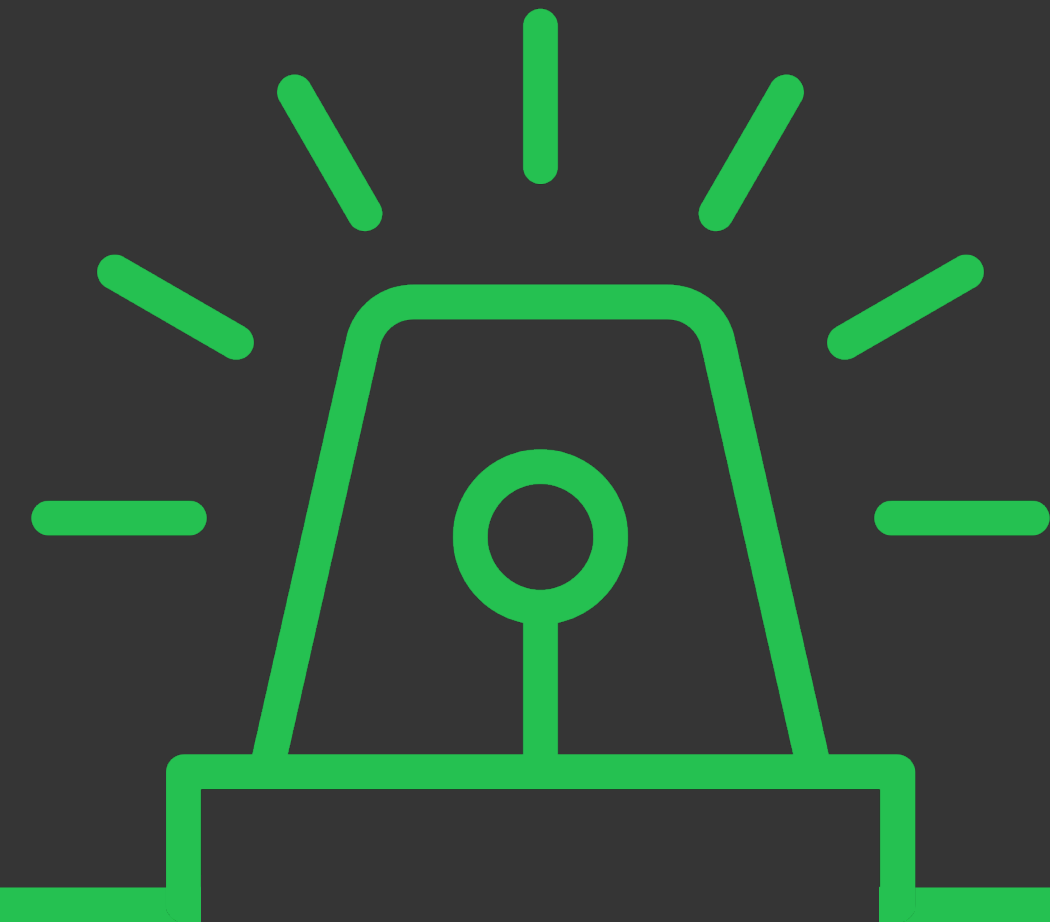


# The Lifecycle of a Service



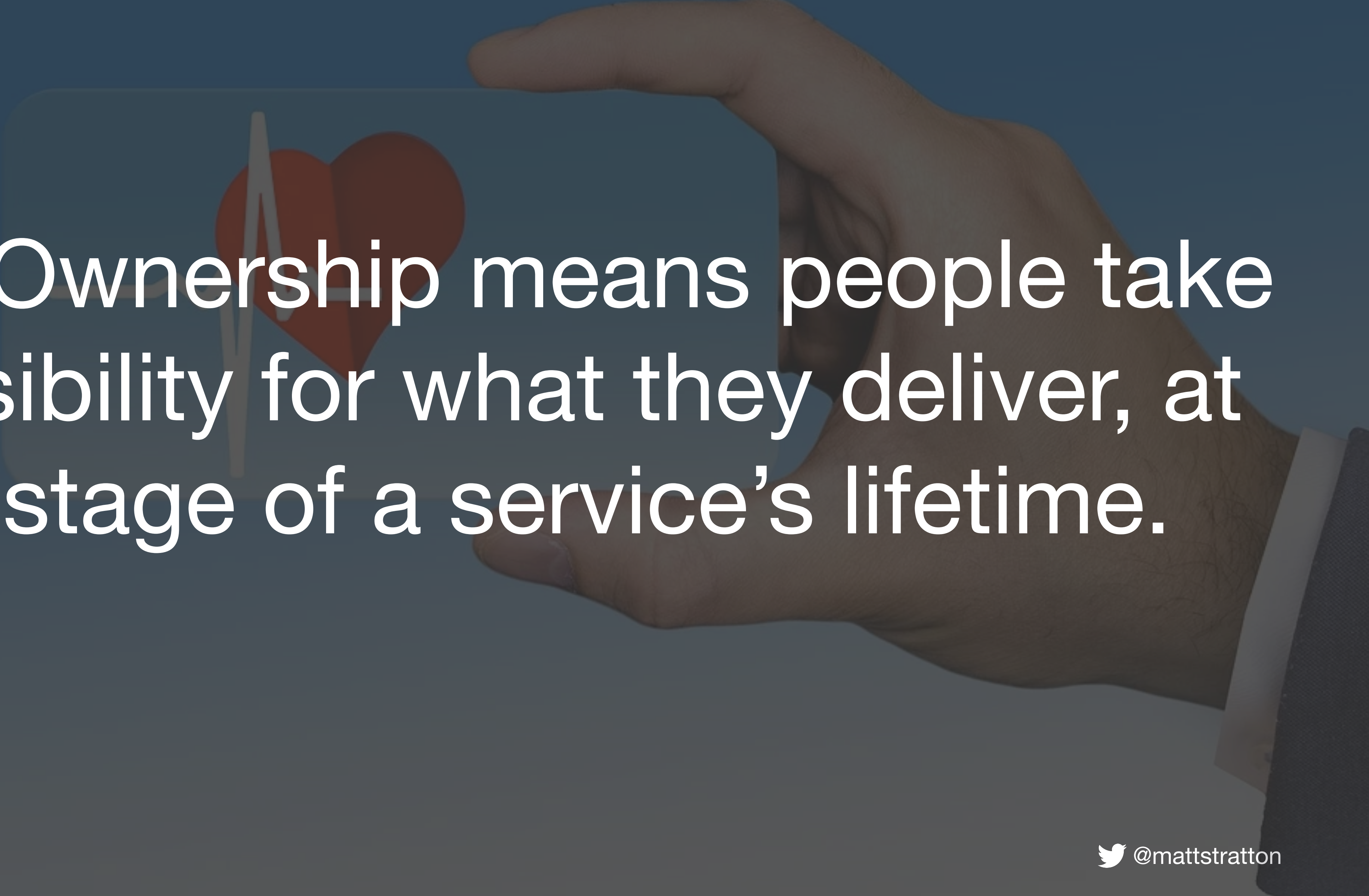
Matt Stratton  
DevOps Advocate & Thought Validator, [PagerDuty](#)









A hand in a dark suit sleeve holds a transparent rectangular card. On the card is a red heart with a white pulse line (EKG) passing through it. The background is a solid dark blue-grey.

Service Ownership means people take responsibility for what they deliver, at every stage of a service's lifetime.





Communicate across your organization  
with partners and stakeholders





# What is a service?



# A service can be a lot of things

Microservice

Slice of a monolith

Piece of functionality

Internal tool

Component

Shared infrastructure

Feature



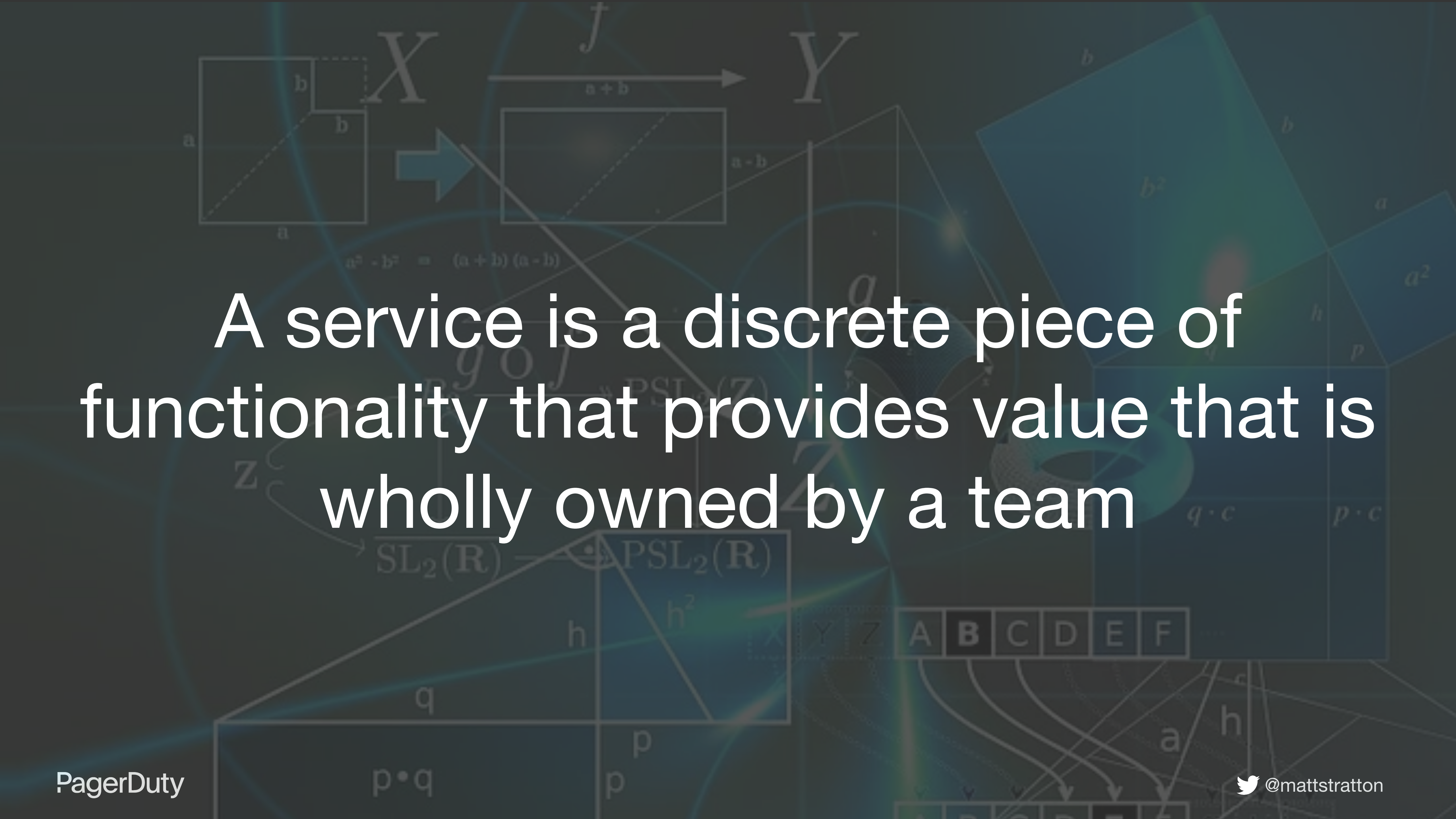
# A service can be a lot of things

If it provides value to other people, it's a service



Define what a “service” means to you





A service is a discrete piece of  
functionality that provides value that is  
wholly owned by a team



A woman with dark hair, wearing a light-colored patterned top, is sitting on a gravel path and looking at a large, grey stone sculpture of a dragon. The dragon is lying down, with its head on the left and its body extending towards the right. The sculpture has a textured, scale-like pattern on its body. The background is a dense green hedge. The text "Shared understanding" is overlaid in white on the dragon's body.

# Shared understanding



The background of the slide features a dark, moody sunset or sunrise scene. In the foreground, the silhouettes of two people are visible, facing each other and holding hands. Their arms are extended towards the center of the frame, where the text is located. The overall tone is contemplative and serious.

# Who is responsible?





# “Service mitosis”





# Service definitions help with problem resolution



A photograph of the Stonehenge monument in England, featuring large grey stone structures arranged in a circular pattern on a green field. The sky is filled with dark, dramatic clouds, and the scene is dimly lit, suggesting dusk or dawn. The text "What about a monolith?" is overlaid in white.

# What about a monolith?




The background of the slide features a dimly lit office environment. Two women are visible; one with long blonde hair is in the foreground, looking intently at a computer screen, while another woman with dark hair is slightly behind her, also looking at the screen. The overall tone is professional and focused.

# Roles in service ownership



# Development Team





Your service should make sense to  
other people who will interact with it



# Naming



Be specific



# Names that are specific

- “User authenticator”
- “Payment processor”
- “Shopping cart”
- “Login”
- “Report generator”
- “Email tracking code”



# Less amazing names

- PacMan (unless you're actually building PAC-MAN, which I doubt)
- Apollo
- BurgunDB
- Artemis



# Descriptions



- What is the intent of this service, component, this slice of functionality?
- How does this thing deliver value?
- What does it contribute to?
- How will this impact customers?



# Dependencies

- Look for circular dependencies
- Is there a single point of failure?
- Who consumes this service?
- What does it depend on?



# API

- Versioning
- Clear documentation / examples





# Tiers of services



# Tier 1 Services at PagerDuty

- 24/7 on-call
- Multiple levels of robustness
- Disaster recovery plan
- Clear and updated runbook



# Tier 2 & 3 Services at PagerDuty

- Monday-Friday support expectation
- Supporting functionality, not critical path
- New services that are not generally available



# Sustainability team



A row of several old, worn books standing upright. The books have various spine colors and textures, including brown leather, red velvet, and dark blue/black cloth. Some have gold-leaf labels or titles. The word "Runbooks" is overlaid in large white text in the center.

# Runbooks



A close-up photograph of two fluffy sloths, likely baby sloths, looking upwards. The sloth in the foreground is slightly out of focus, while the one behind it is more in focus. They have light brown and white fur. The background is a soft, out-of-focus green. The word "Alerting" is overlaid in white text in the center.

# Alerting



# Robustness and reliability

A red and grey electric locomotive is shown on a railway track. The locomotive has the number '232 088-5' on its side and front. It is surrounded by a complex network of overhead power lines and support structures. The background shows some trees and a building.





# Program management



# Responsibilities of program management

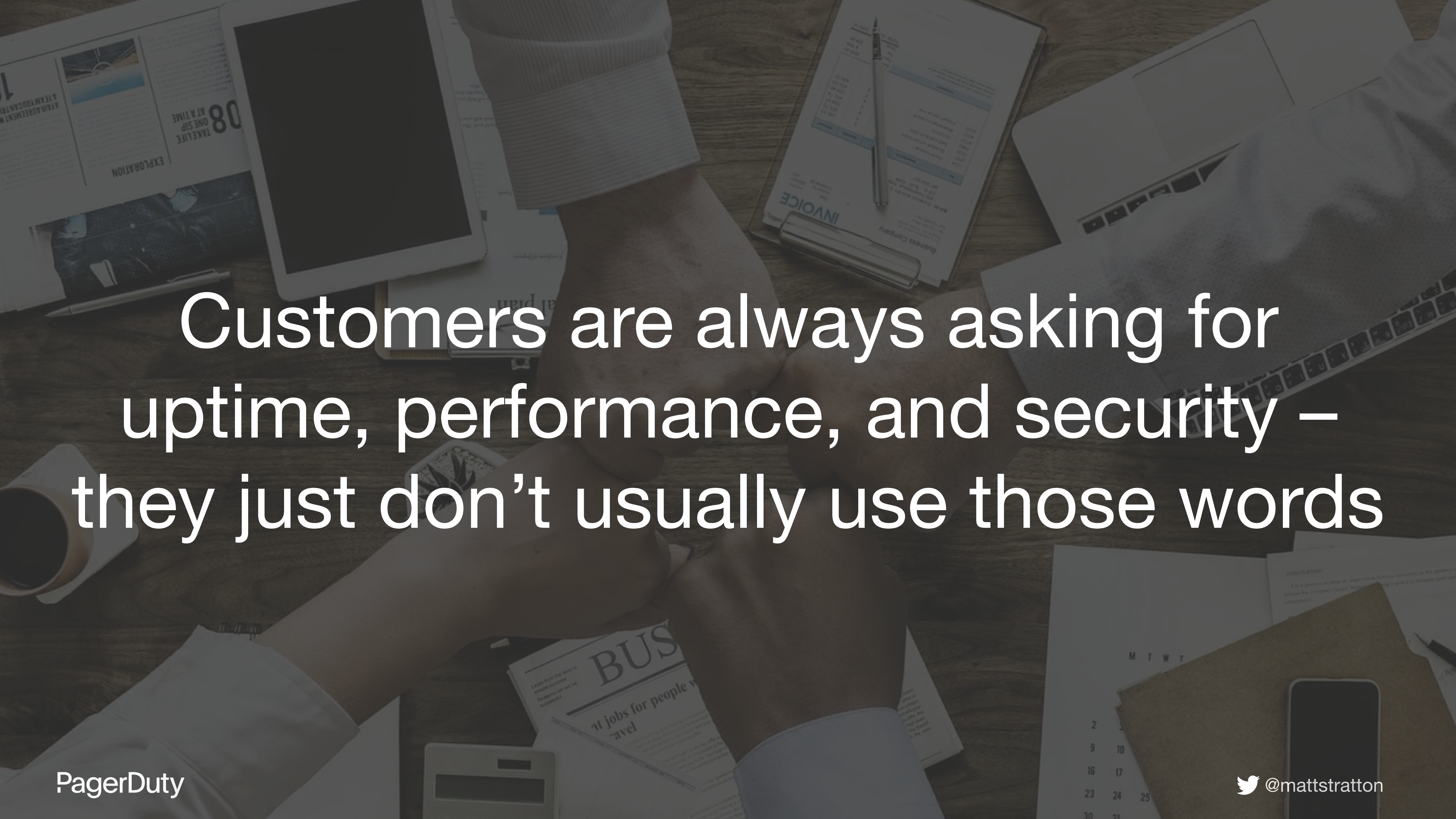
- Defining what 'done' is
- Emotional awareness of stress of the rest of the team
- Connective tissue work between different teams and features (help understand and mitigate dependencies)
- Awareness of what it means to pull people away from other projects to solve a problem





# Product owner



A person's hands are shown working at a desk. The left hand is holding a pen over a document, while the right hand is resting on a laptop. The desk is cluttered with various items: a tablet, a newspaper with the word 'EXPLORATION' visible, a clipboard with an 'INVOICE' form, a laptop, a smartphone, a calculator, and several other papers. The background is a wooden desk surface.

Customers are always asking for  
uptime, performance, and security –  
they just don't usually use those words



# Management

A hand is shown drawing a line graph on a whiteboard. The graph starts with a wavy line at the bottom left, then rises sharply to the top right, ending in a large arrowhead. The background is a blurred image of a group of people in a meeting.



- Make room in the roadmap for investing in tech debt
- Encourage a culture of cooperation and sharing
- Set goals that balance business priorities with achievable engineering goals





# Going deeper



A person is shown from the chest up, holding binoculars to their eyes. They are wearing a dark-colored shirt. The background is a soft, out-of-focus sunset or sunrise scene with warm orange and yellow tones. The entire image has a semi-transparent dark overlay.

# What are you observing about this service?





# Observability vs monitoring





Baron Schwartz

*Founder and CTO, VividCortex*

*Monitoring tells you whether the system works. Observability lets you ask why it's not working.*



A person is sitting on a windowsill, looking out at a dramatic, stormy sky with dark clouds and a bright light source. The person is in silhouette, wearing a long-sleeved shirt and pants. The text "Empathy-driven alerting" is overlaid in white.

# Empathy-driven alerting





# A brief overview of SLA/SLO/SLI



# Service Level Indicators (SLI)

- Latency
- Throughput
- Availability



# Service Level Objectives

- Made up of SLI's
- Measured over time
- Not contractually set



# Service Level Agreements

- Composed of SLO's
- Contractually/legally binding
- Basically, this is where you owe your customer money



A man and a woman are sitting on a wooden bench, smiling and holding mugs. A dog is lying between them. The image is dimmed to serve as a background for the text.

# The “hadness” point





# Alert on SLO's



A woman in a police uniform is shown from the chest up. She is holding a white mobile phone in her right hand and a large megaphone in her left hand. The megaphone has the brand name 'adastra' visible on its side. The background is slightly blurred, showing other people in uniform. The entire image has a dark, semi-transparent overlay.

# How does a team respond to this service?



# Escalation policies

A stylized illustration on a dark blue background. A hand in a dark suit sleeve holds a grey megaphone with a red rim. Several concentric, semi-transparent grey circles radiate from the megaphone, representing sound waves. The text 'Escalation policies' is centered in white.



# DevOps Model





# First level



# Second level



# Third level



# Escalating



# Manual escalations



# Other escalation models

- Central Ops
- Hybrid Ops



# Tuning your service



A grayscale photograph of a man with a beard, looking directly at the camera. He is holding a magnifying glass over his right eye, which is significantly enlarged through the lens. The background is slightly out of focus, showing some foliage and a building.

# Investigate patterns





What alerts do you *actually* need?



# Suppression of non-actionable alerts



A group of five business professionals (three women and two men) are gathered around a table in a meeting. One woman is seated at the table with a laptop, while the others are standing and looking at the screen. They are all smiling and appear to be in a collaborative discussion. The image is overlaid with a semi-transparent dark grey filter.

# Understand business impact



# Lifecycle steps



# Designing a new service



- Understand the customers (product is a key role here)
- Load testing / staging
- Ensure SRE / sustainability teams are involved early
- Define SLI/SLO/SLA
- Identify alerting requirements
- Documentation (API, runbook, functional service registry if applicable)
- Perform all security checks



A top-down view of a hand using a wooden stick to mix paint in a palette. The palette is surrounded by numerous open paint containers of various colors including yellow, blue, red, black, and white. The background is a textured surface, possibly a table or floor.

# Maintaining and iterating



- Version the service API
- Communicate to consumers
- Proactive maintenance
- Address tech debt consistently
- Testing and deploying/releasing the service (CI/CD, testing in prod, etc)



# Retiring a service



- Identify consumers
- Determine business impact of retiring
- Communicate / offboard consumers





Service ownership includes  
communication, compromise, and  
commitment.



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