Implementing a Follow the Sun DB

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Things we'll cover

Who is Atmosera?

Who is the customer?

What was the problem?

What was the solution?

What did we learn?
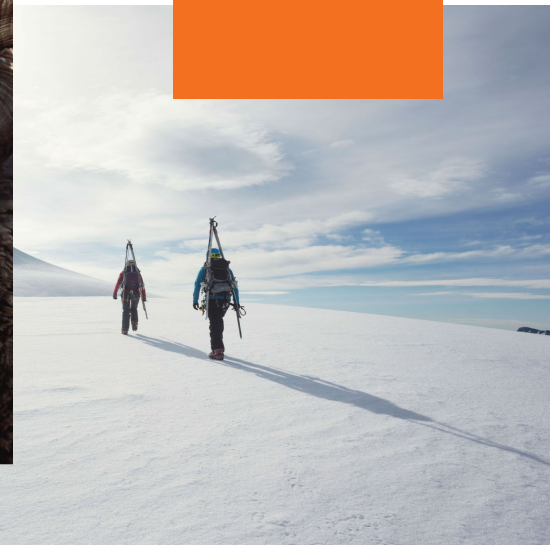
What was the benefit?

Who is Atmosera?

- Premier provider of Azure hybrid solutions.

- Headquarters in Portland, Oregon.

- 2,100+ business customers with HQs in 10 countries.

- 20 years experience: 10 in colocation & 6 in Hosted IaaS

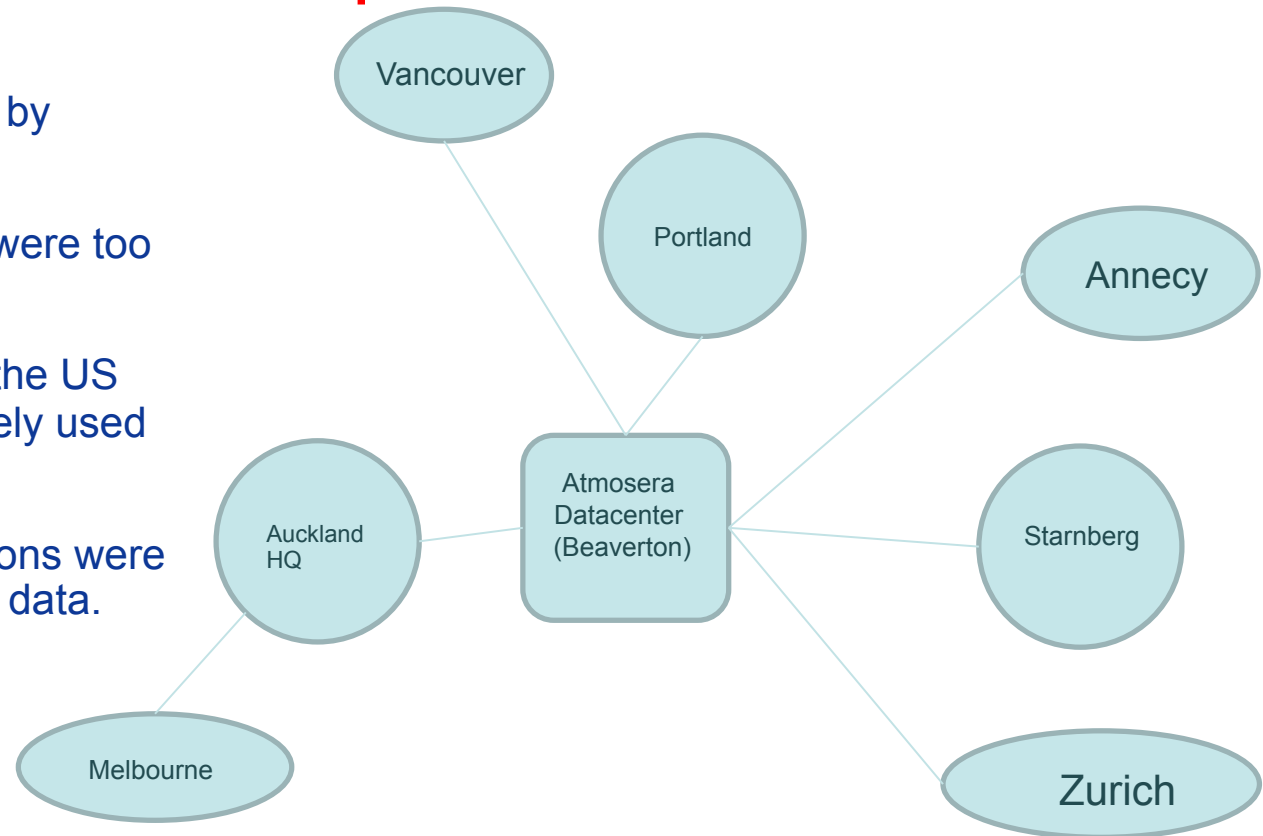- 30%+ year over year growth selling cloud solutions

Who is the Customer?

DISCOVERY.

IN 1995, ICEBREAKER CREATED AN
ENTIRELY NEW CLOTHING CATEGORY:
MERINO ACTIVE CLOTHING.

icebreaker®
MERINO

What was the problem?

- BI data was not usable by regional headquarters.

- Load times for reports were too long.

- Applications hosted in the US were not being effectively used in Europe and Asia.

- Critical business decisions were not being made with BI data.

Vancouver

Portland

Annecy

Auckland HQ

Atmosera Datacenter (Beaverton)

Starnberg

Melbourne

Zurich

What was the problem?

Origin	Destination	Activity	Result
Regional office	Prod PDX ZAP	ZAP Homepage load	9 secs
Regional office	Prod PDX ZAP	Wholesale Report initial load	26 secs
Regional office	Prod PDX ZAP	Wholesale Report refresh	16 secs

Workloads hosted on non flash arrays

Workloads hosted on all flash arrays

Origin	Destination	Activity	Result
Regional office	Prod PDX ZAP	ZAP Homepage load	8 secs
Regional office	Prod PDX ZAP	Wholesale Report initial load	25 secs
Regional office	Prod PDX ZAP	Wholesale Report refresh	15 secs

- Moving workloads to all flash arrays did not have a meaningful improvement in the environment.
- BI data was still not being leveraged in critical decisions.
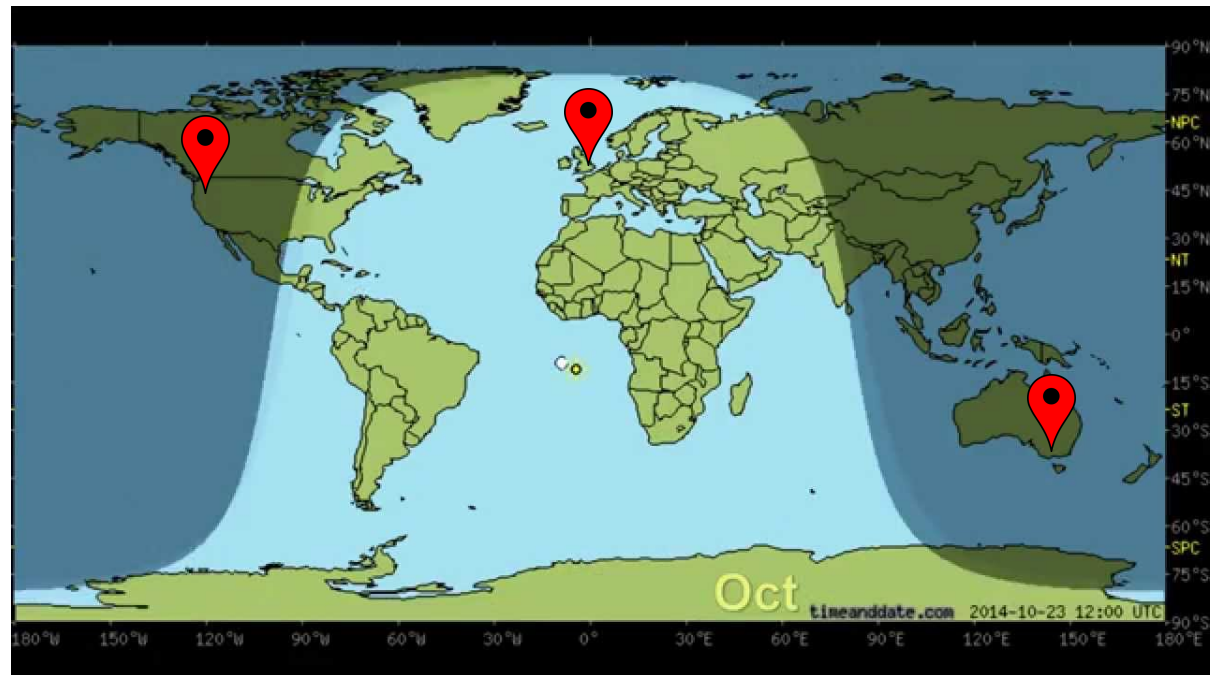
What was the solution?

Present the data closer to the query generator by:

Building BI datasets and push them to Azure.

Having SQL Always on cluster replicating AUS/USWEST/EUR.

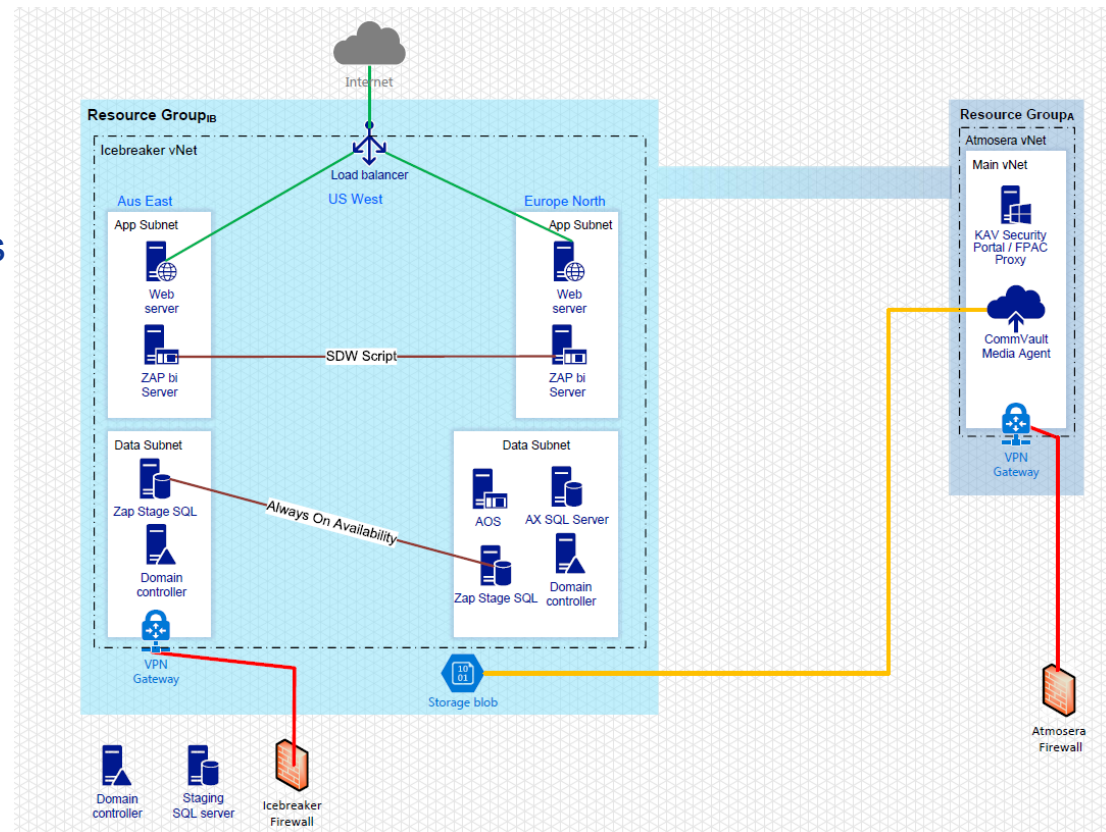Using load balancers to bring nearest data online during business hours.

What was the solution?

Keep critical data safe and BI data near the user by:

Continuing to run BI applications in the Atmosera Data Center.

Pushing only cubed daily data sets to Azure.

Making the daylight cluster the only online source for requests.

What was the solution?

Origin	Destination	Activity	Result
Regional office	Prod PDX ZAP	ZAP Homepage load	8 secs
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Regional office	Prod PDX ZAP	Wholesale Report refresh	15 secs

Workloads hosted on flash arrays

Workloads hosted on flash storage in the cloud nearby the regional office.

Origin	Destination	Activity	Result
Regional office	EU Azure Server	ZAP Homepage load	3 secs
Regional office	EU Azure Server	Wholesale Report initial load	11 secs
Regional office	EU Azure Server	Wholesale Report refresh	6 secs

- All metrics showed a improvements as load times are cut in half or better!
- BI data is now being leveraged in critical decisions.

What did we learn?

- Hyperscaler application re-deployments are not trivial.
- Numerous soft limits in clouds.
  - Number of IP addresses.
  - Size limitation on storage volumes.
- Cloud services are changing at a blistering pace.
- Not all Azure Cloud Solution Providers (CSPs) are created equal.
- PaaS based deployments are more cost effective than IaaS.

What did we learn?

- Latency, latency, latency.
  - Mass Storage Latency.
    - SSD/Flash arrays locally is critical.
    - SSD/Flash in the cloud is critical.
    - Flash mass storage is table stakes.
  - Network Latency.
    - Far more impactful to the application than storage latency.
- These solutions ARE cost effective.

What was the benefit?

BI Data can now be used to drive better decisions, for example:

- Temperature in regions drive real-time stock decisions.

- Wool production drives real-time price changes across the globe.
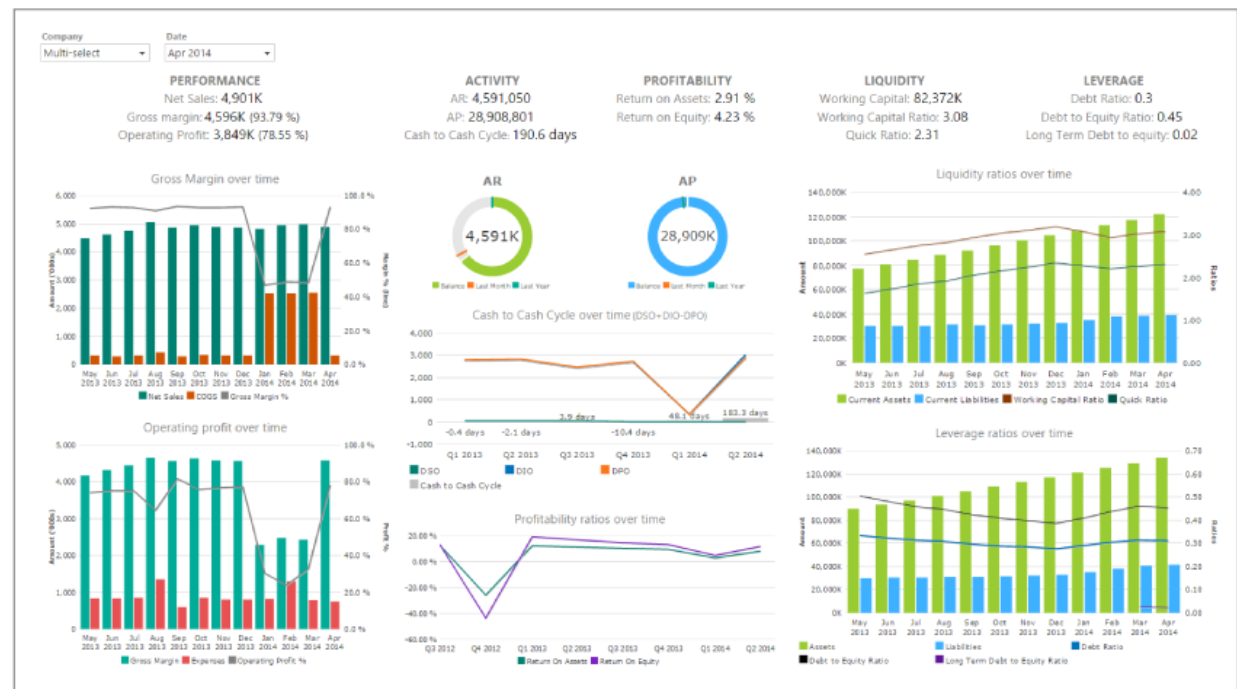
What was the benefit?

- Cost
    - Flash pricing in new and larger arrays is at par or lower than aging SAS arrays.
    - Hyperscalar implementations take advantage of elasticity.
    - Time to deploy is reduced allowing faster and more economical turn-up.

Q&A

For more information visit: atmosera.com

Thank you!