Onyx

విజయ్ కిరణ్ (@vijaykiran)

The Problem

Convert *data* into *information*

😋

Capture visitor data for a website

Store into a structured data store

Simple Program running on Single computer

😎

Capture visitor data for a **high-traffic** website

Store into a structured data store

🤔

Vertical Scaling

More Memory

More Processors

More Disks

🤘

Capture visitor data for a **high-traffic** website

Process and Store into a structured data store

😐

Vertical Scaling Limit

Can't add more Memory

Can't add more Processors

Can't add more Disks

Horizontal Scaling

More Nodes!

😒

Hadoop Map Reduce, Storm, Spark, Flink, Sqoop, Cascading, Cascalog

What's wrong with these ?

Hadoop Map Reduce, Storm, Spark, Flink, Sqoop, Cascading, Cascalog*

They are not written in clojure

☺️

Complex Information Model

Non-Standard Code

Differences between Batch and Streaming

😠

Enter Onyx!

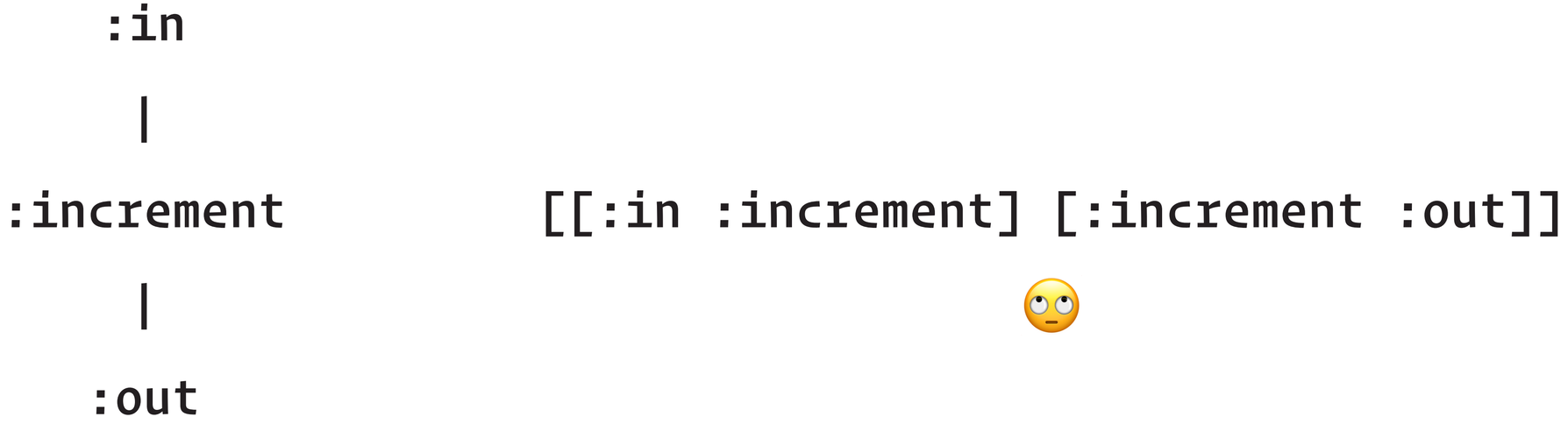
A masterless, cloud scale, fault tolerant, high performance, distributed computation system

😌

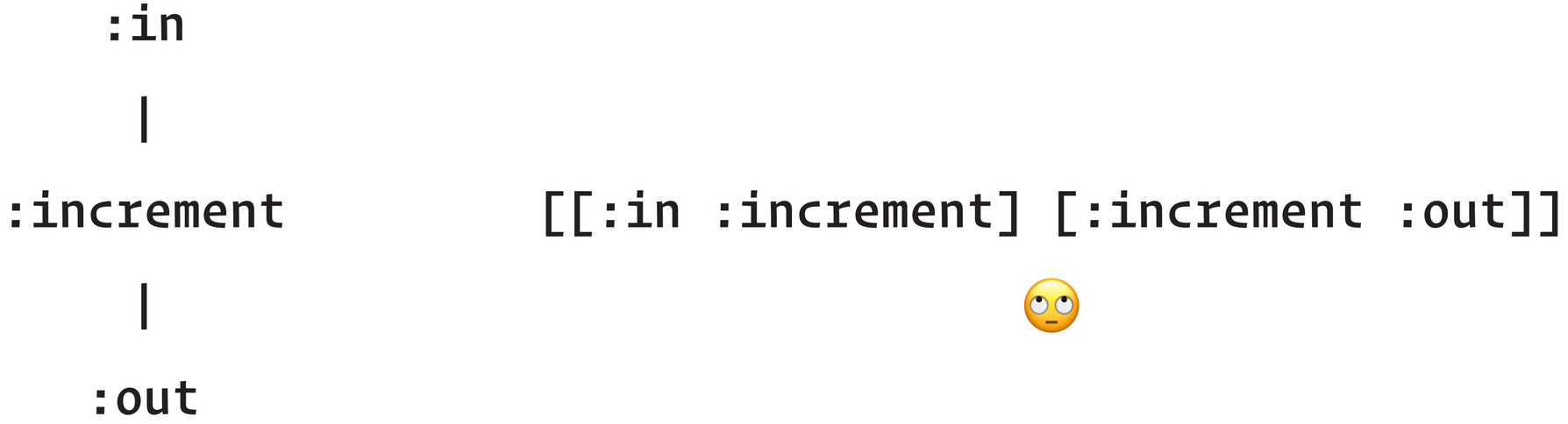
You build directed acyclic graph of computational paths in the program

😌

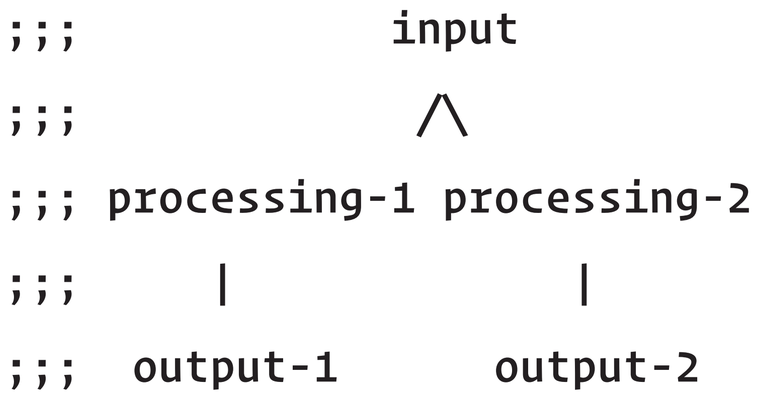
Workflow



Workflow



Workflow




```
[[:input :processing-1]
 [:input :processing-2]
[:processing-1 :output-1]
[:processing-2 :output-2]]
```

😃

Catalog

😎

```
[{:onyx/name :in
  :onyx/plugin :onyx.plugin.core-async/input
  :onyx/type :input
  :onyx/medium :core.async}
{:onyx/name :inc
  :onyx/fn :onyx.peer.min-peers-test/my-inc
  :onyx/type :function}
{:onyx/name :out
  :onyx/plugin :onyx.plugin.core-async/output
  :onyx/type :output
  :onyx/medium :core.async}]
```

Segment

😎

Clojure Map - Data flowing through the

Data flow graph

Task

😎

Unit of work - input, processing, output

Flow Conditions

Predicates to control data flow direction

```
[{:flow/from :input-stream
  :flow/to [:inc]
  :flow/predicate :my.ns/even-or-zero?
  :flow/doc "Emits segment if the number even or zero."}
```

Peer

A node or physical machine in the cluster

A lots of other good stuff in Documentation!

😇

Podcast Episode

https://defn.audio/2016/09/06/episode-9-onyx-with-mike-and-lucas/

Workshop!!!

https://github.com/onyx-platform/learn-onyx

Learn More about Onyx

- http://www.onyxplatform.org
- https://gitter.im/onyx-platform/onyx