**SENSOR EASY**

SET search\_path TO test;

SELECT "timestamp" AS timestamp,"value" AS measurement,"type\_sens","mote\_id" FROM "test"."measure" WHERE "timestamp" < '2020-04-17 18:09:46' AND timestamp > '2020-04-17 18:09:42' AND "type\_sens" = 'CURR' AND "mote\_id" = '2'

ORDER BY timestamp ASC

**ATUADOR EASY**

SET search\_path TO test;

SELECT name AS actuator, name\_machine AS cell, state FROM test.state

INNER JOIN test.actuator ON state.act\_id=test.actuator.act\_id

INNER JOIN (SELECT MAX(test.state.timestamp) AS time from test.state GROUP BY test.state.name\_machine) AS compare ON state.timestamp=compare.time;

**CONFIGURATION DATA EASY**

SET search\_path TO test;

UPDATE mote

SET mote\_id=-1

WHERE mote\_id=2;

UPDATE mote

SET mote\_id=2

WHERE mote\_id=3;

UPDATE mote

SET mote\_id=3

WHERE mote\_id=-1;

SELECT mote\_id AS "Mote", name\_machine AS "Machine"

FROM mote

WHERE mote\_id!=4;

SET search\_path TO test;

UPDATE mote

SET mote\_id=-1

WHERE mote\_id=3;

UPDATE mote

SET mote\_id=3

WHERE mote\_id=2;

UPDATE mote

SET mote\_id=2

WHERE mote\_id=-1;

SELECT mote\_id AS "Mote", name\_machine AS "Machine"

FROM mote

WHERE mote\_id!=4;

**CONTROL RULES EASY**

SET search\_path TO test;

UPDATE rule

SET value='20'

WHERE rule\_id='1';

SELECT rule.rule\_id AS "Rule", mote.name\_machine AS "Cell", rule.value AS "Reference Value", rule.type\_sens AS "Sensor"

FROM rule,mote

WHERE rule.rule\_id='1'AND mote.mote\_id=rule.mote\_id;

**ENERGY EASY**

SET search\_path TO test;

WITH params (mydate) as (

SELECT MIN(timestamp) FROM measure

)

SELECT EXTRACT(epoch FROM (timestamp - mydate))/3600/1000\* 220 \*sum(value) OVER (order by m\_id asc rows between unbounded preceding and current row) AS energy, timestamp AS timestamp FROM params, measure WHERE "type\_sens" = 'CURR', m\_id = 1

**SENSOR MEDIUM**

SET search\_path TO test;

SELECT AVG(measure.value) AS average, mote.name\_machine AS room FROM measure

JOIN mote USING (mote\_id)

WHERE measure.timestamp < '2020-04-17 18:09:46' AND measure.timestamp > '2020-04-17 18:09:42' AND measure.type\_sens = 'CURR'

GROUP BY mote.name\_machine

**ATUADOR MEDIUM**

SET search\_path TO test;

SELECT COUNT(s\_id) AS change, name\_machine AS room FROM state

WHERE state.timestamp < '2020-04-17 18:09:50' AND state.timestamp > '2020-04-17 18:09:42'

GROUP BY name\_machine

**CONFIGURATION DATA MEDIUM**

SET search\_path TO test;

SELECT mote.name\_machine AS "Cell",COUNT(DISTINCT name\_machine) AS "Mote Count" ,COUNT(DISTINCT sensor\_mote.type\_sens) AS "Sensor Count"

FROM sensor\_mote,mote

WHERE sensor\_mote.mote\_id=mote.mote\_id

GROUP BY mote.name\_machine;

**CONTROL RULES DATA MEDIUM**

SET search\_path TO test;

SELECT mote.name\_machine AS "room", COUNT(DISTINCT rule\_id) AS "rules"

FROM rule,mote

WHERE rule.mote\_id=mote.mote\_id

GROUP BY mote.name\_machine;

**ENERGY MEDIUM**

SET search\_path TO test;

SELECT mote.name\_machine AS room, EXTRACT(epoch FROM (MAX(timestamp) - MIN(timestamp)))/3600/1000\* 0.1544 \* 220 \* sum(value) AS cost FROM measure

JOIN mote USING (mote\_id)

WHERE "type\_sens" = 'CURR'

GROUP BY mote.name\_machine