



Managing Innovation at Scale

Senior Vice President, Utility Computing

WHO AM I?

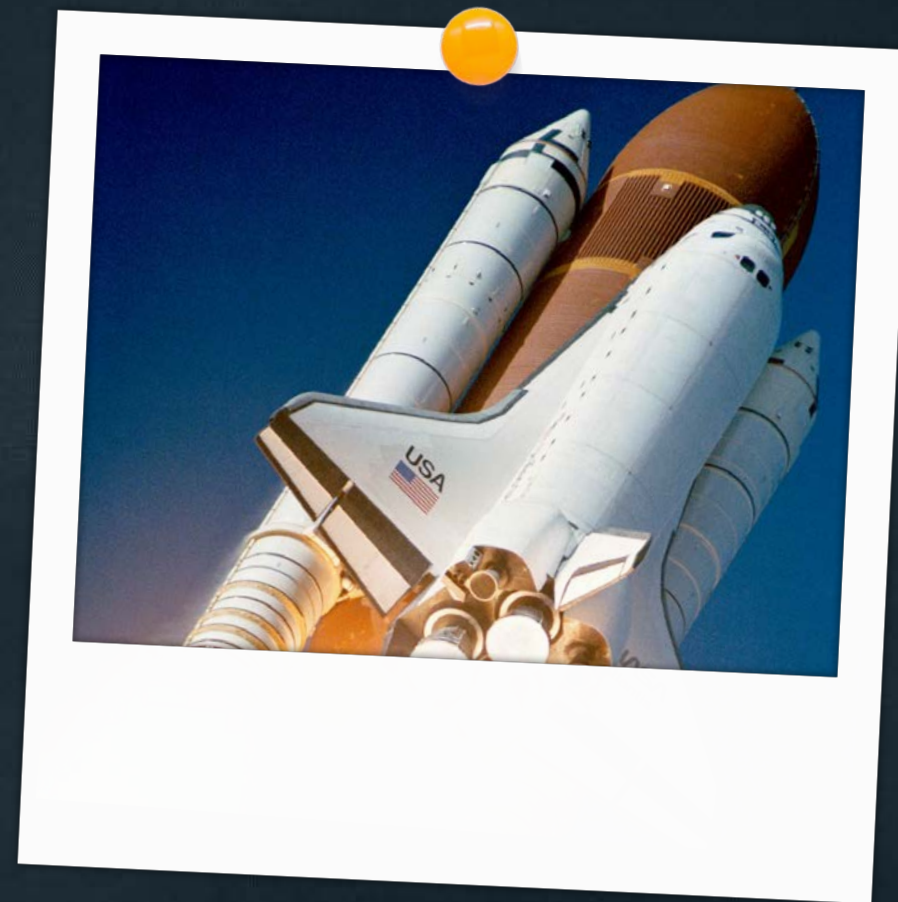


20+ years at Amazon

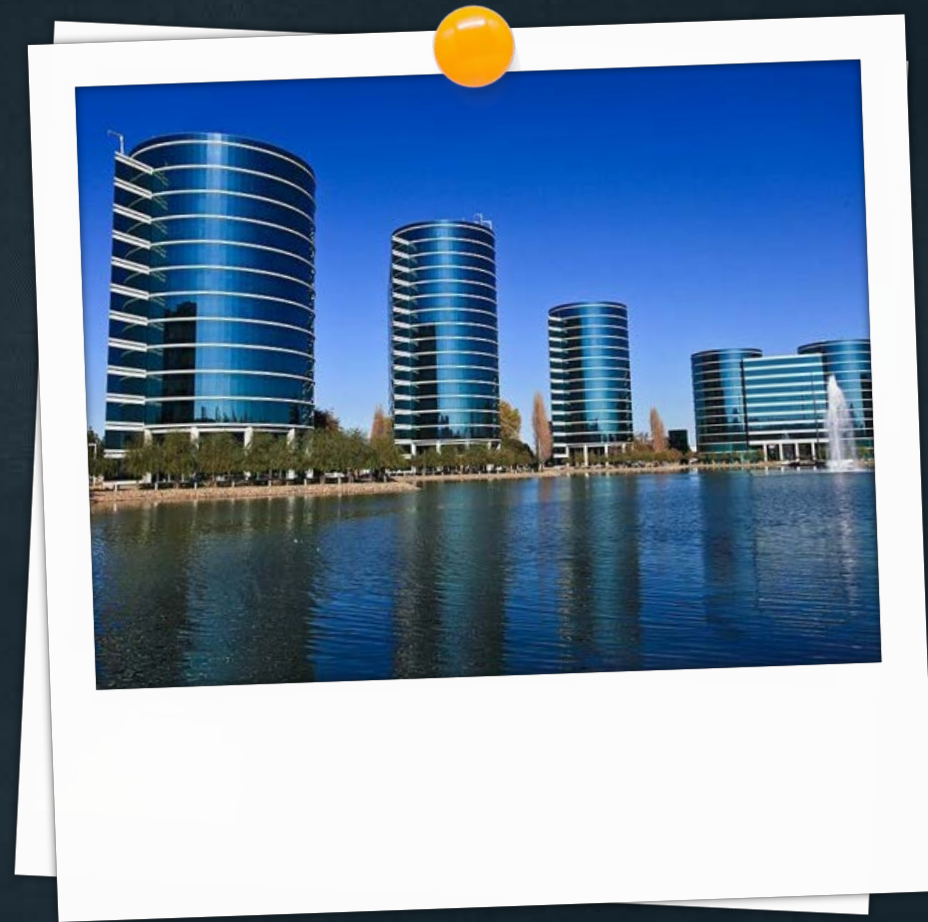
For the last 11+ years...

**Lead Product, Engineering,
and Operations for AWS**

WHO AM I?



WHO AM I?





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Behind the Brutality Today's Daily Scoop: The roots of violence in Kosovo, farewell to Roddy McDowall, and

Wednesday, October 7, 1998

Play What's That Song? to win \$50,000! Plus prizes from the Beastie Boys and 19 others.

Welcome, first-time visitors: [click here.](#) Learn about Amazon.com's [security guarantee.](#)



What We're Reading

The Adams Family

Middle managers, beware! Scott Adams's latest is a deeply amusing hybrid--half "Dilbert" book, half survival guide to the corporate jungle. The author has packed *The Joy of Work* with anecdotes from his readership that suggest that life is imitating art throughout the white-collar world. He also offers his own maliciously misanthropic takes on telecommuting, goofing off, and must-to-play pranks in the workplace.

Check out the [Amazon.com Hot 100](#). Updated hourly!

In Music

High Voltage

Son Volt's *Wide Swing Tremolo* recalls the days when leader Jay Farrar listened to Husker Du as much as to Hank Williams. Louder and grittier than the band's two previous albums, it's sure to satisfy alt-country fans who like reverb as much as twang. [Visit Music.](#)



In Oprah®

Oprah Picks

Oprah has announced her September book-club selection! This time her choice is Pearl Cleage's *What Looks Like Crazy on an Ordinary Day*, a chronicle of two African American sisters contending with life in the troubled (and troubling) 1990s. A gifted playwright, the author has endowed her narrator with a voice that is acerbic, street-smart--and ultimately hopeful. [Read an excerpt.](#) Plus [other titles](#) recently featured on Oprah®.

In Bestsellers



A. Scott Berg was allowed unprecedented access to the papers of aviator Charles Lindbergh for his comprehensive biography *Lindbergh*. The record-breaking pilot captured America's heart, but, like many a hero, he was an emotionally remote and self-absorbed man. [Read more.](#)

12/15 Amazon systems Overview

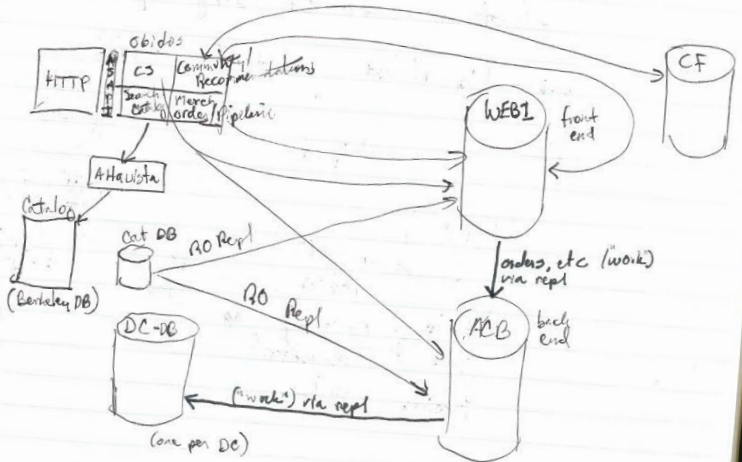
2 databases: WEB1, ACB (amazon.com.books)

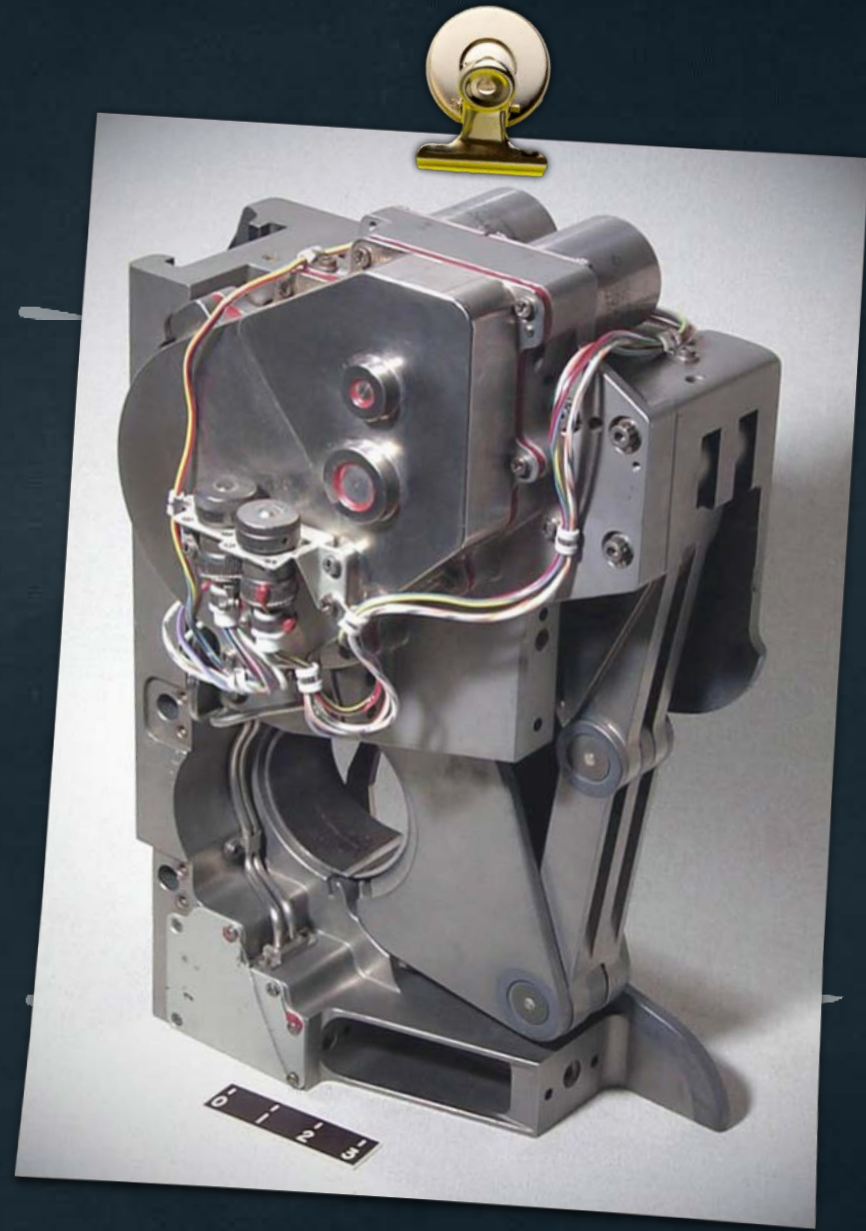
Replication between them of: customer (customers, address, cc, ...) 2 way

Web site - "Obidos" ^{NSAPI} ^{order snapshot (customer orders)} ^{involved application, HTML templ.}

Catalog - Berkeley DB; read-only to website, updated atomically, search done using altavista

- Obidos -
- Search & Catalog (Berkeley)
 - e-purchasing, order pipeline (WEB1)
 - Community & recommendations (WEB1, CF - Collabor Filtering)
 - Customer care (ACB & WEB1)





amazon.com

BOOKS MUSIC VIDEO GIFTS

HELP YOUR ACCOUNT

BOOK SEARCH BROWSE SUBJECTS BESTSELLERS FEATURED IN THE MEDIA AWARD WINNERS COMPUTERS & INTERNET KIDS RECOMMENDATION CENTER

Search: Books Go! Browse: Reference Go!

Full Search: Books, Music, Video

Monday, February 1, 1999 [Text Only](#)

Welcome back, stanley zarowin. Check out your [book recommendations](#). (If you're not stanley zarowin, [click here](#).)

[What We're Reading](#)

Super Science

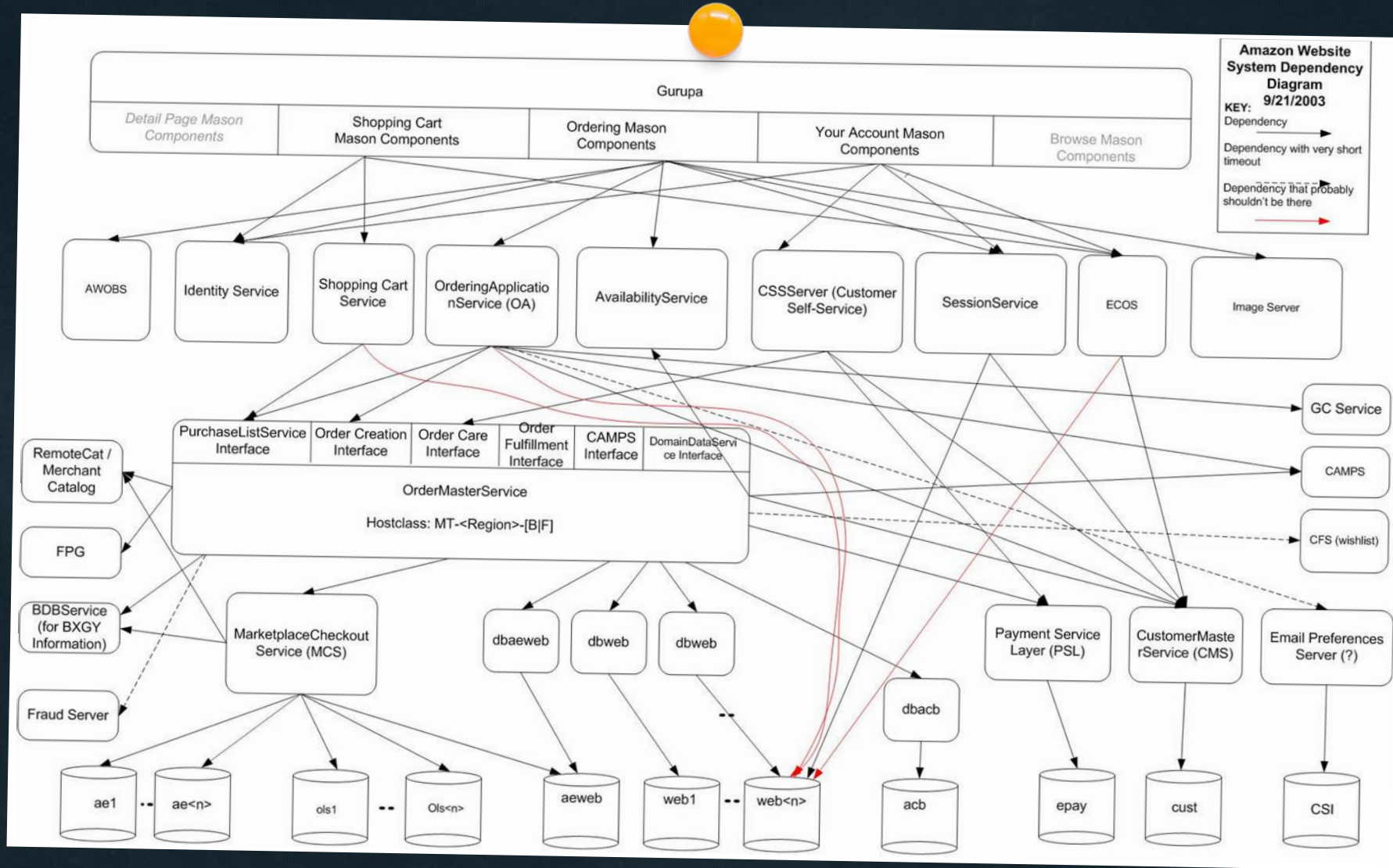
 After delivering [Schrödinger's Kittens](#) and [In Search of Schrödinger's Cat](#), John Gribbin seems to have exhausted the feline line of inquiry. Now, however, the champion science guy is back with [The Search for Superstrings](#). This time, Gribbin lucidly explains the quark, the gluon, and that loopy length of matter known as the superstring.

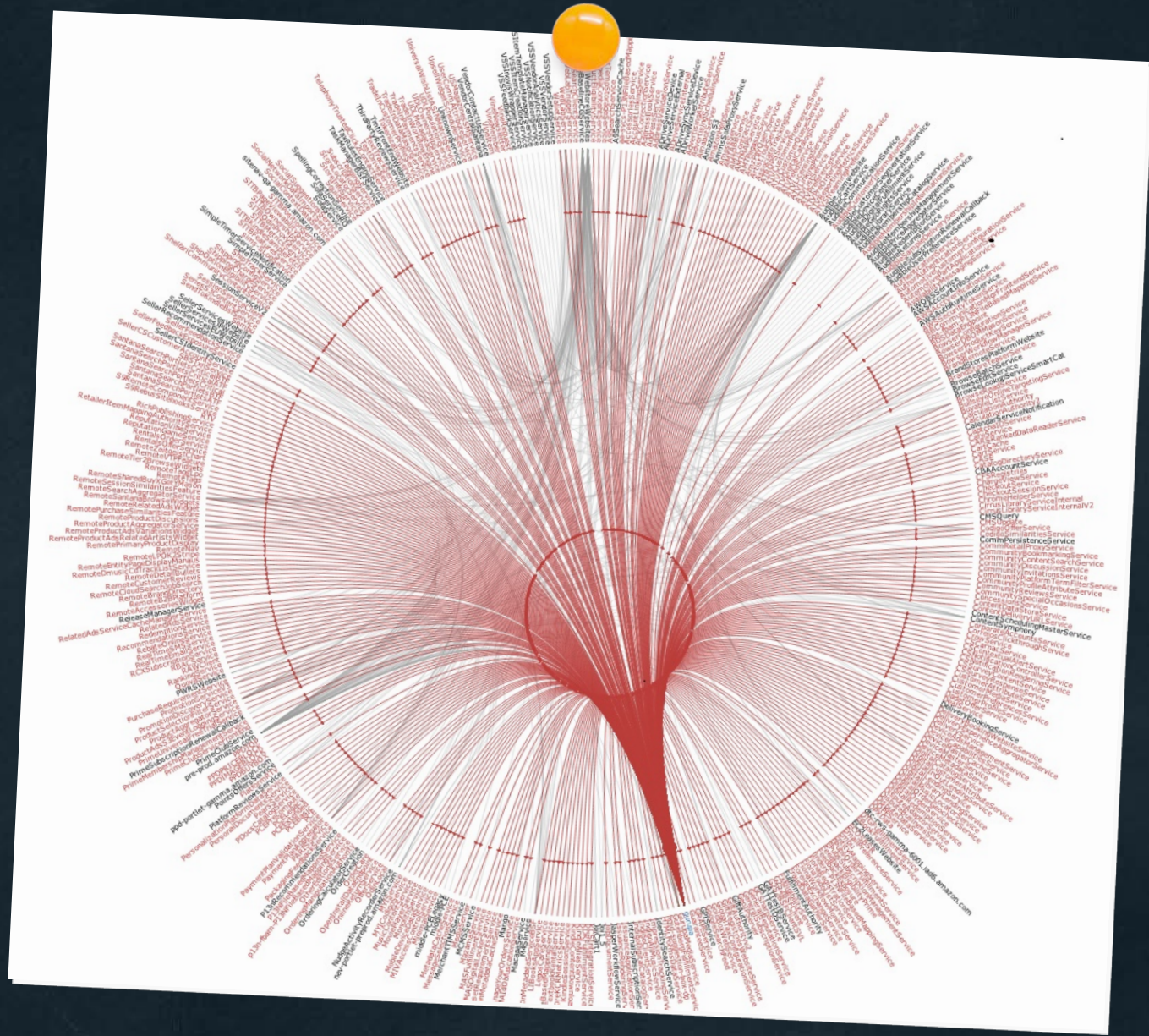
[Today in Music](#)

1. [Big Bad Voodoo Daddy](#)
Big Bad Voodoo Daddy
2. [Sol Negro](#)
Virginia Rodrigues
3. [Live At Luther College](#)
Tim Reynolds, Dave Matthews Band

Need a Service Here







Ownership Model—2 Pizza Teams



Single team owns a service end-to-end
(they are the provider)

Able to feed the team with 2 pizzas



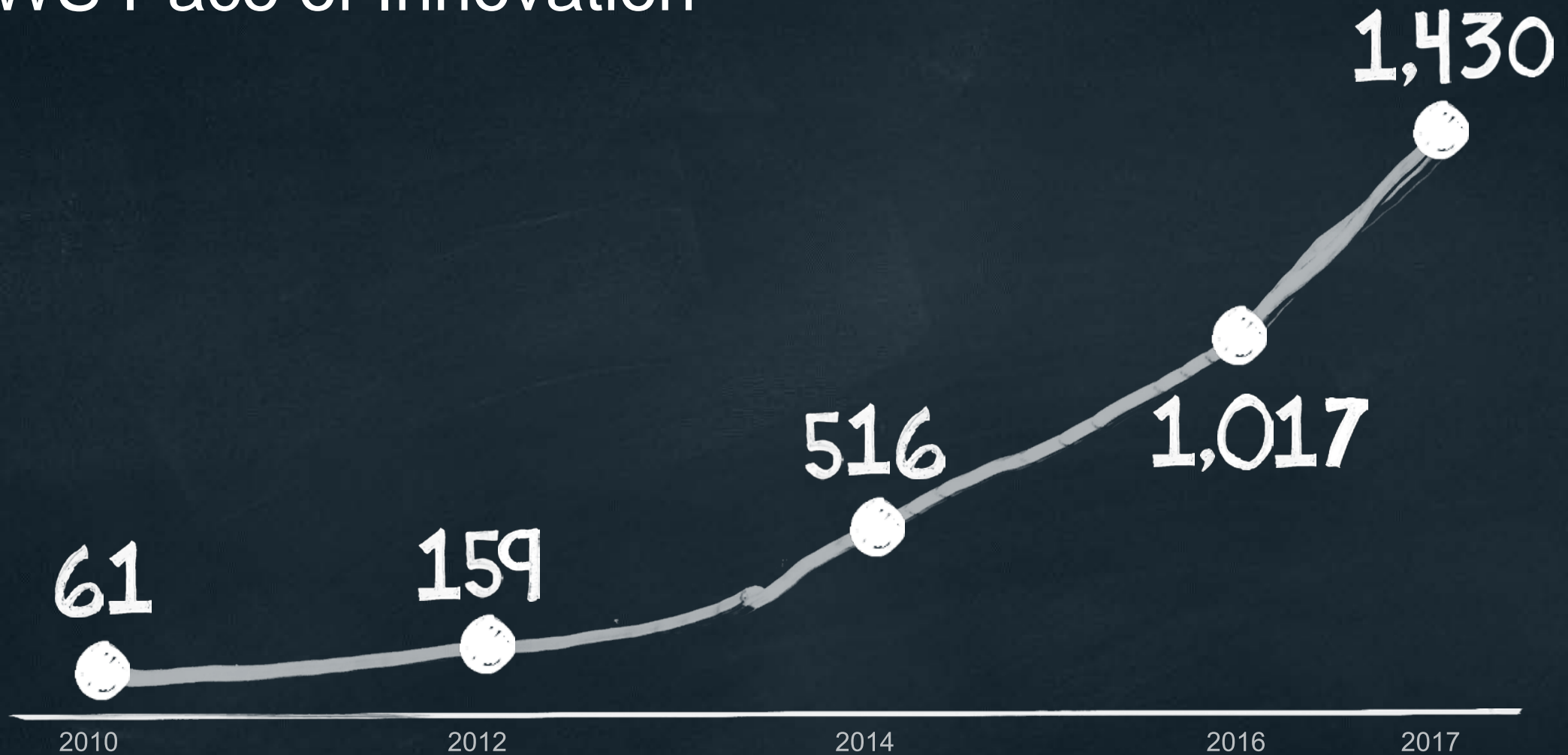
SINGLE - THREADED OWNERSHIP



Ownership Drives Customer Focus



AWS Pace of Innovation



* As of 1 January 2018

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Fraud Prevention



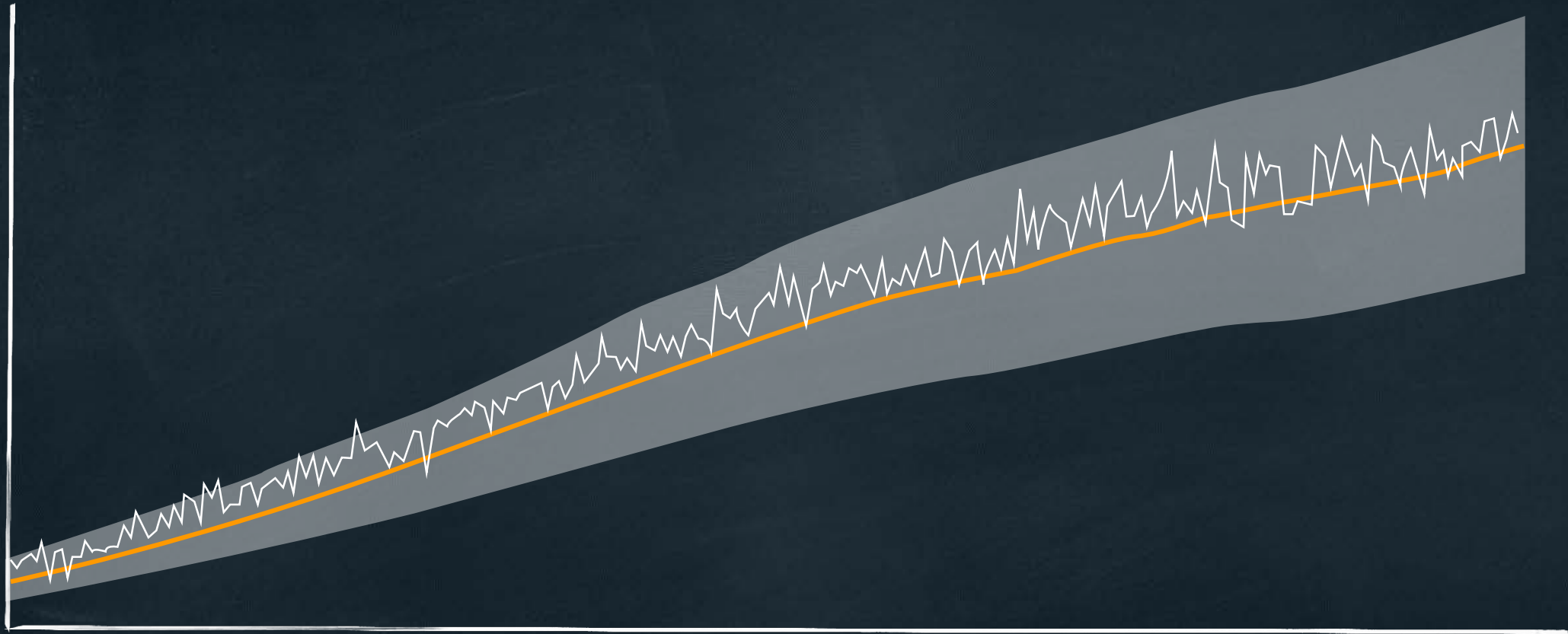
Keep customers safe and keep their costs under control

1. Real-time intelligence on the risk of an account
2. Mechanism to make this intelligence available to all services
3. Interpretability for the user

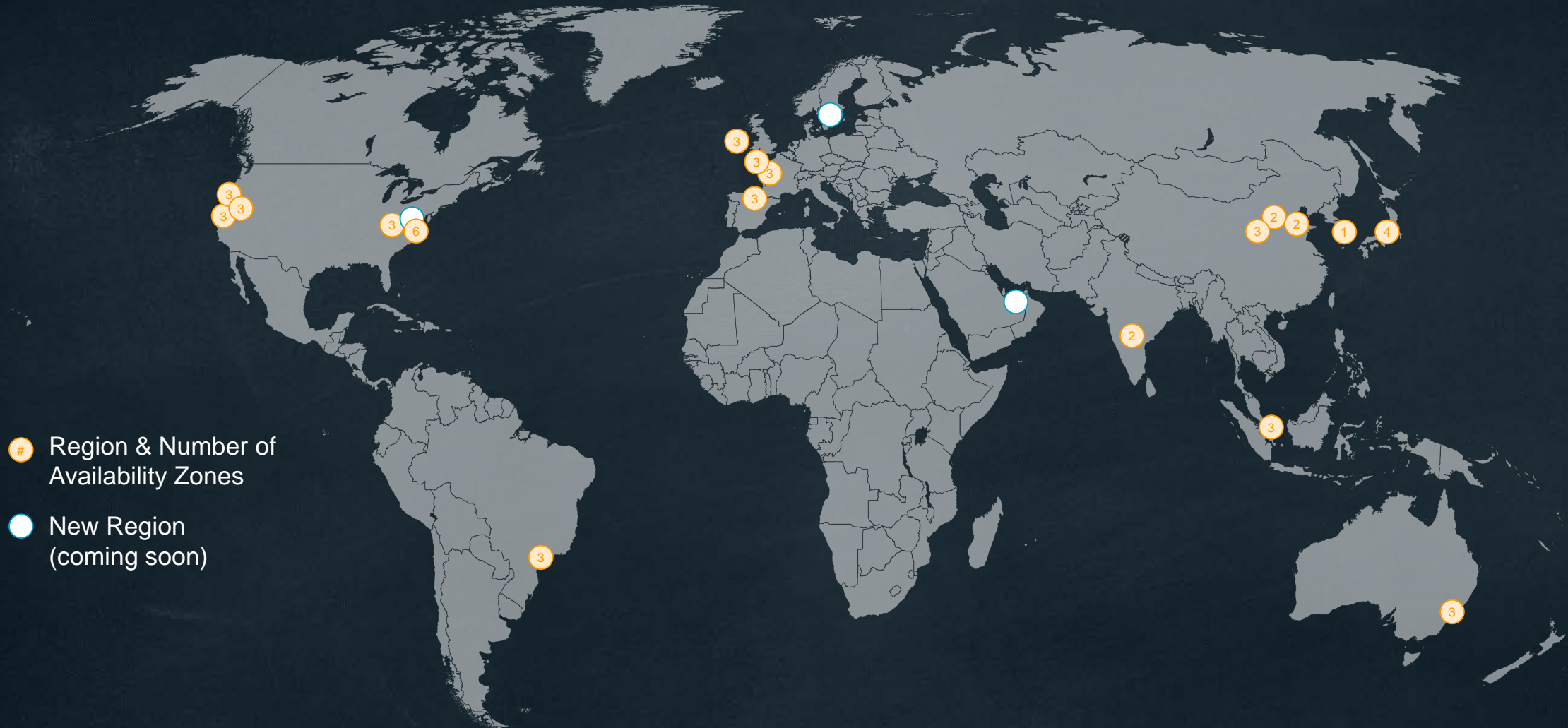
Fraud Containment Scores



Supply Chain Forecasting



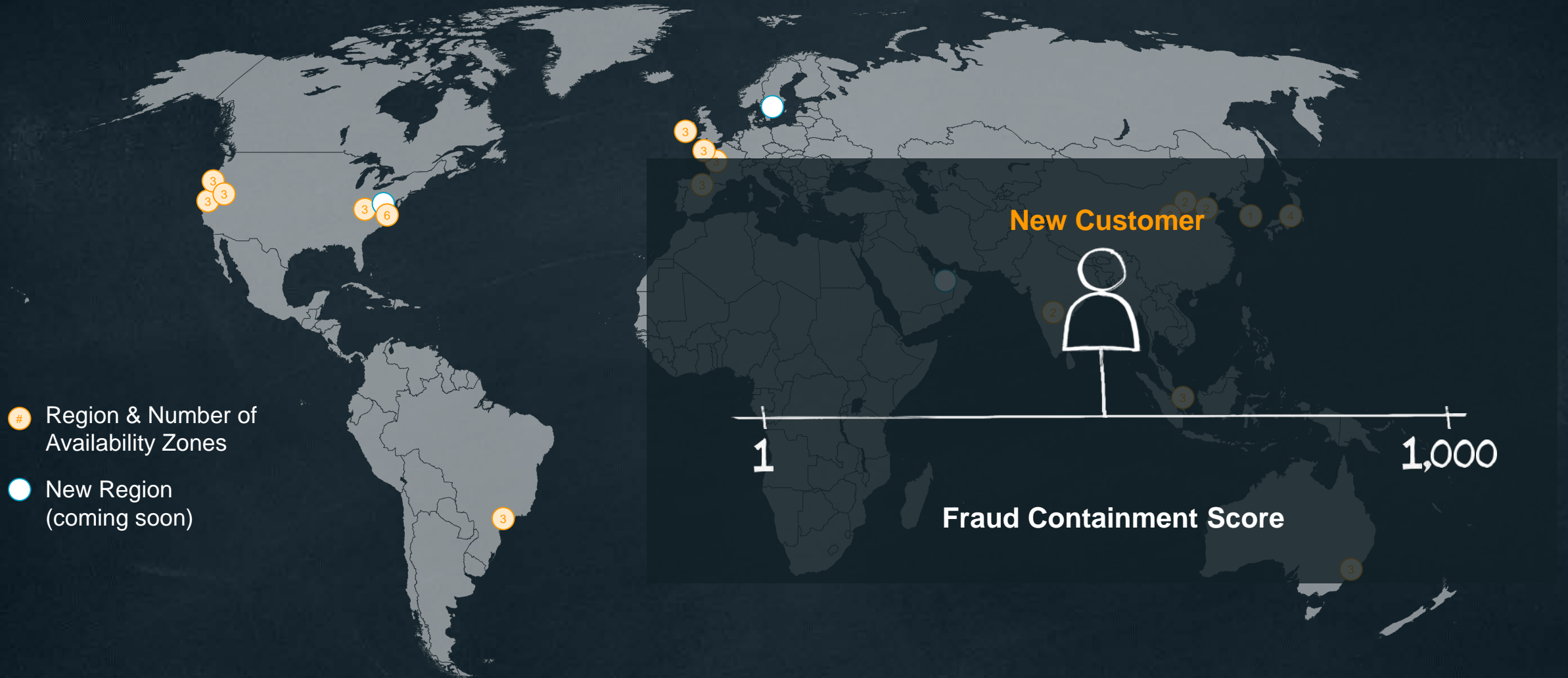
Admission Control



Region & Number of Availability Zones

● New Region (coming soon)

Admission Control





Working backwards

EXAMPLE

Amazon Connect

Press Release



SEATTLE—March 28, 2017 -Amazon Web Services, Inc. (AWS), an Amazon.com company (NASDAQ: AMZN), today announced Amazon Connect, a self-service, cloud-based contact center service that makes it easy for any business to deliver better customer service at lower cost. Amazon Connect is based on the same contact center technology used by Amazon customer service associates around the world to power millions of customer conversations. Setting up a cloud-based contact center with Amazon Connect is as easy as a few clicks in the AWS Management Console, and agents can begin taking calls within minutes. There are no up-front payments or long-term commitments and no infrastructure to manage with Amazon Connect; customers pay by the minute for Amazon Connect usage plus any associated telephony services. To get started with Amazon Connect, visit <https://aws.amazon.com/connect>.

Press Release

What's being announced?

Who are the intended
customers?

What is the job to be done,
and how does this solve?

Why is this service
remarkable or unique?

Simple, clinical;
avoids hyperbole



FAQ

? | What is Amazon Connect?

Amazon Connect is a self-service, cloud-based contact center service that makes it easy for any business to deliver better customer service at lower cost

? | Can I really set up Amazon Connect in minutes?

Yes. We encourage you to go to the [Amazon Connect console](#) and set up an Amazon Connect Virtual Contact Center now

? | Is Amazon Connect scalable?

Yes, the technology that powers Amazon Connect has been proven to scale with the needs of Amazon's award winning customer service. It's in use by teams ranging from ten to tens of thousands of agents

FAQ



Adds **detail** to what's introduced in the PR



Provides specifics about the **customer experience**—API, desktop, web, mobile



Explains the **relationship with other services**



Proposes a **pricing structure**

Questions We Often Ask in the FAQ



What will customers most like in this service?



What will customers be most disappointed with at launch?

What relevant use cases would not be addressed by your service?

Are we making decisions that take us through “one-way doors”?

What do you want someone sitting across the table at lunch saying about your product?

Inspection: WBR



Metrics Deck

Week 15
04/08/2018 - 04/14/2018

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WBR Tenets
1) The meeting provides regular and frequent insight into the business performance and trends
2) The meeting is an overview of the AWS business. Services, Infrastructure, and Sales/Marketing WBRs & metrics reviews are conducted to monitor and control at a more detailed level
3) The document and discussion should help connect the dots on larger trends that may not be visible within each team
4) Documents and discussions should primarily focus on inputs and speak to exceptions/noteworthy items
5) Documents and discussions should focus on issues that have broader implications. The responsibility is on the owner to identify items of common interest for discussion or input
6) WBR is a mechanism to ensure leaders are on top of their inputs/diving deep (it is not a pop-quiz)
7) In addition to understanding the business performance and trends, WBR serves as a teaching opportunity and reinforces the AMZN/AWS principles

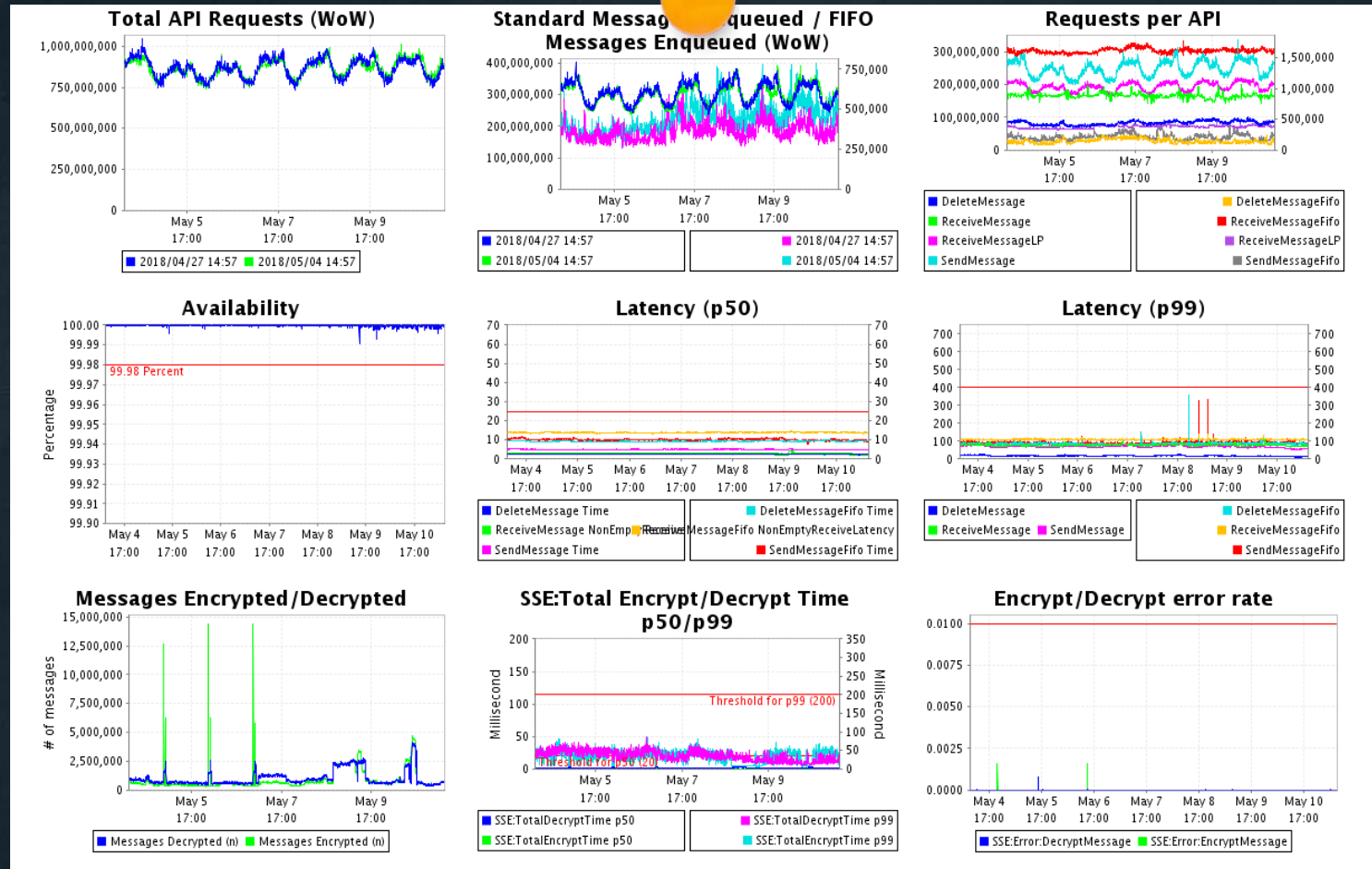
Metrics Deck Ground Rules
1) Start with a success story
2) Focus on "Why" (root cause), not just "What"
3) Look at performance vs. Plan, vs. Current Estimate and vs. Prior Year
4) The business owner should arrive with root causes known
5) If root causes are not known, establish a follow up owner and timeline for answering
6) A secondary purpose is to help the management team align on the same "mental model" of how the business should be run including priorities and processes
7) We should not be spending significant time drilling down into root causes during this meeting. A monthly business review or separate meeting is a better forum for detailed "deep dive" discussions

Trading Window Restriction
The Amazon Web Services Metrics Deck may contain material nonpublic information and access to it will subject you to the trading window established by the Company's Insider Trading Policy. Based on your role and function at the Company, you may already be subject to the trading window. You may not share this data with, or forward this data to, any other person. If you have any questions, please send email to stock policy

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Inspection: Service Dashboard



What Makes it Work?

“One thing I love about customers is that they are divinely discontent.

Their expectations are never
Static — they go up.

It's human nature. We didn't ascend from our hunter-gatherer days
by being satisfied. [...] You cannot rest on your laurels in this world.
Customers won't have it.”

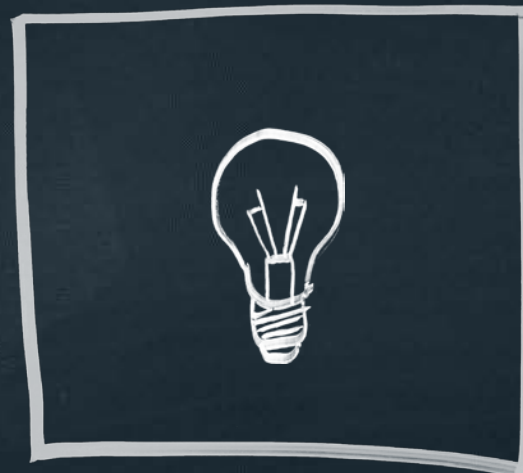
High Standards



They are
teachable



They are
domain specific



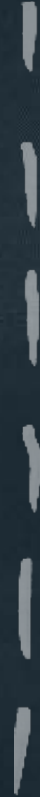
You must
recognize them



Must explicitly
coach realistic **scope**

“And finally, high standards are fun! Once you’ve tasted high standards, there’s no going back.”

Scope





THANK YOU!

Q & A