

## RIGNET DEPLOYS NIMSOF'S NIMSOF FOR EFFECTIVE NETWORK MONITORING ON OFFSHORE AND REMOTE OIL RIGS

*Nimsoft's Scalability and Reliability Gives Managed Service Provider Global Reach and Best Uptime in Industry*

### Industry

Managed Communications Service Provider for the upstream oil and gas industry.

### Challenge

To utilize customer Service Level Agreements (SLA) to deliver essential real-time data to oil and gas rigs in extreme remote offshore and land locations worldwide under conditions frequently outside the provider's control.

### Solution

Using Nimsoft's Nimsoft to:

- Detect any remote communications service problems within the provider's control before users are impacted.
- Identify any problems that are outside its control and exclude immediately such downtime from SLA performance calculations.
- Deliver real-time SLA performance information to customers.

### Results

- Nimsoft provides RigNet with comprehensive, flexible and reliable drill platform application SLA performance monitoring and reporting capabilities for 8 teleports serving over 500 sites.
- Nimsoft has decreased RigNet customers' costs by greatly reducing the need for expensive telecommunications equipment or technical support at remote locations.
- Nimsoft's solution helps RigNet to protect their service quality reputation.

With communications systems installed throughout 20 countries and 6 continents, Houston-based RigNet relies on leading satellite and networking technologies to provide high-quality IP-based voice, data and video managed services worldwide for the upstream oil and gas industry. The company installs, manages and supports the systems, providing powerful, reliable and cost-effective managed communications services for their customers' offshore drilling and production rigs, as well as land rigs. Most of these rigs are located in very remote locations throughout the world. By adhering to stringent standards for network performance, RigNet reliably and efficiently meets the established terms of Service Level Agreements (SLA) with its customers. The company is thus able to commit to providing the highest system uptime, application response and transaction speed and to ensuring end-to-end management of IT performance for business results.

To do this, RigNet must be able to analyze performance data coming from multiple points and be able to exclude performance information from factors beyond its control, from typical heavy thunderstorms that sometimes cause brief rain fade, to extreme severe storms that take down satellite dishes on offshore rigs. In the oil business, SLA "excludes" are frequently required, a common cause being extreme weather. Several examples of such excludes were

cited by Morten Hagland Hansen, RigNet's Global IP Engineering Manager: "We had a customer rig get lost in the sea – it was a total loss. We lost two after Hurricane Katrina, and with Hurricane Rita the damage was more on the shore side, where we lost satellite communication to the shore base where all the logistics are handled. There was flooding, and the equipment in those buildings was destroyed. These become excludes in SLAs."

Not all excludes come from acts of nature, as further explained by Hansen: "In the oil and gas business, if the connectivity to a rig is down, it doesn't necessarily mean that there is a problem, it could be also be 'radio silence' to protect personnel from instances where explosives are placed down in the hole where they are drilling. In this case, all communications devices that issue radio signals must be shut down so that the signals will not ignite the explosives while workers are placing them. This is one of many instances where we need to explain that downtime was not due to a problem with the system but was instead intentional."



With tremendous communications challenges already inherent to a business with multiple far-flung locations, the addition of uncontrollable variables makes it quite challenging to fulfill top service level management requirements. To meet the performance expectations of its customers, RigNet selected cutting-edge monitoring technology from Nimsoft. RigNet implemented the Nimsoft solution for SLA monitoring and reporting for comprehensive, flexible and reliable drill platform application performance monitoring capabilities.

"Nimsoft's flexibility and amazing breadth of capabilities allowed us to start with a small installation and add to it as we grew and our functional requirements changed," explained Hansen

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*“ The extreme ease of implementation from Nimsoft especially impressed us. Additionally, Nimsoft was very flexible in accommodating our needs, and continuously made modifications and enhancements based on our requirements. We've been especially pleased with Nimsoft's end-to-end infrastructure monitoring capabilities, and with how quickly they could develop solutions for our ever-changing needs. ”*

— Morten Hagland Hansen  
Global IP Engineering Mgr., RigNet

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To provide background, there are three "parties" using the communications network on any given drilling rig: (1) the drilling contractor, which owns and leases out the rig, such as Noble Drilling and ENSCO; (2) the operator, or oil company (e.g., ExxonMobil, Chevron, Shell, etc.) which is the primary party on the rig, and finances the drilling of the well; (3) and the service company, like Schlumberger or Halliburton, who supports the drilling operation.

The applications used on the system are IP-based voice, fax, Internet and real-time data transmission. The real-time data includes all technical information related to the drilling (e.g., depth, temperature, pressure, drilling speeds, drilling torque, formations, etc.) For an offshore rig, even rig positioning and weather data is transmitted. All of this information is transmitted back in real-time to the oil company office for analysis.

Most of RigNet's land-based and offshore customers use satellite-based systems. There are options for both. The options land-based rigs have are cellular and regular land-line, where a telephone line is actually strung from the nearest pole to the land rig site. That can get very expensive. Cellular coverage can be very spotty, and not provide a clear signal. Sometimes, satellite is the only option. For offshore, there are microwave networks, where communications ride on a terrestrial network (most of the time, mounted on production rigs that don't move) that is linked back to land via 20 to 30 repeater hops away in a daisy-chain fashion. When one of the repeaters goes down, most of the entire network goes down. That's why satellite is sometimes a more attractive solution, especially in more remote locations where microwave networks aren't available.

The equipment and systems that RigNet monitors on any given rig (offshore or land) include routers, switches and wireless bridges connecting the equipment systems and signals, along with the satellite signal itself. Rignet uses the Nimsoft Enterprise Console to build graphical service dashboards. Each dashboard has a health status indicator by individual oil rig. Network communications are monitored between land-based and satellite-based systems. At a glance the operator can see all the oil rigs he or she has responsibility for and determine which ones require intervention. The

operator can then drill down and to investigate the discrete infrastructure elements to diagnose and resolve potential or actual problems.

When an individual rig is displayed on the Nimsoft system, four colors are used to indicate status: green, yellow, orange and red. Green means everything is running properly. Yellow signifies a minor equipment problem, such as a wireless bridge isn't working correctly. Orange represents a major equipment problem, usually involving a router or switch. Red denotes the system is down and is not responding, which could be caused by a problem with the router or switches, or the satellite signal itself.

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## About Nimsoft

Nimsoft's mission is to deliver business-focused Service Level Management solutions that customers can easily deploy and use. Nimsoft solutions are used by hundreds of companies across diverse industries to manage complex networked systems and meet service level agreement targets. Nimsoft solutions combine advanced SLM functionality and broad platform coverage with unprecedented ease of implementation, deployment, and use. For more information, visit [www.nimsoft.com](http://www.nimsoft.com).

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### North America and Rest of World

#### National Toll Free:

877 SLA MGMT (752.6468)

Phone: 650.570.5401

[info@nimsoft.com](mailto:info@nimsoft.com)

Europe, Middle East & Africa

#### UK & Rest of EMEA

+44 (0) 845 456 7091

#### Norway & Northern Europe

+47 22 62 71 60

#### Spain

+34 91 623 9177

#### Germany

+49 89 93 086 100