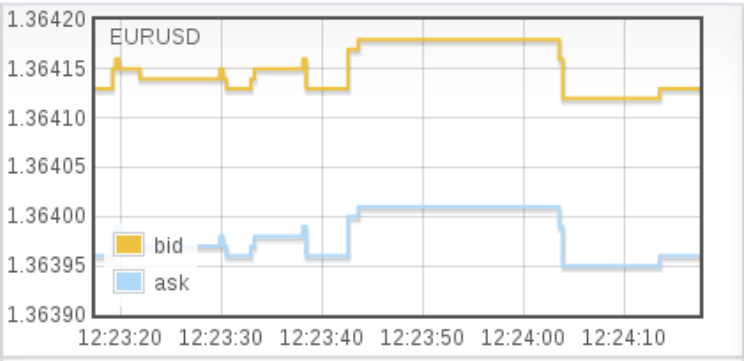
Trading Foreign Exchange

Forex market is the biggest market in the world! The amount of currency traded per day amounts to over $4.0 trillion.



One minute of trading one pair is worth $85M.

More than 85% of the global forex market's price movement happens on only 7 currency pairs.

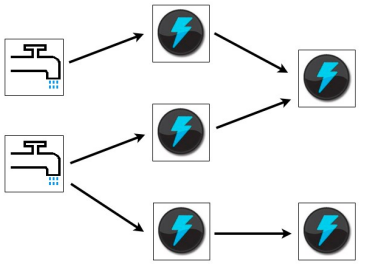
These are the USDJPY, GBPUSD, EURUSD, AUDUSD, NZDUSD, USDCAD, and USDCHF.

Trading is a data problem

- Velocity:
  - 7 main forex signals ~= 400ms between ticks,
  - Eth rtt between US coasts ~= 100ms.
- Volume:
  - One year of 7 main forex signals ~= 2.7GB,
  - One year of all forex signals ~= 100GB.
- Variety:
  - Forex ticks and trading rules,
  - ... other signals.

Wolf Trading Platform

- Interactive: Web-UI or API
- Real-time visualization
- Historical data visualization
- Support simple trading rules
- Simple integration with brokerage services



Cassandra

Flask

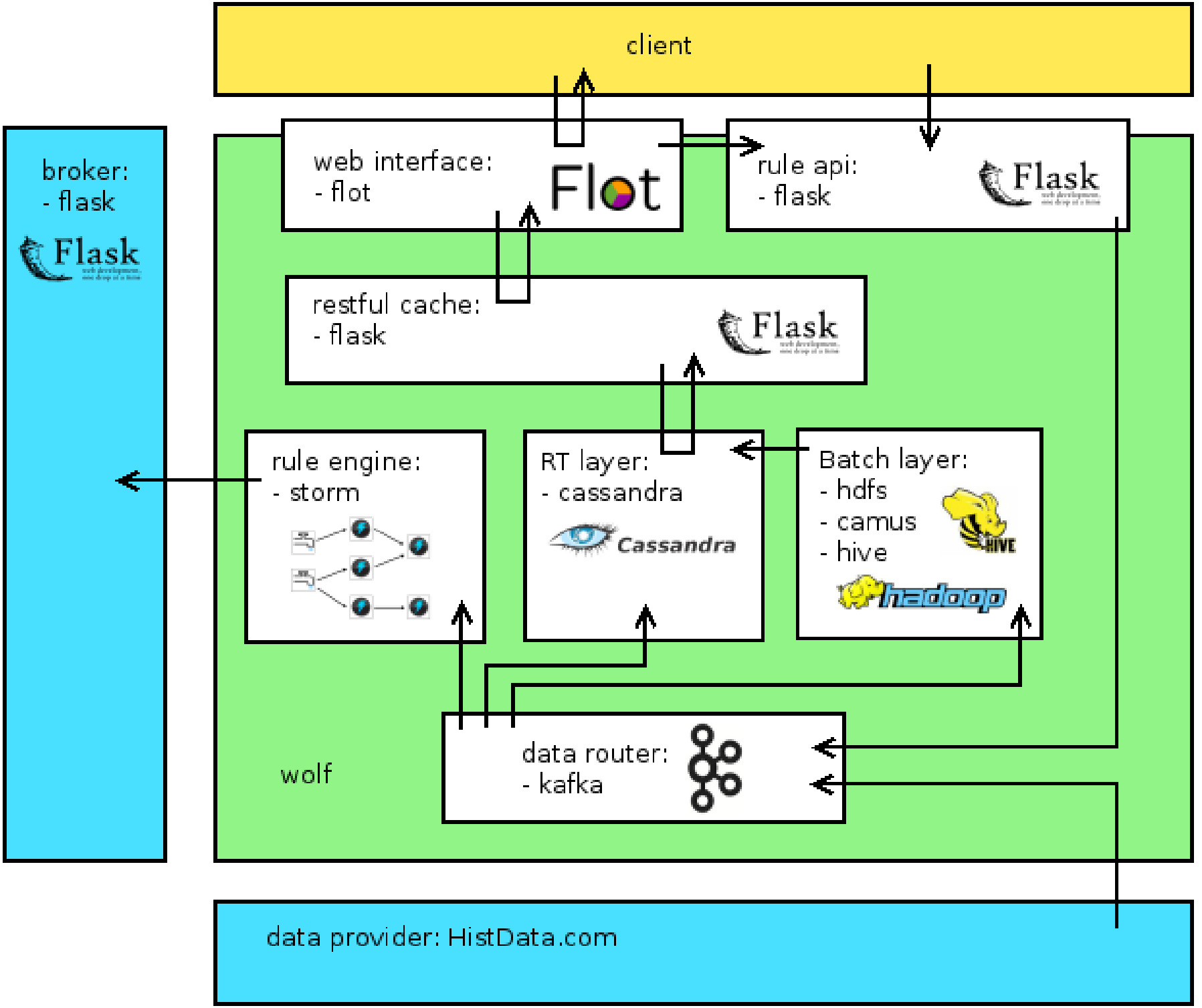
web development,
one drop at a time

Flot

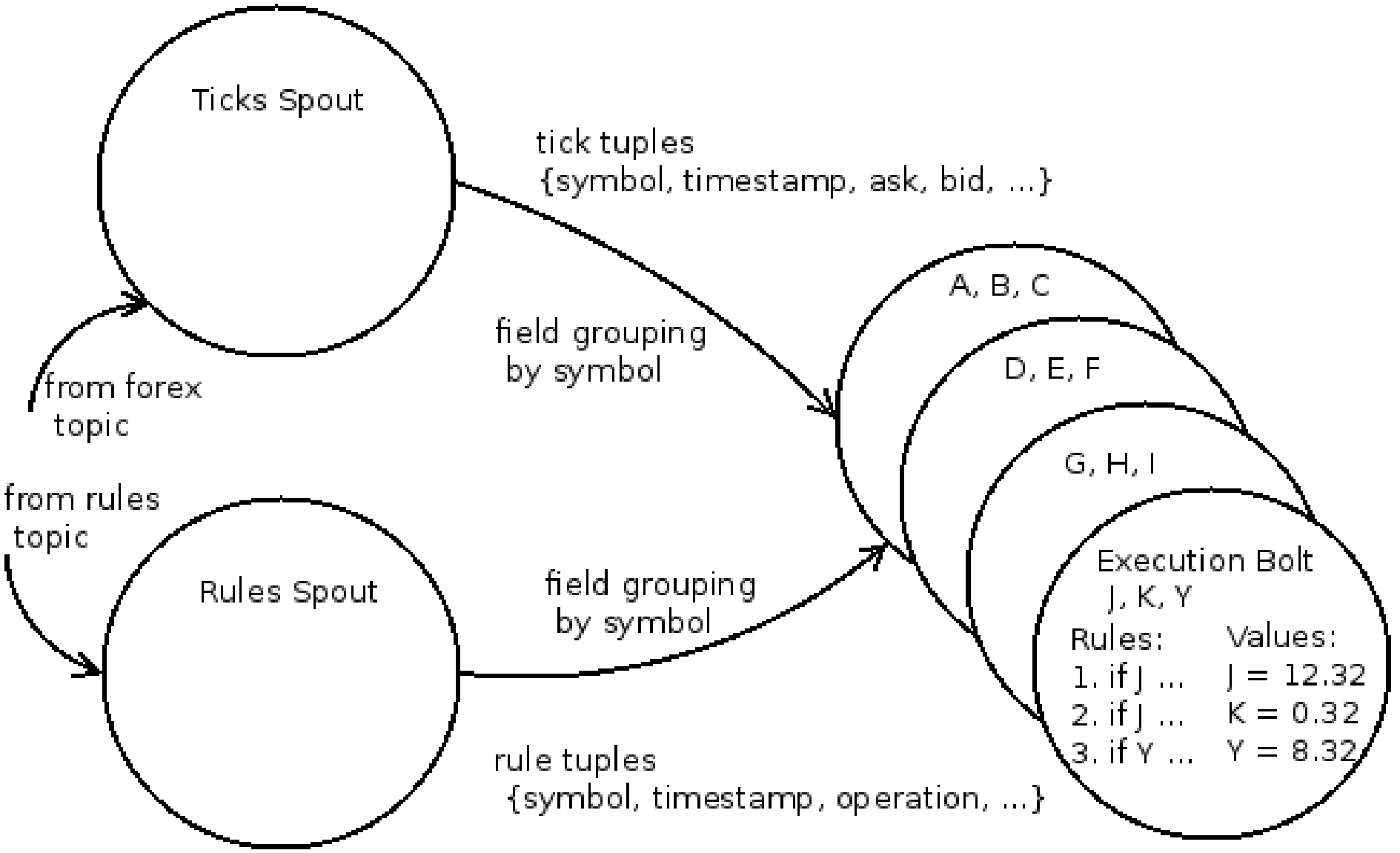
Example of a rule:

- IF ask(NZDUSD) < 0.79 THEN buy 100 NZUSD

- Demo ...
- https://www.youtube.com/watch?v=0Q5XMwENRuY&feature=youtu.be


client
broker:
- flask
Flask
web interface:
- flot
Flot
rule api:
- flask
Flask
restful cache:
- flask
Flask
rule engine:
- storm
RT layer:
- cassandra
Cassandra
Batch layer:
- hdfs
- camus
- hive
HIVE
hadoop
data router:
- kafka
wolf
data provider: HistData.com

Rule Engine


Ticks Spout
tick tuples
{symbol, timestamp, ask, bid, ...}
field grouping
by symbol
from forex
topic
A, B, C
D, E, F
G, H, I
from rules
topic
Rules Spout
field grouping
by symbol
Execution Bolt
J, K, Y
Rules:
Values:
1. if J ...
J = 12.32
2. if J ...
K = 0.32
3. if Y ...
Y = 8.32
rule tuples
{symbol, timestamp, operation, ...}

Thank you!

- Janusz Slawek
- Research in Bioinformatics
- Software development in aviation industry
- Fun: hiking, cross-country biking, outdoor sports
- github.com/slawekj/wolf