

Cast Project & Node.js  
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# Agenda

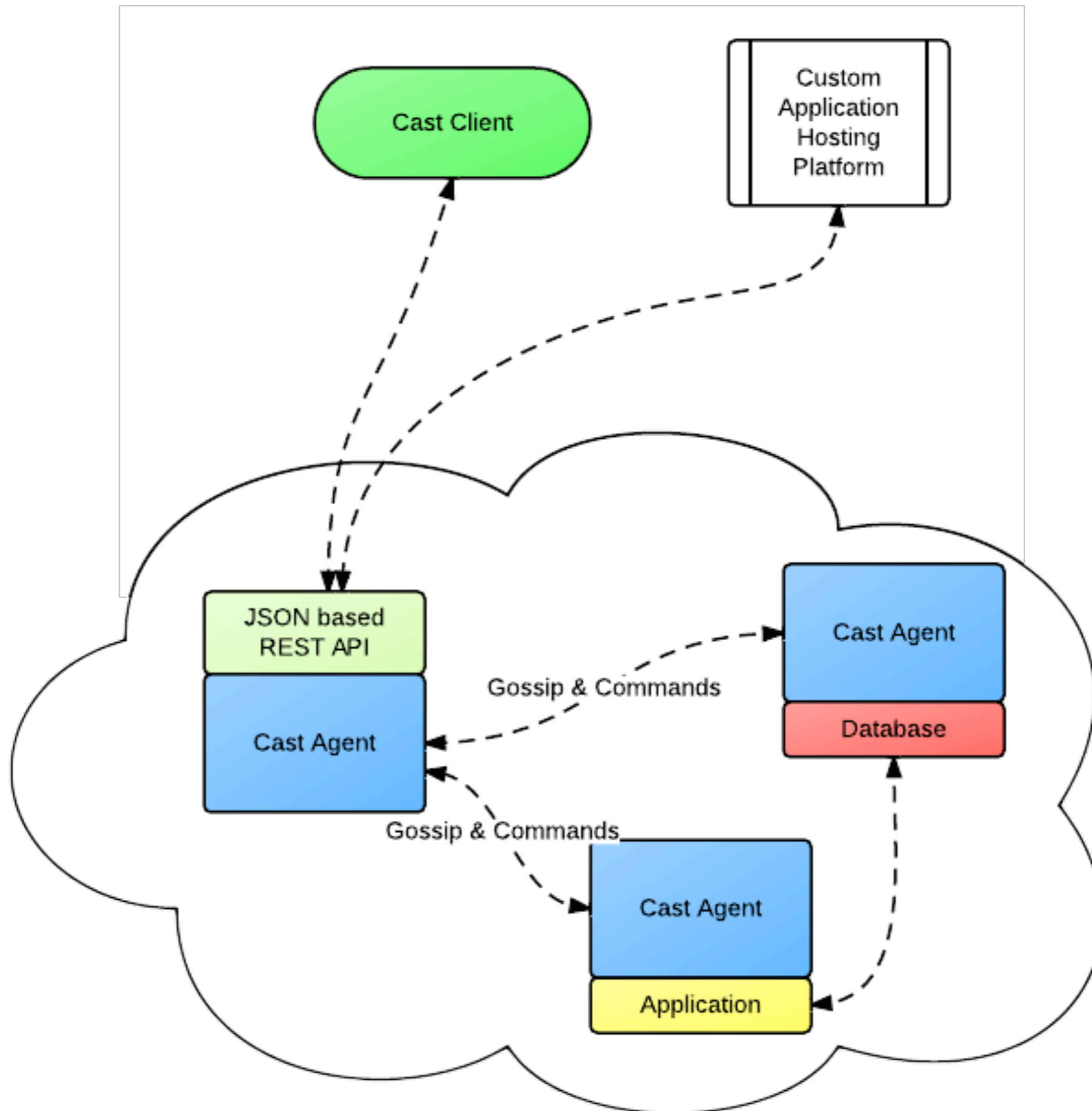
- Cast Project Intro
- Things we learned writing Cast & other Node.js software

# Background

- Autoscalling is (mostly) a DIRTY DIRTY LIE
- Resources (servers, storage, etc) are easy to get now....
- What infrastructure is missing to make this work?
- Deployment & Service Management.
  - NOT Configuration Management.
- Startup Mindset @ Cloudkick: Just Do it.

# Cast Project

- Deployment as an HTTP API
  - Install, Rolling Upgrades
  - Stop, Start, Restart Apps
  - Monitoring Apps
  - Logging Apps
  - App configuration (Think Zookeeper-lite)



# Cast 0.1.0

- First release 2 weeks ago
- Focused on single machine experiences
- Roadmap and community are open:
  - <http://cast-project.org/>
  - Open Source: Apache License 2.0

# terminal action

# Cast History

 **cast**

C++  41  4

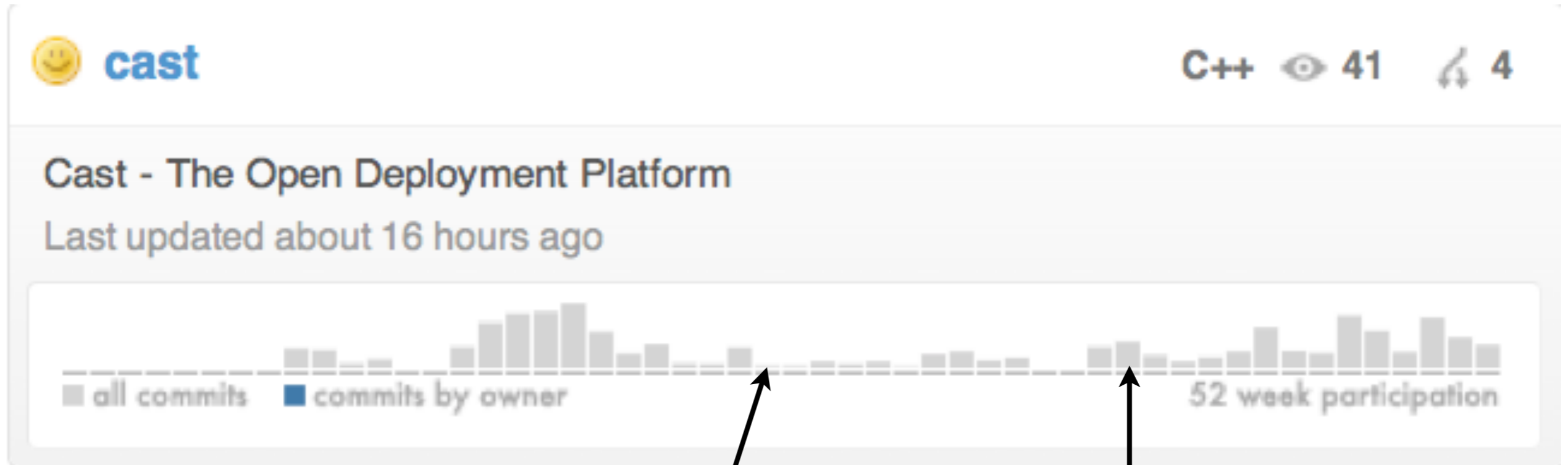
Cast - The Open Deployment Platform

Last updated about 16 hours ago





# Cast History



'distracted'

Node.js 0.4

# Lessons Learned

# Use NPM

- There used to be alternatives.
- We ignored NPM
- Today:
  - Local module installs = #winning
  - Internal NPM registries = good for non-open source products

# Community > \*

- Careful of single author I'm learning node.js modules

# Testing

- Do it. There is no compiler\*.
- Started using Expresso.... unhappy.
- Wrote Whiskey
  - <https://github.com/cloudkick/whiskey>

<http://cast-project.org/test-coverage/>

# Lint

- JSHint or jslint
  - node-jshint
- Google Closure Linter:
  - <http://code.google.com/p/closure-linter/>

# Closure Compiler

- Use it as last step in linting.
- Detects many other common issues
- Static analysis of Javascript.
- Needs more dev work to fully understand Node modules.



```
lib/util/misc.js:126: WARNING - inconsistent return type
found   : string
required: (String|null)
  return (text || '').replace(/s/g, '_').replace(/^[^a-zA-Z0-9_\-]+/, '').toLowerCase();
                                             ^
```

```
lib/util/misc.js:136: WARNING - inconsistent return type
found   : boolean
required: (Boolean|null)
  return version.indexOf('@') === -1;
                         ^
```

```
lib/util/misc.js:162: WARNING - Function Errorf: called with 2 argument(s). Function requires at least 1 argument(s) and no more than 1 argument(s).
  throw new Errorf('Could not extract bundle name from the provided string: %s', fullBundleName);
         ^
```

```
lib/util/misc.js:199: WARNING - inconsistent return type
found   : string
required: (String|null)
  return r.join('');
         ^
```

```
lib/util/misc.js:226: WARNING - condition always evaluates to the same value
left  : (Boolean|null)
right: boolean
  if (strict === true) {
      ^
```

```
lib/util/misc.js:236: WARNING - inconsistent return type
found   : number
required: (Boolean|Number|null)
  return 1;
         ^
```

```
lib/util/misc.js:240: WARNING - inconsistent return type
found   : boolean
required: (Boolean|Number|null)
  return false;
         ^
```

```
lib/util/misc.js:256: WARNING - condition always evaluates to the same value
left  : (Boolean|Number|null)
right: boolean
  return (arrayFind(needle, haystack, strict, compareFunction) !== false);
                                             ^
```

# Express

- We didn't use it. HTTP Servers are easy....
  - We rewrote half its features, badly.
- We are porting to it now.

# TLS/SSL

- 0.2: Didn't work
- 0.3: Rewrite it all, no big deal...
- 0.4: Mostly works
- $\geq 0.4.6$ : Works

# Streams

- Many problems < 0.4
  - File to HTTP would break, often.
- Mostly work now
  - Error handling is being improved
- Use pipe

# Flow Control

- Async
  - <https://github.com/caolan/async>
- Step
  - <https://github.com/creationix/step>

# Send Patches

- Ryan likes bugs fixed. Most are Javascript fixes at this point!
- It's easy
  - make a test case
  - fix the code
  - make a pull request



- Slides:
  - <http://paul.querna.org/slides/>
- Code:
  - <http://cast-project.org/>
  - <https://github.com/cloudkick>
  - <https://github.com/racker>