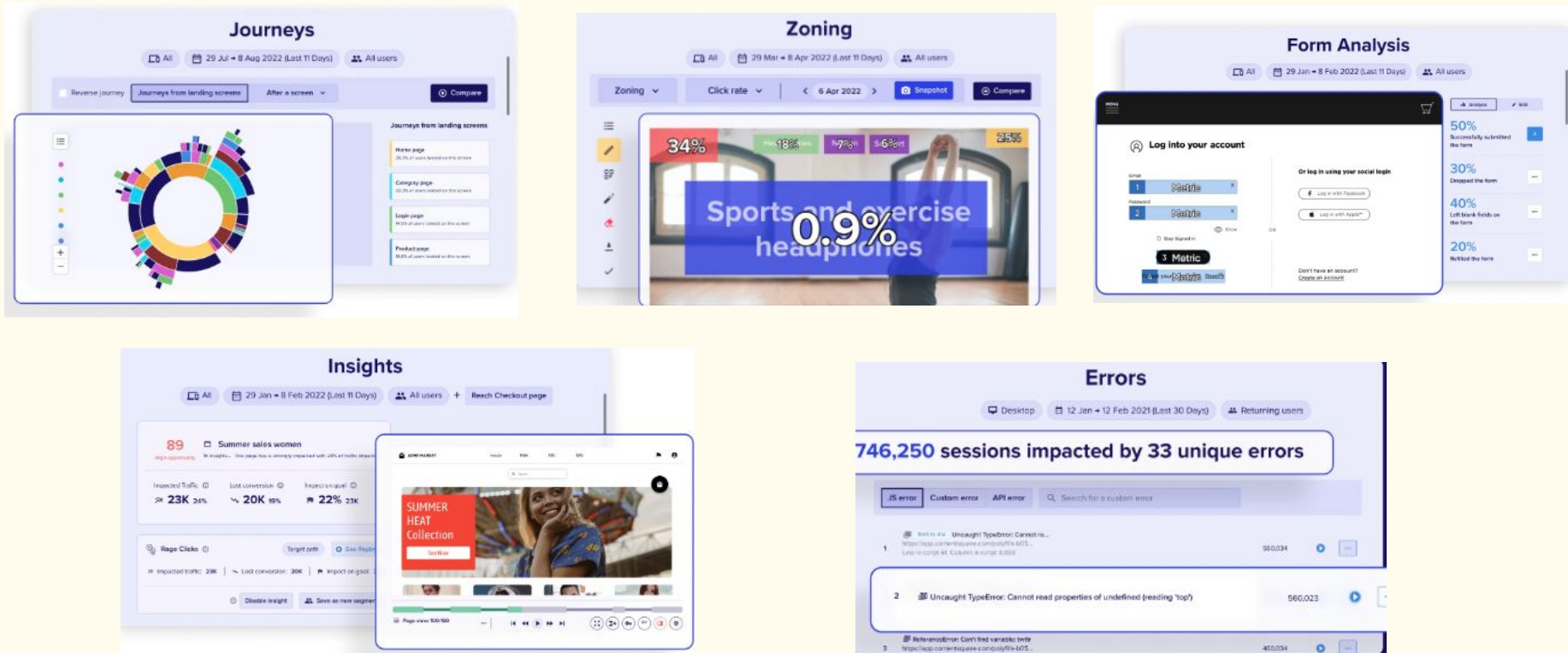# Clickhouse journey in Contentsquare

Doron Hoffman
Chief Architect @ Contentsquare

Contentsquare experience analytics platform

The Contentsquare community

1000+ clients

1M+ SMB customers

1B+ pages analyzed a day

SEPHORA · Walmart · Adobe · Dreams · Rakuten · Microsoft · T-Mobile · EVERLANE

Royal Bank of Scotland · BMW · De Beers Group of Companies · The North Face · verizon · Dell · RingCentral
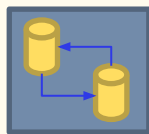
1500+ employees

17 offices

Clickhouse clusters in Contentsquare

Up to 9 shards per cluster

2 replicates per shard

16 clusters on 4 regions

100+ instances with CH

2 cloud providers

2 regions per provider

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Analytics cluster – ELK to Clickhouse

CH replace ELK 4 years ago

11x cheaper (with 6x more data)

10x faster on p99

Analytics cluster

- CollapsingMergeTree engine

- RAID of 5 st1 EBS disk per node

- 13 month of retention

- use cases require on the fly computation

- Clickhouse powerful functions enabled use cases like Population analysis on sequential behavior

more details in Contentsquare engineering blog
[Behavioral Time Series Segmentation in ClickHouse](#)

Real time events reconciliation cluster

- AggregationMergeTree engine

- RAID of 4 gp3 EBS disk per node

- short retention

- Enables analysis of recent events which occurred before session ended

- more details in Contentsquare engineering blog
  [Real-Time events reconciliation with ClickHouse](#)

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Observability cluster (internal)

- S3 table engine

- analysis of internal audit events

- Contentsquare data team contributed Azure blob storage support

- cross cloud support

BI cluster (Internal)

- replaced Redshift

- cross cloud support

- reduced cost

- increased analysis capabilities vs. prior solution

Internal tooling and contribution

- schema management – chschema
  public site - https://chschema.org/
  planned to be opened sourced

- User management integrated with vault

- PII deletion tooling

- scala client – dynamically builds and execute queries based on AST with optimizer

- Chproxy – Contentsquare ownership on open source
  public site - https://www.chproxy.org/

- contributing PRs to Clickhouse open source

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Contentsquare engineering blog – more content

https://engineering.contentsquare.com/

- **How we scale out our ClickHouse cluster**

- **Full-Text Search with Quickwit and ClickHouse in a Cluster-to-Cluster Context**

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Thank you