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SUMMIT
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ARC301

Making the case to invest in improving resilience

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Agenda

What was our problem/opportunity?

How did we solve it?

What was the result?

What benefit did AWS capabilities give us?

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Cox Automotive

Autotrader

Cox Automotive Mobility

Dealer.com

Dealertrack

F&I Express

FYUSION

Kelley Blue Book

Manheim

NEXTGEAR Capital

SNT Spiers New Technologies Cox Automotive / Mobility

vAuto Live Market View

VinSolutions

xtime

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Setting the stage

> 27 brands

> 500 different workloads

> 1000 AWS accounts

> 600 delivery teams

Dozens of data centers

Many, many, different technology stacks, architectures, and cultures

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COX AUTOMOTIVE

The problem:

How do we understand the health of our application portfolio to secure investment where it is needed most?

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Driven by failure?

"Never let a good crisis go to waste."

Winston Churchill
Former Prime Minister of England

Photo by Joanne Francis

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The solution:

Use the AWS Well-Architected data to understand our application portfolio health and drive investment ahead of failure

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Cox Automotive's well-architected timeline

2018
AWS Well-Architected Framework adopted by Cox Automotive

November 2019
AWS Well-Architected Tool introduced

Summer/fall 2020
Collaboration on AWS Well-Architected API

December 2020
AWS Well-Architected API launched

March 2021
Cox Automotive's WaffleHaus is born

January 2022
Cox Automotive's ArchIE is born

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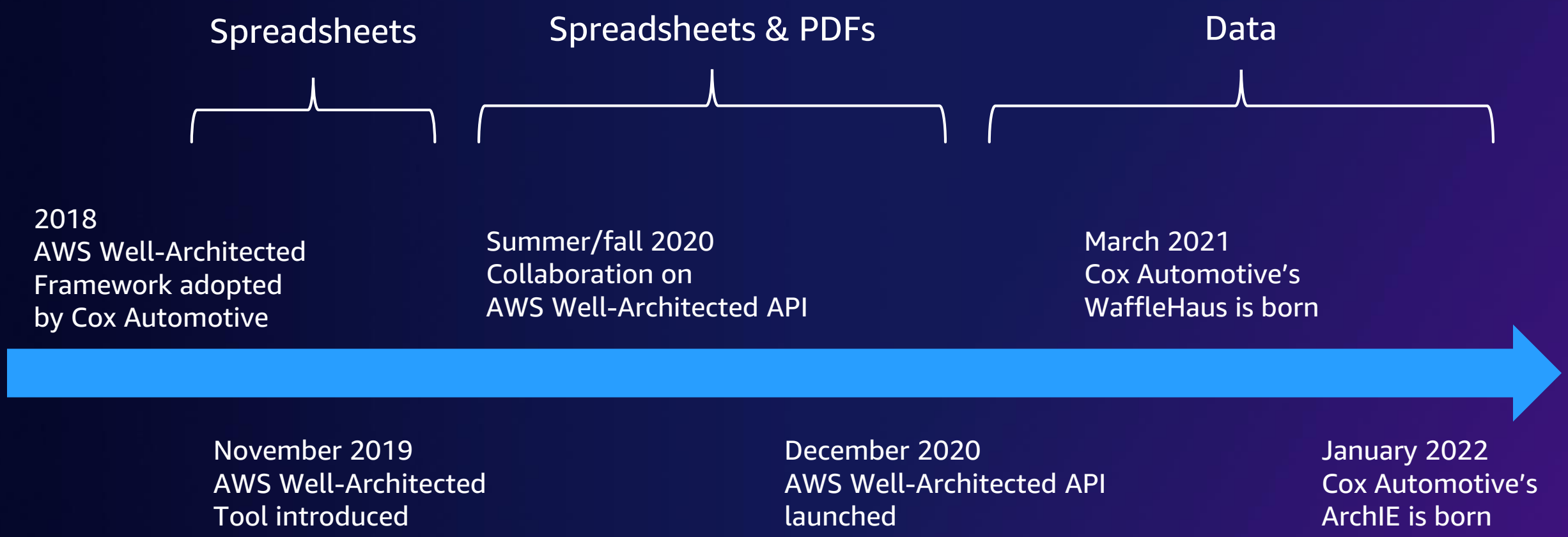
Cox Automotive's well-architected timeline



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AWS Well-Architected is a rich data source

The AWS Well-Architected Framework and the AWS Well-Architected Tool have allowed us to become **data driven** in the way we express fragility and the need for investment

AWS Well-Architected data points by pillar

Pillar	Responses
Reliability	79
Security	66
Operational excellence	93
Performance	50
Cost optimization	55
Sustainability	33
Total	376

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Which allows us to make investment decisions

Based on risk

Based on specific responses

By workload

By team

DS	Platform	Security	Reliability	Performance	Cost	Operational
Delivery Stream One	Apple					
	Peach					
	Pear					
	Plumb					
	Orange					
	Grape					
	Kiwi					
Delivery Stream Two	Ford					
	Hyundai					
	Kia					
	Tesla					
	Subaru					
	GM					
	Toyota					

Perform post-incident analysis	Test scaling and performance requirements	Use playbooks to investigate failures	Conduct Game Days regularly	Test resiliency using chaos engineering
100%	90%	90%	80%	80%
100%	100%	100%	0%	0%
83%	75%	83%	42%	50%
100%	68%	68%	21%	32%
100%	100%	0%	0%	100%
75%	33%	58%	17%	50%
89%	63%	53%	37%	32%
91%	9%	73%	36%	0%
94%	47%	11%	14%	3%
100%	86%	14%	21%	14%
87%	26%	13%	9%	9%
100%	57%	57%	29%	0%
100%	29%	57%	29%	0%
92%	85%	92%	92%	0%
96%	52%	52%	72%	40%
100%	13%	50%	88%	13%
93%	40%	60%	13%	0%
100%	67%	33%	0%	0%
100%	67%	100%	0%	33%

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To secure significant investment

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How did we do it?

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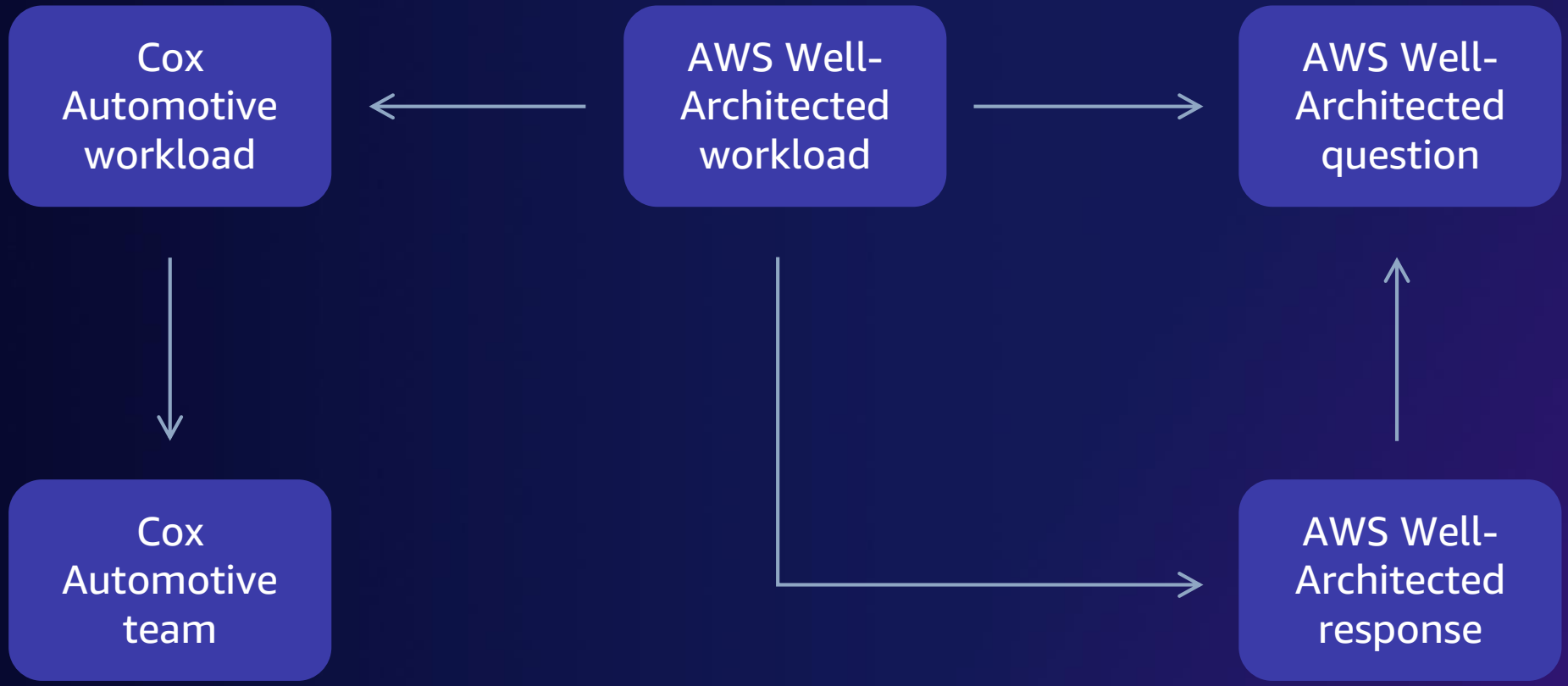
High-level data model



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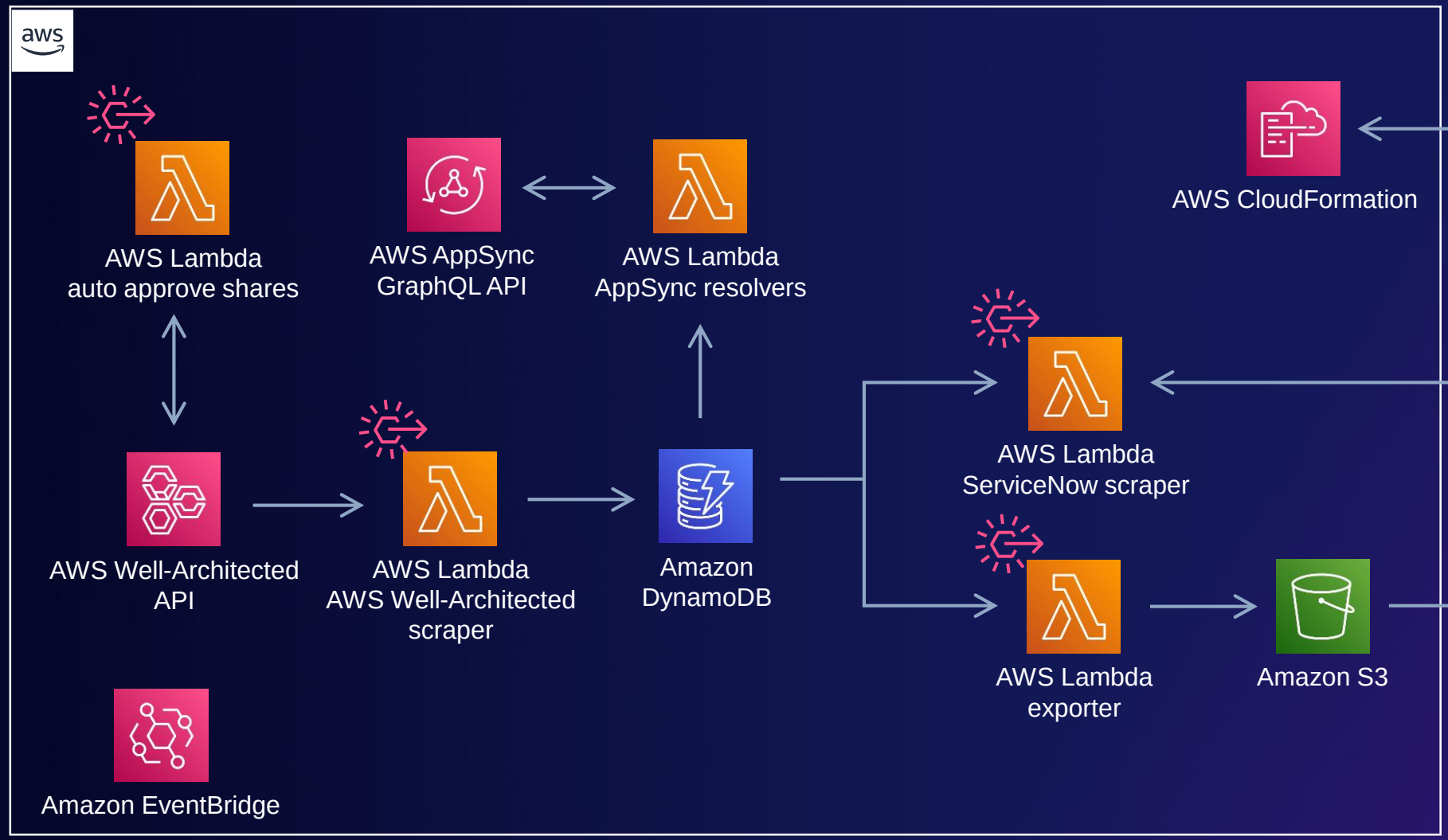
Built with AWS serverless solutions & AWS CDK



servicenow

snowflake

WaffleHaus

ArchIE – reporting and exploration

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Making the data actionable

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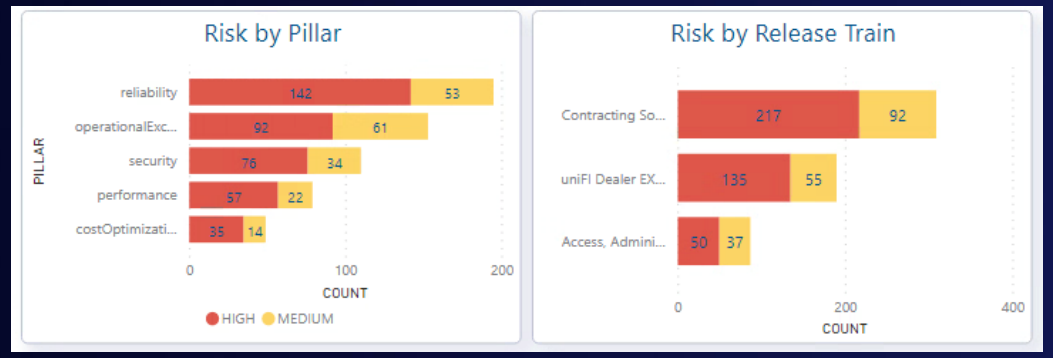
With all these findings, where do I start?



How are we progressing?

- Quarterly count high/mediums
- Backlog items into rally

Portfolio	# Components	High/Med	Workload CIID	Workload In Waffle Haus	Last Updated
Digital Commerce / Retail Transaction Services					
F&I Solutions					
Contracting Solutions					
AHFC:Mobile			CI1770092		
AHFC:ToolKit	30	37	CI1770091		10/20/2021 10:12:43 PM
Contract Vaulting	4	24	CI0703005		3/29/2022 1:27:28 PM
Contracting:Adapter		50	CI1770090		6/10/2021 4:05:51 PM
Contracting:Contracting as a Service	1	25	CI2357376		4/11/2022 8:48:31 PM
Contracting:Core	9	23	CI1770089		8/16/2021 8:07:23 PM
Contracting:Doc Center	3	34	CI1770088		6/10/2021 4:28:41 PM
Contracting:Forms Library	1	35	CI1770086		4/11/2022 8:49:00 PM
Contracting:Formtastic	9	38	CI1770085		7/6/2021 7:44:38 PM
Contracting:Ready Sign	1	15	CI1770084		11/30/2021 4:08:08 PM
Contracting:Signing Service	3	27	CI1770083		6/10/2021 4:29:14 PM
Contracting:Stipulations Service		1	CI1770082		3/25/2022 1:17:34 PM

Disjointed and time-stealing work

Let’s build tooling to be efficient

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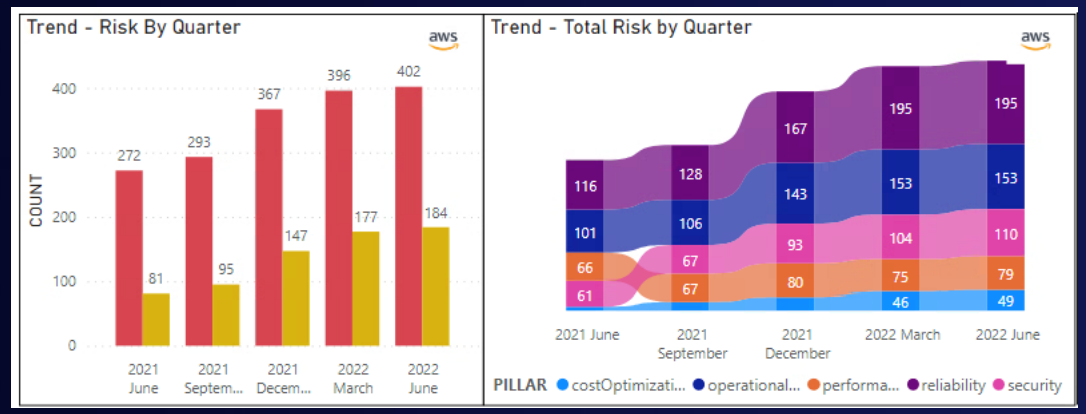
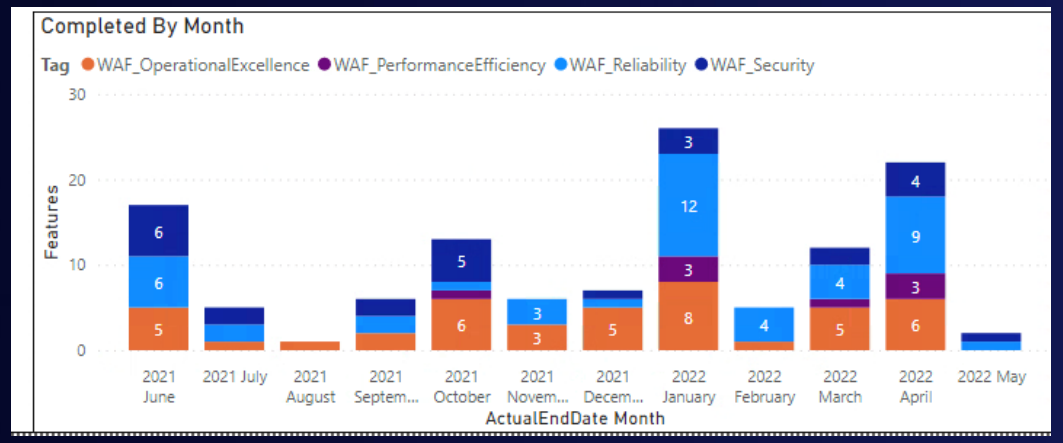
How am I progressing to burn down findings?



Why have my findings changed?

- Did I fix some issues?
- New reviews that added to the count?



What happened to the backlog?

- Did my teams complete any features?
- Are we completing the right pillar work?

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Where are we going next?

Improve our AWS Well-Architected coverage

Experiment to test “maturity models” to inform workload priority

Automation of findings to team backlogs

More data sources

Predictions and recommendations based on combined data

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Thank you!

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