

# **A story about GenStage**

## **Pune Ruby**

# Tech @Synup

Outgoing traffic

= =

50 times incoming traffic

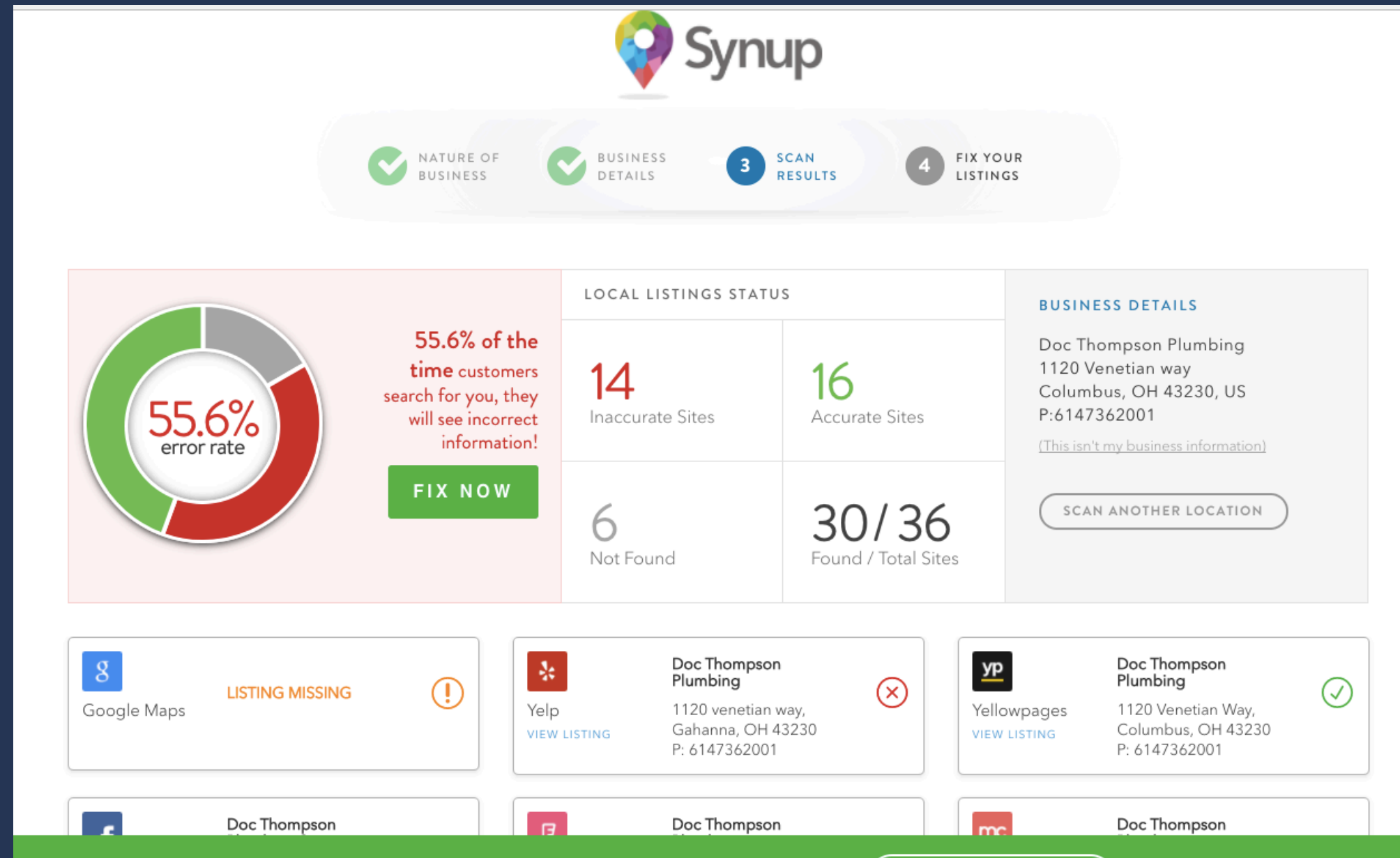
## Requirements for our queuing systems

- \* process whenever possible
- \* process with respect to API limits
- \* process as fast as possible

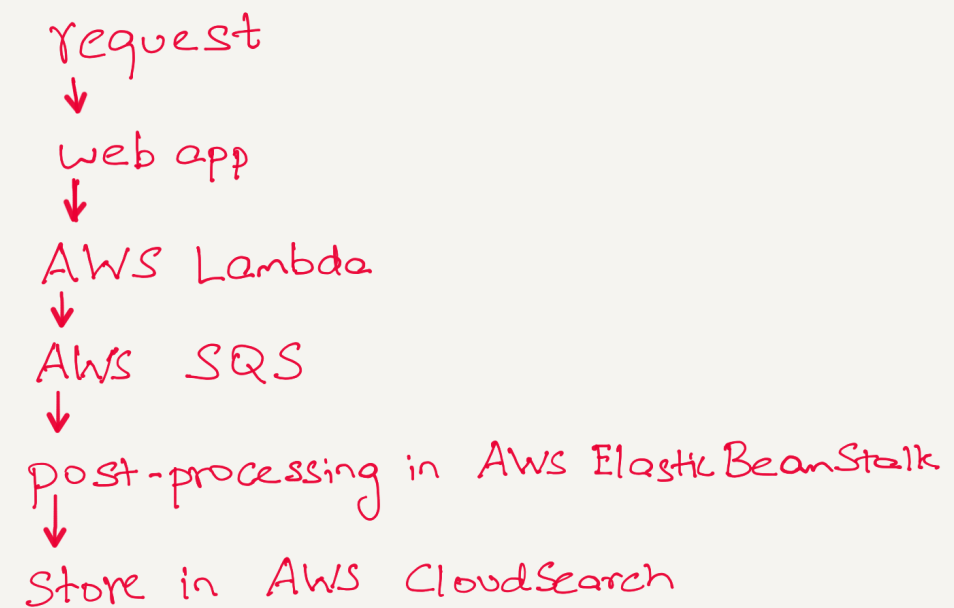
# Queing @ Synup

- \* ruby + rabbitmq
- \* python (celery) + rabbitmq
- \* python + redis
- \* elixir + python + AWS SQS

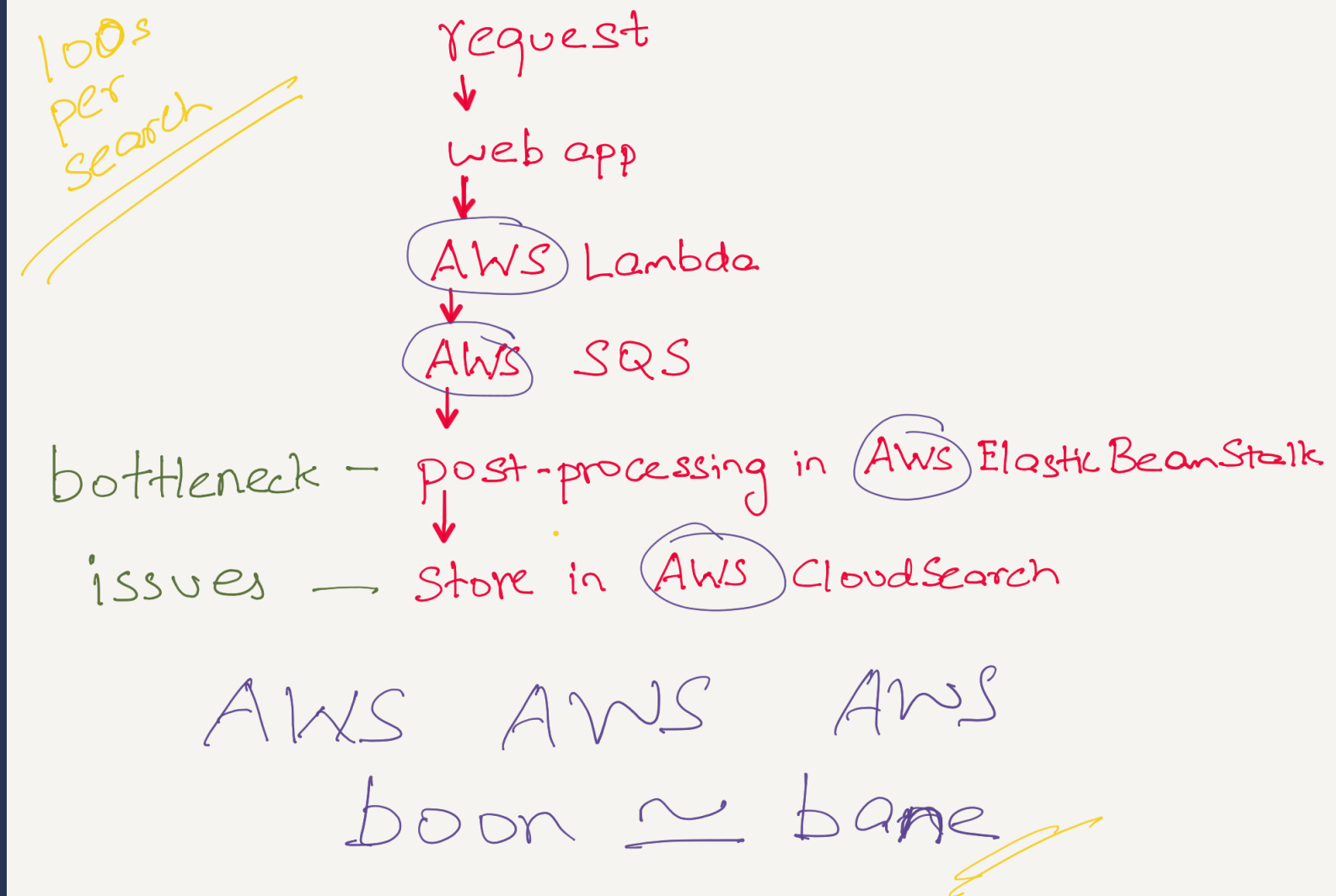
# App that searches sites live



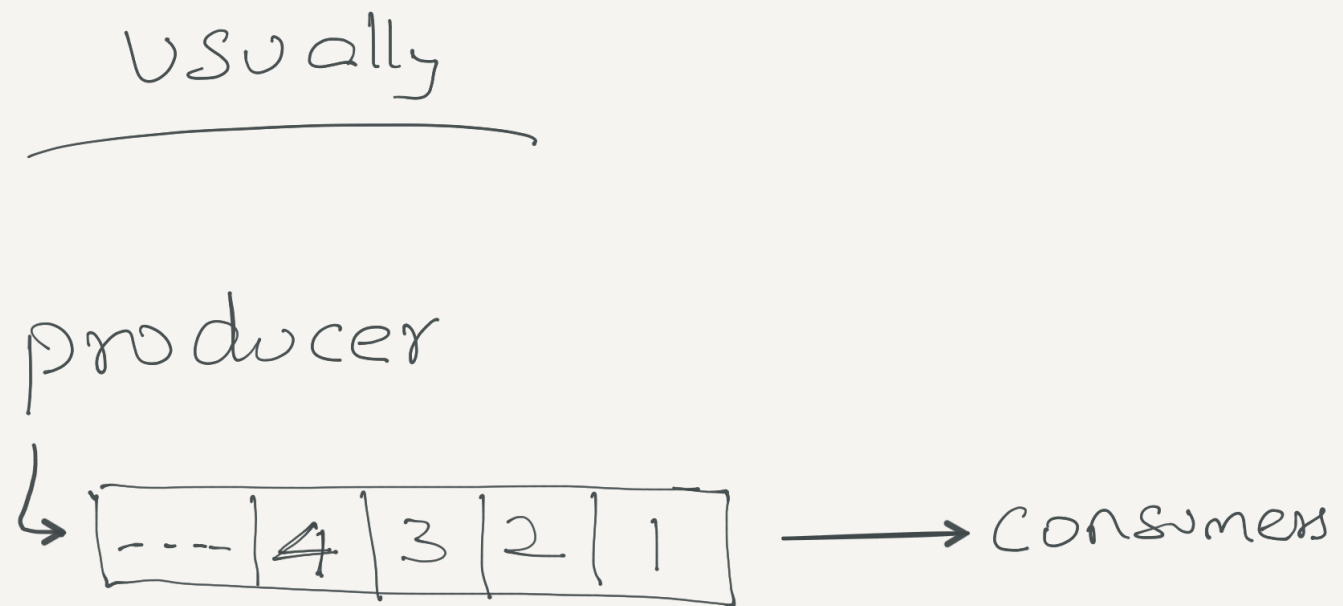
# Old architecture: prototype in few days



# A year later: issues, issues



# Workers usually...



\* Sidekiq checks for jobs  
every 15 seconds



# GenStage

Two components:

- producer routes events to consumers
- consumer processes events

# The demand conversation

Consumer: "I can process 100 events"

Producer: "For now, take all the 60 events I have"

[later]

Producer: "Here are the other 40 events"

Consumer: "I can process 100 more"

[later]

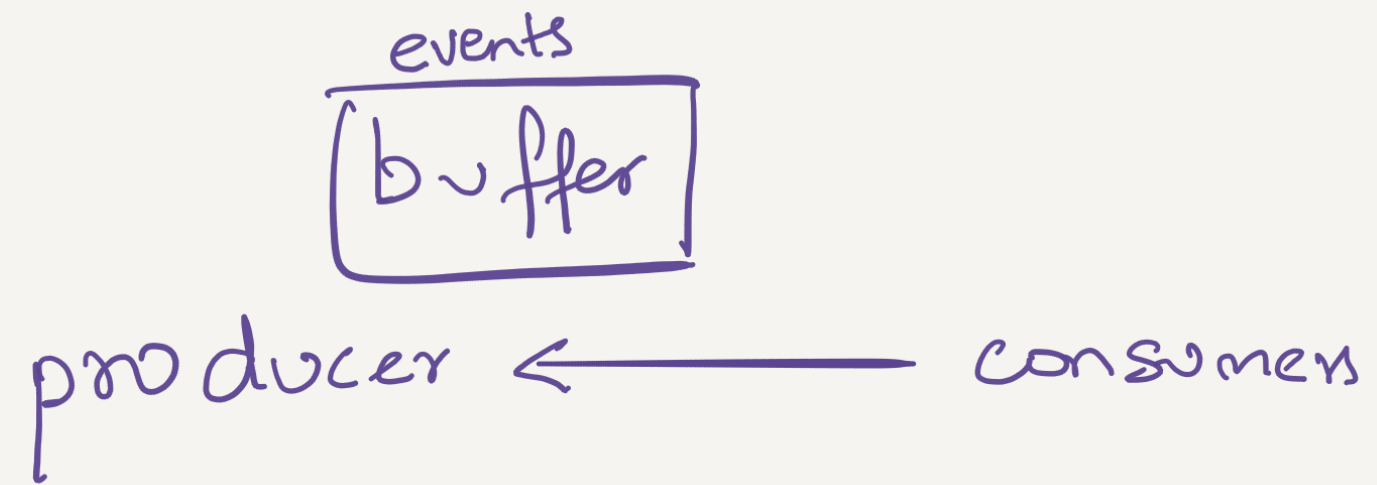
Producer: "Here are 100 events"

# The demand conversation for real

```
[info] Incoming demand for Elixir.SimpleProducer: 3
Interactive Elixir (1.5.0) – press Ctrl+C to exit (type h() ENTER for help)
iex(1)> Enum.map(1..10, fn(i)-> SimpleProducer.notify("hello #{i}") end)
[info] Received: ["hello 1"]
[info] Received: ["hello 2"]
[info] Received: ["hello 3"]
[info] Incoming demand for Elixir.SimpleProducer: 3
[info] Received: ["hello 4", "hello 5", "hello 6"]
[info] Incoming demand for Elixir.SimpleProducer: 3
[info] Received: ["hello 7", "hello 8", "hello 9"]
[info] Incoming demand for Elixir.SimpleProducer: 3
[info] Received: ["hello 10"]
[:ok, :ok, :ok, :ok, :ok, :ok, :ok, :ok, :ok, :ok]
iex(2)> █
```

# GenStage integration

- Add the `gen_stage` library
- Define producer
- Define consumer
- Define workers in process tree

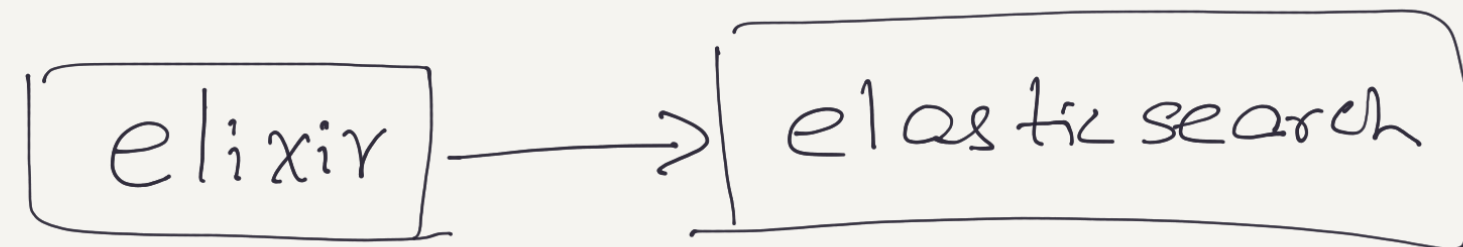


gen-stage

## the rewrite

\* One elixir app

\* Search in 5 seconds



# Search status

| Site            | Status |
|-----------------|--------|
| yasabe.com      | done   |
| yelloyellow.com | done   |
| uscity.net      | done   |
| elocal.com      | done   |
| cylex-usa.com   | done   |
| brownbook.net   | done   |
| showmelocal.com | done   |
| localstack.com  | done   |
| foursquare.com  | done   |

# Event log

| Event                   | Timestamp  |
|-------------------------|------------|
| man:init                | 1501912466 |
| brownbook.net:complete  | 1501912468 |
| brownbook.net:scheduled | 1501912468 |
| cataloxy.us:scheduled   | 1501912468 |
| cylex-usa.com:complete  | 1501912468 |
| cylex-usa.com:scheduled | 1501912468 |
| elocal.com:complete     | 1501912468 |
| elocal.com:scheduled    | 1501912468 |

From 100secs to 5secs per user search