

Application Latency and Streaming API

Breizhcamp 2016

@StreamdataIO



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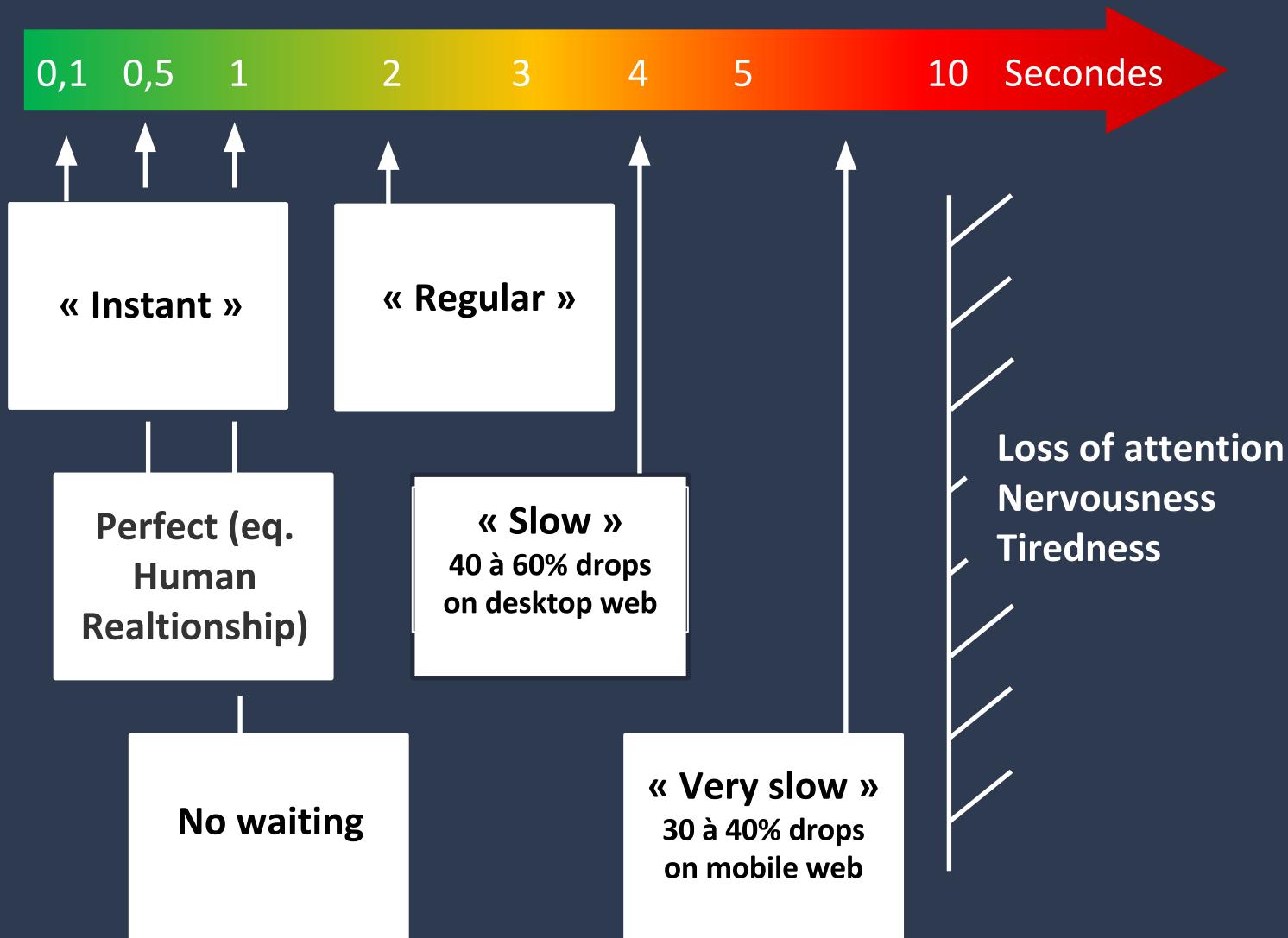
 **Sensory memory**
Length: 0,5s for video
2 sec for audio

 **Short-term memory**
Length: 30 secondes

 **Long-term memory**



Reaction time of an application



-100 ms = - 1% revenue & - 5% page views



Source : <http://www.webperformancetoday.com/2011/11/08/velocity-faster-mobile-sites-business-kpis-case-studies/>

Source : <http://www.ebaytechblog.com/2013/03/29/measuring-real-user-experience-with-site-speed-gauge/#.VFIHLvTF9CN>

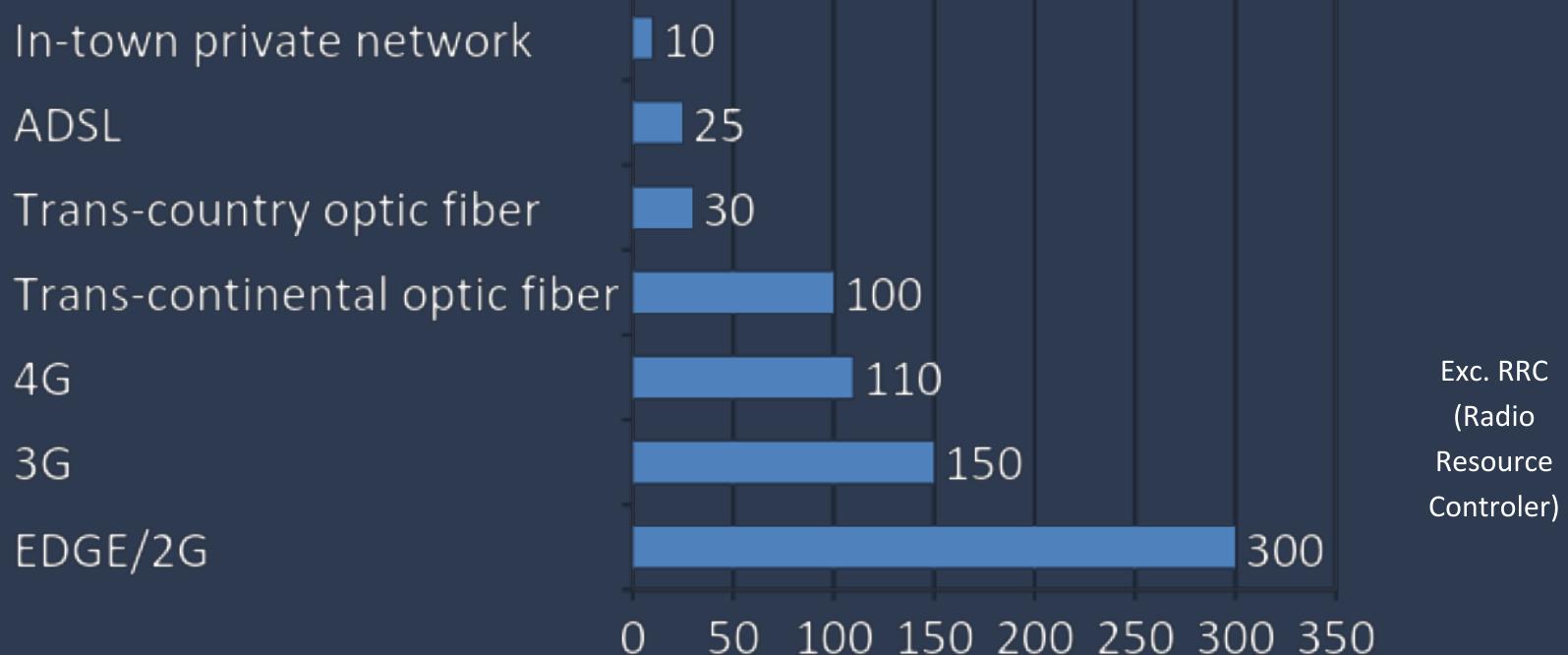
Source : <http://blog.radware.com/applicationdelivery/applicationaccelerationoptimization/2013/06/web-performance-poverty-line/>





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Round Trip Delays (ping time)



In ADSL, first useful piece of data in 60ms (HTTPS)

In 4G / LTE, first useful piece of data in 300 ms (450 ms in 3G)



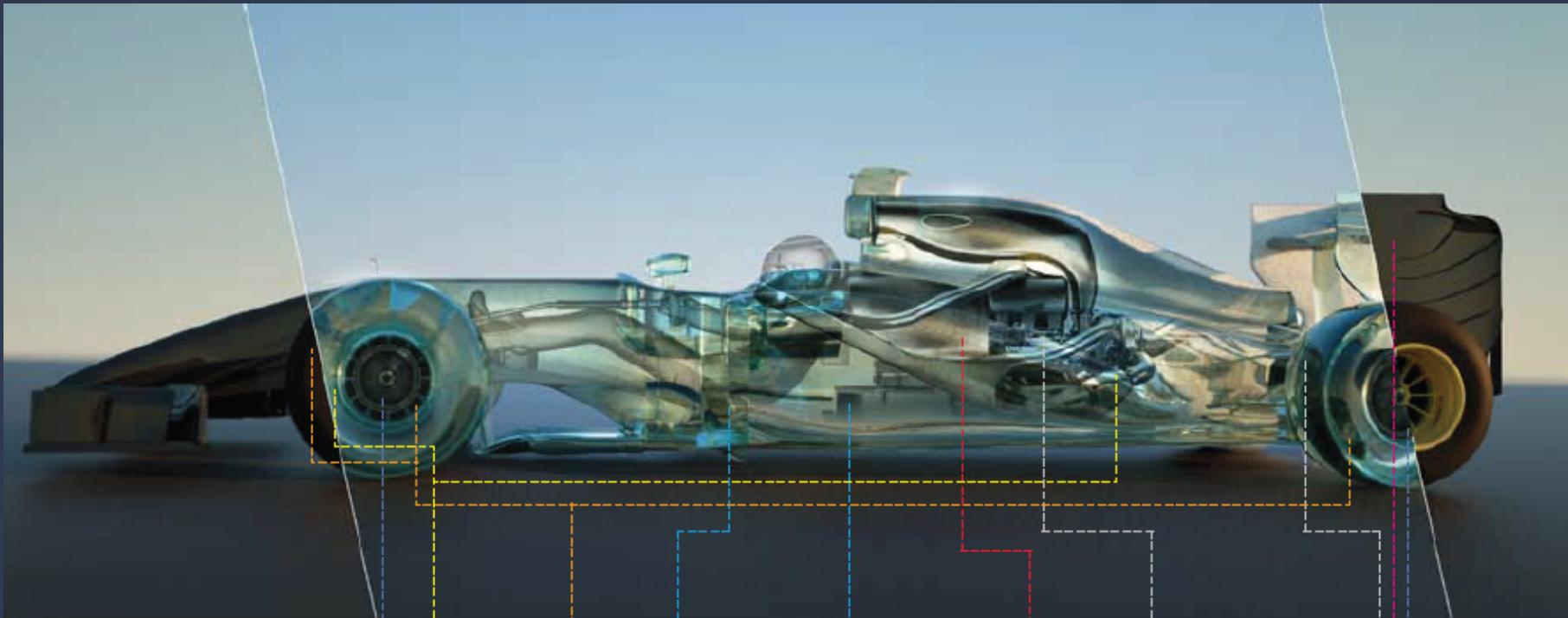


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Latency requires a global approach



Perception

Bandwidth

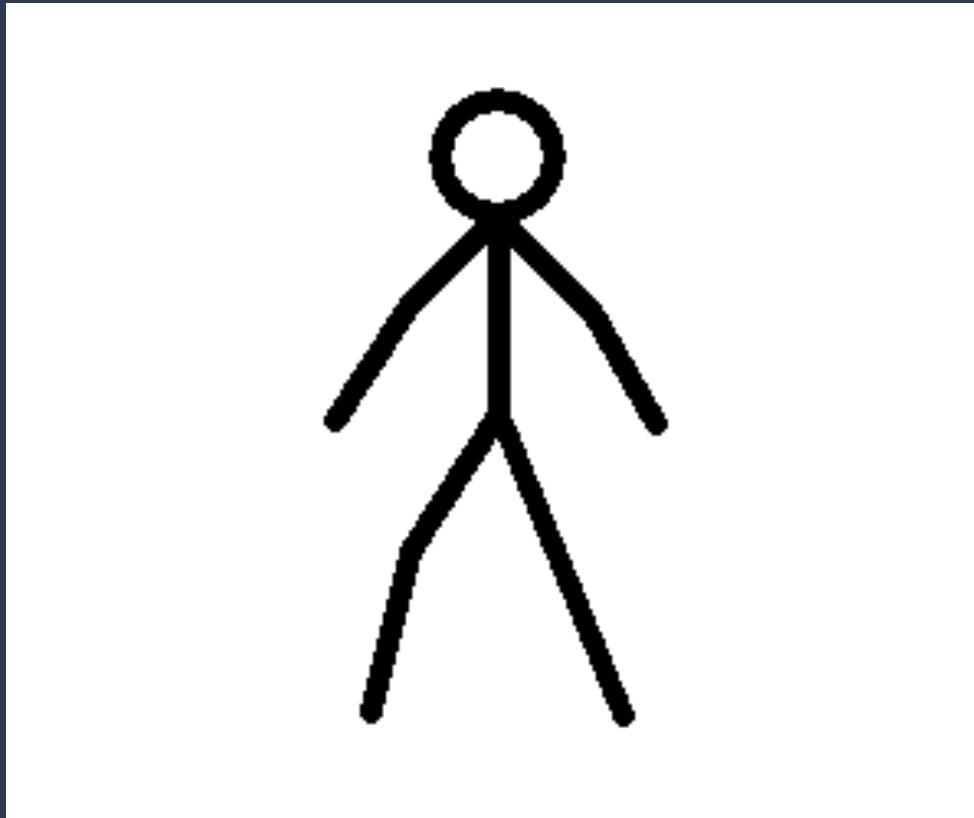
API calls

Network latency

Data requirements

Protocols





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Dynamic data for your UI

- **Stock prices & betting odds**
- **Social networks info / status**
- **Search options / words**
- **News**
- **Stock of services /products**
(Sharing economy & promotions)
- **Prices**
- **Dashboard**
(Cash, Sales, ...)
- **Collaborative works/inputs**
(chats, texte, drawings, ...)
- **Online games**
(Leader boards & in-game info)
- **...**

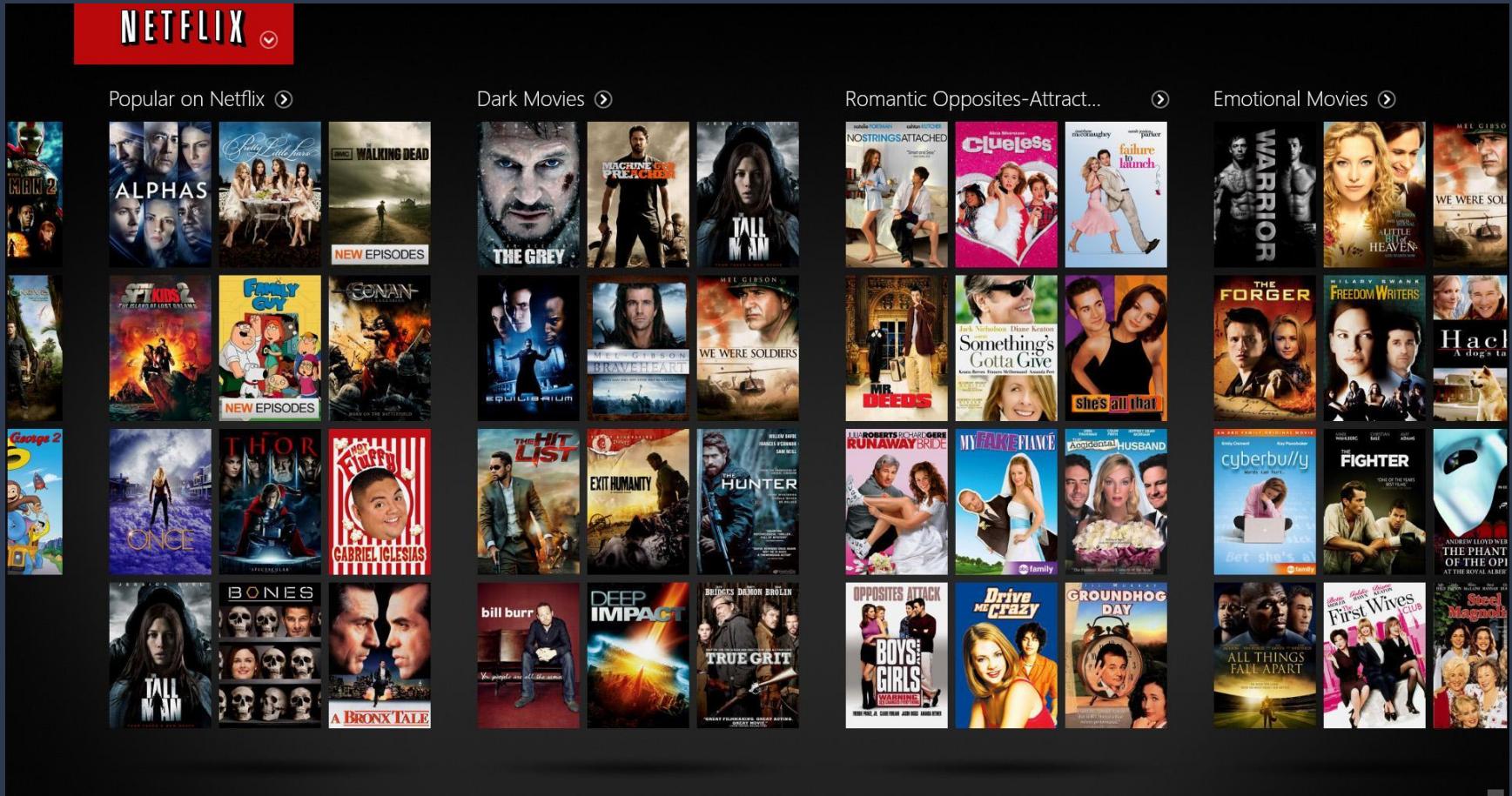


Netflix / Google / Twitter



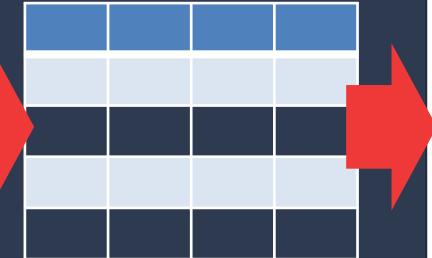
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Netflix



Netflix

JSON Path + cache local + polling
optimized query



Note : Table size \leftrightarrow
device screen

+ JSON

```
http://netflix.com/user

{
  videoLists: [
    "0": {
      "name": "Thrillers",
      "0": {
        id: 2654,
        name: "Die hard",
        rating: 4.0
      },
      // more titles
      length: 74,
    },
    "1": {
      "name": "Action Movies",
      "0": {
        id: 2654,
        name: "Die hard",
        rating: 4.0
      },
      // more titles
      length: 74
    }, // more lists...
    length: 25
  }
}
```

```
"name": "Thrillers",
"0": {
  id: 2654,
  name: "Die hard",
  rating: 4.0
}
```

<http://www.infoq.com/presentations/netflix-reactive-rest> (Jafar Husain)





https://www.google.fr/?gfe_rd=cr&ei=jBH_VKfvGZKDaLmwglAM#q=boobs



Applications

Mobile Marketing We

403 - moTwin - bugtr

Mobile Enterprise: W

DJI PHANTOM: Le F

Korben « Upgrade yo



Google

boob

boo boo

boob lift

booboo stewart

boohbah



+Nicolas



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Press Enter to search.



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Overview

[Connecting to a streaming endpoint](#)

[Streaming API request parameters](#)

[Streaming message types](#)

[Processing streaming data](#)

Public API

User Streams

Site Streams

Firehose

The Streaming APIs

Overview

The Streaming APIs give developers low latency access to Twitter's global stream of Tweet data. A proper implementation of a streaming client will be pushed messages indicating Tweets and other events have occurred, without any of the overhead associated with polling a REST endpoint.

If your intention is to conduct singular searches, read user profile information, or post Tweets, consider using the [REST APIs](#) instead.

Twitter offers several streaming endpoints, each customized to certain use cases.

[Public streams](#) Streams of the public data flowing through Twitter.

Suitable for following specific users or topics, and data mining.

[User streams](#) Single-user streams, containing roughly all of the data corresponding with a single user's view of Twitter.



Standard for incremental data : JSON Patch

The original document

```
{  
  "baz": "qux",  
  "foo": "bar"  
}
```

The patch

```
[  
  { "op": "replace", "path": "/baz", "value": "boo" },  
  { "op": "add", "path": "/hello", "value": ["world"] },  
  { "op": "remove", "path": "/foo" }  
]
```

The result

```
{  
  "baz": "boo",  
  "hello": ["world"]  
}
```

<http://jsonpatch.com/>



Solutions for dynamic data

	Browser support	Web infra compatibility	Easiness to dev	Load (network / Device)	Down stream	App latency
Polling/Long Polling						
Websocket						
SSE						



Demo !



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C'est l'heure de sortir vos mobiles

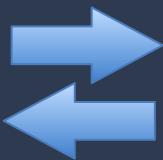
=>

<http://bit.ly/survey-demo1>

et

Votez !





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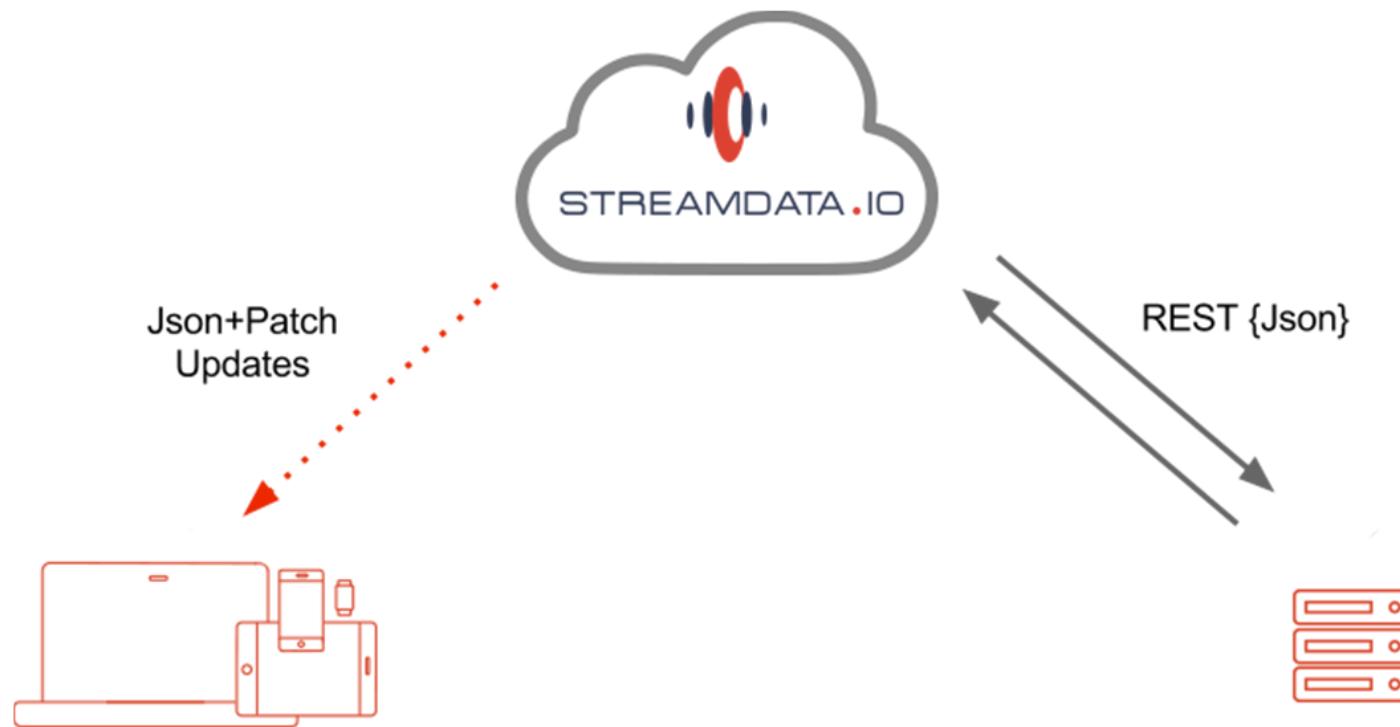
Show me some fuckin'code !



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Introduisons un peu de dynamisme ...





Example with Uber API

[https://api.uber.com/v1/estimates/time?
start_latitude=33.
9799396&start_longitude=-118.3343132
&server_token=<your_uber_token>](https://api.uber.com/v1/estimates/time?start_latitude=33.9799396&start_longitude=-118.3343132&server_token=<your_uber_token>)



Example with Uber API + streamdataio

https://streamdata.motwin.net/https://api.uber.com/v1/estimates/time?start_latitude=33.9799396&start_longitude=-118.3343132&server_token=<your_uber_token>&X-Sd-Token=<your_streamdataio_token>



Second tour



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... because of « properties bindings » !



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Votez encore !

<http://bit.ly/survey-demo2>



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More code ?



[https://github.com/streamdataio/
poll-demo.git](https://github.com/streamdataio/poll-demo.git)



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Conclusions

- App latency objective : 0,5 sec
- Enable dynamic data display
- « *The more others invest in amazing UI, the more yours seems louzy* »
A. Einstein « Relativity concepts applied to UI », OpenRoadMedia, 1937
- Become Streamers !

