

Remote Wellhead Monitoring with Greater Visibility at Lower Costs

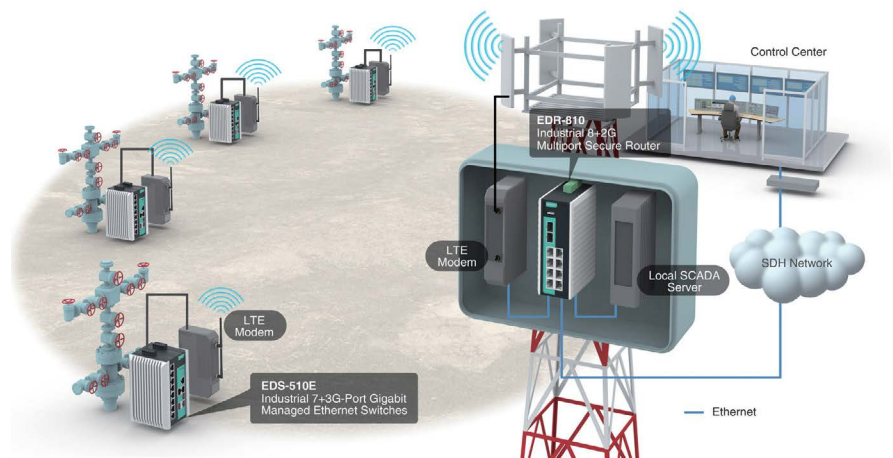


The Challenge

A leading sovereign oil company, operating out of Qatar, was faced with the challenge of linking hundreds of wellheads dispersed across the harsh desert and coastal plains of the Persian Gulf to 26 separate wireless access points (APs). Each wellhead network needed to be secure and scalable for data acquisition and control advancements in the future. The solution needed to be highly industrialized at both the well pad (Layer 3) and at each wellhead (Layer 2).

The Solution

To meet our customer's demands for a comprehensive site-to-center secure wellhead network, Moxa deployed a multi-port industrial secure router (Moxa EDR-810) at each of the 26 well pads, and a managed DIN-Rail switch (Moxa EDS-510E) at each operating wellhead. At each well pad the EDR-810 was the ideal choice for the localized secure router. The EDR-810 supported each RTU, cathodic protection and charge controllers, as well as the uplinked radio for transmission to the localized access point.



The Results

Wellheads were reliably and securely linked to a central SCADA system. They provided increased visibility and control to all aspects of the oil extraction process. Operational cost savings were achieved due to the reliable remote access and control functionality provided by the systems. The embedded firewall routing of the Moxa EDR-810 eliminated the need to purchase and deploy multiple modules to support all the critical functions of an expansive well pad operation.

Remote Access

The multiport industrial secure router supported localized data acquisition processes, as well as an uplinked radio for transmission of data to the control room offsite. This industrial, yet highly capable and powerful unit allowed for our customer to link each wellhead to the centralized SCADA, greatly increasing their operational intelligence and control capabilities of their extensive remote network.

Cyber Security

With firewall and Network Address Translation (NAT) together in one modular unit, the multiport industrial secure router was able to support deep-packet inspection and string access control along all levels of the network. At each access point (AP), all signals from the numerous wellheads needed to be transferred with reliable assurance to the main SCADA server locations, Private Automatic Branch Exchange (PABX), and a Full Service Provider archive (FSP) via the SDH/PDH network.