



The background features a vibrant, multi-colored gradient. It starts with a dark blue on the left, transitions through purple and magenta, and then into bright orange and yellow towards the right. A diagonal line separates the darker blue/purple area from the lighter orange/yellow area.

AWS
re:Invent

EUC206

How AWS is defining the future of engagement and messaging

Simon Poile

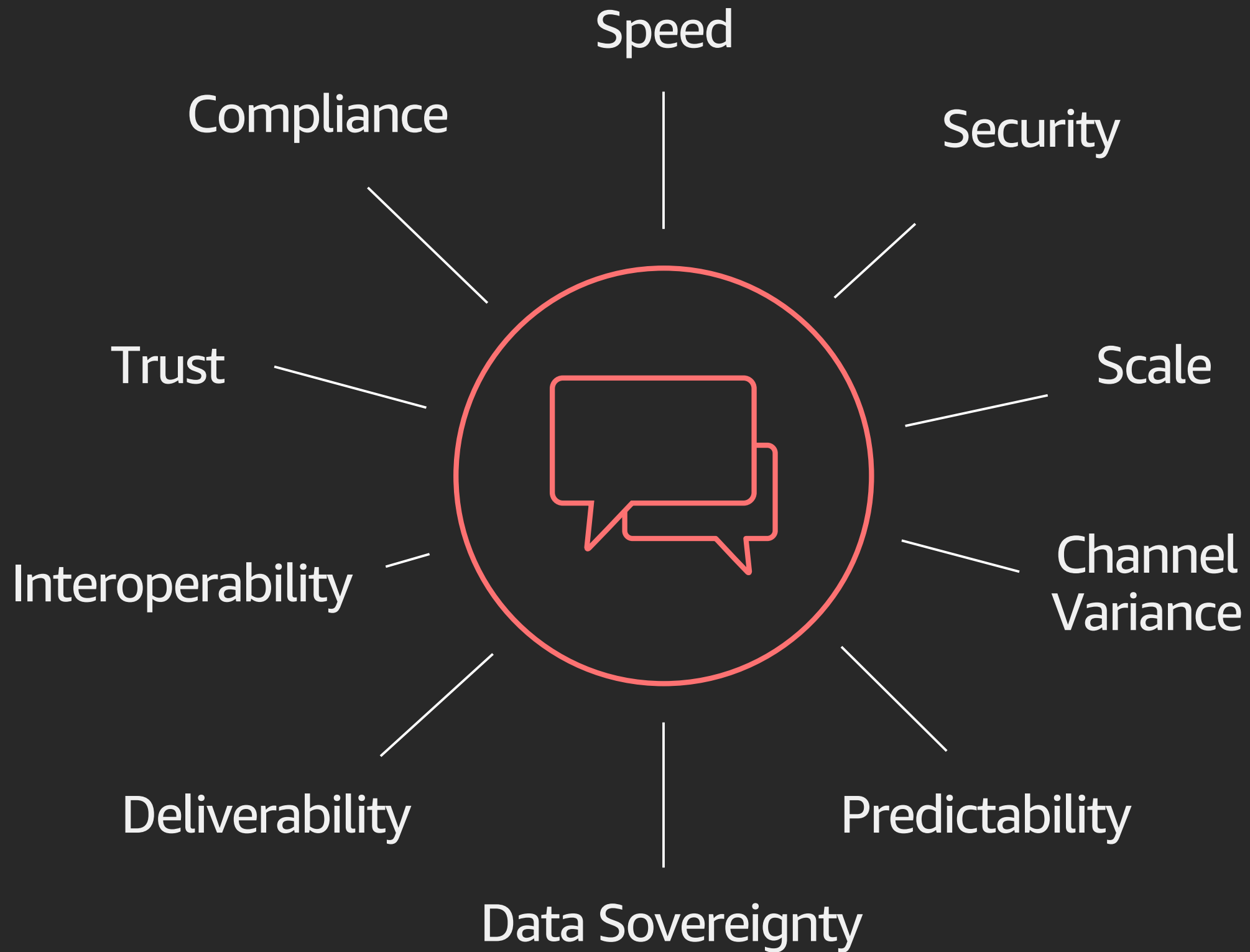
GM—Digital User Engagement
Amazon

Goutham Buchi

Engineering Lead
Coinbase

James Liu

Senior Engineer
Coinbase





How does AWS solve for these challenges?



Pinpoint



SES



Connect



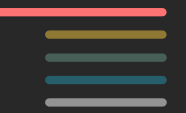
Thematic investments

coinbase



Engagement and messaging services built for **scale**

20B+



2017

2019

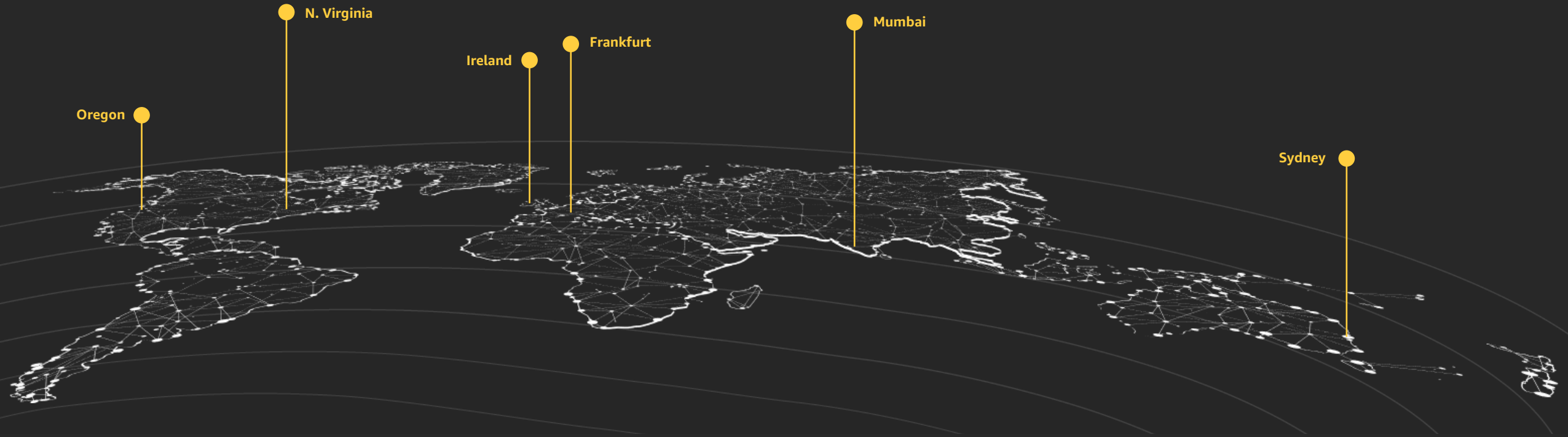
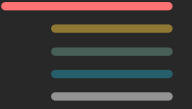
AWS
re:Invent

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Engagement and messaging services built for **availability**



What is **Amazon Pinpoint?**



All projects

BalancedMeals

FavoriteFood

Amazon Restaurants (demo account/dummy data)

Analytics

Usage

Revenue

Events

Financials

Campaigns

Transactional messaging

Segments

Campaigns

Journeys

Test messaging

Notifications

Settings

Message templates

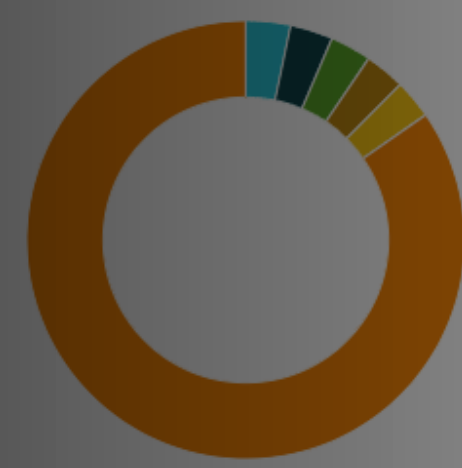
Deliverability dashboard

What is Amazon Pinpoint?

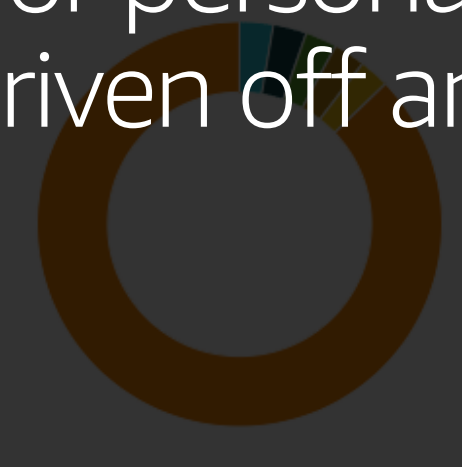
Managed service for personalized user engagement across channels, driven off analytics



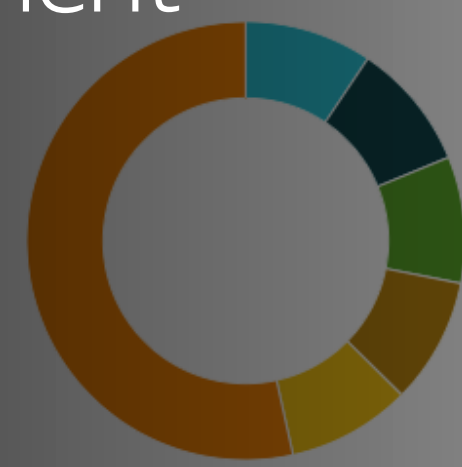
● People who wish this was really pie ● People who eat healthy



● Mac and cheese ● Tacos ● Cake ● Poutine ● Gyro sandwich ● Other

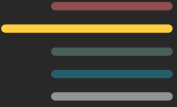


● Let's Taco ● Paseo Caribbean ● Otter Bar and Burger ● Sizzling Pot King ● Buca di Beppo ● Other



● Takeout ● Free Wi-Fi ● Good for groups ● Delivery ● Dogs allowed ● Other

Five major pillars to Amazon Pinpoint



User
management



Audience
management



Targeting

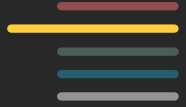


Channels

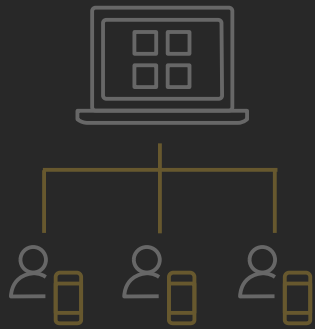


Analytics

Five major pillars to Amazon Pinpoint



User
management



Audience
management



Targeting

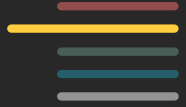


Channels



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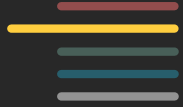


Channels



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Five major pillars to Amazon Pinpoint



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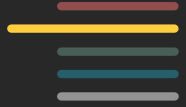


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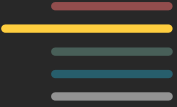


Channels



Analytics

Five major pillars to Amazon Pinpoint



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Audience
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Channels

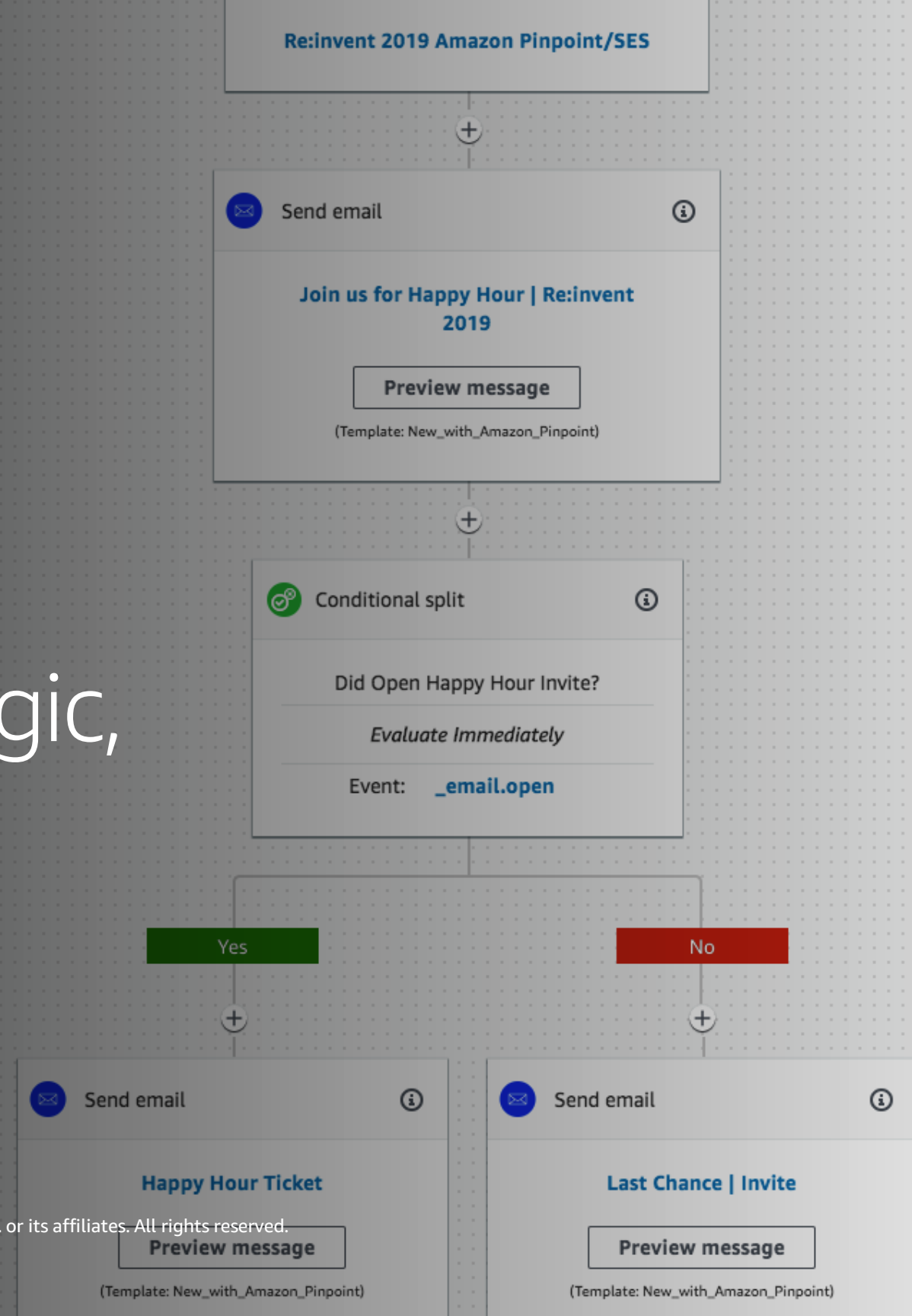


Analytics

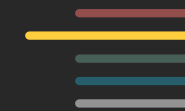
Introducing **Pinpoint Journeys**



Focus on your business logic,
not code



With features to help personalize

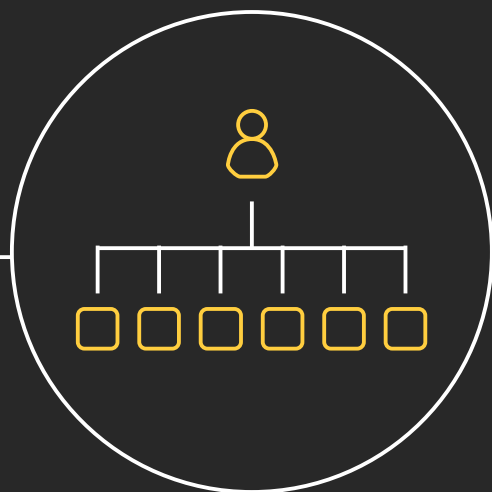


Amazon Pinpoint Journeys

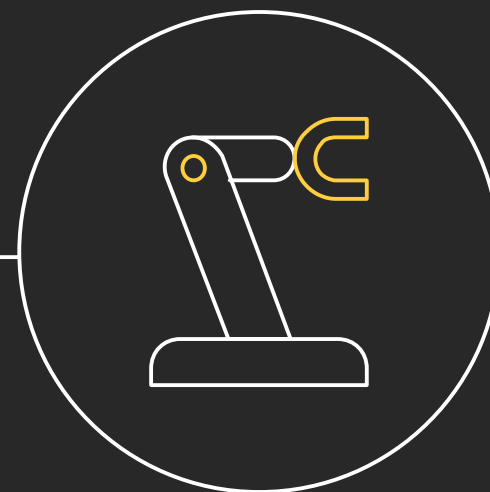
Real-time engagement based on events, user behavior, and metrics



Drag-and-drop Activities



Customer Defined Paths

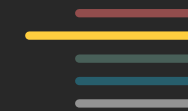


Automated Experiences



Powerful Analytics

With features to help personalize



Amazon Pinpoint Journeys

Real-time engagement based on events, user behavior, and metrics



Drag-and-drop Activities



Customer Defined Paths

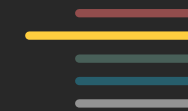


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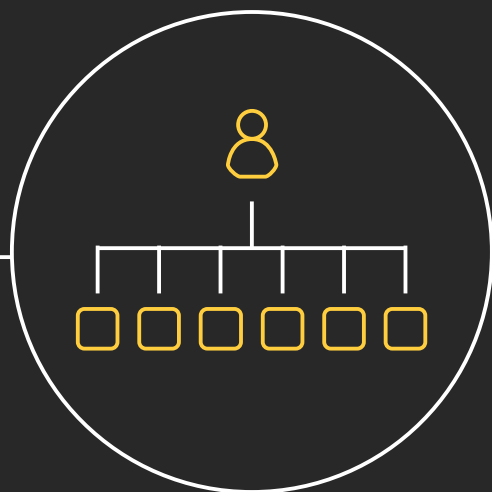


Amazon Pinpoint Journeys

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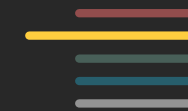


Automated Experiences



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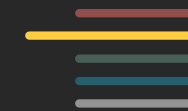


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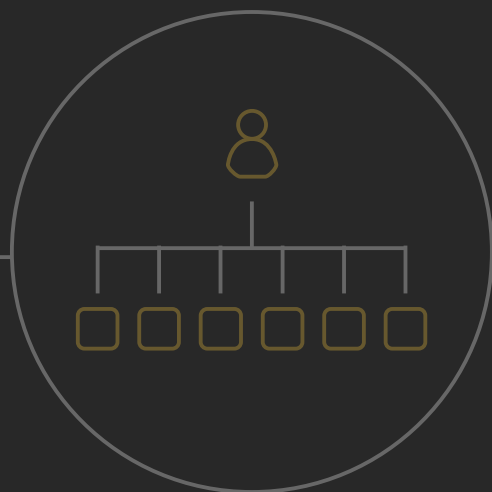


Amazon Pinpoint Journeys

Real-time engagement based on events, user behavior, and metrics



Drag-and-drop Activities



Customer Defined Paths



Automated Experiences



Powerful Analytics

What is Amazon Simple Email Service (SES)?

Inbox placement by email provider

Last 30 days



Inbox placement rate

89.7%

Spam folder placement rate

10.3%

● Gmail

93.6% Inbox
6.44% Spam

● Hotmail

66.4% Inbox
33.6% Spam

● Yahoo

88.4% Inbox
11.6% Spam

What is Amazon Simple Email Service (SES)?

A flexible, affordable, and highly-scalable email sending and receiving service for developers

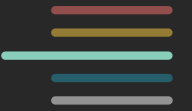
Blacklist activities (0)

Email providers use IP blacklists to monitor internet addresses that are suspected of sending unwanted email. [Info](#)

Blacklist name

Listing date

Email is still one of the best channels to communicate with your customers



Almost everyone has an email address



Consumers are connected to their emails



Consumers would like to hear from their brands

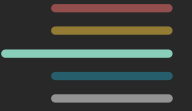


Targetable, and measurable



Email is core to businesses

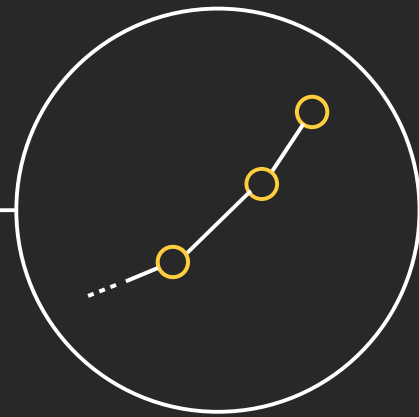
Why use Amazon SES?



Performance



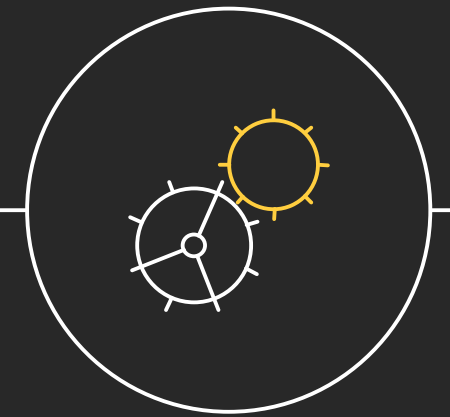
Deliverability



Scalable

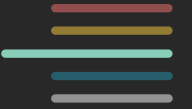


Secure



Configurable

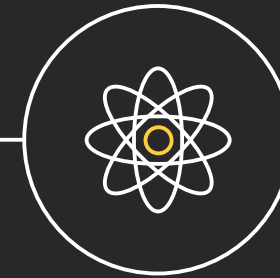
Dedicated IPs



Manage your reputation with dedicated IPs



Dedicated IP pools



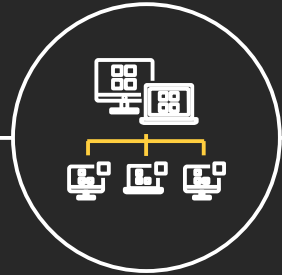
Auto-warm up

Authentication

Email sending metrics



Support for multiple email authentication mechanisms to increase email deliverability



Flexible DKIM management



Deliverability Dashboard



Managed bounce classification



Analyze and visualize your data

Thematic investments for 2020 and beyond



Personalization

Machine Learning

- Automating personalized content and call-to-actions
- Categorizing customers into high value segments
- Democratization of ML

Location Engagement

- Privacy as a priority
- Diverse inputs, drive meaningful outputs
- Protecting customers' trust

Customer Data Platforms

- Consolidated view
- Easier and more consistent compliance management
- Faster enablement of teams



Deliverability as a Service

Deliverability management

Understand the domain, campaign, and IP reputation
Domain and IP blacklisting monitoring
Predictive inbox placement tests
Voice fallback for SMS
Phone Number Validate

Deliverability consultation

Pre-qualified deliverability experts
Leverage deliverability partners

Partners



Coinbase

Agenda



Introductions



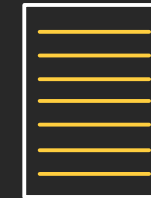
Notifications
@ Coinbase



Why
Pinpoint



High-level
architecture



Use Case
deep dive



Final
thoughts

Introductions

- Coinbase
- Growth @ Coinbase
- Notifications @ Coinbase

coinbase

Past, present, and near future of notifications at Coinbase

1 year ago
at Coinbase



Struggles with email at scale

1 engineer

Today



Email + Push notifications
In-app notifications

3 engineers

The near future



Machine Learning + Silent
notifications + Personalization

5 + We are hiring!

Use Cases @ Coinbase

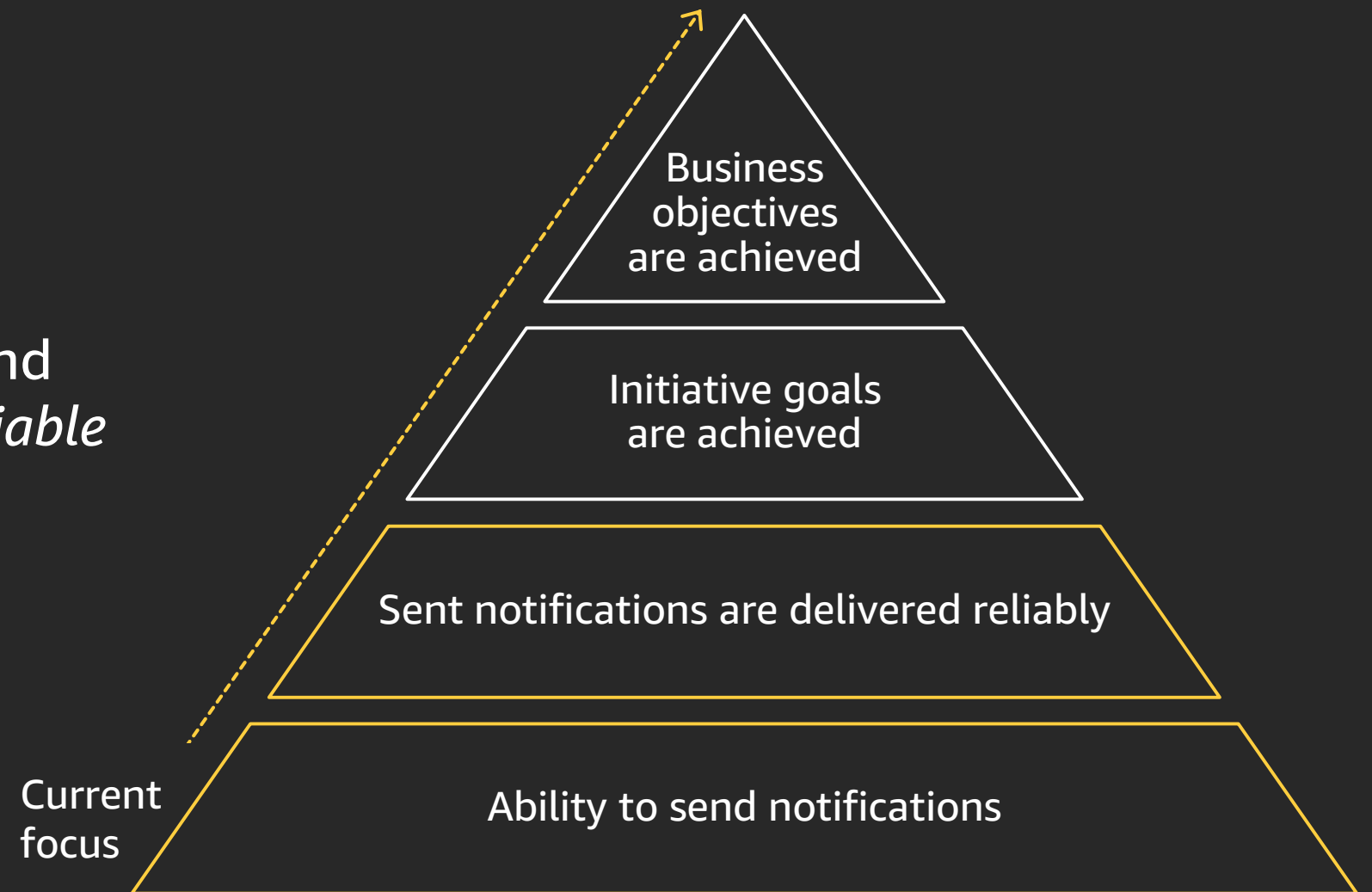
- One time email campaigns
- One time push notification campaigns
- **Event based emails**
Onboarding drip campaigns
- **Event based push + in-app notifications**
Price Alerts/ Transactional updates

Key objectives

The near-term objective is building out our capabilities and stabilizing our notifications performance (e.g., deliverability)

Over time, focus will shift to project-level and business-level metrics once we establish *reliable* table-stakes capabilities

Notifications 'hierarchy of needs'



Why Pinpoint?



Security



Reliability



Deliverability



Customer
support

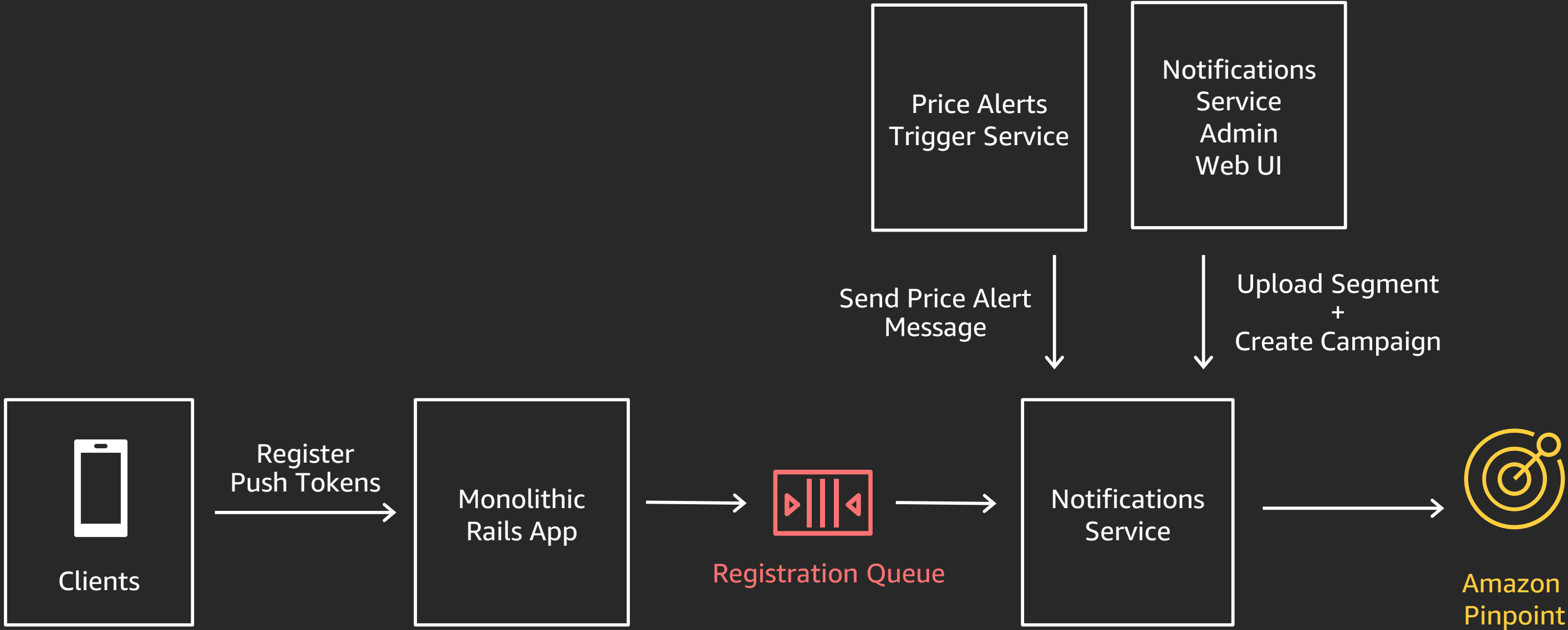


Cost

What do we need to build?

- One-time email campaigns
- One-time push notification campaigns
- Event based emails
Onboarding drip campaigns
- Event based push + in-app notifications
Price Alerts/ Transactional updates

High level architecture



Push use case—price alerts



**Using the send messages and
send user messages APIs**

Campaigns take longer to send

Price alerts are time sensitive

Reaction to price alerts

- Users were much more engaged with the product
- Users loved to tap on the push notification as soon as they received
- Coinbase systems were less happy
 - Drove heavy throughput to our servers

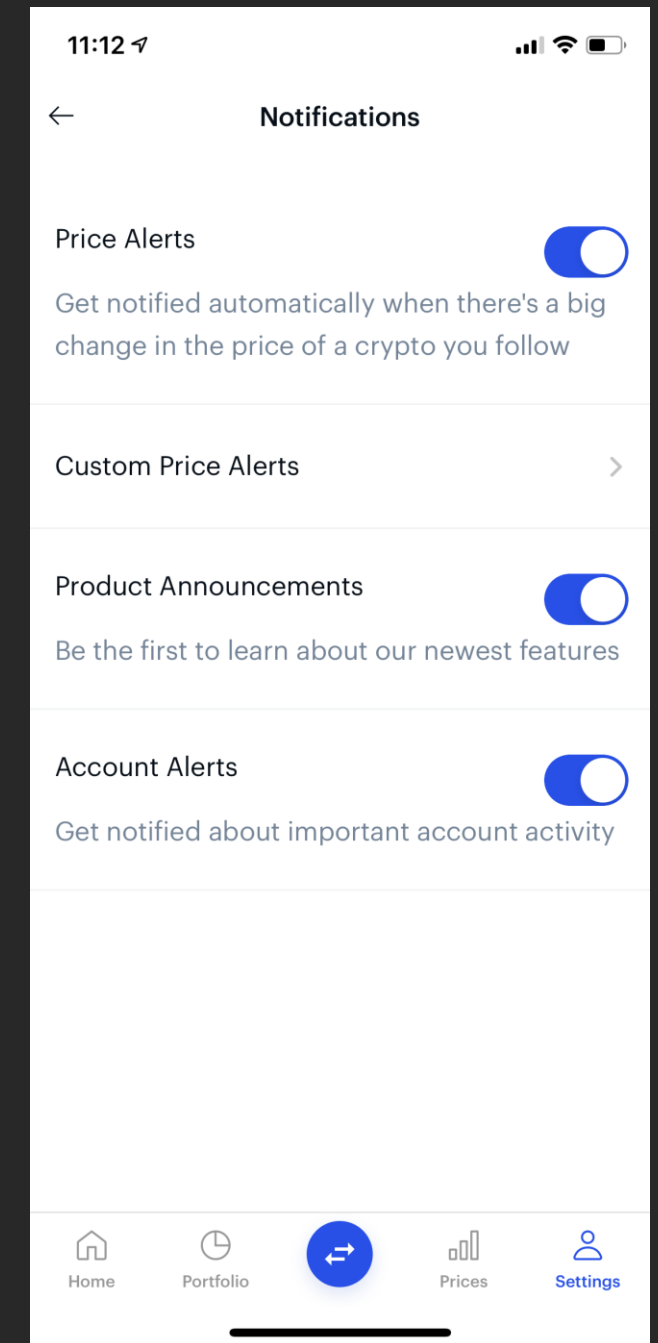
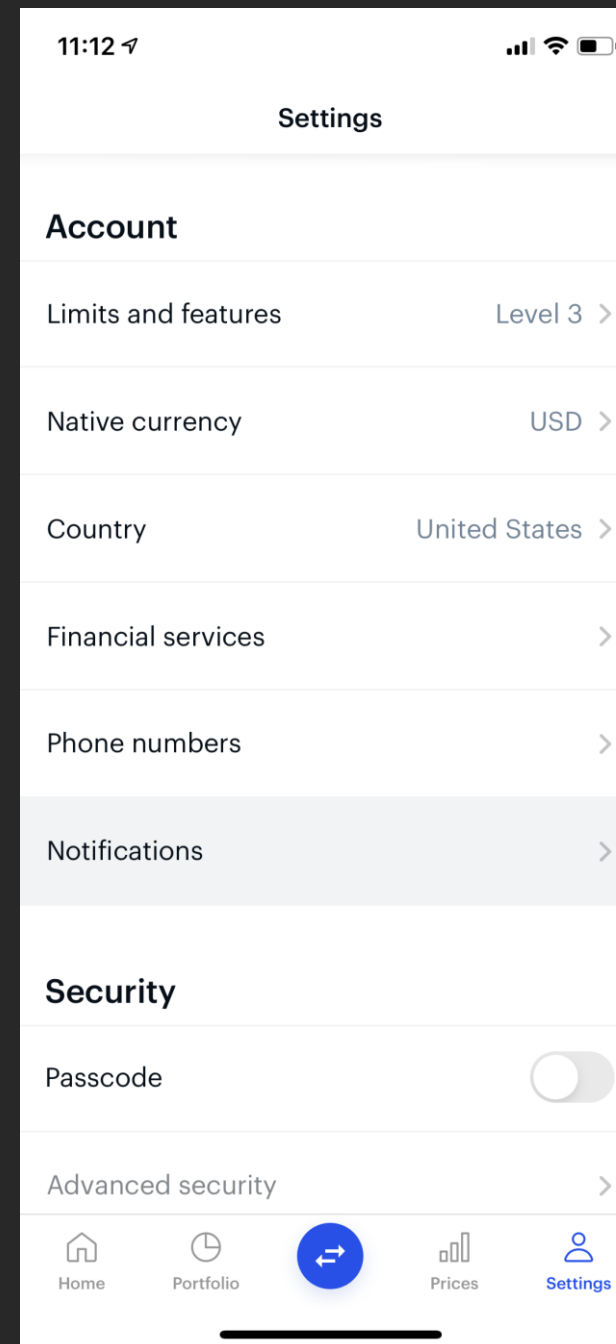
Scaling to bursty traffic

- Cryptocurrencies tend to follow the same trends
- We implemented throttling mechanisms
- Reduced network calls on mobile

Preference management

→ Store granular push opt out preferences in Amazon Pinpoint as user attribute

→ Create Dynamic segment using opt out preferences for use with Push Campaigns



Push Token registration

- When does registration occur?
- When does deregistration occur?
- Handling multiple users on the same device

Universal linking



**Clicking on price alert
sends you to asset page**

Also for new asset announcement



**Links through email also
deep link to the asset page**

If app is not installed, it
will go to a web page

Leveraging Amazon Pinpoint Analytics



Emails

Email sent, open, and clicks
used to drive product decisions



Push Notifications

Push success and failures
help identify active devices

Lessons Learned / Things We Wish We Had Known

- Documentation only helps so much; a lot of trial and error
- Endpoints have a hard limit on custom attributes; need greater capabilities to drive further personalization
- Better visibility into segment size

Final notes

- You can find post mortems and technical write ups in our engineering blog at:

<https://blog.coinbase.com/engineering-and-security>

- Want to try out price alerts?

Add an asset to your favorites (star button), and you will be prompted to turn on price alerts



Engage your customers like the industry leaders, using:

-Amazon Pinpoint

-Amazon Simple Email Service

-Amazon Connect

Simon Poile
@simonpoile (twitter)

Join us at our upcoming talks:

EUC328: Engage with your customers using SMS text messages

- When: Wednesday, Dec 4, 2:30 PM – 3:30 PM
- Where: Bellagio, Bellagio Ballroom 5

EUC336: Surprise and delight customers with location-based notifications

- When: Thursday, Dec 5, 2:30 PM – 3:30 PM
- Where: Aria, Plaza Level East, Orovada 3

ENT315: Improve message deliverability to ensure customer reach

- When: Thursday, Dec 5, 11:30 AM – 12:30 PM
- Where: Aria, Plaza Level East, Orovada 3

EUC308-R and EUC308-R1: Build and deploy your own two-way text chatbot

- Wednesday, Dec 4, 4:00 PM – 5:00 PM
- Aria, Level 1 West, Bristlecone 2 – Table 2

Scan this code or text “Pinpoint” to +1.321.265.3720 to enter for a chance to win an Amazon Echo Studio.

We’ll also send you an invitation to our exclusive happy hour event tonight at the Aria.



Thank you!

Simon Poile

@simonpoile (twitter)



Please complete the session survey in the mobile app.