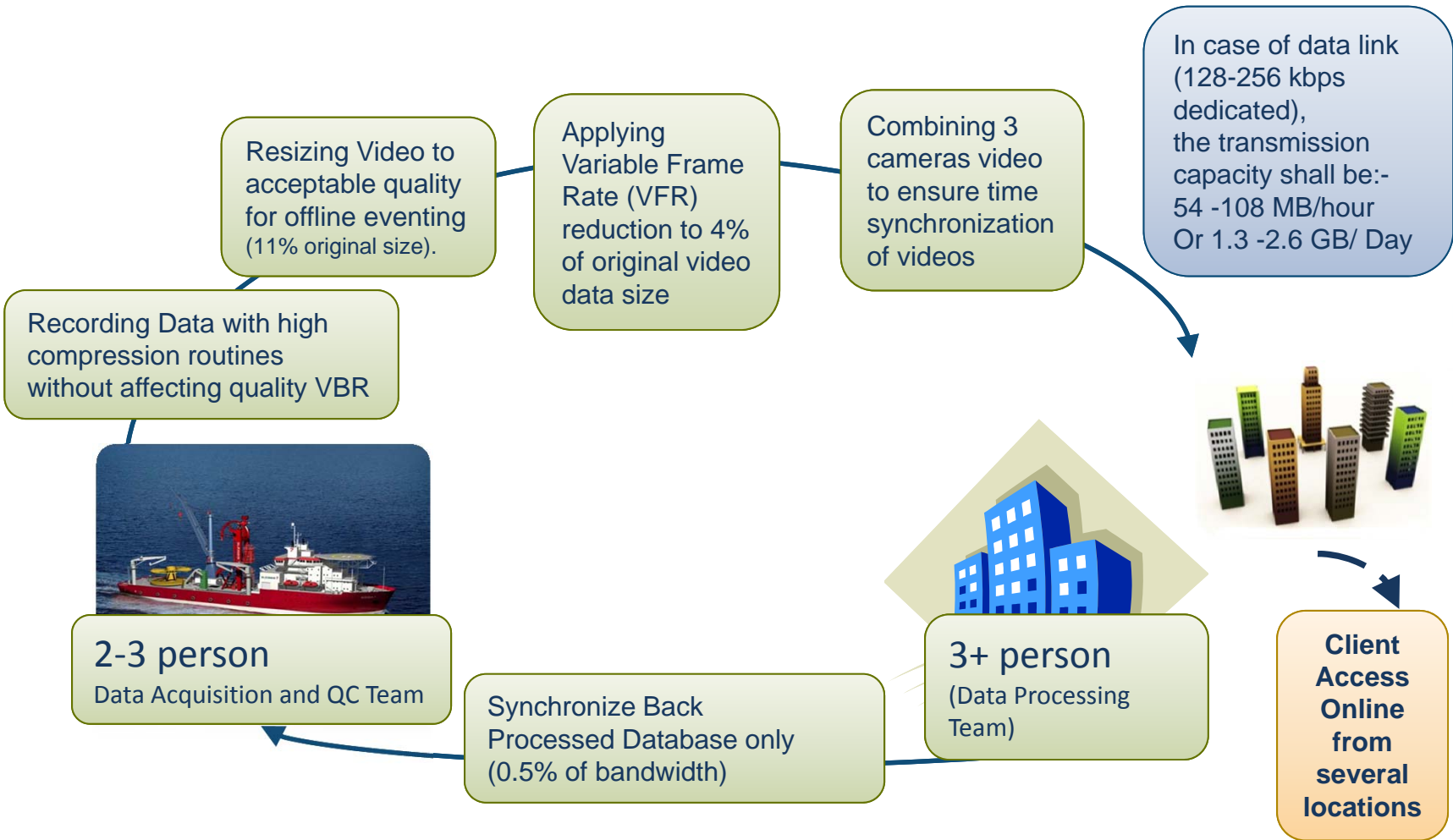
- Application used to administrate OAS system in the Office.
 - Defining Office.
 - Defining Vessels.
 - Set Publisher, and Initializes it.
 - Responsible for data Packs Downloading and transfer.
 - Downloads data packs from different vessels simultaneously.
 - Adding completed data pack into its Mapped Pipe database.
 - Receives notifications from vessels for the ready data packs to be downloaded.
 - Responsible of mapping vessels Projects and Pipes in the office.

Connections Capacity and Bandwidth

<i>Dedicated Band width to MCS</i>	<i>Upload Speed</i>	<i>Data Can be transferred / Day</i>
128 Kbps	16 KB/s	1.31 GB/Day
256 Kbps	32 KB/s	2.62 GB/Day
512 Kbps	64 KB/s	5.24 GB/Day
1 Mbps	128 KB/s	10.48 GB/Day

From the above table we can see that it is now applicable to transfer the day data to the office for processing

Data Flow: Between Vessels & Onshore Data Center



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Case Study



Case Study:

- Offshore team reduced by 50 - 66% (4 -6 persons reduced to 2 persons)

- Assumptions

- Mob and Demob Cost = \$3,000 per man / rotation
- \$75 per man per day Accommodation onboard vessel

- Pipeline Inspection job Scenario

- Savings:

\$12,000	Mob and demob
\$72,000	Daily rates offshore
\$ 9,000	Accommodation offshore
<hr/>	
\$93,000	monthly cost saving

- Cost

- Daily rates onshore at around 60% of offshore price would cost = \$43,200 monthly
 - Productivity offshore is 70% of onshore = $43,200 * 0.7 = \$30,200$

- Direct Saving

- Around \$62,800 monthly / vessel by reduction of offshore personnel

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Benefits



Achieved Benefits

- **Ensure timely production of deliverables** (charts and reports) in few days from demob.
- **Increase overall productivity** by relying on permanent team working onshore through the lifetime of the project.
- **Increase Quality Control** on deliverables by using dedicated QC team.
- **Allow online detailed monitoring** of the project progress internally by onshore project manager and externally by the client representative onshore.
- **Client access to raw data** online from their offices overcoming the barrier of being on the vessel.
- **Ensure continuity of personnel** along the life time of the project.
- **Less Personnel offshore** means smaller vessels, less risk and less cost.
- **Ability to receive reports during the inspection** to ensure client satisfaction and completion of scope of work before vessel demobilization.
- **Ability to utilize the Data Center Model:**
 - Permanent staff during the lifetime of the project.
 - Flexibility of resizing office team based on variation of workload.
 - Ability to use dedicated team for dedicated tasks to improve quality of deliverables (QC team, offline video review team, reporting, charting...etc.)

THANK YOU

