VIENNA DATA
SCIENCE TOOLS

Our favorite Podcasts

- Software Engineering Daily
  - https://softwareengineeringdaily.com/
- This Week in Machine Learning & AI
  - https://twimlai.com
- O'Reilly Data Show
  - https://www.oreilly.com/topics/oreilly-data-show-podcast
- Software Engineering Radio (by IEEE)
  - http://www.se-radio.net
- The InfoQ Podcast
  - https://www.infoq.com/the-infoq-podcast

In a Nutshell

- FaunaDB is combining the scale and flexibility of NoSQL with the safety and data integrity of relational systems:
    - Transactional database system
    - ACID-compliant
    - Highly available
    - Distributed / horizontally scalable
        - Replication
        - Sharding
        - ACID-compliant distributed transactions
    - They call it "Relational NoSQL"
- Uses the Calvin architecture for distributed DBMS
    - Thomson, Alexander et al. "Calvin: fast distributed transactions for partitioned database systems." SIGMOD Conference (2012).

FAUNA

Calvin vs. Spanner

- Spanner
  - [Corbett, James C. et al. "Spanner: Google's Globally Distributed Database." ACM Trans. Comput. Syst. (2012).](#)
  - Spanner is Google's scalable, multi-version, globally- distributed, and synchronously replicated database.
  - It is the first system to distribute data at global scale and support externally-consistent distributed transactions.
  - Physical atomic clock HW synchronizes the system time on all shards within very small error bounds.
- Implementations of the Spanner architecture
  - CockroachDB
    - https://www.cockroachlabs.com/
  - YugaByte DB
    - https://www.yugabyte.com/
  - Apparently problematic due to lack of Google's HW infrastructure
    - https://www.infoq.com/articles/relational-nosql-fauna
    - https://fauna.com/blog/distributed-consistency-at-scale-spanner-vs-calvin
  - Counterargument from YugaByte
    - https://blog.yugabyte.com/google-spanner-vs-calvin-global-consistency-at-scale/

Thank you!

bpirvu@novomatic.com
jwilms@novomatic.com

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