cradlepoint

Solution: NetCloud Service for IoT ▪ **Industry:** Construction ▪ **Use Case:** Remote Network Management

Global Dredge Manufacturer Discovers Remote Visibility into & Control of LTE Connectivity, Operations & IoT

With Cradlepoint's NetCloud Service & LTE Routers, DSC Dredge Drastically Reduced On-Site Man-Hours for Engineers & IT Staff

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> **With SD-Perimeter, we don't have to be in the office, at the other end of an IPsec tunnel, to access our network. We have the ability to remotely access our devices anytime, anywhere."patrol."**
>
> **Richard Groce,**
> Director of Information Technology,
> DSC Dredge

Summary

DSC Dredge has been sending its custom dredges out to all corners of the world for decades. Given the large-scale projects that rely on these vessels, DSC needs constant connectivity and real-time visibility into and maintenance of dredge operations.

DSC implemented Cradlepoint's NetCloud Service for IoT, delivered thorough purpose-built IoT routers. With LTE as WAN and cloud services including SD-Perimeter technology, DSC has drastically reduced its IT costs. The company can create secure private overlay networks in minutes to connect remote vessels — eliminating the need for traditional IPSec VPN architecture. DSC also can maintain "four-nines" uptime and have real-time visibility into dredge operations — keeping its technicians at headquarters more often than abroad.

Cradlepoint's NetCloud Service for IoT includes edge computing, SD-Perimeter technology for device-to-cloud security, and cloud configuration and troubleshooting, all delivered via an IoT gateway with embedded LTE, 24x7 support, and a limited lifetime warranty.

Customer Profile

DSC Dredge is a global leader in the dredge manufacturing industry, engineering superior customized dredging solutions to meet specific application needs.

A dredge is an apparatus used for excavation activities that are carried out at least partially submerged under water, with the purpose of gathering bottom sediments and disposing of them at a different location. Dredging is used in construction projects, contamination clean-up, mining, waterway navigation improvement, coastal restoration, and much more.

Along with building custom dredges, DSC offers a Dredge RX package that gives customers remote access to daily reports and machine diagnostics for simpler, nearly automatic operation with less downtime, and reduced fuel consumption.

Business Needs

DSC's many varieties of dredges include the custom-designed Marlin Class Dredge — operating outside Portland, Ore. — which is bigger than a football field, is GPS aware, intuitively controls its own position, and dredges rock up to 150 feet below the earth's surface. This behemoth dredge needs constant connectivity — separate from the vessel customer's network — for an on-board network that connects six programmable logic controllers (PLCs) and two human machine interfaces (HMIs) for automation, seven soft starters, and multiple security cameras.

Additionally, DSC must have network visibility into its Dredge RX package to give customers remote access to daily reports and machine diagnostics for simpler, nearly automatic operation with less downtime and reduced fuel consumption.

With dredges operating all over the world, DSC also needed software-defined, cloud-delivered visibility into dredge operations to minimize the need for on-site maintenance by its technicians.

Solution

Previously, building a traditional Intranet and setting up an IPsec VPN for each vessel was complex and involved a technician with a PC on the dredge and another technician at headquarters. Once the network was in place, all maintenance required expensive, time-intensive site visits.

Today, with Cradlepoint's NetCloud Service for IoT, DSC's dredge vessels have:

— Purpose-built IoT routers to facilitate LTE as WAN

— Extensive cloud analytics and alerts for remotely monitoring and managing connectivity on each dredge

— SD-Perimeter technology for creating perimeter-secured overlay networks in just minutes, providing remote visibility into and control of key devices on the LAN

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Benefits

Cost-Effective, Reliable WAN

Using LTE through Cradlepoint devices is much more cost-effective than satellite, which is the de facto WAN standard in the dredging industry. LTE also is more reliable and offers increased bandwidth.

Simplified Creation of Private Networks

With private overlay neworks, DSC has a much easier way to enable network access than building out a traditional Intranet solution with IPSec on each router. Also, all controllers share the same internal LAN IP address scheme, rendering static IPs and APNs unnecessary. This is a major benefit in locations such as Nigeria, where static IPs are difficult to obtain.

Remote Visibility & Maintenance for Dredge Operations

In the past, DSC's dredge maintenance required expensive, lengthy international trips by its highly trained technicians. Today, SD-Perimeter technology gives DSC and its customers visibility into dredge operations from anywhere.

Technicians can pull open the web interface of HMIs from their computer desktops, tracking vessel functionality and driving key adjustments without setting foot on the vessel. DSC's customers receive a weekly maintenance report.

"It allows us to track how the machine is performing and also to provide updates, which we otherwise wouldn't be able to do without a technician on the vessel," Groce said.

For a global company such as DSC, remote management instead of international flights has dramatically improved its cost-efficiency.

Parallel Networking

Cradlepoint's plug-and-play IoT routers give DSC the ability to easily set up a WAN connection that is completely separate, or "air-gapped," from the customer's network.

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> **In dredge locations like Nigeria and Bangladesh, we are saving thousands or even tens of thousands of dollars on airplane travel alone."**
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Learn more at cradlepoint.com/IoT-Networks