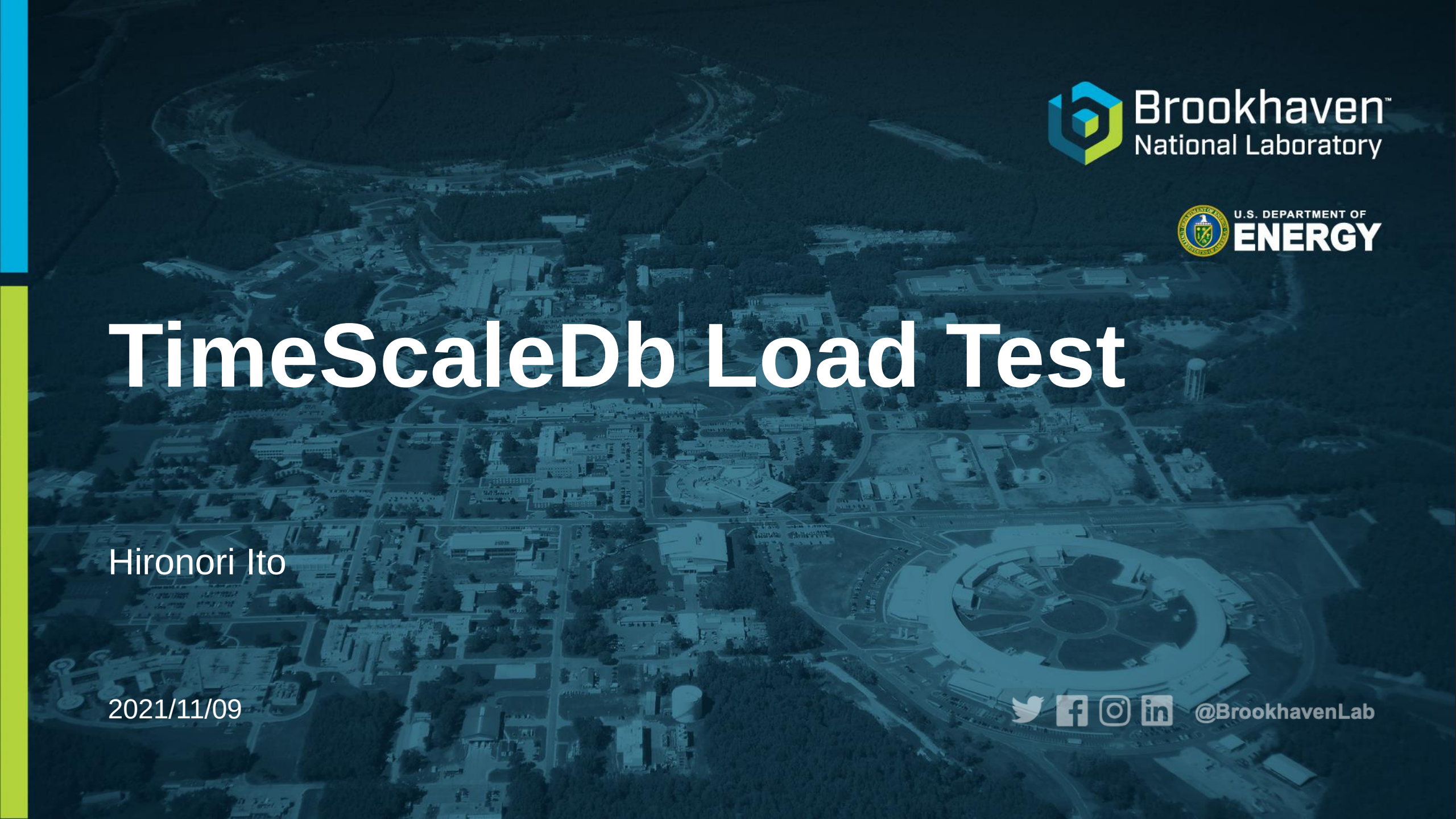


TimeScaleDb Load Test

Hironori Ito

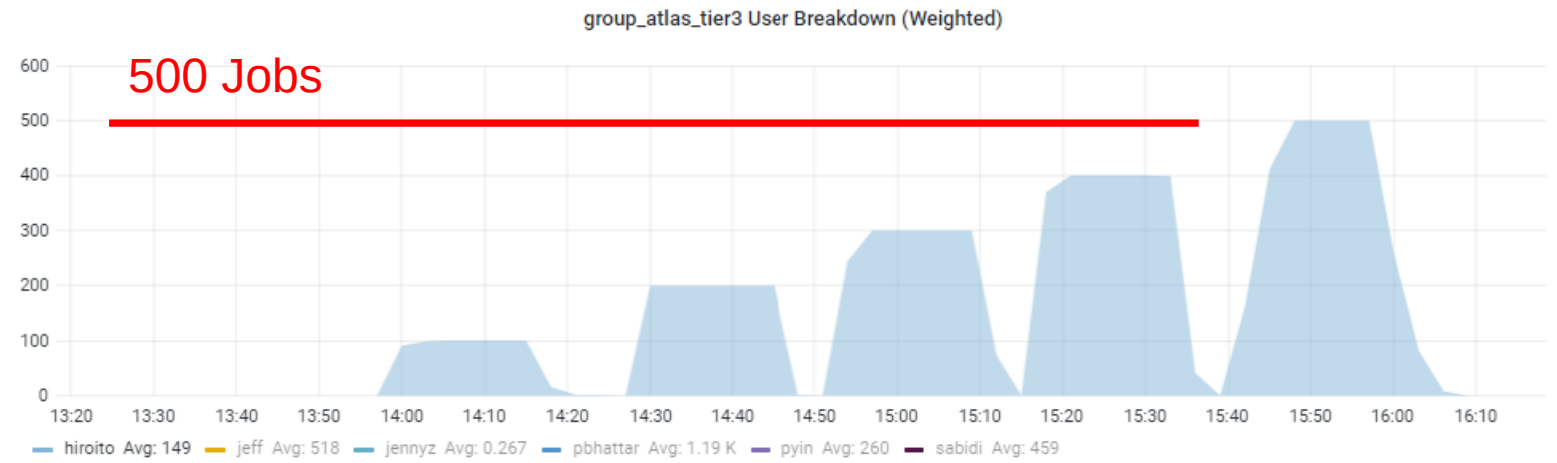
2021/11/09

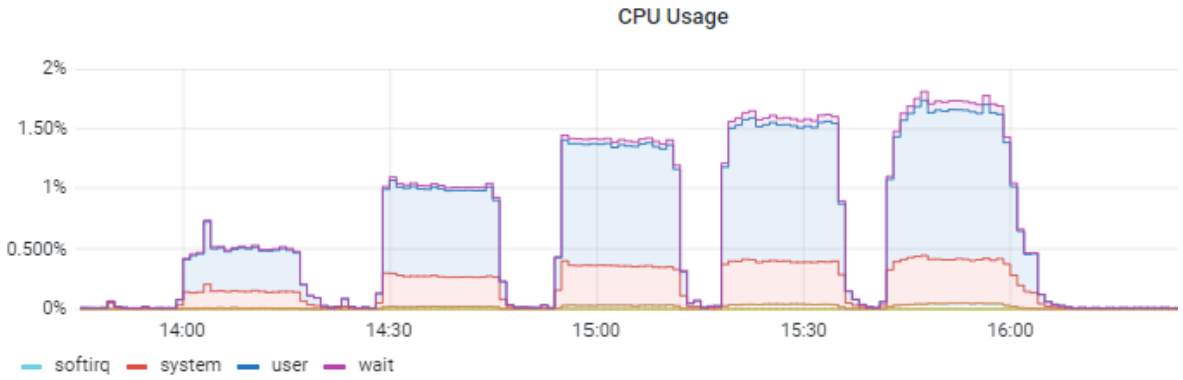
TimeScaleDB Load Test Setup

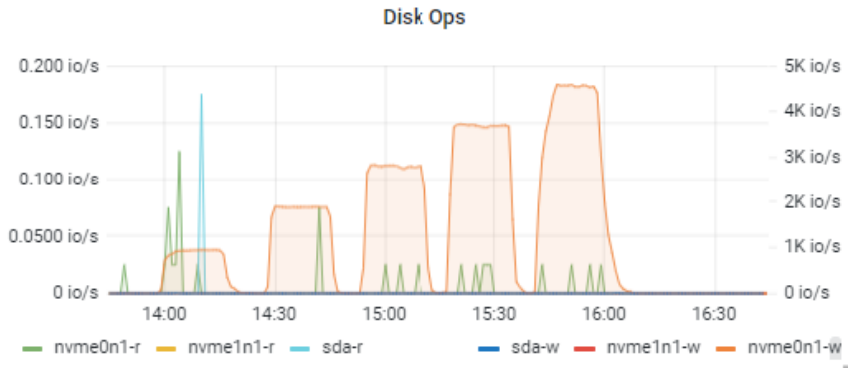
- Test Setup
  - Host
    - RAM 200GB
    - NVMe DISK
    - 72 hyper thread core
    - 10Gbps x 2 NIC
  - PostgreSQL 12
  - TimescaleDb
    - Very simple table with time, deviceid and value

- A script was written to insert one row into the table with 100ms wait each for 10000 times.
  - Each script should generate about **10Hz** (or bit less due to being a script and some other delay)
- HTCondor was used to submit number of jobs from **100** to **500**

Monitoring Load Tests







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SQL commands

- create table measurements (mtime TIMESTAMPTZ NOT NULL, deviceid integer not null, value float not null);
- select create_hypertable('measurements', 'mtime');
- select time_bucket('5 minutes', mtime) as t, count(*)/300.0 from measurements group by t order by t;

t	?column?
2021-11-09 13:40:00-05	0.10000000000000000000
2021-11-09 13:45:00-05	0.10000000000000000000
2021-11-09 13:50:00-05	0.46666666666666666667
2021-11-09 13:55:00-05	20.5933333333333333
2021-11-09 14:00:00-05	889.3133333333333333
2021-11-09 14:05:00-05	964.0000000000000000
2021-11-09 14:10:00-05	970.6666666666666667
2021-11-09 14:15:00-05	476.9500000000000000
2021-11-09 14:20:00-05	11.8100000000000000
2021-11-09 14:25:00-05	416.2366666666666667
2021-11-09 14:30:00-05	1948.9900000000000000
2021-11-09 14:35:00-05	1947.9566666666666667
2021-11-09 14:40:00-05	1950.3166666666666667
2021-11-09 14:45:00-05	403.1666666666666667
2021-11-09 14:50:00-05	133.7500000000000000
2021-11-09 14:55:00-05	2900.2633333333333333
2021-11-09 15:00:00-05	2915.6833333333333333
2021-11-09 15:05:00-05	2907.7433333333333333
2021-11-09 15:10:00-05	1142.5600000000000000
2021-11-09 15:15:00-05	1386.6800000000000000
2021-11-09 15:20:00-05	3888.6100000000000000
2021-11-09 15:25:00-05	3866.2633333333333333
2021-11-09 15:30:00-05	3860.1866666666666667
2021-11-09 15:35:00-05	331.5933333333333333
2021-11-09 15:40:00-05	1823.1400000000000000
2021-11-09 15:45:00-05	4641.8900000000000000
2021-11-09 15:50:00-05	4826.5600000000000000
2021-11-09 15:55:00-05	4400.5600000000000000
2021-11-09 16:00:00-05	940.3700000000000000

5K Hz

Conclusion

- The scability of TimeScaleDb seems to be excellent.
- The insertion rate of 5K was easily attained using 500 different client hosts concurrently.
- There was no limitation observed during this test.