A Scalable Database for Sensor Observations

Peter K. Kaiser, John N. Doe, <u>Jutta Kaisaniemi</u>

May 9, 2017

Introduction

- Of interest is CirrusRDF [2]
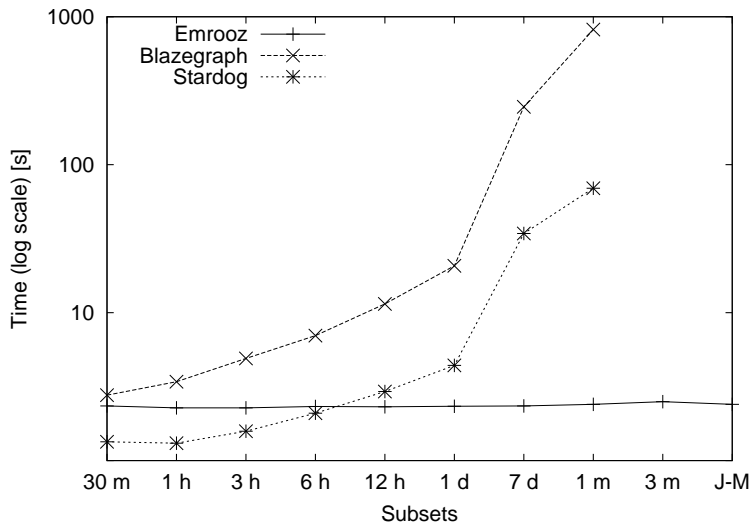- Widely adopted in the literature [1, 3]

Introduction

- Measure CO_2, CH_4, and H_2O fluxes
- Sampling frequency 10 Hz for 30 min

Results

Subset	Observations	Triples	Distinct
30 m	54 000	810 000	648 007
1 h	108 000	1 620 000	1 296 007

Results

References

[1] Quoc Danh and Xavier Manfred.
Sensor Middleware—Connecting the real world.
In *Proceedings of the Web Challenge at the 5th International Web Conference*, Berlin, Germany, January 2016.

[2] Andreas Kaiser and Ludwig Harth.
CirrusRDF: Nested Key-Value Stores and Linked Data.
In Thorsten Fokuoe and Yuanbo Liebig, editors, *Proceedings of the 10th International Workshop on Scalable Knowledge Base Systems*, pages 30–42, Karlsruhe, Germany, August 2007.

[3] Bobruk Lefort and Laurent Bobruk.
Sensor Data Cube for a 100 Year of Salinity.
In Oscar Henson and Kerry Corcho, editors, *Proceedings of the 3th International Workshop on Sensors*, volume 404, pages 78–95, Washington, DC, August 2010. CEUR-WS.