SOIL OVERVIEW

SUCCESSFUL OPERATOR, SUPPLIER & 3RD PARTY COLLABORATION IN OIL & GAS: A CASE STUDY ON THE SOIL NETWORK

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TODAY’S DISCUSSION

• What is SOIL?
• SOIL overview
• Purpose, benefits, participants, providers
• Solutions over SOIL
• SOIL as enabler for Integrated Operations
WHAT IS SOIL?

• SOIL, which stands for Secure Oil Information Link, is a private cloud service operating on the Norwegian Continental Shelf (“NCS”) that allows operators, their business partners and suppliers, and governmental authorities to collaborate in a secure and reliable online environment.

• The SOIL user community connects to SOIL via one or more approved SOIL Service Providers, which operate similar to ISPs, but with additional reliability and cyber security responsibilities.

• The simple way to share information securely: network members communicate with one another via one hub, rather than building a point-to-point bridge to every partner, making communication between member companies considerably easier. No need for point-to-point VPNs; one connection to SOIL securely connects to all other members.
SOIL OVERVIEW

Companies often need information that is stored on the intranets of their partners, suppliers or customers. SOIL (Secure Oil Information Link) is a fully managed, members only network hub that enables companies to cost effectively share and exchange information with guaranteed speed, reliability and security, over a North Sea wide network.

- The network is built to operate independent from other networks, including the Internet. It enables operators on the NCS and their business partners and suppliers to do cost effective cross-company collaboration without having to establish multiple point-to-point connections.

- The network further serves as a communication platform for delivering services that are in common use by the Norwegian petroleum sector, including applications like License2Share, DaVinci, Diskos and others.

- The network has a track record of performance and high availability that extends back to 1998. Today, more than 200 registered companies are using the SOIL network for collaboration.

- Originally managed by OilCamp AS, which was purchased by RigNet in 2006. RigNet ran the SOIL network providing services such as SOIL Connect, SOIL Interconnect, SOIL Hosting (for ASPs), SOIL Video and SOIL DropZone. RigNet also operates similar Energy Collaboration Networks outside of Norway.

- EPIM (“E&P Information Management”) Association, a non-profit membership organization, established in November 2007, and governed by the operators on the Norwegian Continental Shelf, now manages SOIL, with RigNet assuming a role as one of the SOIL Service Providers.

  - Ambition is to provide a trustworthy and reliable collaboration arena for the Norwegian petroleum industry.
  
  - Provides a toolbox of solutions and services defined by and for members: collaboration, information sharing, improving efficiencies and enabling innovation.
Purpose: the SOIL Network provides the oil and gas industry on the NCS with an alternative delivery channel for information not desirable to transfer or publish via the Internet from a security and/or stability perspective. Positively impacts across the value chain: pre-award, exploration, development, operations and decommissioning. EPIM's main objective is to facilitate the best possible flow of information between operators, partners, authorities and other stakeholders.

Benefits: enables secure, cost-efficient and cross-company collaboration; is a delivery channel, separate from the Internet, for secure and robust delivery of common services in use by the Norwegian petroleum sector; and supports high capacity, low latency communications.

Participants: more than 200 companies are currently connected to SOIL: all operators and licensees on the NCS; suppliers to NCS operators; and Norwegian authorities.

Providers: Cegal, EVRY, Harris CapRock, Jakob Hatteland Solutions, RigNet and Telenor Maritime.

SOIL: HOSTED SOLUTIONS

- **Offshore Hosting** – Hosting of necessary IT infrastructure onboard drilling rigs, including email, file servers, computers and printers

- **License2Share** – Cross-company licensing application with more than 6,000 users

- **DaWinci POB** – Personnel tracking and onboard solution

- **EPIM ReportingHub** – A flexible knowledge base for receiving, validating, storing, analyzing and transmitting reports

- **EPIM EnvironmentHub** – A database for gathering and analyzing environmental data

- **Video Collaboration** – Hosting of shared or client-owned videoconferencing infrastructure for video communication

- **SAM-X** – A webmap solution to improve co-existence between the fishing, oil and seismic industries

- Other high-performance applications hosted by approved SOIL Service Providers
An official communications and archival tool for administrative interaction among operators

- License2Share was established by the predecessor to the Norwegian Oil and Gas Association, OLF, at the turn of the century. It was created by a group of individuals who believed that Joint Venture Management could be done much more securely and efficiently than the manual processes at the time allowed. Over the course of just a couple of years it gained popularity until it quickly became the standard tool for managing joint ventures on the Norwegian Continental Shelf.

- Hosted on SOIL, License2Share currently serves about 6200 users and contains information about over 500 active joint ventures, divided in three main categories:
  - Production Licenses
  - Business Arrangement Areas (BAAs)
  - Transport and Utilization Facilities (TUFs)
SOIL SOLUTION EXAMPLE: DAWINCI

DaWinci is the Norwegian North Sea’s de facto industry solution for personnel logistics and POB management, and represented an industry step change when it was launched in 2001 as part of an initiative for improving the Norwegian oil & gas industry’s competitiveness, profitability & HSE compliance.

- Tieto Oil & Gas is the one stop shop provider of the DaWinci as a ‘private cloud’ solution based on long term contracts for producing fields as well as on a short term licensing basis for intermittent exploration drilling operations.

- DaWinci has evolved into a comprehensive ecosystem featuring a traveller self service portal (MyDaWinci), a flight departure & arrival information portal (Heliport), self service check-in kiosks onshore & offshore, multiple e-mail & SMS notification options, mobile applications and interfaces to ERP systems and value adding 3rd party solutions.

- By the numbers:
  - More than 185,000 offshore travellers in database
  - More than 16,000,000 bookings made
  - Close to 18,000 registered end users
  - More than 6,300 active end users
  - More than 50,000 registered MyDaWinci (self service portal) users
  - Close to 700,000 page loads of the Heliport portal within a 24 hour period at peak times
OLF coined the term ‘Integrated Operations’ (“IO”) which means “real-time data onshore from offshore fields and new integrated work processes”. Referred to as “real-time operations” in the U.S.

The heart of IO is the continuous flow of secure electronic information between stakeholders; but that isn’t always possible for two reasons:

- Cyber security incidents are frequent
- Cyber security levels vary widely

This means that as information is pumped through the chain of stakeholders, the risk of a security breach is high and the result could be to break the entire supply chain.

For IO, security services must cover electronic partnerships. It is important that stakeholders can trust each other to handle all areas of information security.

The SOIL network hub is a good example of a security domain with clear boundaries at the firewalls connecting SOIL to the companies using it.

- Security levels predefined by EPIM and maintained by the Service Providers
- One connection to hub establishes connections to all, an efficient and consistent security solution compared to point-to-point VPNs
- SOIL can play a supporting and enabling role in IO
EPIM (https://epim.no/) is the key organization working on collaboration between the operators on the Norwegian Continental Shelf. They are operating SOIL and several collaboration applications used by the industry today.

EPIM’s vision: by the industry, for the industry

- We are a non-profit membership association, established in November 2007 and governed by the operators on the Norwegian Continental Shelf
- Our ambition is to be a trustworthy and reliable collaboration arena for the Norwegian petroleum industry
- We provide a toolbox of solutions and services defined by and for our members. Our capabilities support the demand for facilitating collaboration, sharing information, improving efficiency and enabling innovation

Detailed information about SOIL on their website: https://epim.no/soil/

Other key systems are: License2Share (https://epim.no/l2s/)

Tieto is providing services through their DaWinci solution for tracking of personnel: https://www.tieto.com/personnel-transportation-logistics-pts-mc-dawinci

- Booking is only available through SOIL, but time tables for flights can be seen from Internet on http://www.heliport.no/

RigNet information about SOIL: http://www.rig.net/solutions/productivity/video-voice-data-collaboration/soil-collaboration-network/

- RigNet is now one of several service providers providing access to SOIL. The full list is on the EPIM SOIL product page.


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