

October 4-6, 2017 | Vancouver, BC

Node.js at Alibaba

Joyee Cheung, Alibaba Cloud



About Me

- Joyee Cheung (Cantonese) / Qiuyi Zhang (Mandarin)
- Alibaba Cloud & Node.js TSC
- Twitter & GitHub: @joyeecheung





A Brief History

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2011 First Node.js application in production

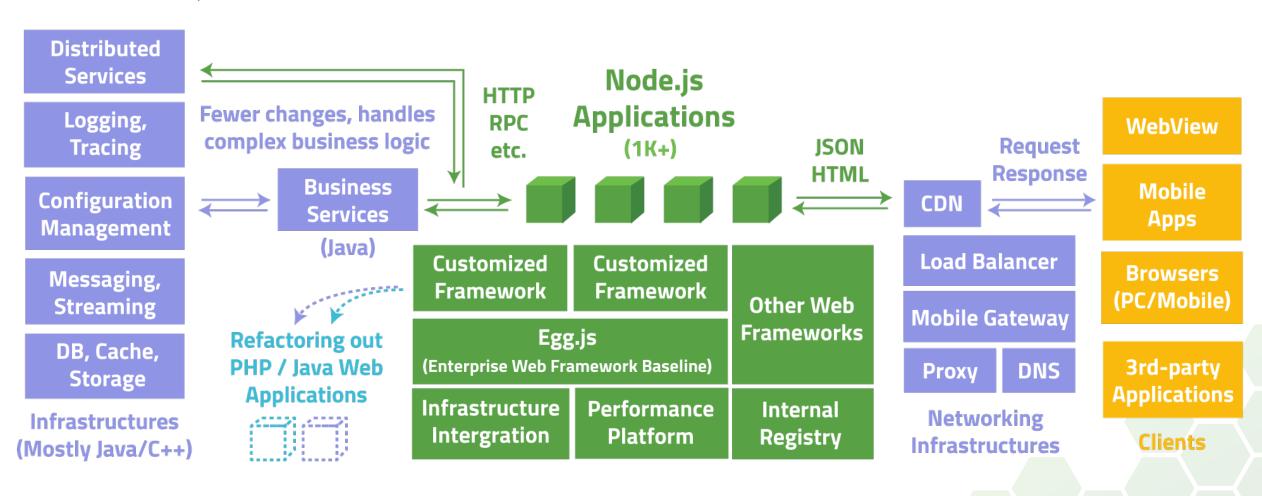
2014 Public CNPM & Internal npm registry

2015 Node.js Performance Platform (alinode)

2016 PEgg.js distilled from internal frameworks and open sourced



The Whole Picture



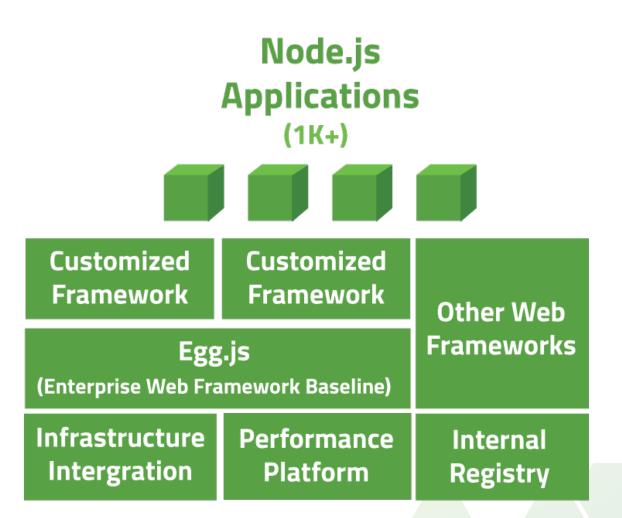


Node.js Tech Stack

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Development

- Web Frameworks
- Internal Registry
- Infrastructure Integration
- Deployment
- Performance Platform
 - Monitoring
 - Diagnostics
 - Profiling





The Alibaba Ecosystem

Octo



^{*} Ant Financial, Cainiao Network, Alibaba Pictures, Weibo, Paytm, Tao Piao Piao, Koubei and Ele.me are affiliated entities



The Alibaba Ecosystem

DIGITAL MEDIA & CORE COMMERCE LOCAL SERVICES ENTERTAINMENT YOUKU 天猫国际 AliExpress Alibaba.com° LAZADA Convention v.s. Configuration N IAO 無馬 MARKETING SERVICES & 阿里妈妈 DATA MANAGEMENT PLATFORM Alimama.com - Alibaba Cloud **CLOUD COMPUTING**

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Web Frameworks



Apps of **Subsidiary B**

Apps of **Subsidiary C**



Framework A

Subsidiary Plugins

Framework B

Subsidiary Plugins

Framework C

Subsidiary Plugins

Egg.js for Alibaba

Internal Plugins

Egg.js (open sourced)

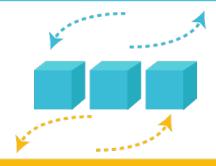
Plugins Cluster, i18n, Logger, Security, etc

egg-core (open sourced)

Koa

Acquired subsidiaries come with their own legacy infrastructures

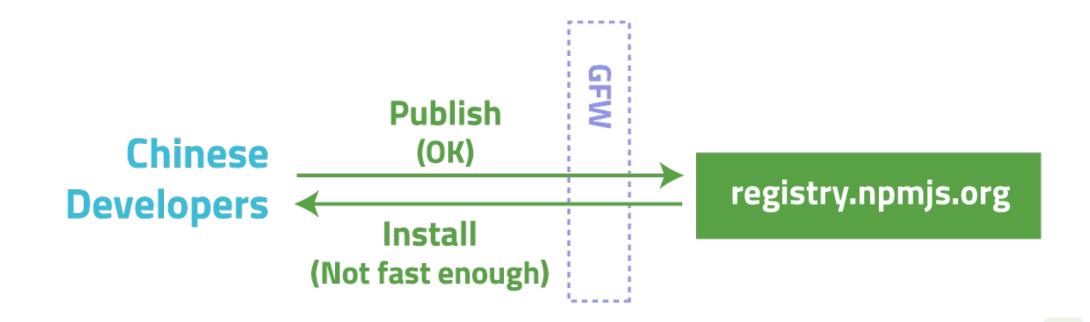
Internal Services/Conventions of Different Subsidiaries



Internal Services/Conventions for the whole Alibaba Ecosystem

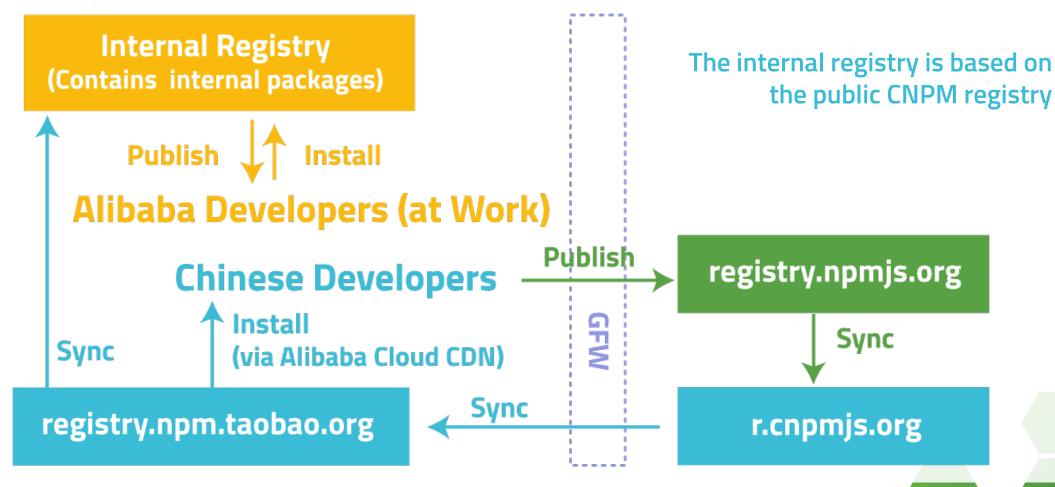


Packages



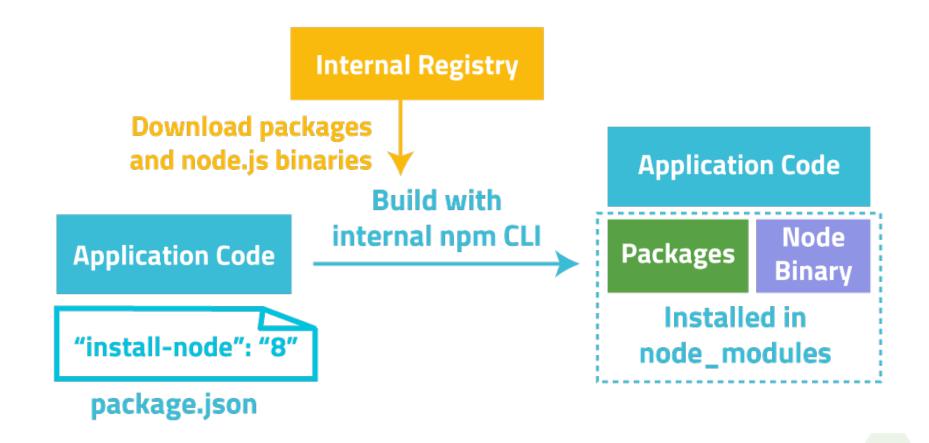


Packages



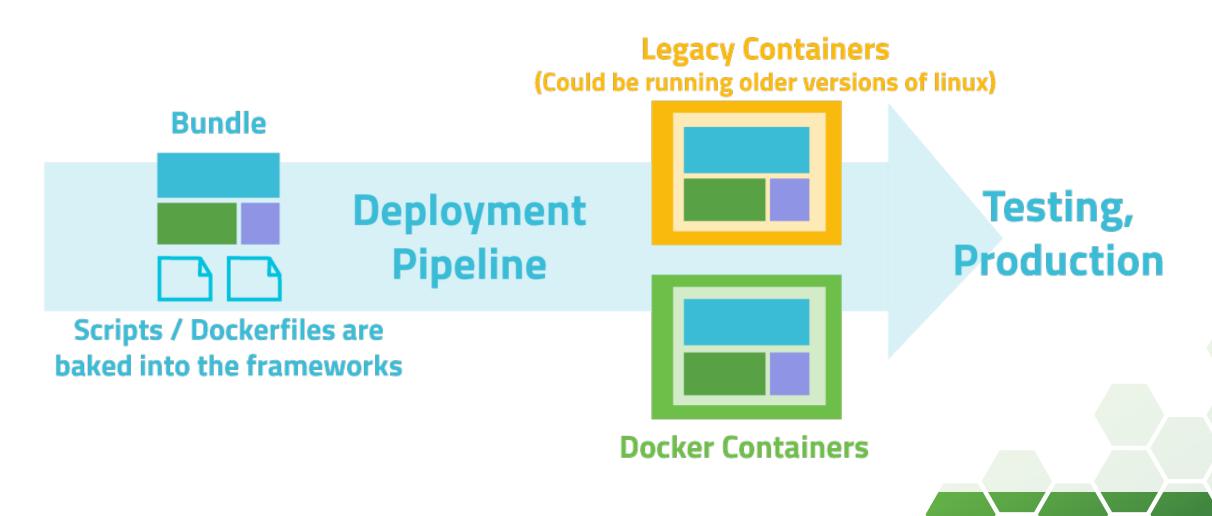


Deployment



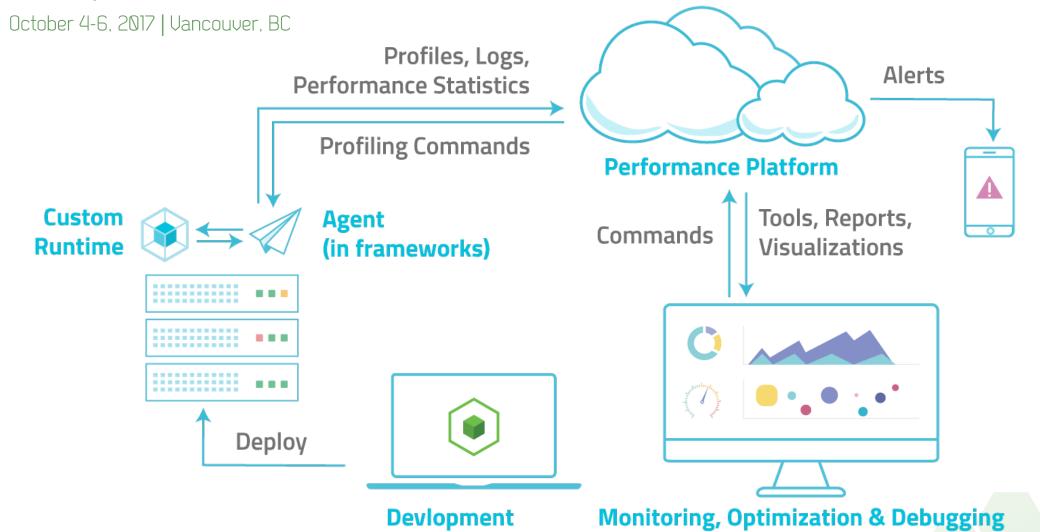


Deployment





Node.js Performance Platform





Profiling

+ Timers, libuv Handles, .etc Custom **GC Logs Visualizations GC Overhead Devtools CPU Profile** Flame Chart **CPU Utilization Heap Snapshot**

Heap Statistics & RSS

Statistics Compared with

Latency & Throughput

Generated during Load Testing or in Production

Core Dump





llnode



Future

- Serverless
 - Alibaba Cloud Function Compute
- Intergration with the Serverless framework coming soon

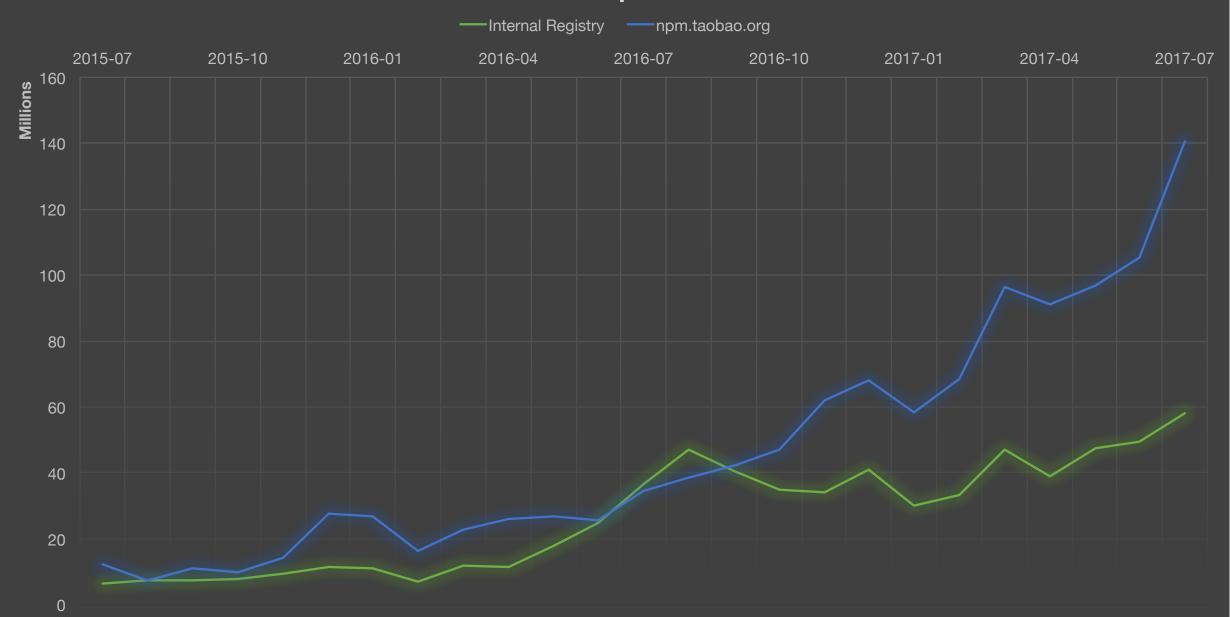




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THANKS

Installations per Month





Common Issues

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GC overhead

Tuning V8 arguments

SSR & Memory leaks

Life cycle hooks and globals

Serialization and deserialization

- In-memory cache for data without strong consistency requirements
- GC overhead

Dead loops