

SERVICE ORIENTED ARCHITECTURE?

```
var http = require('http');

http.createServer(function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/plain'});
  res.end('Hello World\n');
}).listen(1337, '127.0.0.1');

console.log('Server running at http://127.0.0.1:1337/');
```

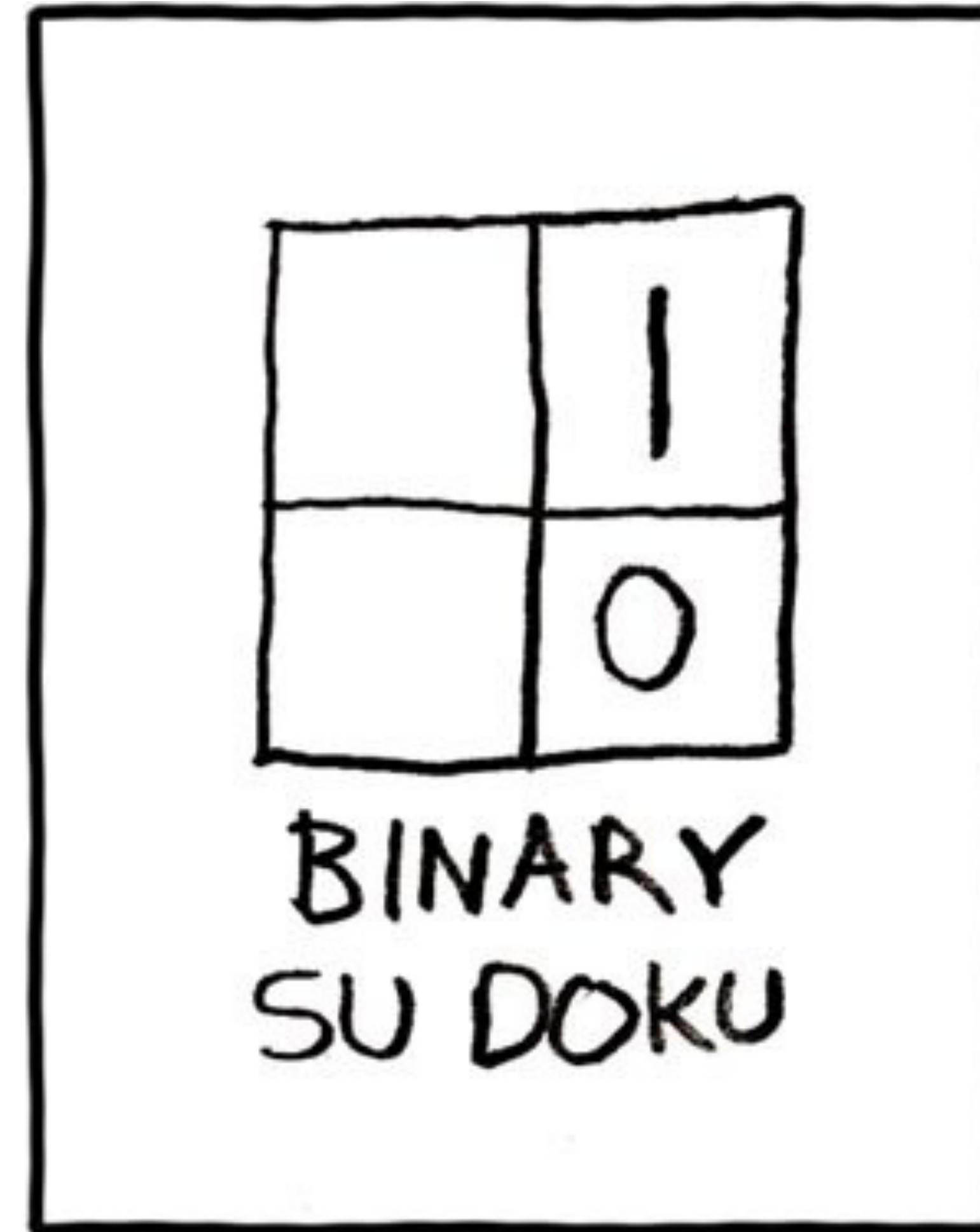
```
failbowl:~(master!?) $ jsc
> [] + []
> [] + {}
[object Object]
> {} + []
0
> {} + {}
NaN
> █
```

IT'S JAVASCRIPT

OUTSIDE THE BROWSER

IT'S MINIMALISTIC

V8 ENGINE
IO
STREAMS
CRYPTO



IT'S NON BLOCKING

```
fs.readdir(source, function(err, files) {
  if (err) {
    console.log('Error finding files: ' + err)
  } else {
    files.forEach(function(filename, fileIndex) {
      console.log(filename)
      gm(source + filename).size(function(err, values) {
        if (err) {
          console.log('Error identifying file size: ' + err)
        } else {
          console.log(filename + ' : ' + values)
          aspect = (values.width / values.height)
          widths.forEach(function(width, widthIndex) {
            height = Math.round(width / aspect)
            console.log('resizing ' + filename + 'to ' + height + 'x' + height)
            this.resize(width, height).write(destination + 'w' + width + '_' + filename, function(err) {
              if (err) console.log('Error writing file: ' + err)
            })
            }.bind(this))
          }
        }
      })
    }
  }
})
```



PACKAGE MANAGER
FROM HEAVEN

JUST LEARN 2 COMMANDS

NPM INSTALL

```
grunt-svgmin@0.2.1 node_modules/grunt-svgmin
└── filesize@2.0.0
├── chalk@0.3.0 (has-color@0.1.1, ansi-styles@0.2.0)
└── svgo@0.3.7 (whet.extend@0.9.9, colors@0.6.2, sax@0.5.5, coa@0.3.9, js-yaml@2.1.3)

grunt-bower-install@0.5.2 node_modules/grunt-bower-install
└── wiredep@0.2.0 (chalk@0.1.1, lodash@1.3.1)

grunt-contrib-watch@0.5.3 node_modules/grunt-contrib-watch
└── tiny-lr@0.0.4 (debug@0.7.4, faye-websocket@0.4.4, notify@0.0.3, qs@0.5.6)
    └── gaze@0.4.3 (globule@0.1.0)

grunt-contrib-jshint@0.6.5 node_modules/grunt-contrib-jshint
└── jshint@2.1.11 (console-browserify@0.1.6, minimatch@0.2.12, underscore@1.4.4,
    shelljs@0.1.4, cli@0.4.5)

grunt-contrib-connect@0.5.0 node_modules/grunt-contrib-connect
└── connect-livereload@0.2.0
└── open@0.0.4
    └── connect@2.7.11 (fresh@0.1.0, cookie-signature@1.0.1, pause@0.0.1, debug@0.7.4, qs@0.6.5,
        bytes@0.2.0, buffer-crc32@0.2.1, cookie@0.0.5, formidable@1.0.14, send@0.1.1)

grunt-contrib-uglify@0.2.7 node_modules/grunt-contrib-uglify
└── grunt-lib-contrib@0.6.1 (zlib-browserify@0.0.1)
    └── uglify-js@2.4.3 (uglify-to-browserify@1.0.1, async@0.2.9, optimist@0.3.7, sourcemap@0.1.31)

grunt-contrib-imagemin@0.2.1 node_modules/grunt-contrib-imagemin
└── filesize@1.10.0
    ├── chalk@0.2.1 (ansi-styles@0.2.0, has-color@0.1.1)
    ├── optipng-bin@0.3.1 (bin-wrapper@0.1.7)
    ├── jpegtran-bin@0.2.1 (bin-wrapper@0.1.7)
    ├── gifsicle@0.1.4 (bin-wrapper@0.1.7)
    └── pngquant-bin@0.1.5 (bin-wrapper@0.1.7)
```

NPM PUBLISH

```
npm http PUT https://registry.npmjs.org/my-module/-/my-module-0.3.0.tgz/-rev/9-
ea5d217311447d7416c3e919d3f3a7a8
npm http 201 https://registry.npmjs.org/my-module/-/my-module-0.3.0.tgz/-rev/9-
ea5d217311447d7416c3e919d3f3a7a8
npm http PUT https://registry.npmjs.org/my-module/0.3.0/-tag/latest
npm http 201 https://registry.npmjs.org/my-module/0.3.0/-tag/latest
+ my-module@0.3.0
```

THE CULTURE





IT'S POPULAR FOR

- SIMPLE APPLICATIONS
- REALTIME WEB SOCKET
- BUILDING WEB ASSETS
- UTILITY DEVELOPMENT
- HIGH LOAD SERVICES
- PROTOTYPING STANDARDS AND NETWORK SERVICES

WHAT ABOUT

BIG

STUFF?

OZ ≠ APP



BEHIND THE SCENES

- LIVE TV
- SCHEDULES
- ON AIR
- RECORDINGS
- METADATA
- USERS
- ORGANIZATIONS
- REGIONS
- BILLING
- CDN
- STORAGE
- CATCHUP
- VIDEO ON DEMAND
- PLANS

SOA?

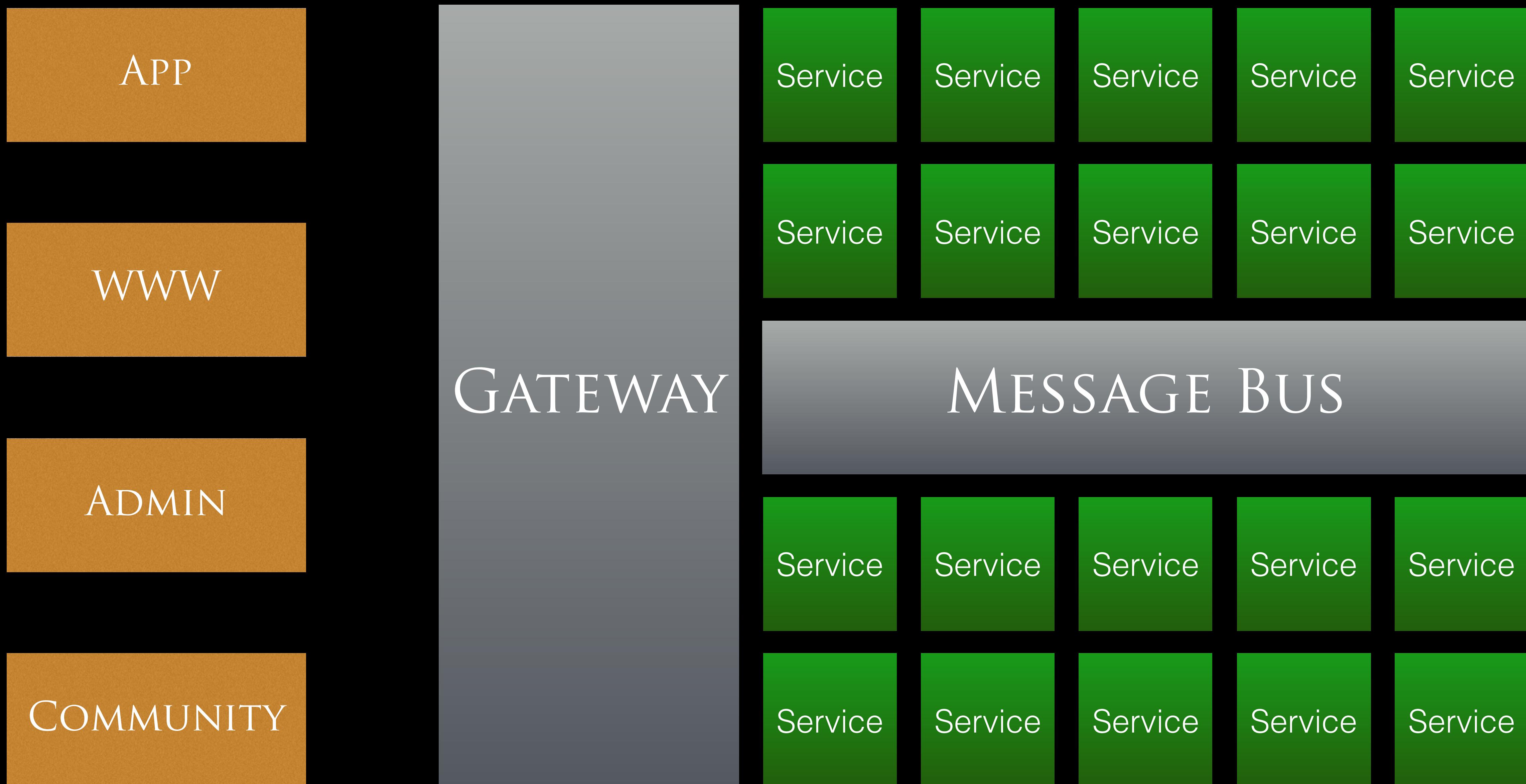
THAT DOESN'T SOUND
NODEJS ENOUGH

MICRO SOA











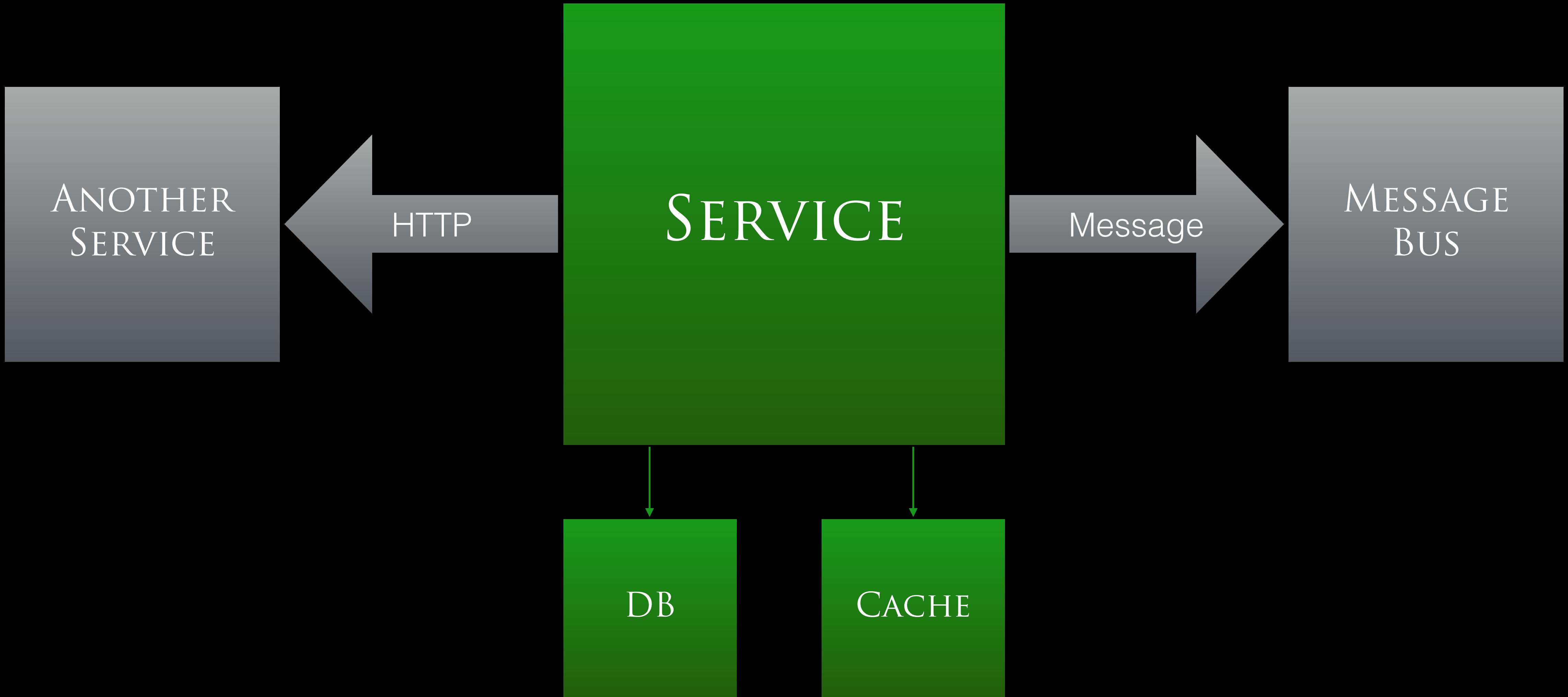
SERVICE

A STORY ABOUT A SERVICE

INPUTS



DEPENDENCIES



SERVICE OWNS ITS DATA

- CAN USE ANY DATABASE TECHNOLOGY
 - THE RIGHT TOOL FOR THE JOB
- MIGRATIONS ARE SIMPLE
 - ALL DB REFERENCES IN ONE SMALL CODEBASE
 - THE SERVICE CAN TRANSFORM OR FIX SCHEMA GOING OUT

INPUTS





LANGUAGE DOESN'T MATTER

NodeJS doesn't cut it? Switch!

All Most languages support HTTP and AMQP

SERVICE DISCOVERY

Help your
customers
find you.

How
is your
business?
How
is your
industry?

Find out for
your options.

How
is your
business?
How
is your
industry?

Find out for
your options.

SERVICE REGISTRY

Hello. My Name Is UserService

Oh, Hi UserService!

I have 3 REST API's:
`/users`
`/users/:id`
`/authenticate`

OK Sweet. I'll remember that

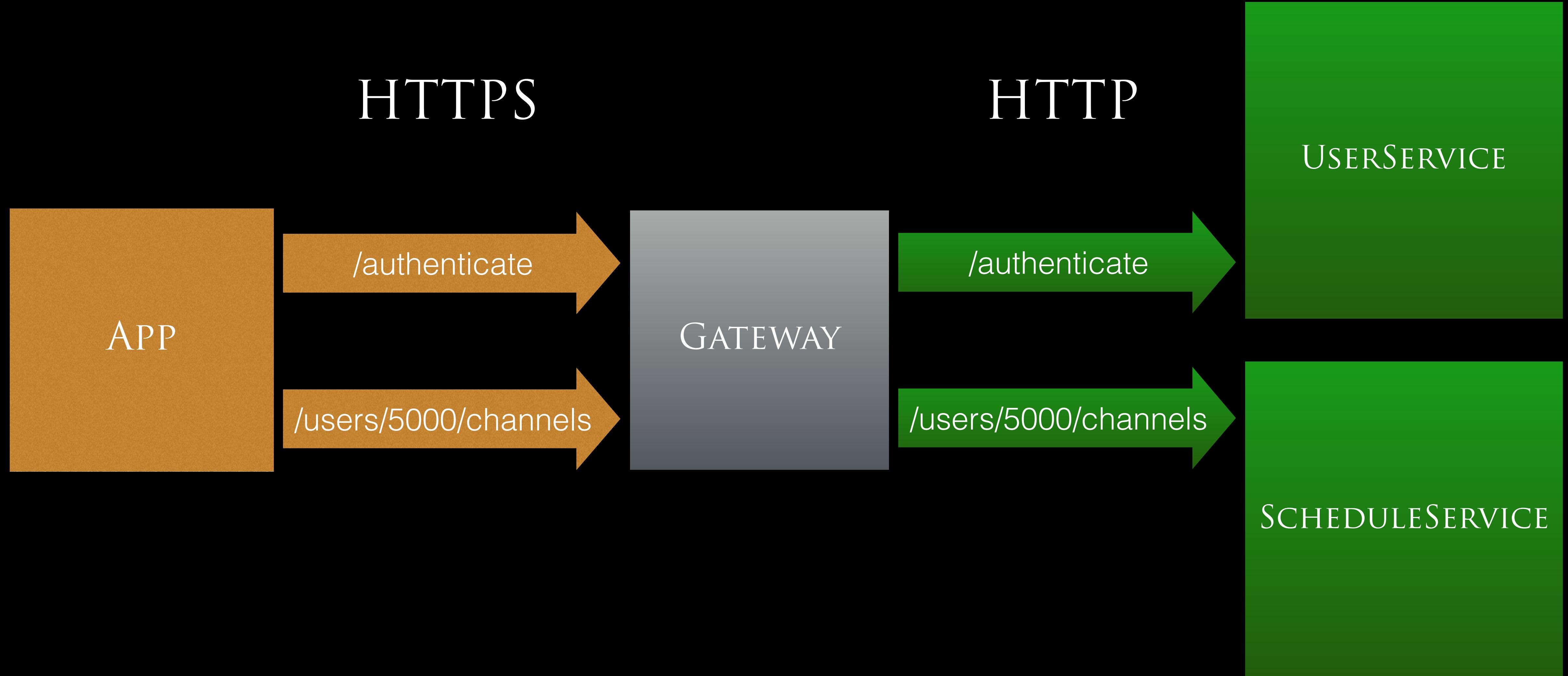
USERSERVICE

SERVICE REGISTRY

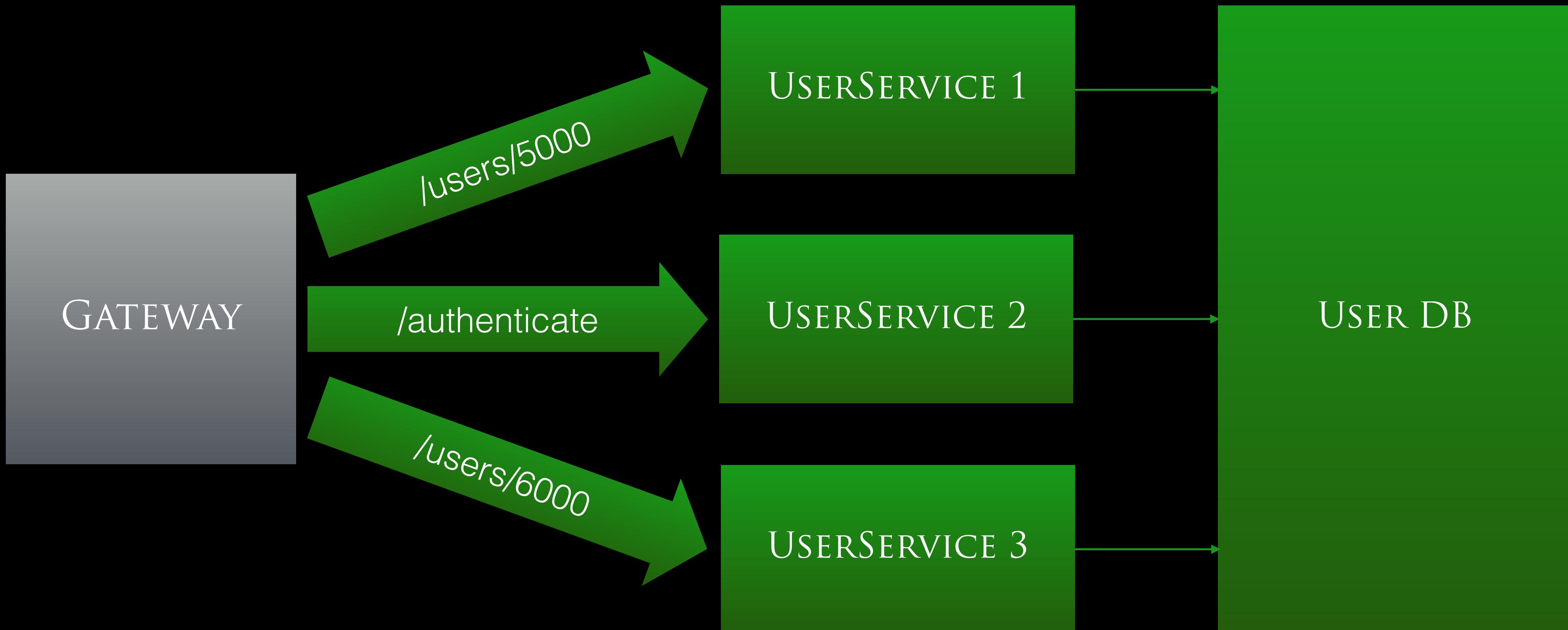
Oh wait. I need to send an activation email. Hook a brother up?

You should talk to EmailService.
There's one at email.oz.com:1337.

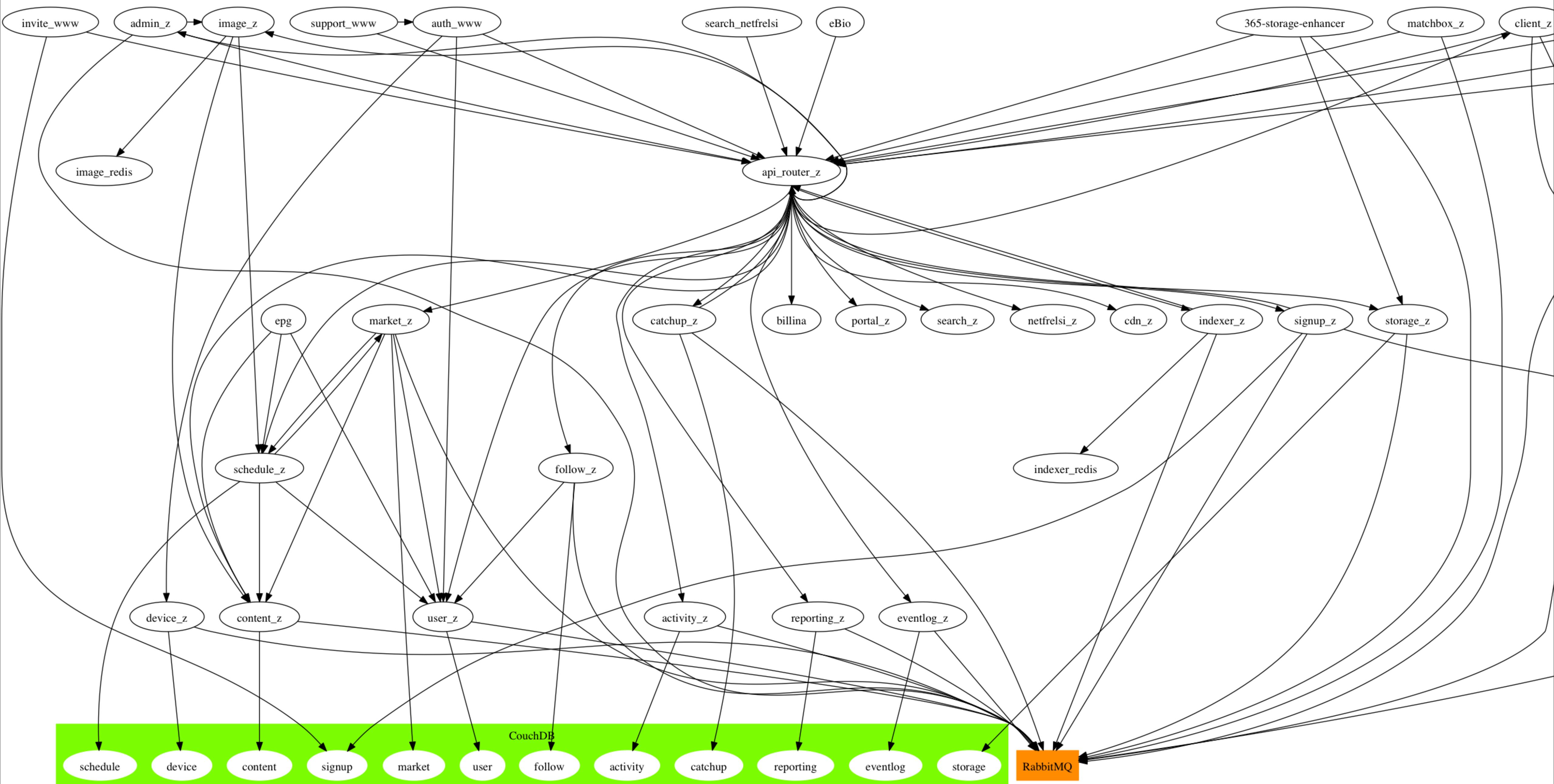
USERSERVICE



LOAD BALANCING



LESSONS LEARNED



MONITORING IS CRUCIAL



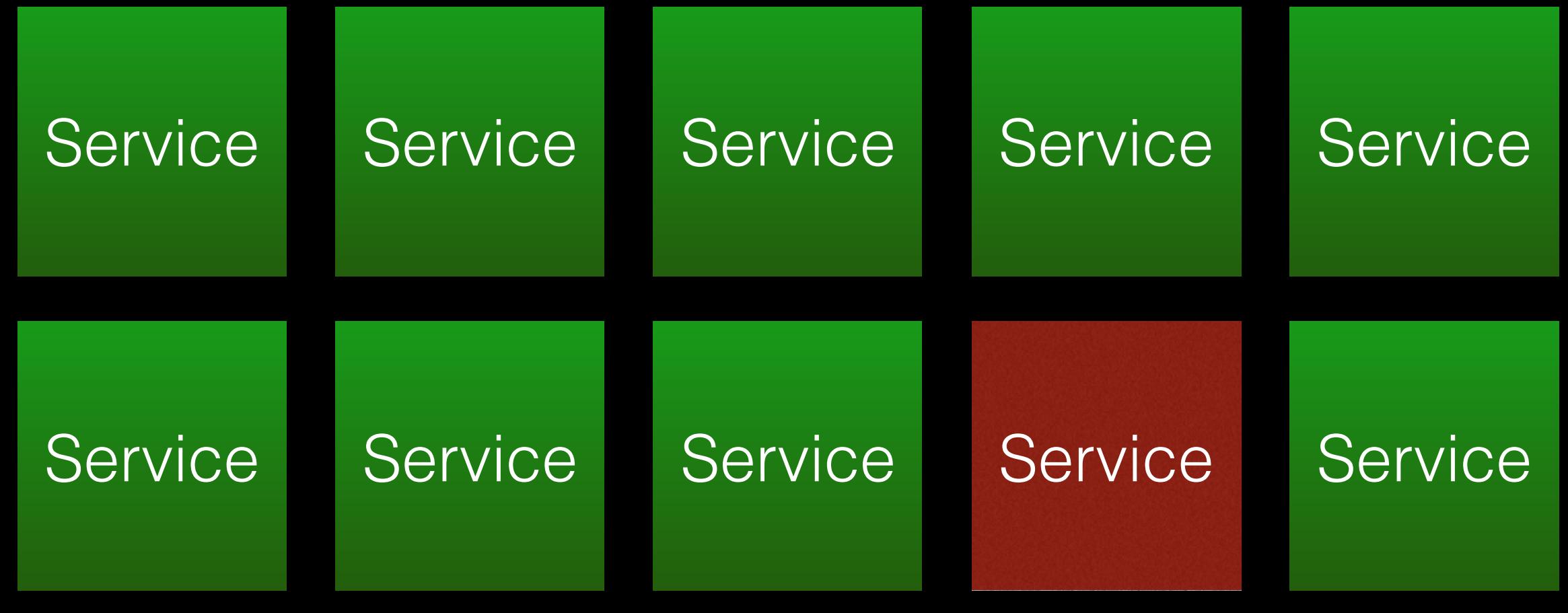
APP

WWW

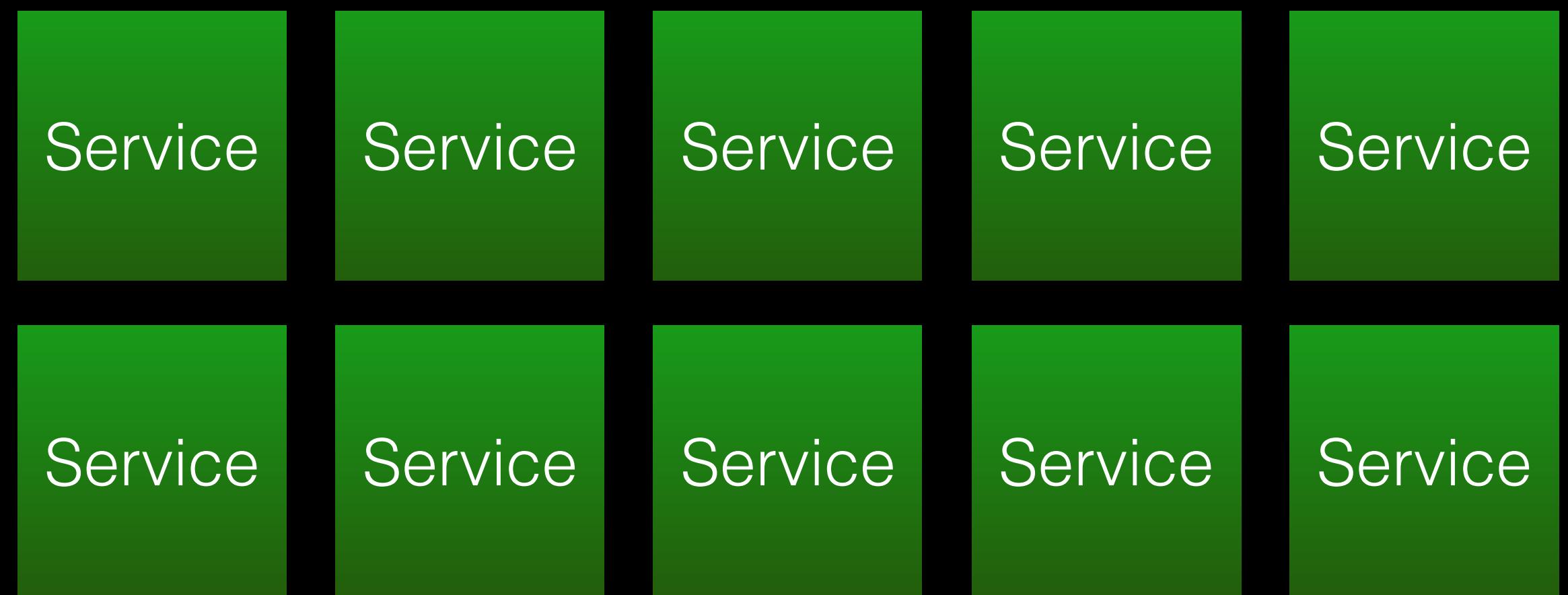
ADMIN

COMMUNITY

GATEWAY

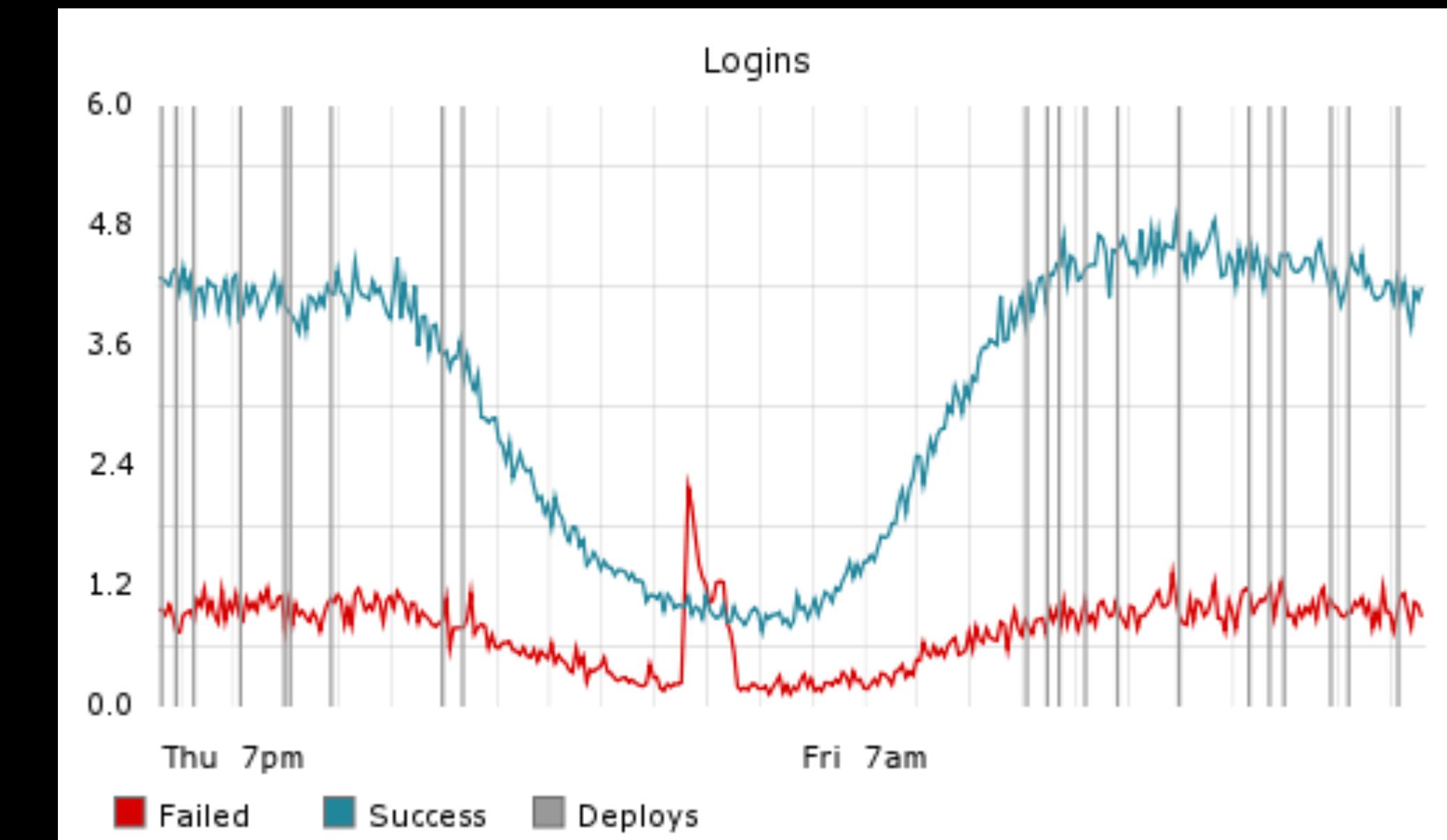


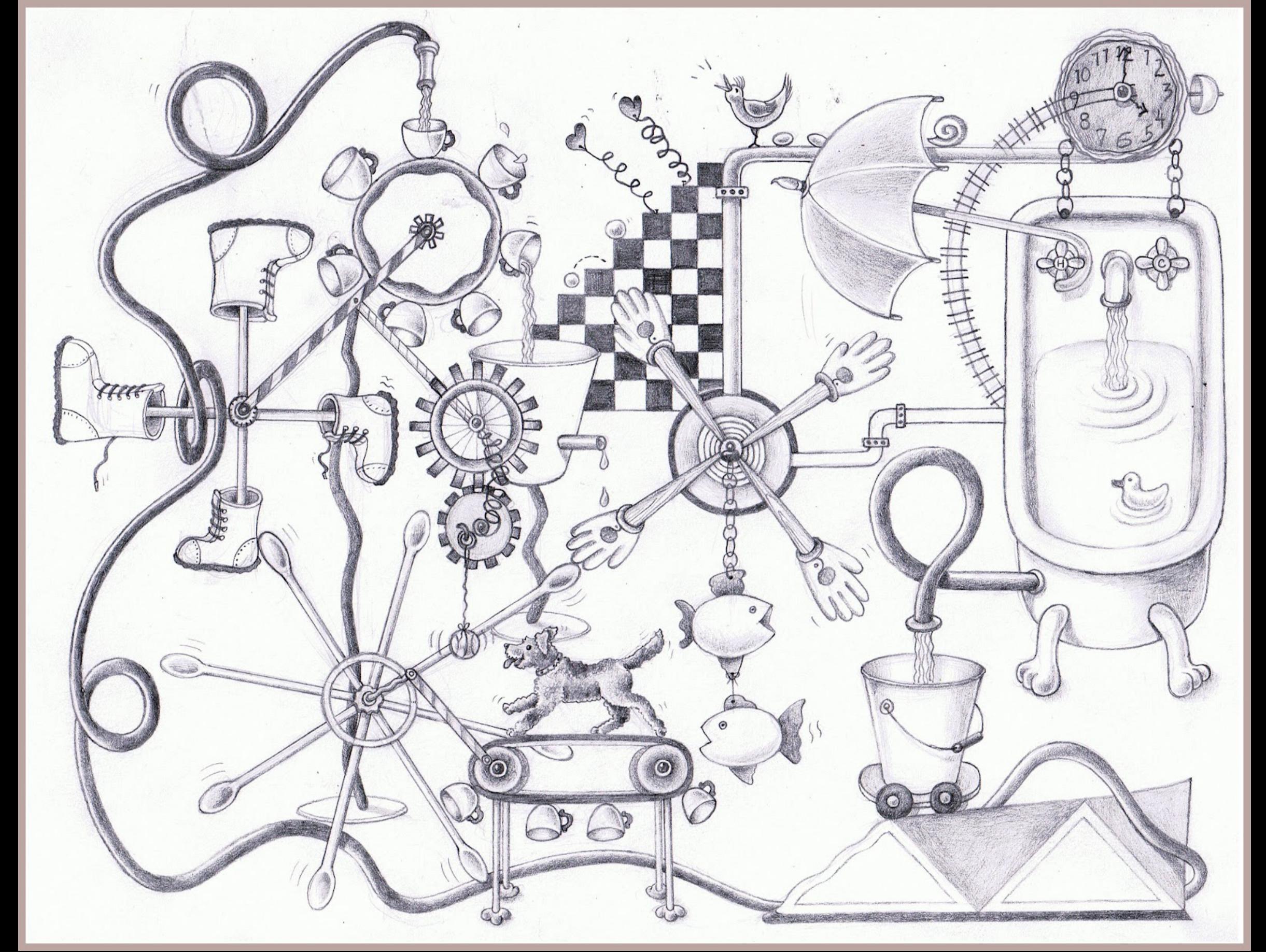
MESSAGE BUS



STATSD AND GRAPHITE

- COUNT ALL EVENTS
- CONFIGURE ALERTS





AUTOMATION IS ALSO PRETTY IMPORTANT
READ: CRUCIAL

YOU DO NOT WANT TO MANUALLY

SET UP
CONFIGURE
AND DEPLOY

100 SERVICES

AUTOMATION

- CHEF OR PUPPET HELPS
- SERVICE DISCOVERY



Chef

CONCLUSION

- DO ONE THING AND DO IT WELL
- APPLIES TO MODULES AS WELL AS SERVICES
- HTTP AND AMQP ARE GREAT SERVICE INTERFACES
- MONITORING AND AUTOMATION ARE CRUCIAL