

The Inbetweeners

Cloud Migration Causing Transformation

Velocity NY 2016

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What We Do

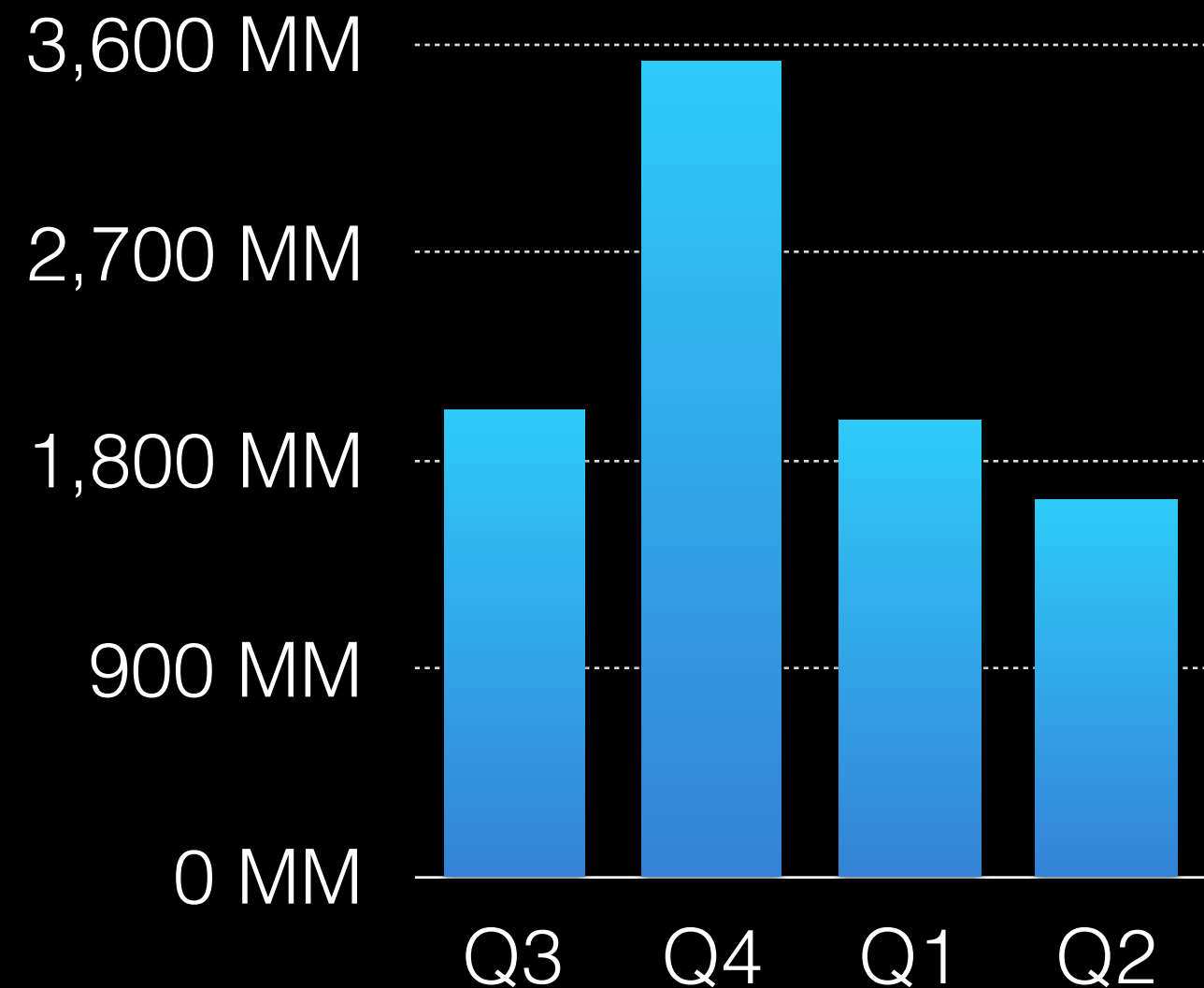
- 12 Ecommerce Sites
- 15MM Loyalty Customers
- 2,500 Stores for Web In Store, Click & Collect

Where We Were

- “Managed” Hosting on a Private “Cloud”
- Co-located Self-Managed Hardware
- Fixed Costs and Terms, Protracted Renewals
- Static, Over-Provisioned Infrastructure

Retail Scale

- Q4 Revenue is ~2x
- Black Friday, Holidays
- 2,500 Stores (VPN)



Challenges

- Opaque Environment
- Managed = No Control
- Protracted Design / Quote / Build
- High Fixed Costs
- Limited Disaster Recovery

Compelling Events

- Black Friday 2014
- Managed Hosting Renewal
- Datacenter Equipment Refreshes

Goals

1. Migrate to the Cloud
2. Now

S.M.A.R.T.

S. Migrate to the Cloud

M. Are we on the Cloud?

A. I heard Amazon runs on the cloud.

R. The Cloud is real.

T. Yesterday.

Migration

- February 2015: Let's do this
- April 2015: Vendor selected
- May 2015: Hands-on
- June 2015: Networking, security, HA/DR
- July 2015: Instances, applications
- August 2015: Migrate Ecommerce (from Managed)
- September 2015: Migrate Loyalty (from Colo)

Lift + Shift = Success*

- Spin up instances for database servers
- Spin up instances for services, caching
- Spin up instances for web servers
- Spin up instances for load balancers
- Spin up instances for... wait a minute...

* *sort of*

Success?

Opaque Environment	Define “opaque”.
Managed = No Control	We control the VMs!
Protracted Design / Quote / Build	Quick to build... every time!
High Fixed Costs	High Variable Costs
Limited Disaster Recovery	AZ Tolerance

What are we *really*
trying to do?

- Improve speed to market (value delivery)
- Easier access to variable costs
 - ...then leverage that variability
- Improve our HA/DR capability
- Blur the lines between infrastructure and engineering (“DevOps”)
 - ...while eliminating work for both

Evolution

- November 2015: Black Friday
- March 2016: Deployable Environment
- April 2016: Deprecated F5 Appliance Instances
- May 2016: Auto-Scaling Regularly

Success

Opaque Environment	Environment is in GitHub
Managed = No Control	Confident Control
Protracted Design / Quote / Build	Quick to Build, Automated Deploys
High Fixed Costs	Variable Costs = Bang / \$
Limited Disaster Recovery	AZ Tolerance

How?

Process

- Cloud-first / cloud-native where sensible
- Actively break legacy routines
- New approach for infrastructure
- Infrastructure is code... engineers *love* this

Know Your Infrastructure

- Inventory Everything
- Profile Everything
 - Even the hard stuff
 - *Especially* the hard stuff
- Understand Quirks and Edge Cases

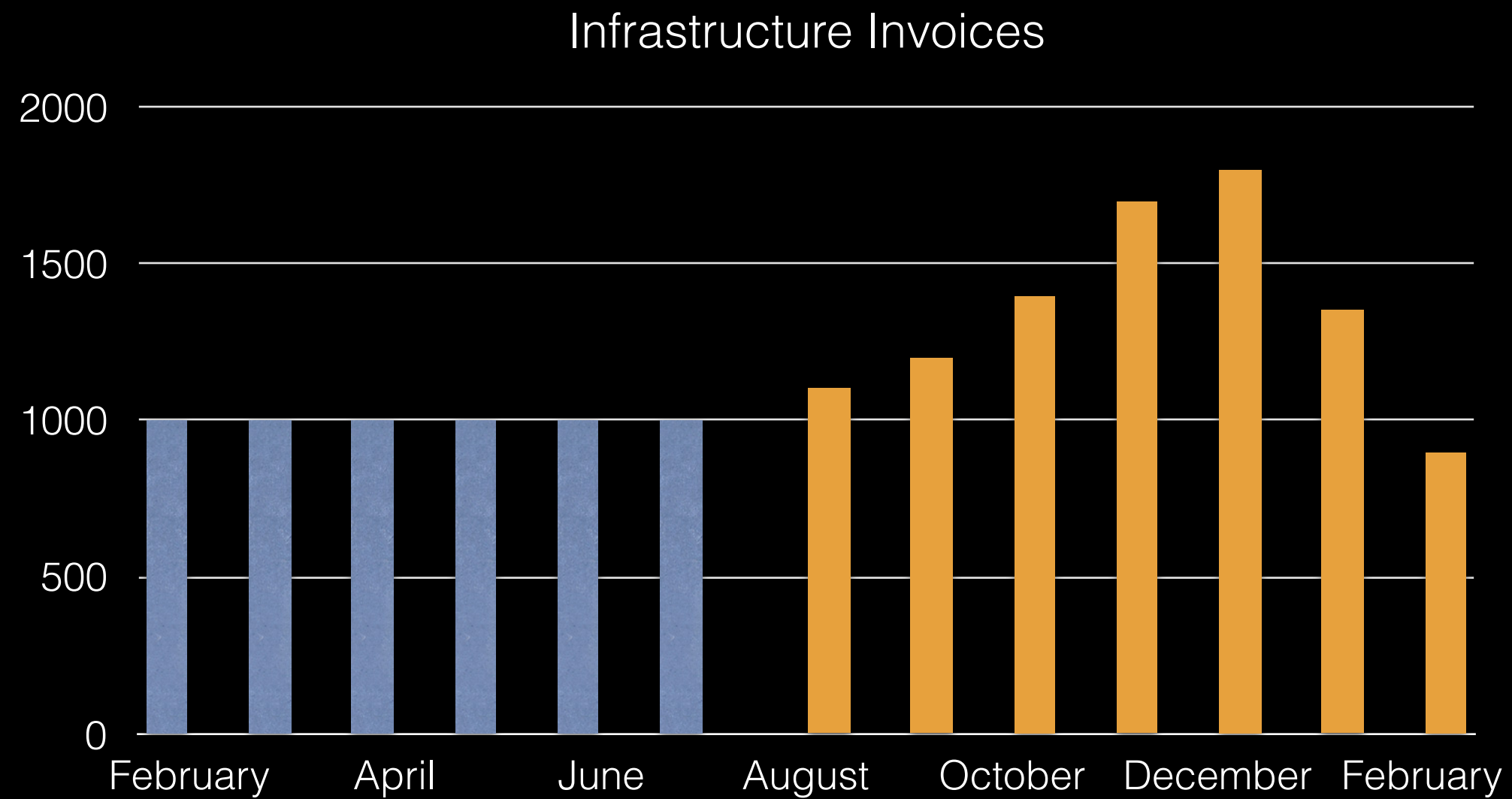
Question Everything

- Why do we do it this way?
- Should we keep doing it this way?
- What would be the best way to do it?
- Balance positive change vs. scope creep

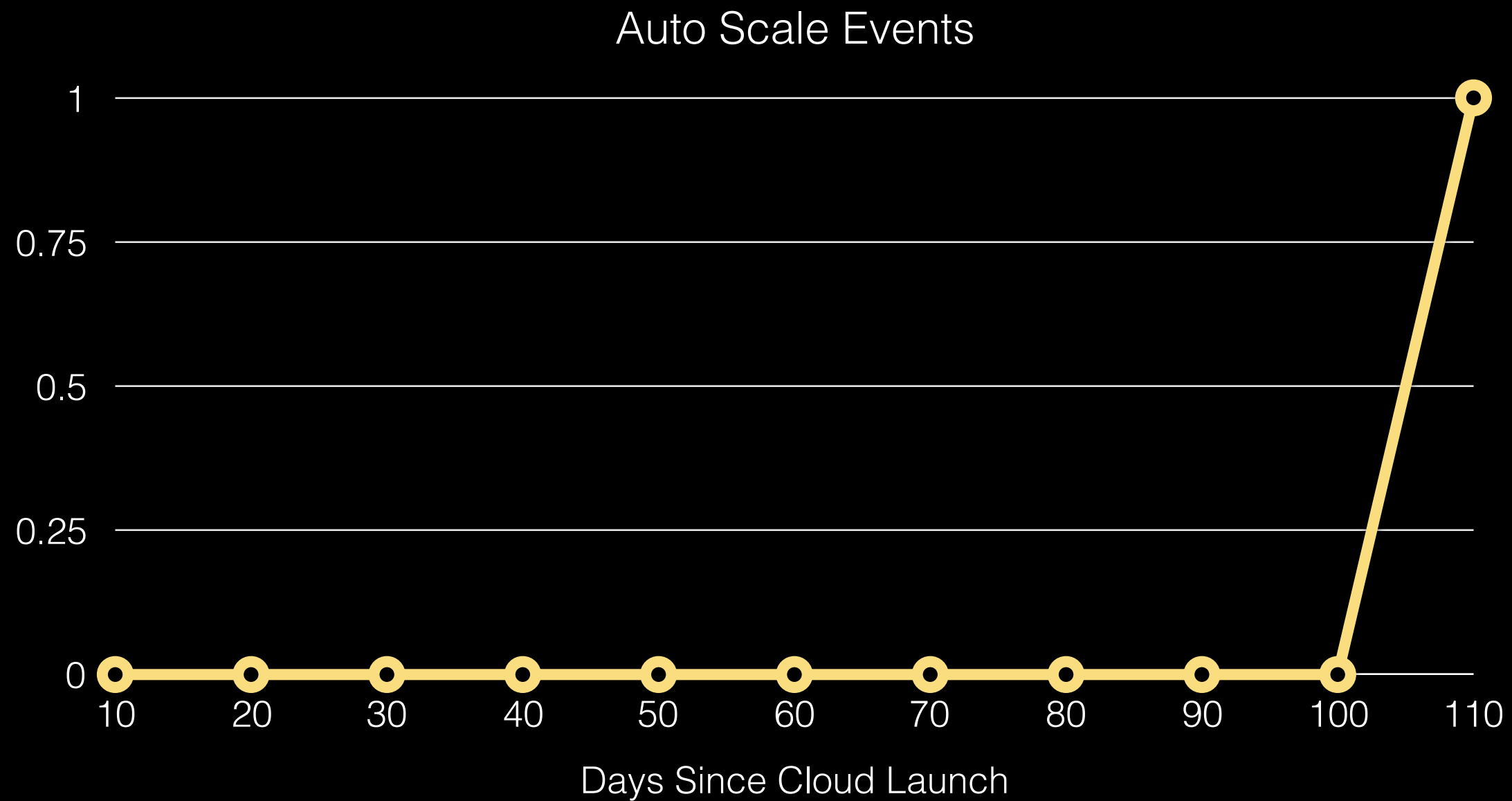
Educate Partners

- Here's what we're doing
- Here's why we're doing it
- Here's what we might need from you
- Here's what other groups like yours are doing
- Especially relevant to vendor-centric groups

Manage Expectations



Manage Expectations



Go Native

- Do you add value by managing?
- Opportunities are endless, be judicious:
 - ElasticSearch Service deprecated EC2 instances
 - ELBs deprecated F5 appliance instances (and saved *\$lots*)
 - SQL still runs on EC2 instances

How?

- Process
- Know Your Infrastructure
- Question Everything
- Educate Partners
- Manage Expectations
- Go Native

Your Decision Checklist

1. Are we migrating or re-implementing?
2. Are we bringing everything together or piece by piece?
3. Who owns this? Is this a service or a collaboration?
4. Do we need help? If so, what kind of help?
5. What is success?

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