



A HIGH ALTITUDE SOLUTION

OIL & GAS CASE STUDY



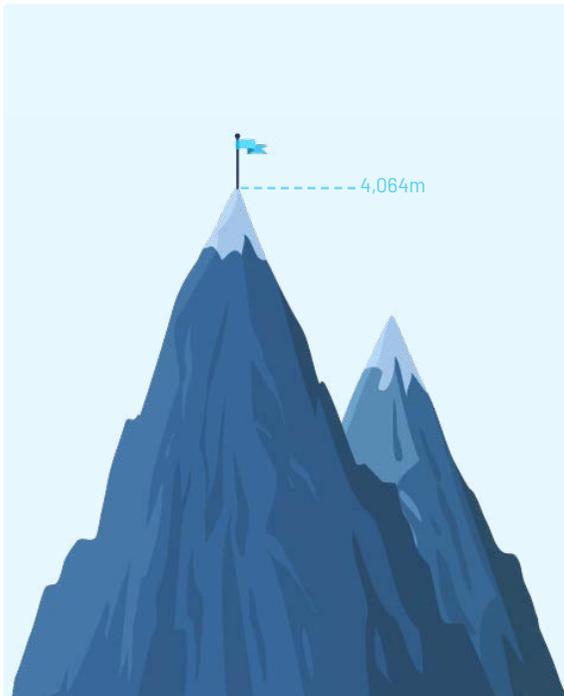
ZELLA DC

BACKGROUND

Petroecuador is the national government-owned oil company of Ecuador.

Petroecuador is engaged in the exploration, production, storage, refining of crude oil, and retailing petroleum products.

The company operates several oil fields as well as the Trans-Ecuadorian oil pipeline network. The pipeline crosses the Andes mountain range where it reaches its maximum altitude of 4,064 meters.



CHALLENGE

The highly distributed set-up across the Andes created many challenges for Petroecuador.

Remote locations: Petroecuador need to store and process data in locations that are remote and inaccessible, posing logistical challenges for transportation and communication.

Lack of IT personnel: Limited local IT personnel at each site made it crucial to develop a robust and user-friendly system that required minimal on-site management.

Cooling at high altitude: The high-altitude locations presented unique cooling challenges, as traditional data centre cooling systems might not be as effective in such a challenging environment. Ensuring optimal temperature and humidity levels for the data centre equipment while adapting to the high-altitude conditions was a critical concern.

Petroecuador had contacted other providers but nobody was able to guarantee their solutions would work at such a high altitude.

DISTRIBUTED EDGE DEPLOYMENT

Distributed edge deployment refers to the practice of deploying computing resources, such as servers, storage, and processing power, closer to the “edge” of a network rather than relying on a centralized data centre. The edge, in this context, refers to the outer boundaries of the network, closer to where data is generated and where end-users or devices are located. This approach is in contrast to traditional centralized cloud computing.

Some key aspects of distributed edge deployments are:

- Reduced latency due to the proximity to end users or devices.
- Improved performance for highly automated devices and processes.
- Bandwidth optimization due to processing data locally and transmitting only selected data to central data centres.
- Enhanced security by minimising the exposure of sensitive data during transit.

Many industries benefit from distributed edge deployment, including healthcare, manufacturing, smart cities, retail, and more.

SOLUTION

Petroecuador strategically deployed 17 Zella Pro 38 (dual cooling) across multiple locations, ensuring proximity to critical operations while maximizing redundancy and reliability. The Zella Pros have been in operation for 10 years with no issues.

EFFECTIVE COOLING

The cooling system of the Zella Pro operates well at high altitude. The dual cooling gives added piece of mind.

PLUG-N-PLAY

Petroecuador pre-populated the Zella Pros in their central office in Miami and then shipped them to the edge locations ready to go. Local contractors were able to connect them to a source of power and commission the cooling system.

EASY TRANSPORT

The challenging and remote edge locations across the Andes did not hinder the transportation of the Zella Pros, thanks to their compact size.

EDGE CONTROL

The Zella Pros are monitored and managed remotely from one central location. This was paramount for Petroecuador especially considering the absence of specialized IT personnel in their edge locations.

ZELLA Pro

INDOOR MICRO DATA CENTRE

A Zella Pro is a compact, portable and secure micro data centre that eliminates the need for a traditional on-premise server room.

It's an all-in-one, easy, and fast deployment solution, that can be installed in a matter of hours.

Zella Pro includes precision cooling, cyber and physical security, rack mounted switchboard, ORU PDU and it's ready to be populated with your IT equipment.

Ready to be deployed at the Edge.



Empowered by

 **ZELLA Sense**

Advanced Intelligence and Automation

ZELLA DC

Your data centre, anywhere

Zella DC is a market leader in edge-enabling solutions. With a comprehensive range of indoor and outdoor Micro Data Centres and scalable Containerised Data Centres, Zella DC offers a standard turn-key configuration ready for swift deployment and installation, enabling secure, reliable, and controlled environments for IT and OT equipment anywhere.

With expertise gained over the past decade, Zella DC has deployed Micro Data Centre solutions worldwide, meeting diverse requirements across numerous industries and environments. Zella DC excels in overcoming the unique challenges associated with edge and distributed deployments, providing standardisation and proven solutions.

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