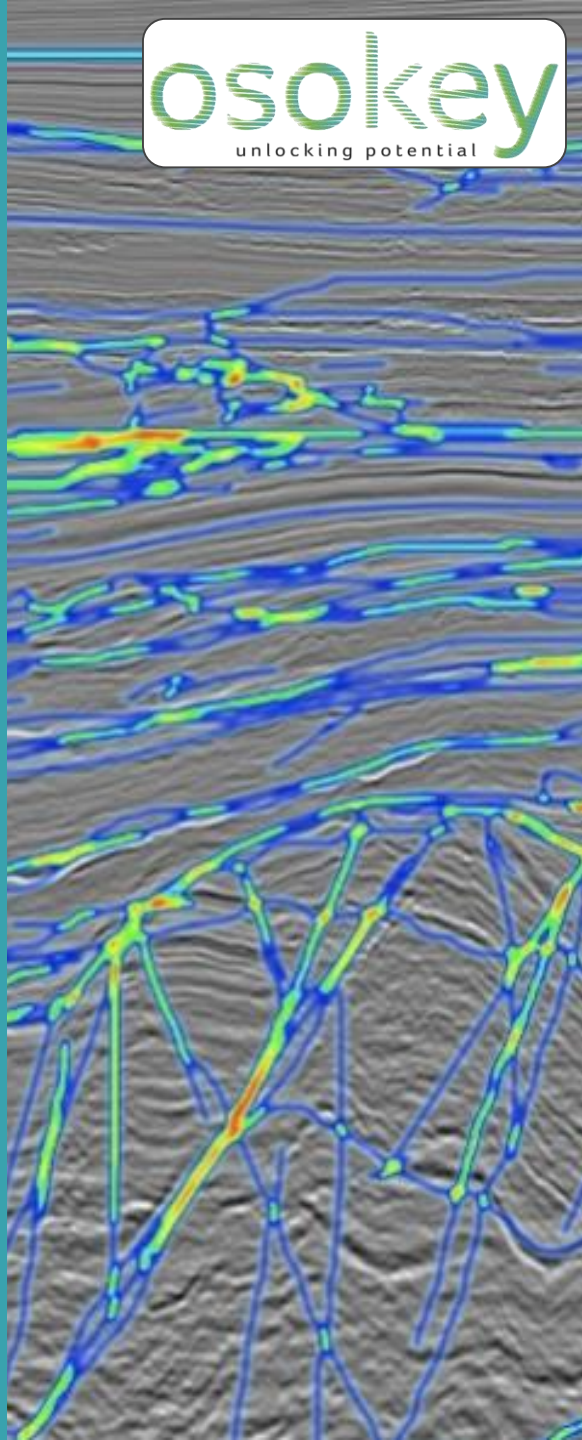
Seismic in the cloud

Joseph Nicholson



Seismic in the cloud?

- The latest buzzword?
  - IT project
    - Future reality
      - Integration with BAU
        - How will it help me?

Cloud opportunities

	
60 - 70 Pb (Subsurface data)*	52 Pb (Amazon Prime day (2017))
Decades	**1 day**

* Wild, L. (2018) Janet Watson conference

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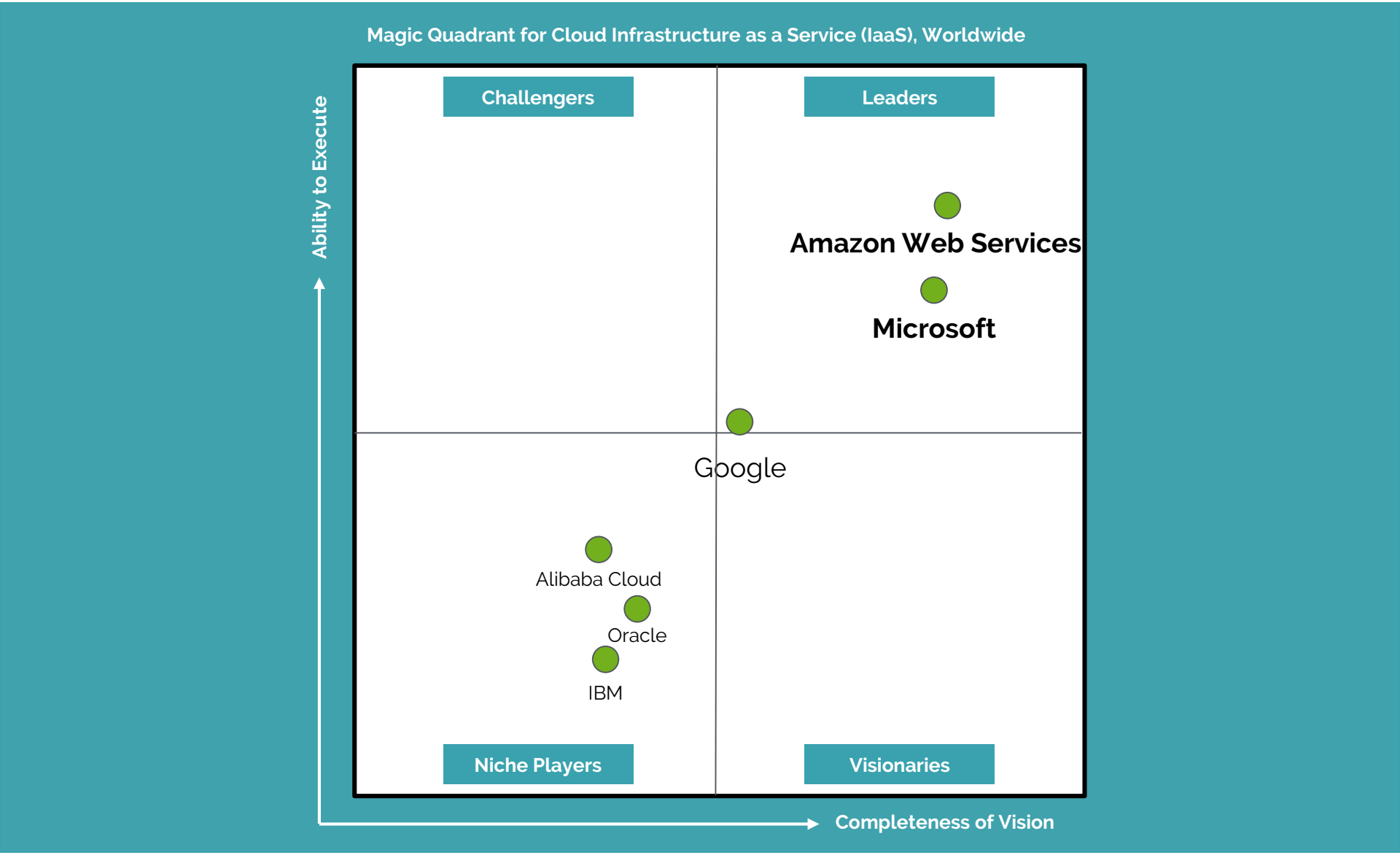
Seismic in the Cloud:

Harness power of cloud technology on seismic data

Deliver rapid data access & enable new ways of working with 2D, 3D and Pre-Stack seismic data

Cloud agnostic solutions



Modified from Gartner, 2018

Cloud storage price

Organisation has 1.4 Petabytes of seismic in archive and 40TB (2.8%) online

	Archive	Online
Data volume	1.4 Pb	40 Tb
Cloud price	£0.009/Gb	£0.19/Gb
Total price	£12,807 / annum	£7,665 / annum

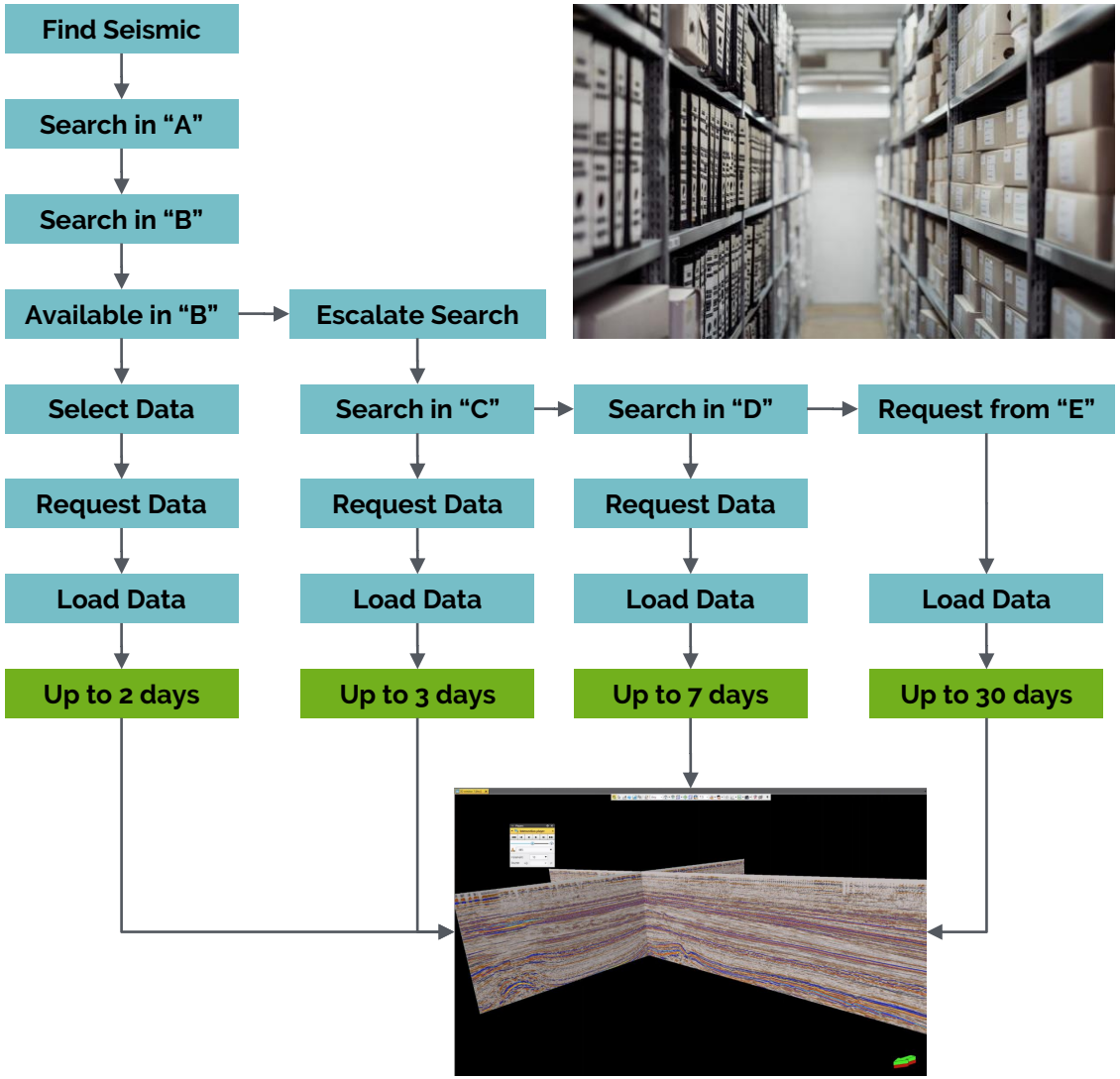
Total Price ~ £20,570 / annum

Case study objectives

- **Improve seismic discovery**
- Easily access pre-stack data
- Connect cloud data to existing workflow application
- Lift & shift vs serverless approach

Traditional seismic data discovery

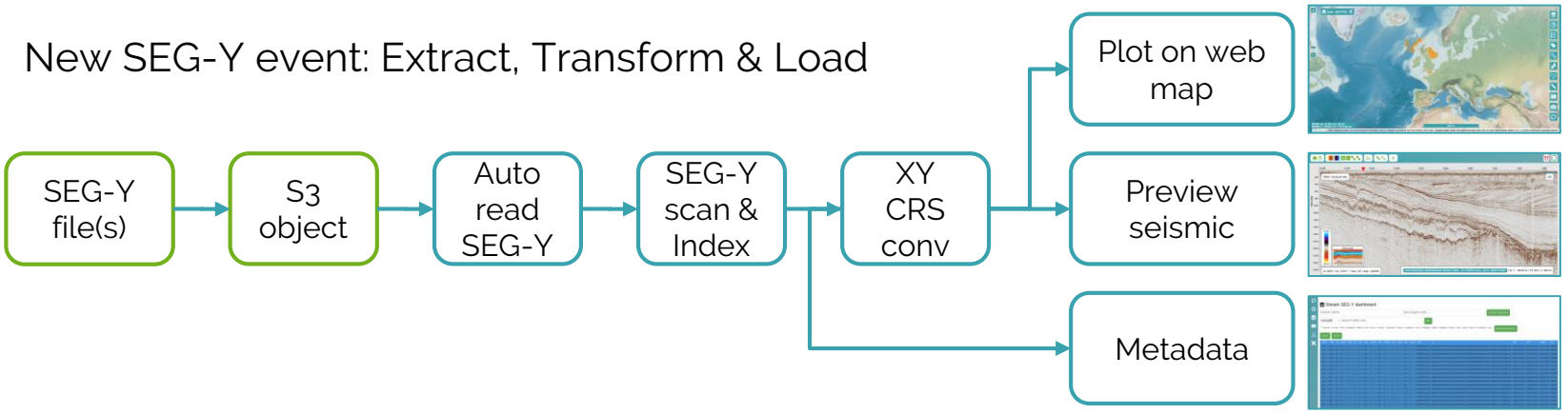
- No current viewer
- Little data information
- Many duplicate surveys
- Request all available



* Petrel is a mark of Schlumberger.

What can cloud native serverless architecture offer?

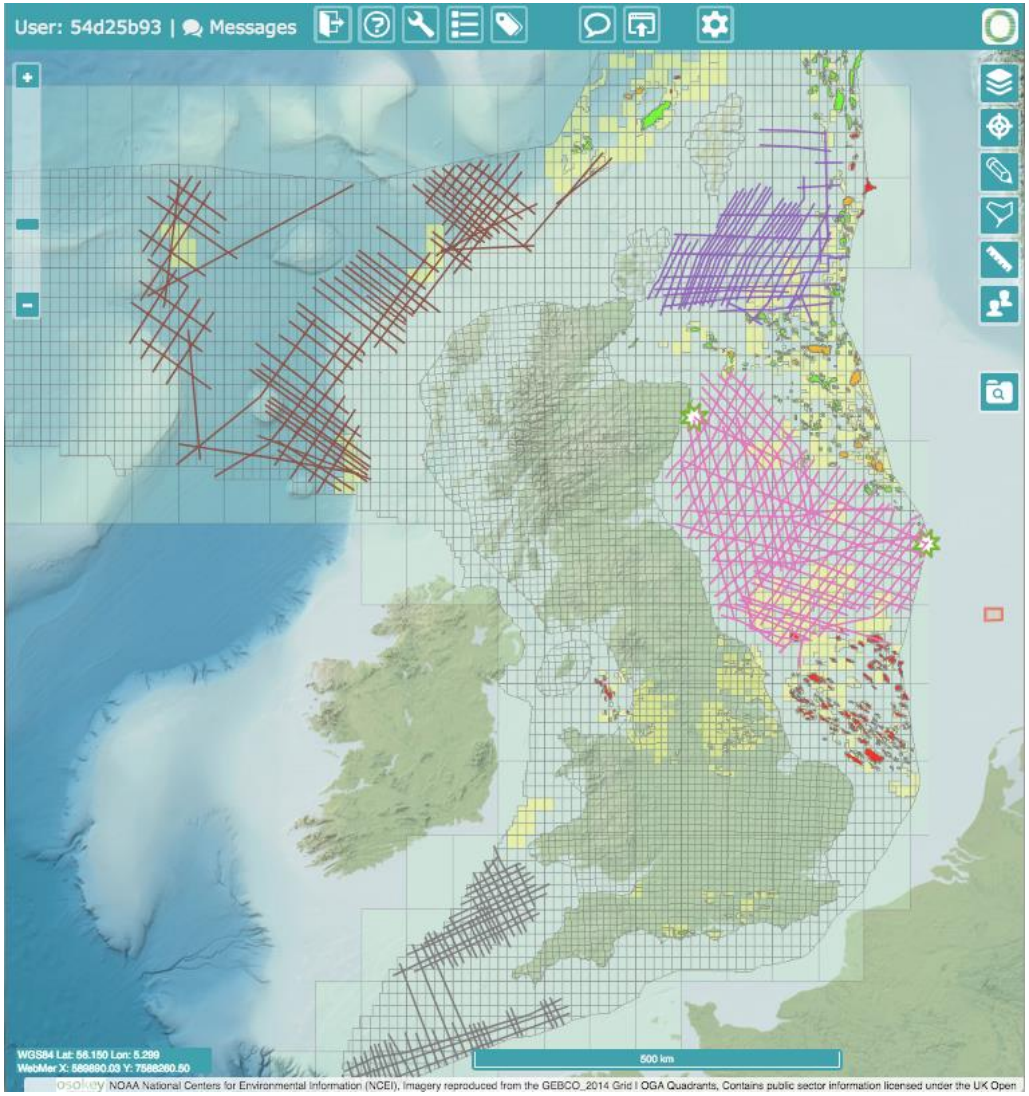
- Flexible and Scalable
- Pay as you use
- Event driven architecture



Data transfer at scale: AWS snowball shipment (~25TB, 600K files, 1,500 SEG-Y)

A single serverless data portal

- Viewable seismic
- Harvested metadata
- Presented spatially
- Integrated other sources
- Focus data requests



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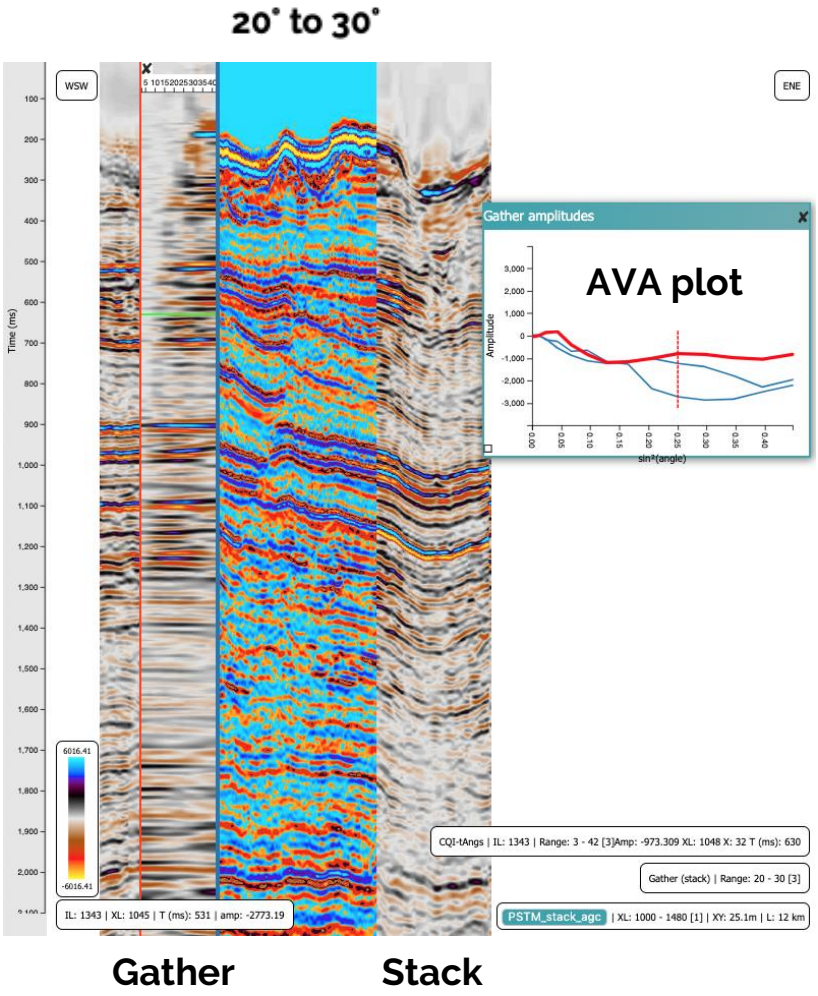
Enhance workflows with pre-stack

Seismic in the Cloud enables:

- Large pre-stack volumes online
- Viewable gathers
- Angle stacks calculated on-the-fly
- Analysis of gather behaviour



all presented via a web browser

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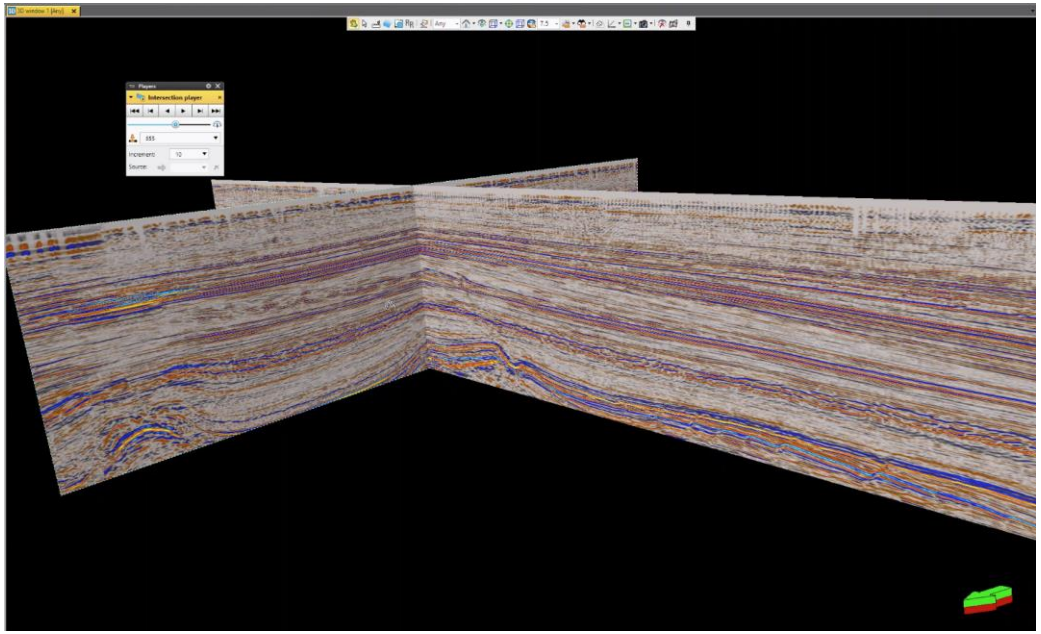
Cloud SEG-Y to existing applications

Maintain business as usual

Seismic stored in the cloud

Connected via Osokey API



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Cost effective, accessible data, exciting new ways of working and no impact on BAU

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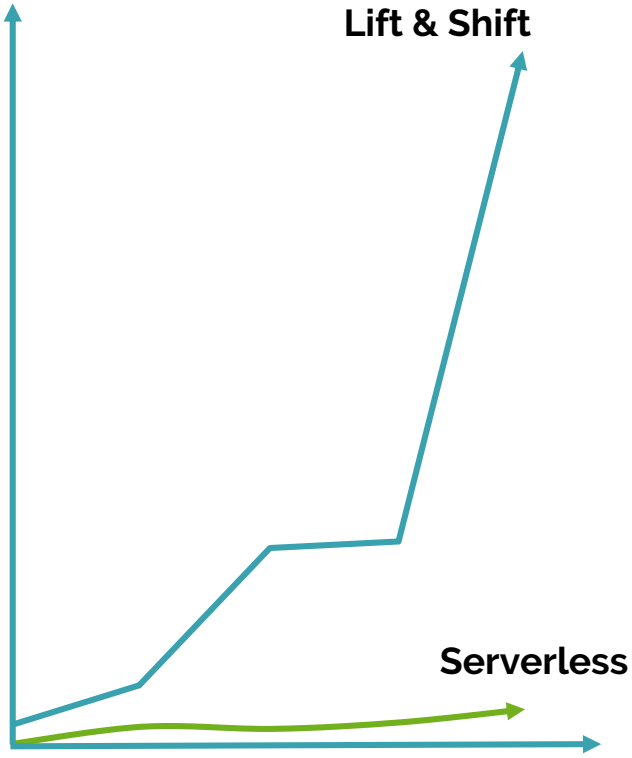
Serverless vs Lift & Shift costs

Osokey technology is serverless

Pay as you use cloud costs and storage costs

Lift & Shift of existing applications onto cloud workstations is a different cost profile, you can pay for what you are **not** using



Serverless workflows offer a compelling opportunity

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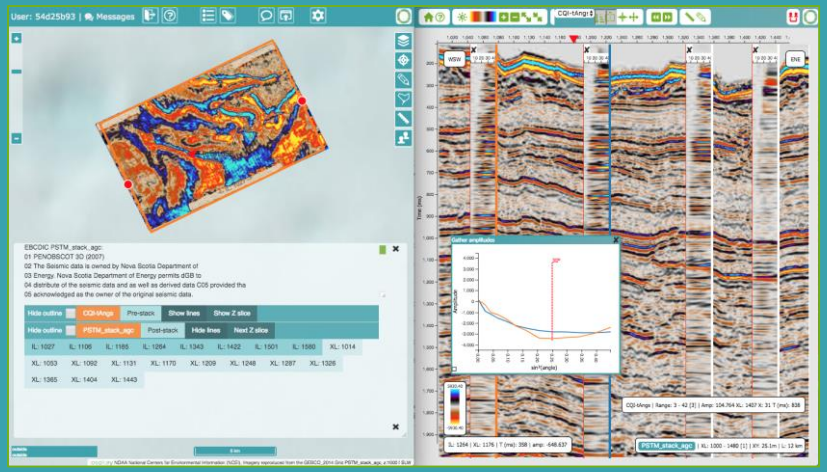

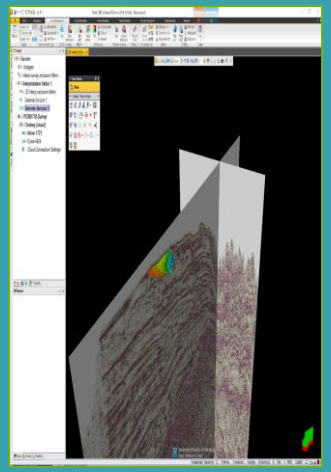

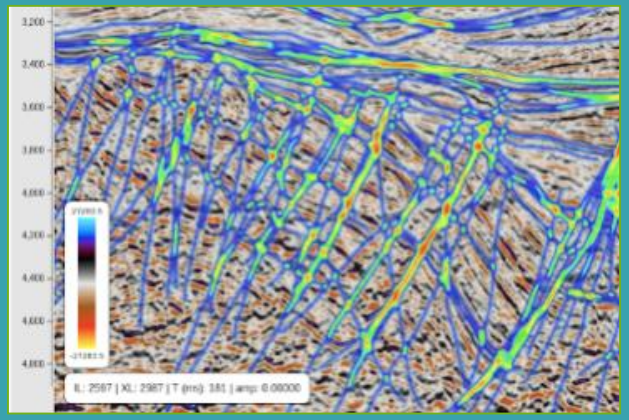

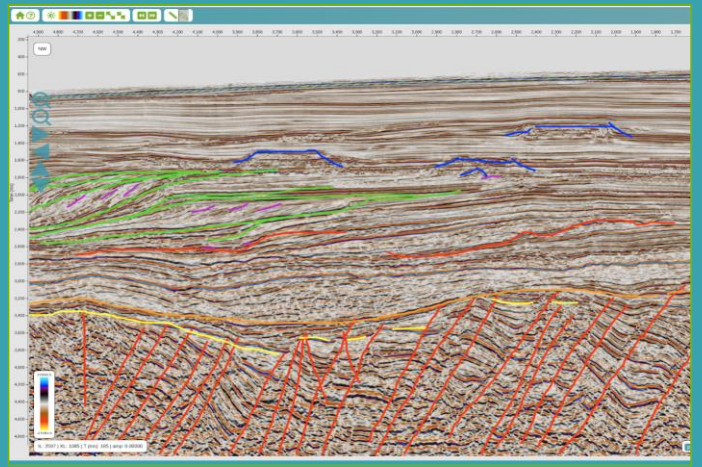

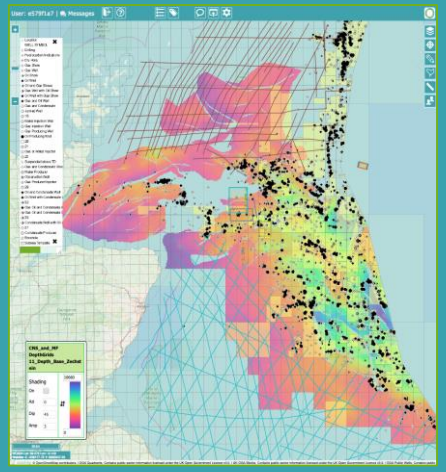

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Value = Benefits + BAU - Costs

Scale data sets

Scale storage and computation to bigger

Optimise cloud costs

Use serverless technology to optimise

Accelerate delivery

Automate and parallelise tasks for rapid

- Seismic cloud workflows are ready for your organisation
- Seismic and serverless workflows offer exciting opportunities
- Familiar applications integrate and perform

Workflow benefits and business continuity at reduced costs

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unlocking potential

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