

PwC HackaDay 2022

# What “security is our top priority” means to AWS

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# Back to 2006, what would you think about this idea?



A **insecure service** doesn't delight customers,

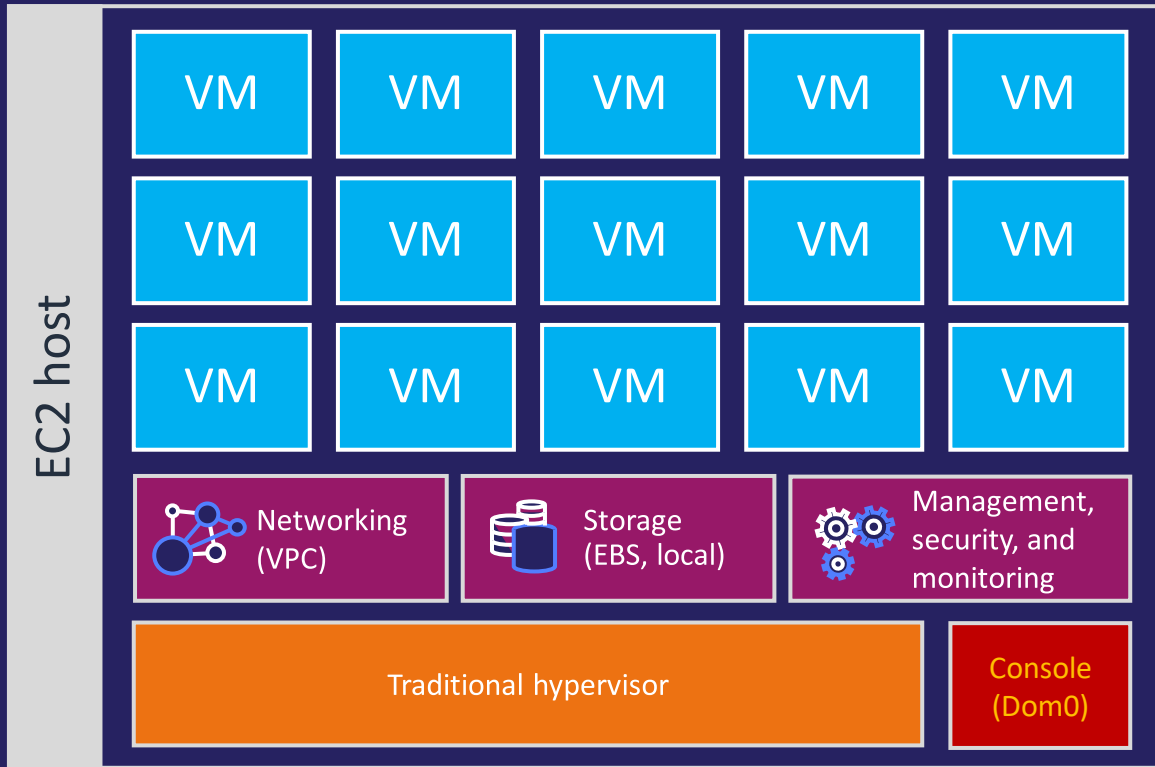
But a service hasn't been shipped, it **delights**  
**zero customers.**

# Mission

We empower service teams  
to launch on schedule,  
with the right customer experience,  
with an appropriately high security bar

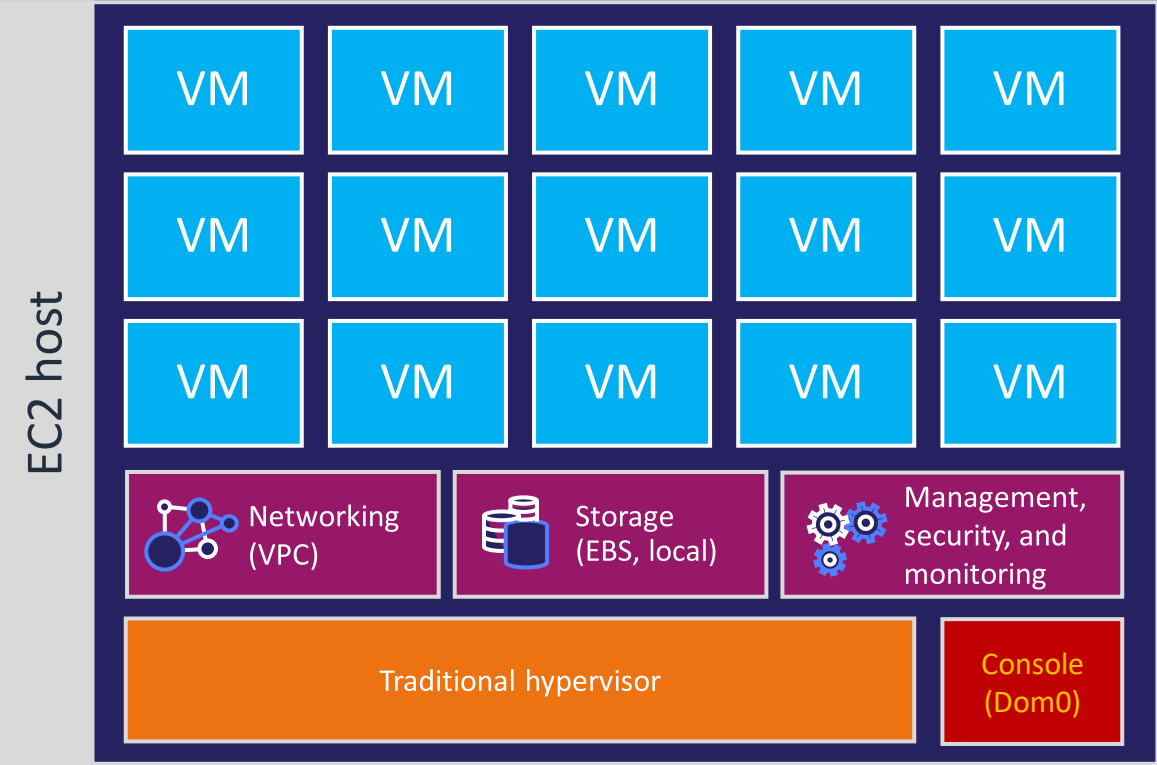
# Meeting appropriately high security bar

## Classic virtualization

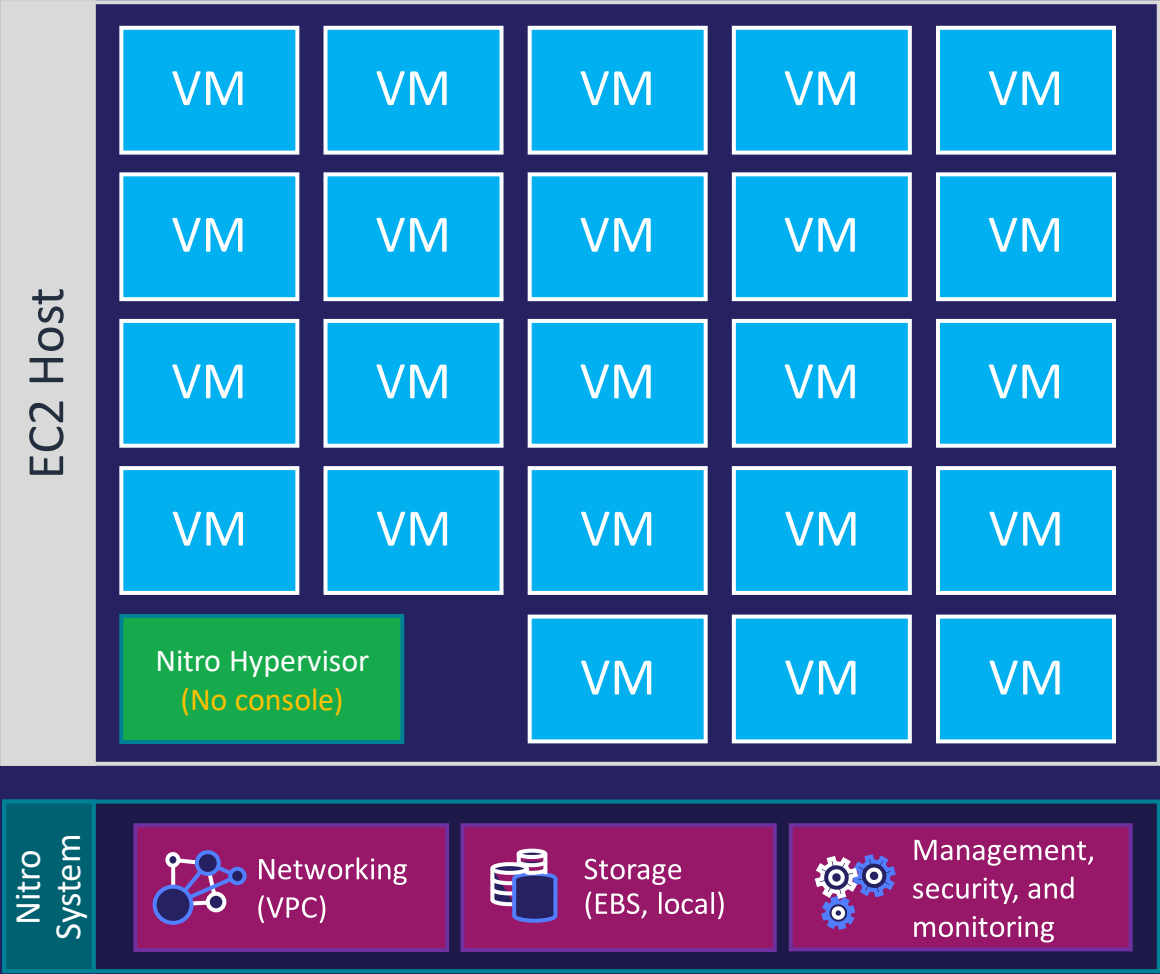


# Raising the high security bar

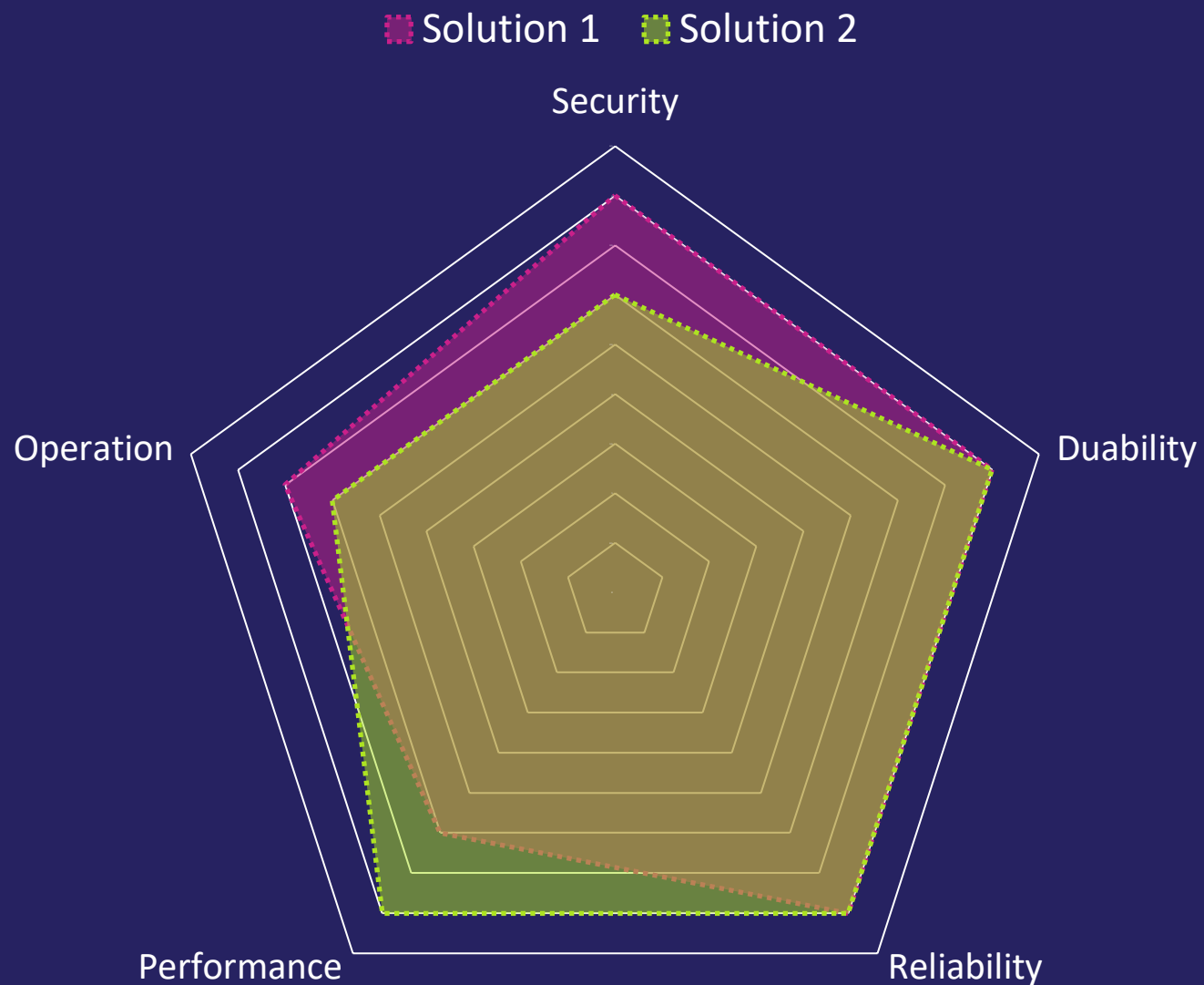
## Classic virtualization



## AWS Nitro System



What are our **priorities** and  
make **trade-offs**



Define **priorities**  
**set** to guide  
decisions



Own, run and **secure**  
what you build

# Nourishing security ownership



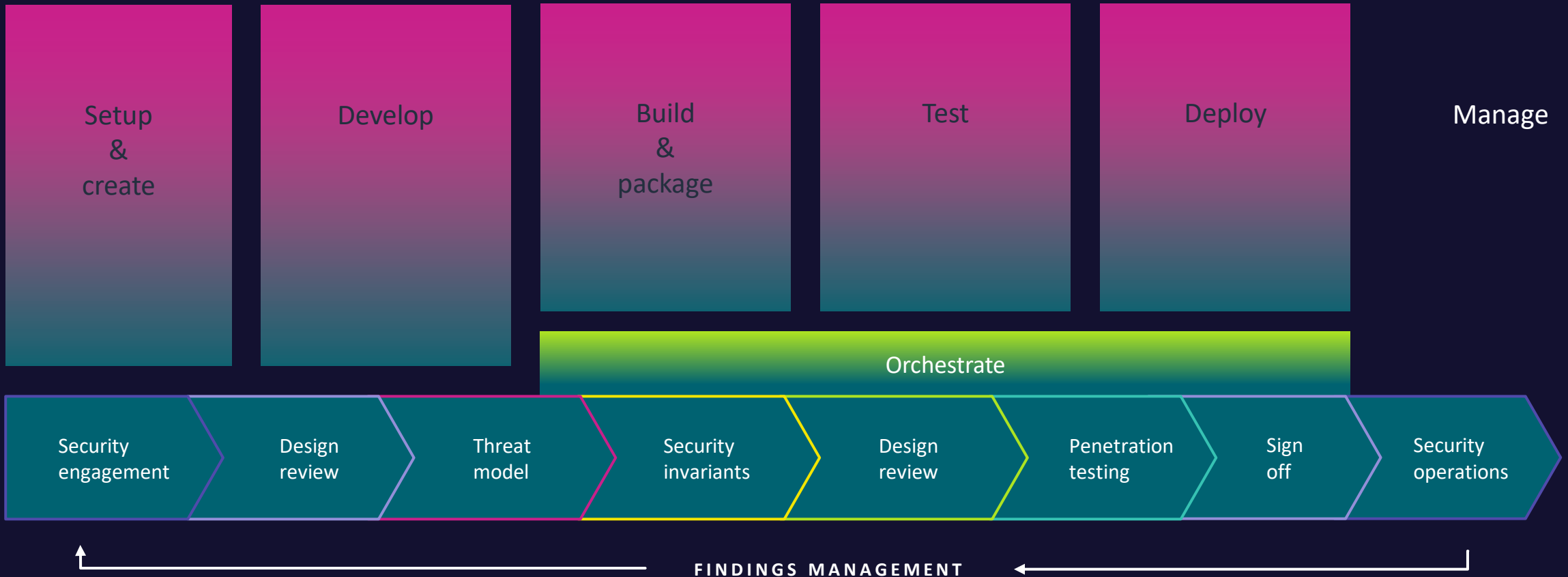
## “Two-pizza” teams

Own a service – build, run and secure

Minimize social constraints (Conway’s Law)

Retain autonomy to make decisions

# Incorporate security into builder lifecycle



# Working Backwards

## Press Release

## FAQs

## Visuals

Amazon Campus

Amazon.com confidential

Amazon Campus Launches First Multi-Channel Student Store at the University of California Berkeley  
[www.amazon.com/Campus](http://www.amazon.com/Campus) & [berkeley.amazon.com](http://berkeley.amazon.com)

SEATTLE-(BUSINESS WIRE) – August 31st, 2014 – Since returning to school for the Fall semester, Berkeley students have experienced a fresh take on the college bookstore as the new Berkeley Student Store opened at an Amazon Campus location. [berkeley.amazon.com](http://berkeley.amazon.com).

The Amazon-run online Student Store brings Amazon's broad selection, low prices, and convenient delivery to Berkeley's campus and offers a number of additional student-focused features. With the launch of the Student Store, students can now pay for any purchase on Amazon with their Cal1Card, buy course materials in any Learning Management System or directly on Amazon.com, pick up orders at convenient locations across campus, and receive Free One-Day Shipping on textbooks sent to the campus area. Amazon Student members at Berkeley are eligible for shipping to campus on millions of additional products plus FREE Two-Day shipping on millions more.

"I've been an Amazon Student member for two years," explained Senior Aubrey Primasoo, "Getting everything delivered to my door is huge. I've been ordering everything from Amazon since I got back to school. I may never have to leave my room."

Students can access these campus-specific payment methods and shipping benefits, along with the ability to purchase textbooks - typically available only through the university's licensed bookseller - by activating the Amazon Student program when they visit [berkeley.amazon.com](http://berkeley.amazon.com), sign up for Amazon Student and select 'Berkeley' as their campus. Amazon Student members can also access the Amazon Student Store within the Berkeley Learning Management System.

Instead of a traditional campus bookstore, Amazon has deployed Lockers across campus and built a space that features a package pick up desk, technology showroom, and lounge area for students to hang out. "Getting my textbooks was always such a pain, instead of making the trip to the bookstore, now I can just go to the locker and pick up my books."

Amazon Campus

Amazon.com confidential

### II: Student Customer FAQs

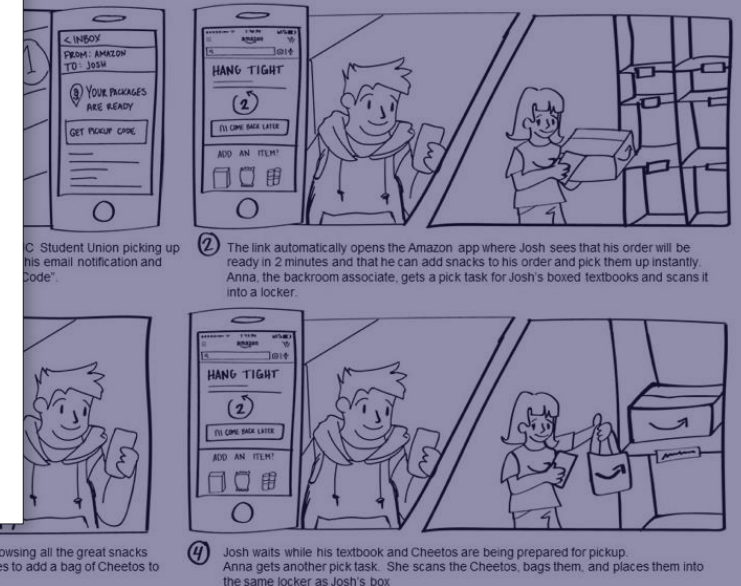
**Q4: What do I get when Amazon is on my campus?** Students get a number of benefits when Amazon is on campus. By activating the co-branded experience on Amazon, students receive Free One Day shipping on textbooks to campus addresses, access to custom textbook selection, the ability to pay with their university ID card, and the ability to pick up Amazon.com orders at pick up points on campus. On campus, all students will have access to an Amazon Student Lounge.

**Q5: How do I activate the co-branded experience?** Students at client universities will have four methods for opting into the co-branded experience: 1) visiting the co-branded subdomain directly by typing the URL ([berkeley.amazon.com](http://berkeley.amazon.com)) in their browser, or clicking an external link, 2) joining the Amazon Student program and selecting their school, 3) shopping for textbooks via links in their school's Learning Management System, 4) clicking on a Student Store merchandising placement on Amazon.com. Once customers have opted in, they will see a persistent co-branded toolbar on the top of the page whenever they return to Amazon.com. Customers can turn the experience off at any time by navigating to the 'Account Settings' menu in 'YourAccount'.

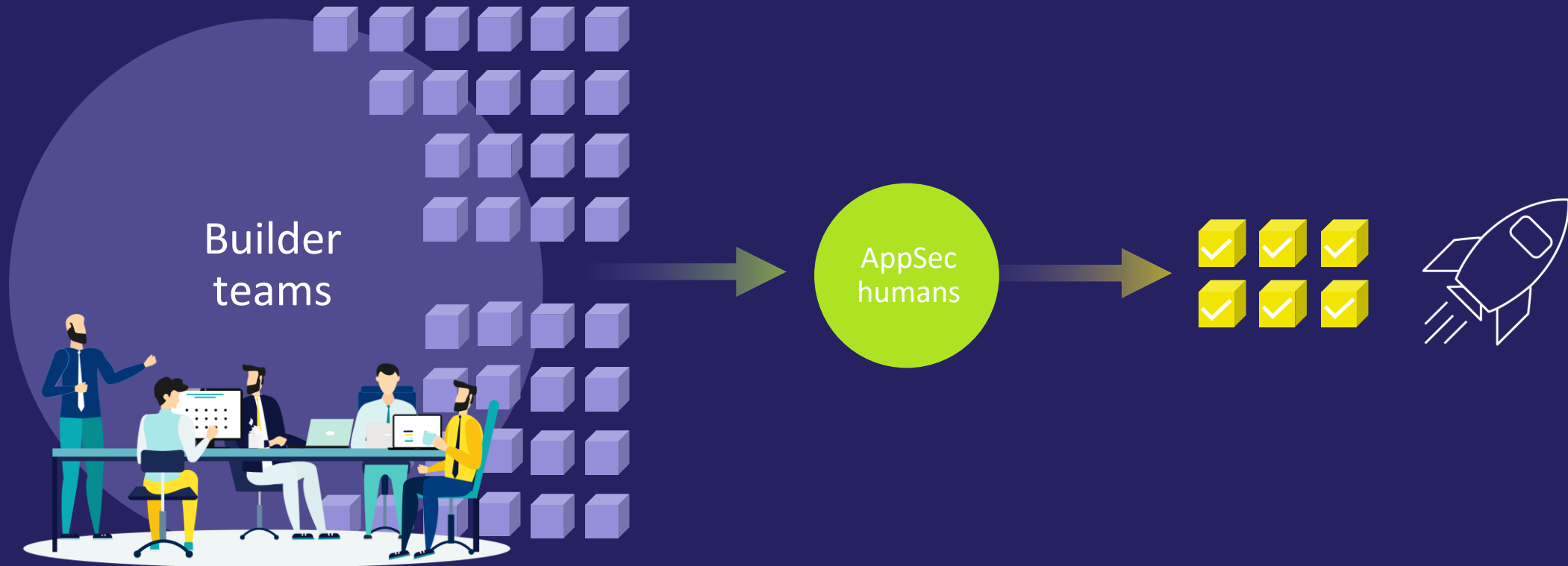
**Q6: What do I get if I sign up for Amazon Student when Amazon is on my campus?** Amazon Student members at your school get all the standard benefits of the program *plus* Free One Day shipping to the campus area on millions of top selling products. Standard benefits include Free Two-Day shipping on Prime eligible items, unlimited instant streaming of Prime Instant Video content and access to the Kindle Owners' Lending Library. The cost of a Student membership will remain \$39/year.

**Q7: Why aren't there any 'grab and go' items available for purchase at the Student Lounge?** At launch, we will not be able to sell products to customers "on demand" at the Student Lounge because we do not have a Point of Sale system or the ability to stock inventory for sale on site. However, we intend to offer this in the future for a small selection of top-selling products. In the meantime, customers may order items displayed in the Lounge by using the bar code scan feature in the Amazon Mobile App.

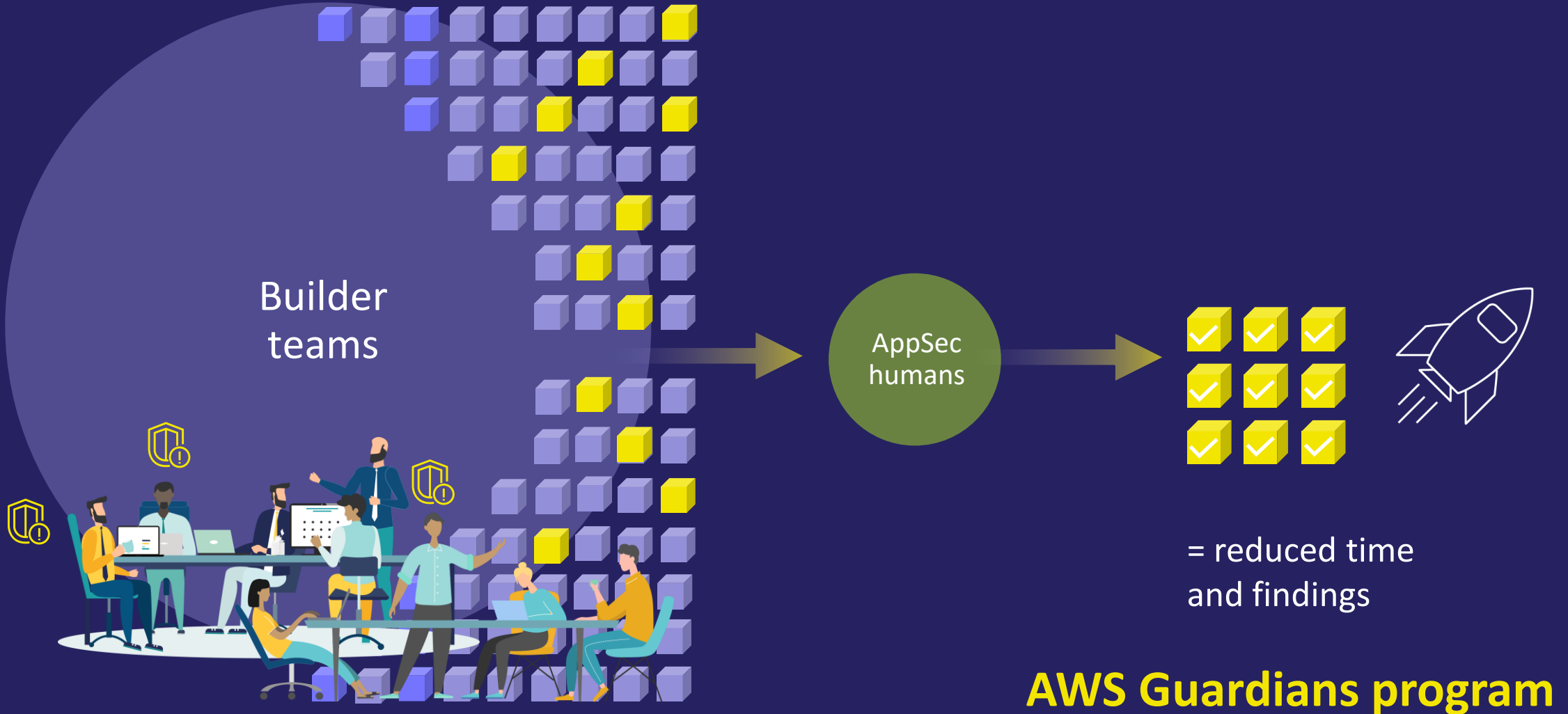
**Q8: Why is Free One Day shipping limited to campus addresses? Why don't I get Free One Day shipping to my parent's house?** By working directly with a university, Amazon is able to reduce costs associated with shipping orders to campus, a savings we want to pass on to all students at the school via Free One Day shipping for textbooks, and to our Amazon Student members via Free One Day shipping on millions of other eligible products. However, in order to provide these benefits at no additional cost, we must limit the geography in which we offer this benefit to those zip codes served from our on campus delivery station. Amazon Student members always receive Free Two-Day shipping on Prime eligible items, to campus or most other addresses in the continental US.



# Builders: Security ratio disparity



# Embedding security into builder teams



# The Guardians program

We've trained ~2,000 software development engineers **on how to think about security**

Security reviews had **22.5% fewer medium- and high-severity findings** discovered during an AppSec review, representing 15,973 fewer findings

Security reviews benefitted from **26.9% less time to complete a security review end to end**, yielding a savings of 210,216 total days





With the crowd,  
we're **stronger together**



# Billions

DISTINCT CUSTOMER ACTIVITIES

# Thousands

PRODUCT FEATURE REQUEST

# Millions

CUSTOMERS



# Billions

DISTINCT CUSTOMER  
ACTIVITIES

# Thousands

PRODUCT FEATURE REQUEST

Thousands  
PARTITIONERS

# Millions

CUSTOMERS



# Thank you!

Dickson Yue

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<https://www.linkedin.com/in/dicksonyue/>

