Node.js at Cloudkick

Paul Querna
July 26, 2011
What is Cloudkick?

- Cloud Server Management
- Dashboard across providers
- Metadata container (tags, etc)
- Monitoring as a Service
- Acquired by Rackspace in December 2010
Python, Python, Python!

- Django
- UI
- API
- Twisted
- Services
- Orbited
- Realtime
Cloudkick Classic

User

Webapp

Orbited

MySQL

Solr

Cassandra

RabbitMQ

Services

monitoring system (complicated)
What’s wrong?

- Django vs Twisted
- Twisted in general
- RabbitMQ
- orbited is dead
- Multi-Region durability
Node.js

- Express
- API
- Services
- Realtime
In Production
Running

• runit / daemontools
Configuration

• Puppet
  • local_settings.js (django style)
Load Balancer

- apache 2.2, event mpm, mod_ssl, mod_proxy_balancer
- Want to remove it.
- ssl/tls termination (sad face)
  - consider stunnel+haproxy, for now.
  - examining stud+haproxy:
    - https://github.com/bumptech/stud
Internals
package.json
"async": "0.1.9",
"cassandra-client": "0.2.1",
"express": "2.4.0",
"ipv6": "0.0.1",
"jade": "0.10.7",
"logmagic": "0.1.4",
"long-stack-traces": "0.1.2",
"metrics-ck": "0.0.1",
"node-dev": "0.1.5",
"node-uuid": "1.2.0",
"nodelint": "0.4.0",
"optimist": "0.2.0",
"sax": "0.1.2",
"showdown": "0.0.1",
"strtok": "0.1.1",
"swiz": "0.3.1",
"thrift": "0.6.0-1",
"whiskey": "0.4.0"
npm, private registry

- Replicate Issac’s CouchDB
- ~/.npmrc
  - always-auth = true
  - registry = https://npm.example.com/
npm

- Prevent Publishing:
  - "private": true,
  - "publishConfig": {
    "registry": "http://127.0.0.1:33333/__invalid__/registry_do_not_publish"}

Dealing with Patches

• Fork on github.
• Patch in branch.
• Publish to private NPM registry.
• Pray upstream accepts.
• Switch back to public package once released.
Flow Control

- Async
  - https://github.com/caolan/async
Cassandra Client

- CQL
  - It’s like SQL, but for NoSQL (troll face)
- Relational and Timeseries data
- https://github.com/racker/node-cassandra-client
Logging

• Log Magic:
  • [https://github.com/pquerna/node-logmagic/](https://github.com/pquerna/node-logmagic/)
  • logmagic.route("mylib.*", logmagic.DEBUG, "stdout")
Metrics

- [https://github.com/mikejihbe/metrics](https://github.com/mikejihbe/metrics)
- Metrics Broker:
  - Collect across multiple processes
  - (not open source yet, working on it)
Testing

• Whiskey:
  • https://github.com/cloudkick/whiskey
  • http://cast-project.org/test-coverage/
Linting

- node-jshint
- Google Closure Linter:
Continuous Integration

• BuildBot against
  • Production (v0.4.10-99b210d7eac)
  • Stable Branch (v0.4.x)
  • Dev (master / v0.5.x)
    • (need to add --use-uv)
Questions?

- Slides:
  - http://paul.querna.org/slides/