

# digital energy journal

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The company that monitors 20,000 wells

Oil and gas industry 'like teenagers' with data management



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Using dynamic dampeners to drill 50 per cent faster

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## Monitoring your VSAT

Uplogix, a company based in Austin, Texas, reports growing interest in the oil and gas industry for its services to monitor all the equipment involved in VSAT operations, so more faults can be fixed remotely.

A large amount of equipment is involved in VSAT communications—these hybrid networks contain both satellite devices like antennas, amplifiers, and modems, as well as traditional terrestrial IP network devices like servers, routers, and switches. A problem with any individual piece of equipment can cause the communications link to go down.

The problem is compounded by the extra complexity many people are adding to their systems as they try to send more and more data between their platforms and vessels to shore—such as tools which give one data packet priority over another one, or tools which send data over the cheapest communications link, when there are a number of links available.

“It makes it infinitely more complicated, and more likely that it won’t work the way you want,” says Andy Harris from Uplogix.

The Uplogix solution is to provide an appliance (costing around \$2,500, plus \$200 a year license fee) which can monitor and control all of the VSAT and IP networking equipment, and also communicate with shore engineers via an out-of-band link, or a communications method independent of the main VSAT, such as Iridium.

Rules can also determine at which stage a human being gets involved. “We can be fully automatic, or fully manual or something in between,” says Tom Goldman, CEO. “We can react in 30 seconds of an issue.”

Nearly all equipment can be communicated with via a ‘command line interface’ – sending short text message code commands and getting one line codes back.

If there is any problem, the appliance can firstly follow a programmed series of steps, asking questions of the equipment and getting responses – in exactly the same way as a (human) IT manager would.

If necessary, the appliance can then send data to and from home over the out-of-band link, enabling a remote engineer to diagnose any problems with the equipment.

If the solution is to reboot all of the equipment (a very common solution), Uplogix can ensure all of the equipment is switched on in the correct order.

If input is required by personnel on the



*Uplogix creates an appliance which can monitor and diagnose problems with all of the amplifiers and modems typically involved in a VSAT communication system (pictured)*

rig, for example re-pointing the antenna at a different satellite, then a warning can be given well in advance (the Uplogix appliance also connects to a GPS unit, so it knows the current location).

In some situations, a vessel might have more than one option for communications available (for example, a GPRS service when it is near a port or the option of Ku or C band satellite services). In this case, the Uplogix appliance can be programmed to automatically choose the least expensive communications option available.

Mr. Goldman observes that satellite communications users are getting more demanding of their suppliers in the breadth of service they provide to fix problems.

In the past, a satellite company might have typically said that the service only goes as far as the satellite modem, for any other problems with shipboard equipment you need to phone someone else.

“But customers say no, I want my phone to work. So operators are forced to go deeper into the stack,” he says.

The company provides similar services managing SCADA systems linked by VSAT and microwave radio links for backhaul on pipelines running from Houston to Canada with thousands of data capture points.

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