TIMESCALE

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Lots of Reasons
to use PostgreSQL for time-series

- Reliability
- Ease of use
- Broad ecosystem
- Flexible datatypes
- Geospatial support
- Power of JOINs

measurements		metadata	
time	**temp**	**container_id**	**cargo**
2017-01-01 01:03:42	56	ghi789	furniture
2017-01-01 01:03:35	64	def456	food
2017-01-01 01:03:12	72	abc123	electronics
2017-01-01 01:02:30	56	ghi789	food
2017-01-01 01:02:23	64	def456	books
2017-01-01 01:02:00	72	abc123	toys

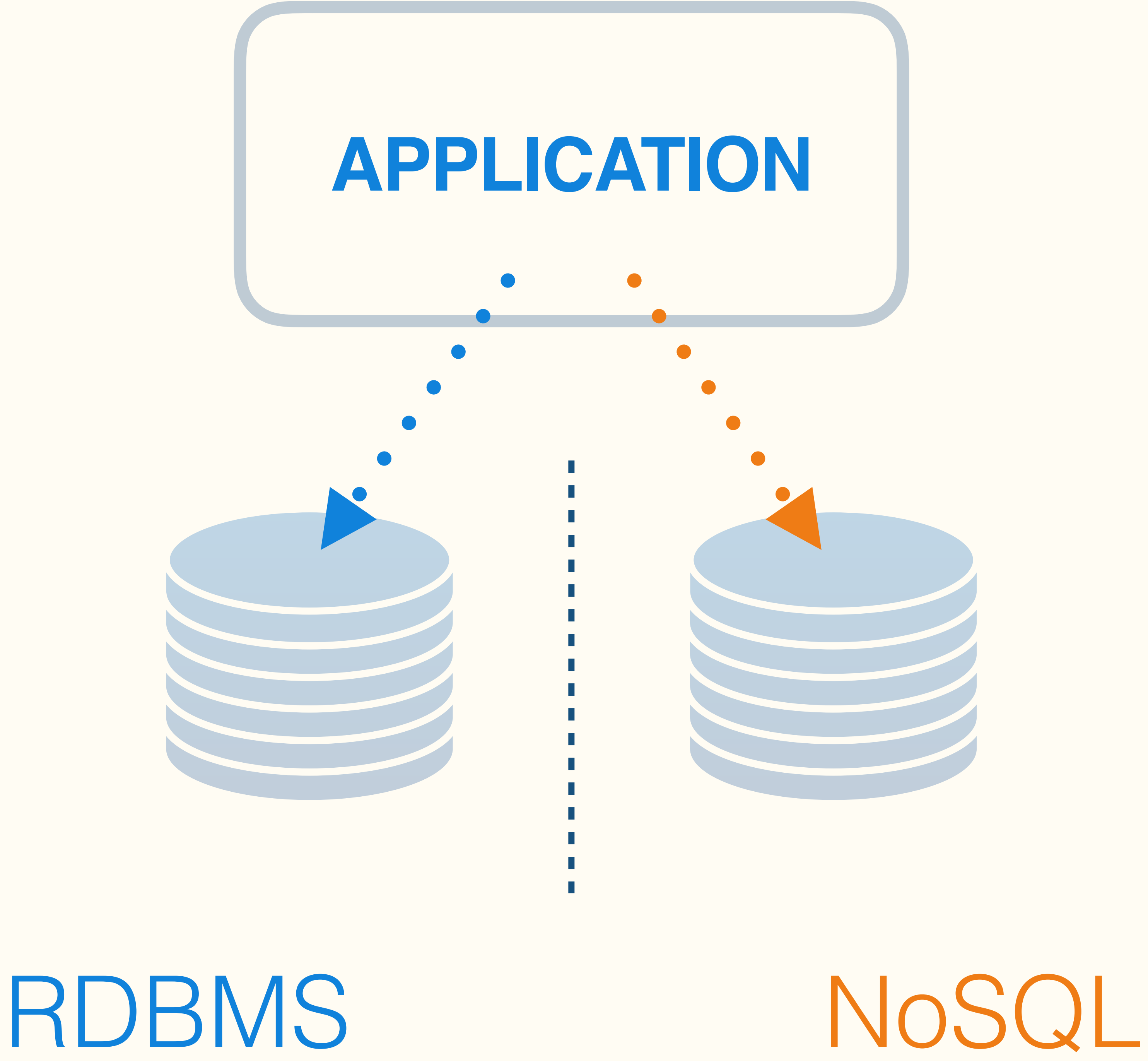
measurements				metadata		
timestamp	**temperature**	**cpu_1m_avg**	**free_mem**	**container_id**	**type**	**location_id**
2017-01-01 01:03:42	56	100	100MB	ghi789	big	77
2017-01-01 01:03:35	64	95	350MB	def456	small	335
2017-01-01 01:03:12	72	80	500MB	abc123	medium	335
2017-01-01 01:02:30	56	120	0MB	ghi789	big	77
2017-01-01 01:02:23	64	90	400MB	def456	medium	335
2017-01-01 01:02:00	72	80	500MB	abc123	small	335

Common scenario: Measurements + Metadata

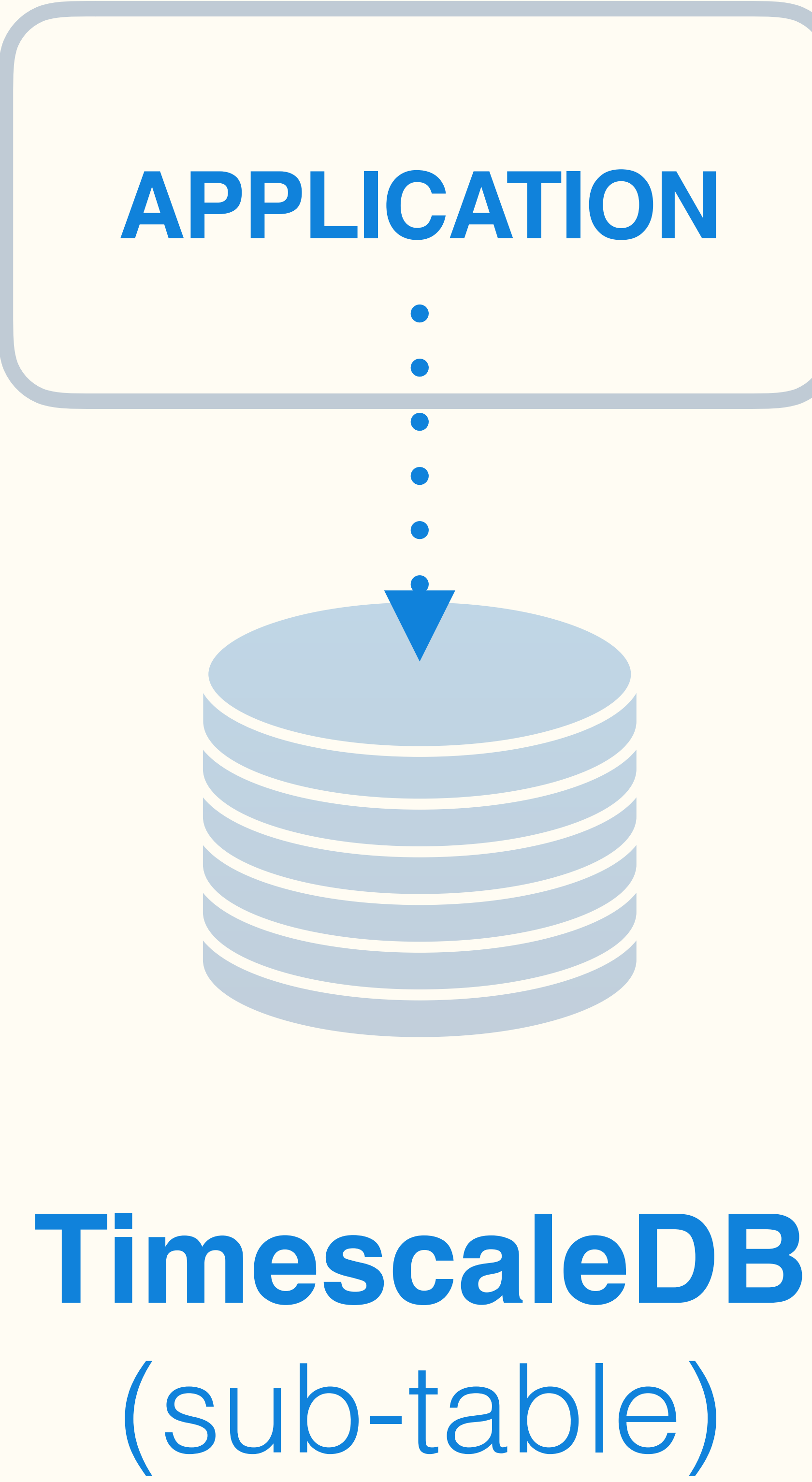
measurements		
time	**temp**	**container_id**
2017-01-01 01:03:42	56	ghi789
2017-01-01 01:03:35	64	def456
2017-01-01 01:03:12	72	abc123
2017-01-01 01:02:30	56	ghi789
2017-01-01 01:02:23	6[illegible]	[illegible]f456
2017-01-01 01:02:00	[illegible]	[illegible]123

primary key	metadata	
container_id	**type**	**cargo**
ghi789	big	food
def456	medium	furniture
abc123	small	toys

Simplify your stack



VS



High-Level Differences from **Plain Postgres**

- Insert performance
- Automatic partitioning
- Easier management
- Functions for time-based analysis
- Time-aware query optimizations
- Much faster deletes

High-Level Differences from **NoSQL**

- Secondary indexes
- Transactions
- Lower memory requirements
- No high cardinality problems
- Un-siloed data (JOINs!)
- SQL

We’re **open-source**!

Apache 2.0 license

github.com/timescale/timescaledb

Using PostgreSQL, Prometheus & Grafana for Storing, Analyzing and Visualizing Metrics

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Core Database Engineer

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