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DYNAMIC POSITIONING CONFERENCE
October 9-10, 2012

SENSORS SESSION I

Information Aggregation on a Mobile Offshore Drilling Unit

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YOUR NEXT GENERATION DRILLER

Information Aggregation on a Mobile Offshore Drilling Unit

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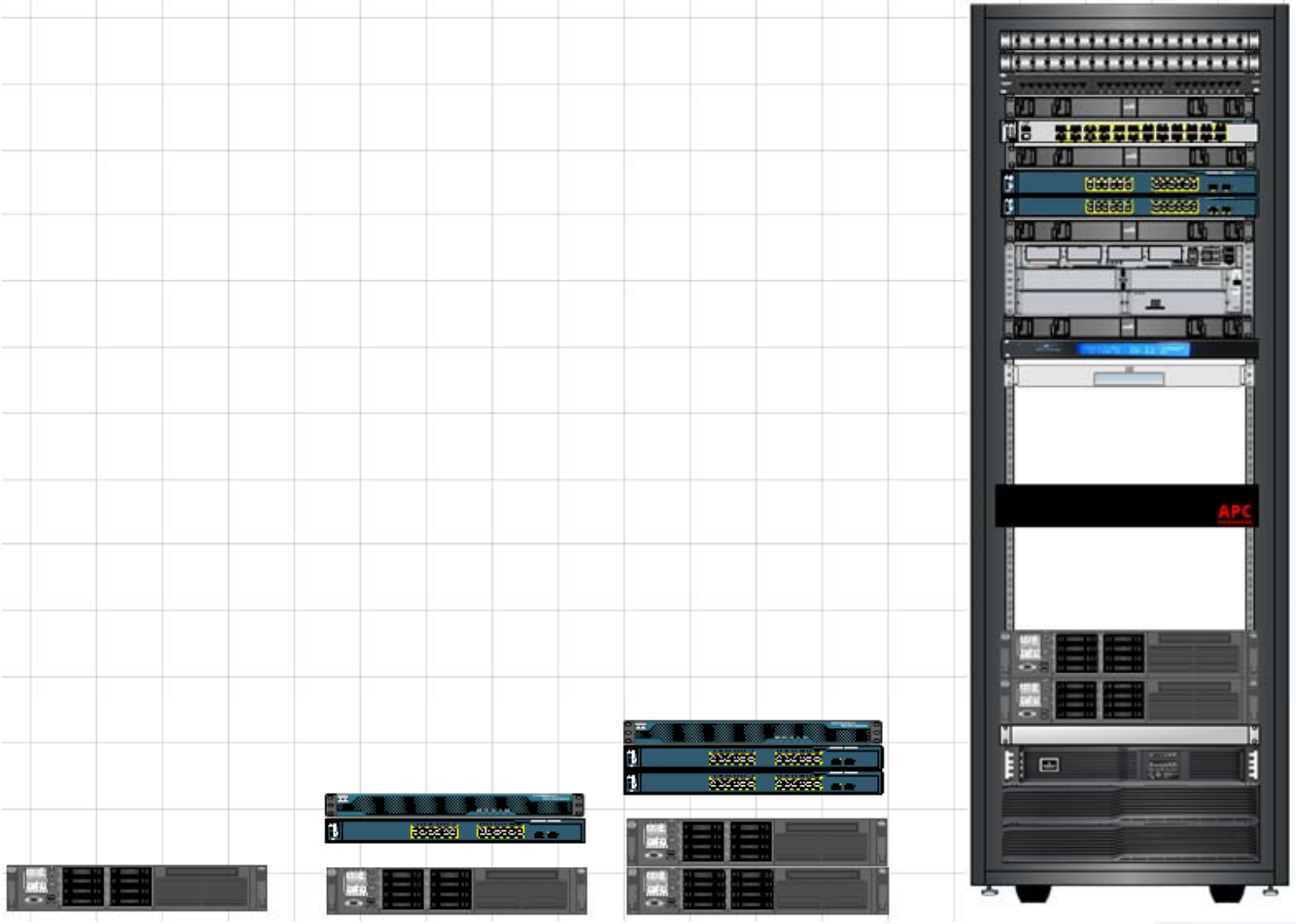
DASM
Data, Alarm and Software Management

Current DASM server Rack Configuration



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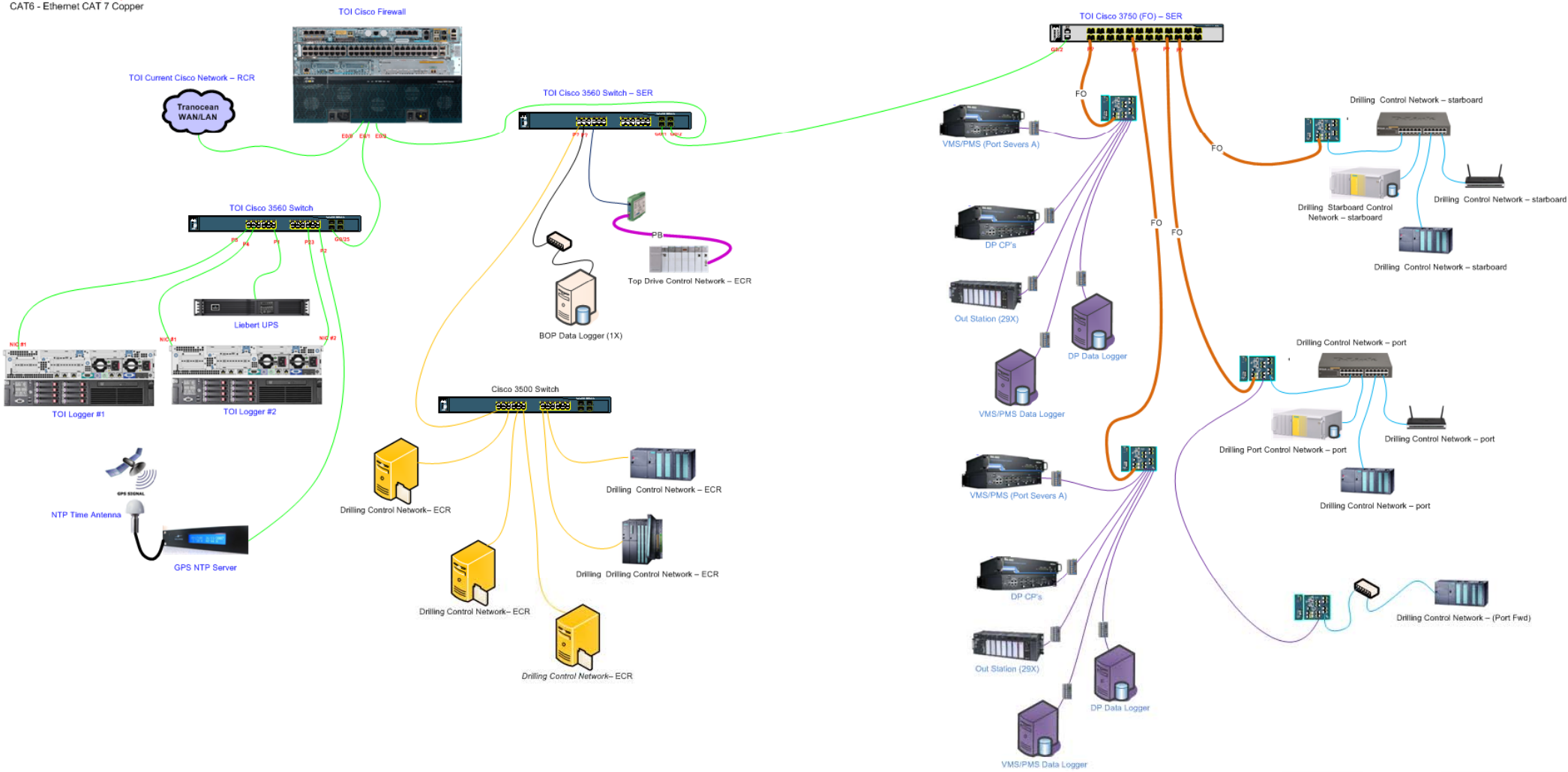
Main Control Systems on a MODU

- **Station Keeping – Dynamic Positioning System, Mooring System, Jacking System…**
- **VMS/PMS – Power and Vessel management systems, Fire and Gas, Ballast Control…**
- **Drilling – Drilling Control System, Drilling Instrumentation, Top Drives, Draw works, Tubular and Riser handling, Crane control systems…**
- **Well Control and Subsea – Blow Out Preventer Control (surface or subsea), Heave compensation, Riser Tensioner, Diverter Control, HPU…**

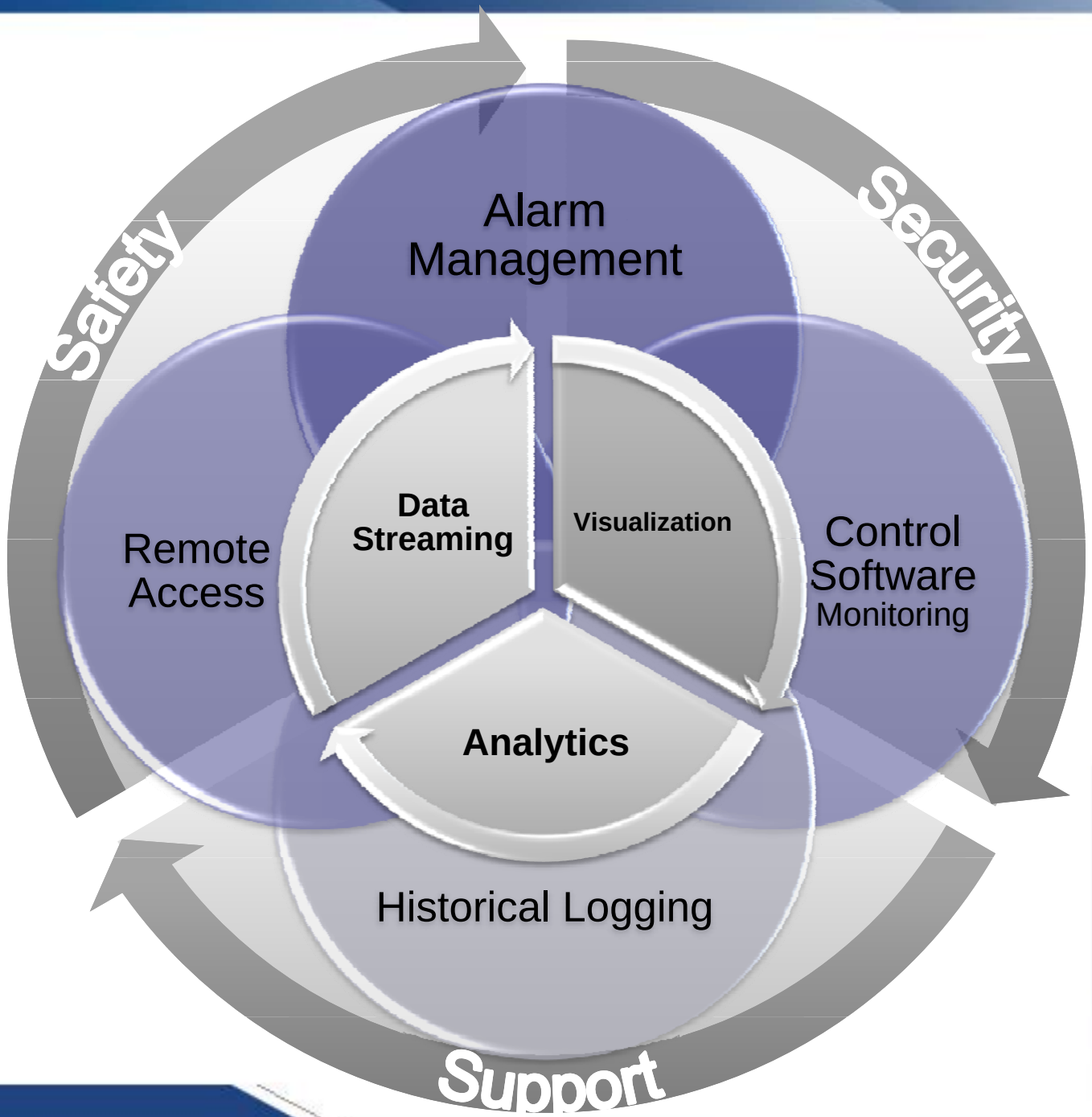
Sample System Topology

Legend:
ECR – Engine Control Room
RCR – Radio Communication Room
SER – Server Room

Connections:
* Unless otherwise specify, all cables are CAT7
CAT6 - Ethernet CAT 7 Copper



Our Aggregation Philosophy



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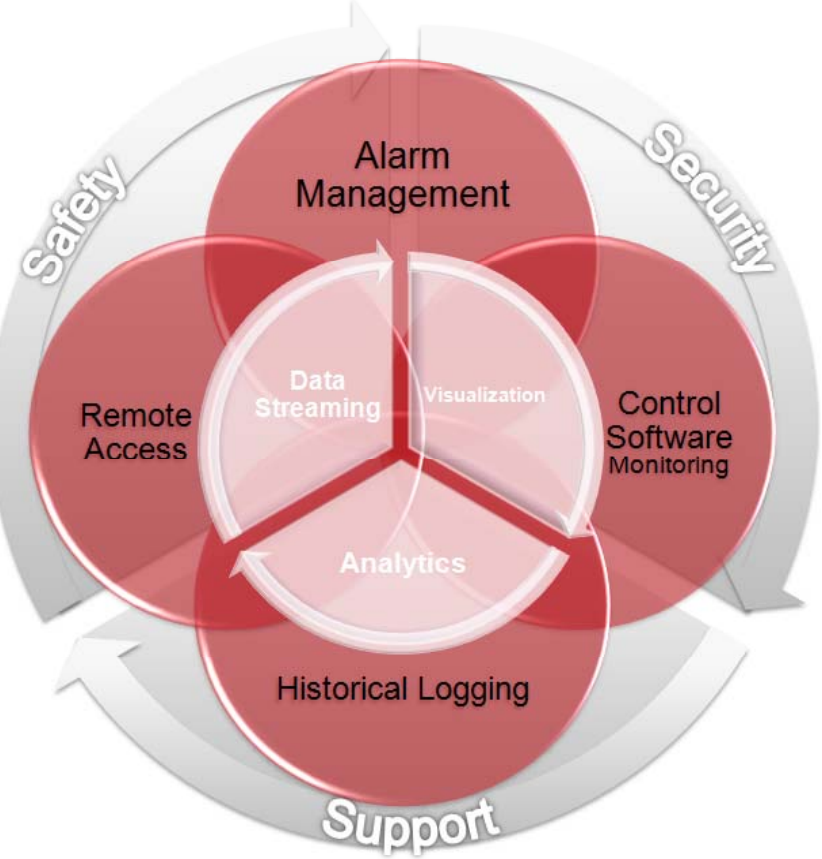
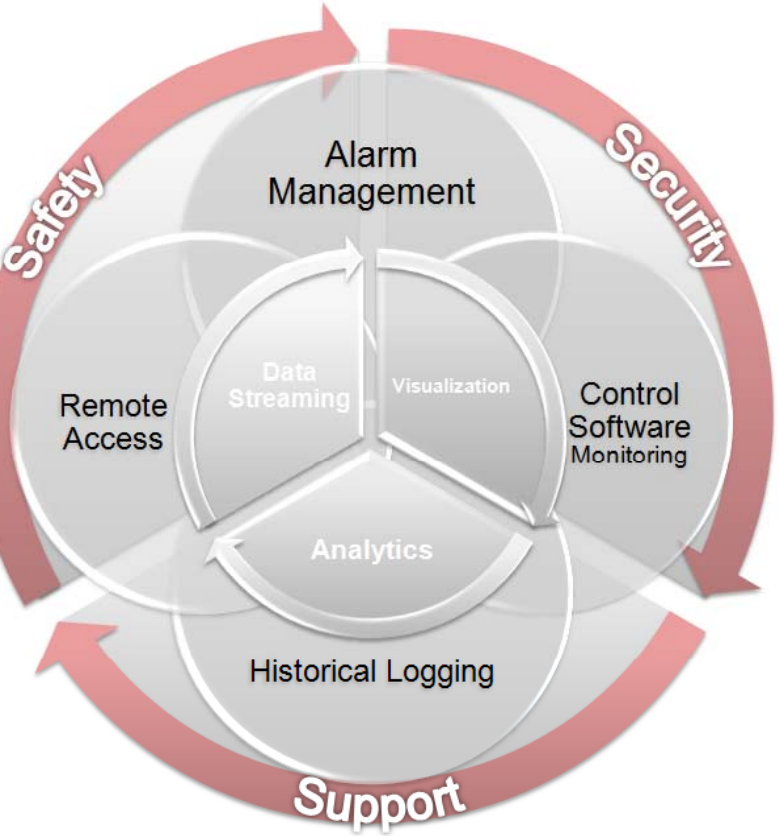


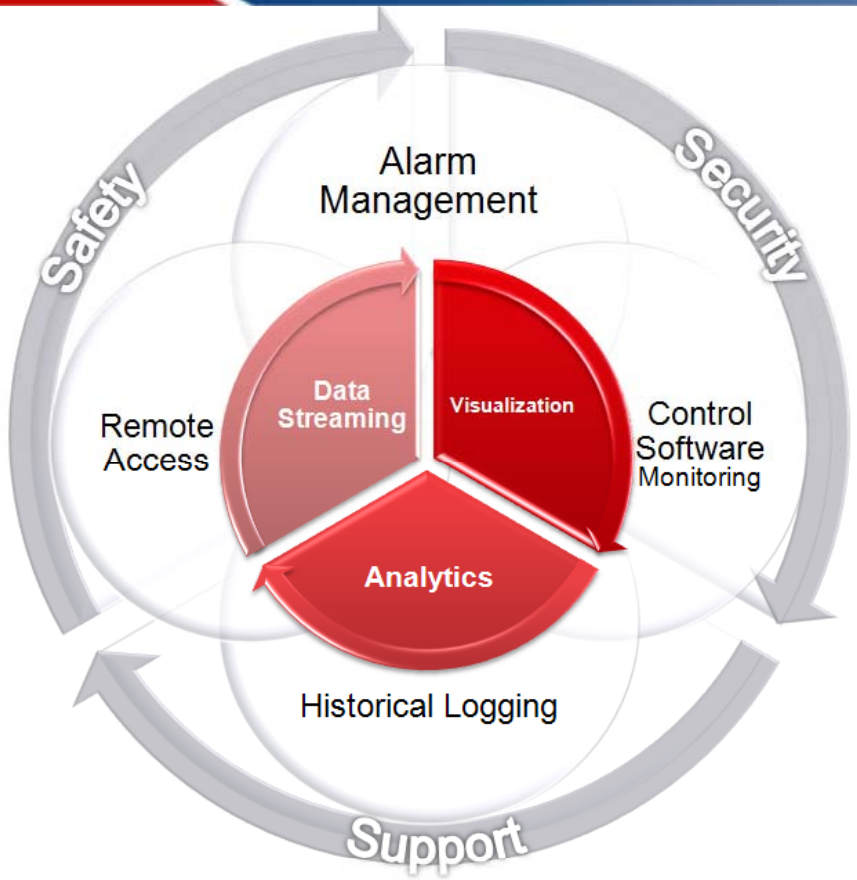
- **Remote Access: Necessary for adminstration of the aggregator. Extremely useful tool for remote technical support.**
- **Historical Logging: Normalize the tags through a defined schema: Naming convention, time, units.**
- **Alarm Management: One of the more challenging interfacing tasks. But once complete it's usefulness is immediately apparent.**
- **SCM: Necessary change management tool for control system software.**

Our Aggregation Philosophy



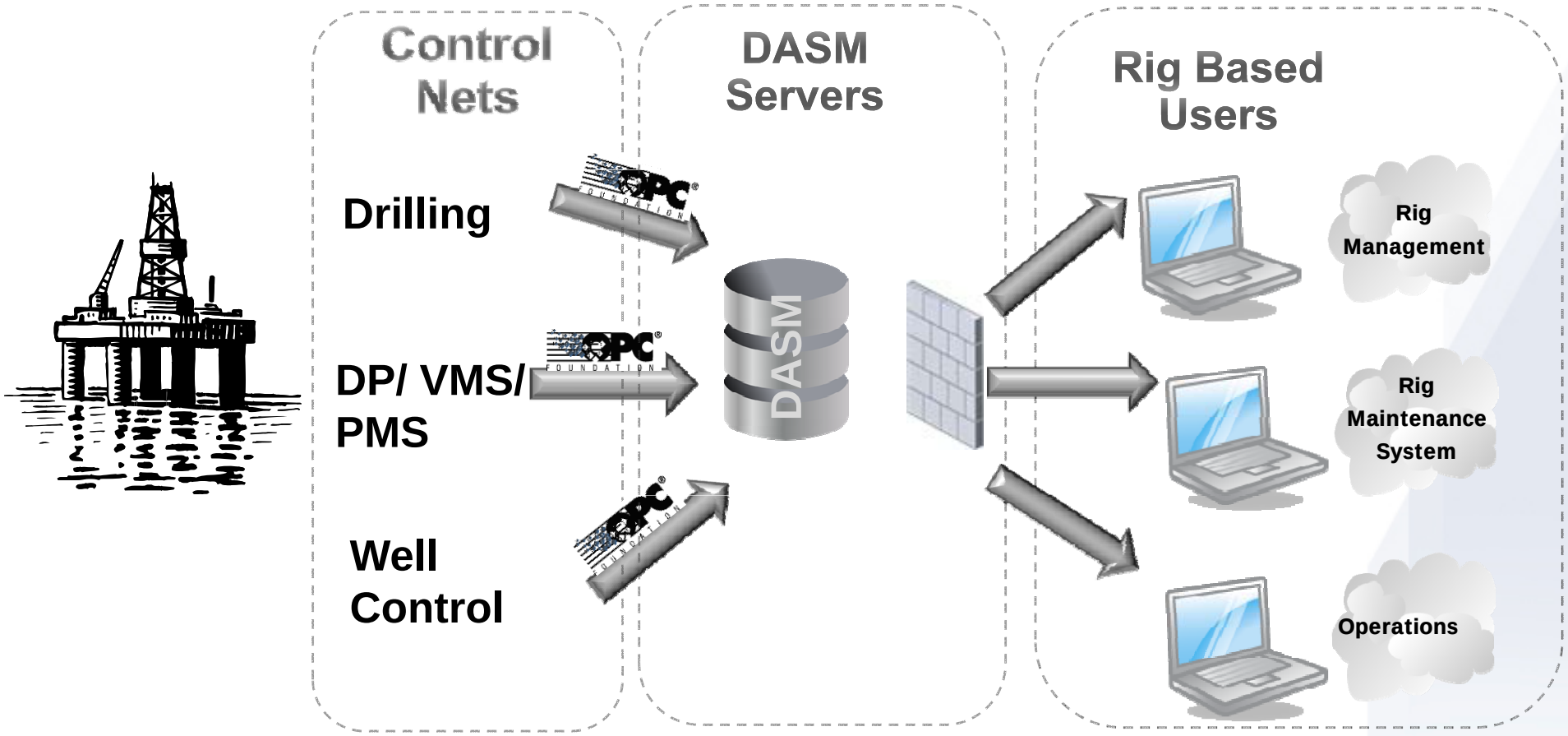
- **Safety – Virtual Presence on the Rig. Remote users must be trained and aware of the safety processes and policies in place.**
- **Support – This team will be critical to success. Once installed, maintaining these systems is an ongoing process.**
- **Security – A discipline unto itself and a mindset change when applying it to control systems.**

Our Aggregation Philosophy



- **Data Streaming: Offshore satellite data transmission presents challenges compared to similar land based initiatives.**
- **Visualization: One of the more tangible deliverables for shore based users.**
- **Analytics: By leveraging the Open Platform Communication standard and avoiding proprietary interfaces it allows the user to leverage a much more diverse range of OPC compliant COTS analytical tools.**

Information Aggregation on the Vessel



Information Aggregation to Shore

RIG A

Drilling

DP/ VMS/ PMS

Well Control

DASM

RIG B

Drilling

DP/ VMS/ PMS

Well Control

DASM

OPC FOUNDATION

Analytics

Shore Based Users - Transocean

Operations

Rig Management

Technical Field Support

Well Performance

Information Technology

Engineering

Customer Data Exchange

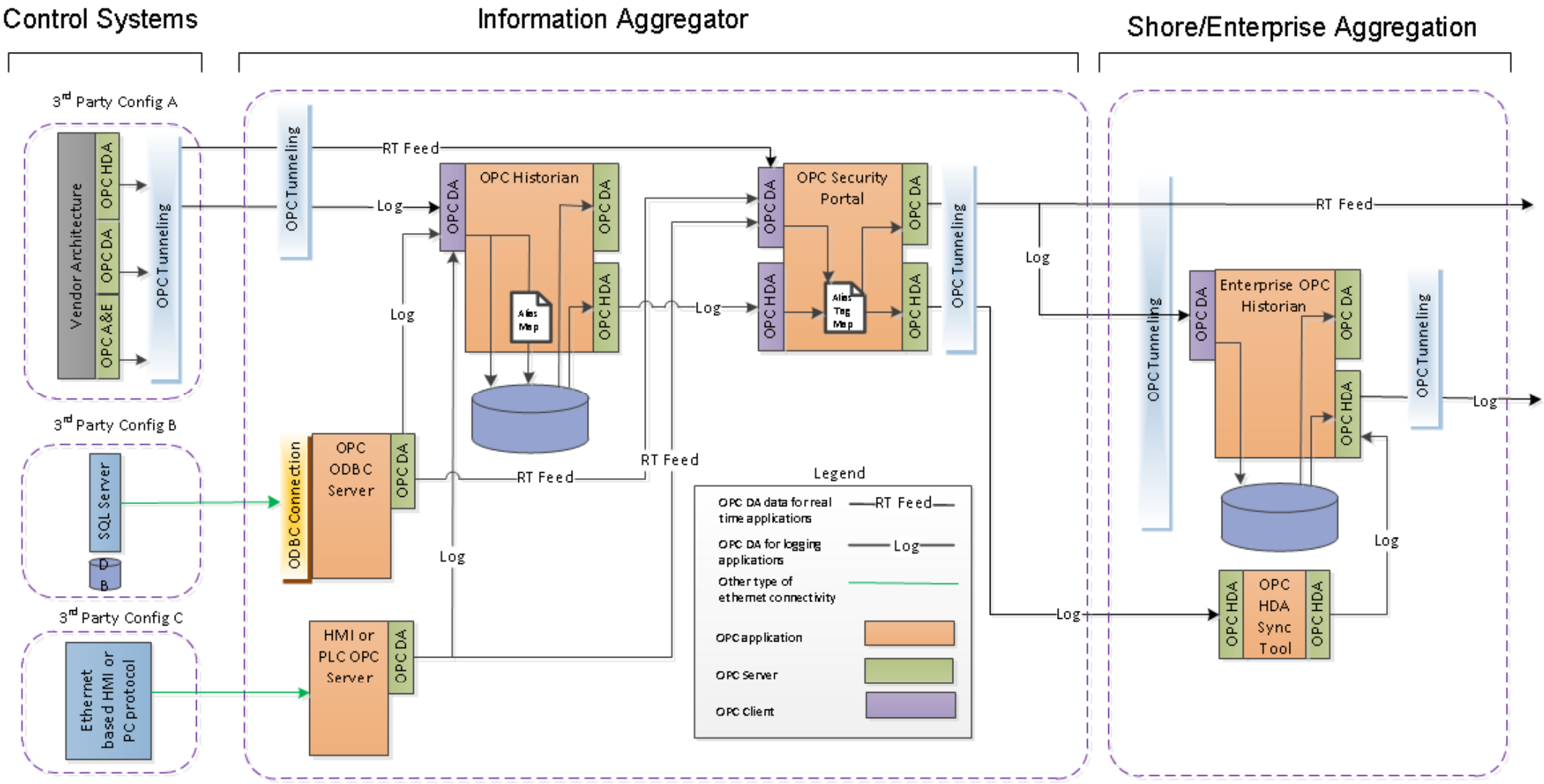
Analytic Services

Kick Detectio

PdM / CBM

Emissions

Example OPC DA and HDA topology



QUESTIONS?