

# Bill DeRouchey

Design leader

October 2022

# 25+ Years in Design and UX

Focusing on systems, connections,  
patterns, structures, and language.

Principal Designer	2022 (contract)	 COMPASS
Principal Designer	2018–2021	 zendesk
Sr Design Director	2012–2018	 GE Digital
Creative Director	2010–2012	 SIMPLE
Design Director	2004–2010	 z i b a
Board Member	2007–2010	 IxDA <small>INTERACTION DESIGN ASSOCIATION</small>
Information Architect	2001–2004	 Flume

# Three Stories



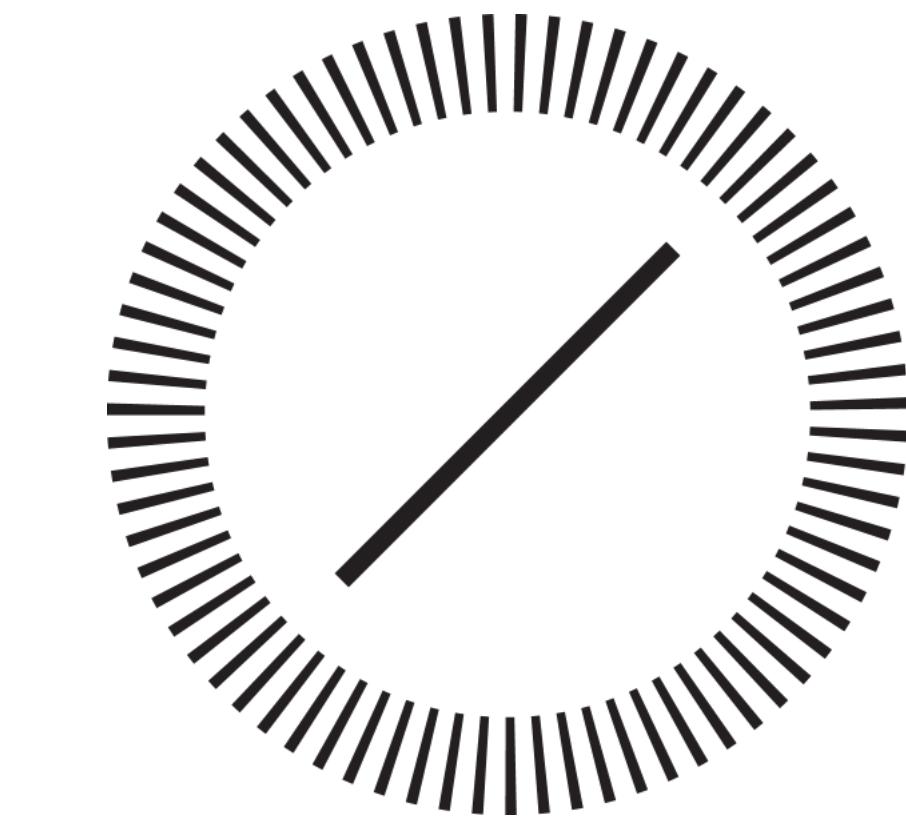
## GE Digital

Design Director  
2012–2018



## Zendesk

Principal Designer  
2018–2021



## Compass Realty

Experience Architect  
2022 (contract)

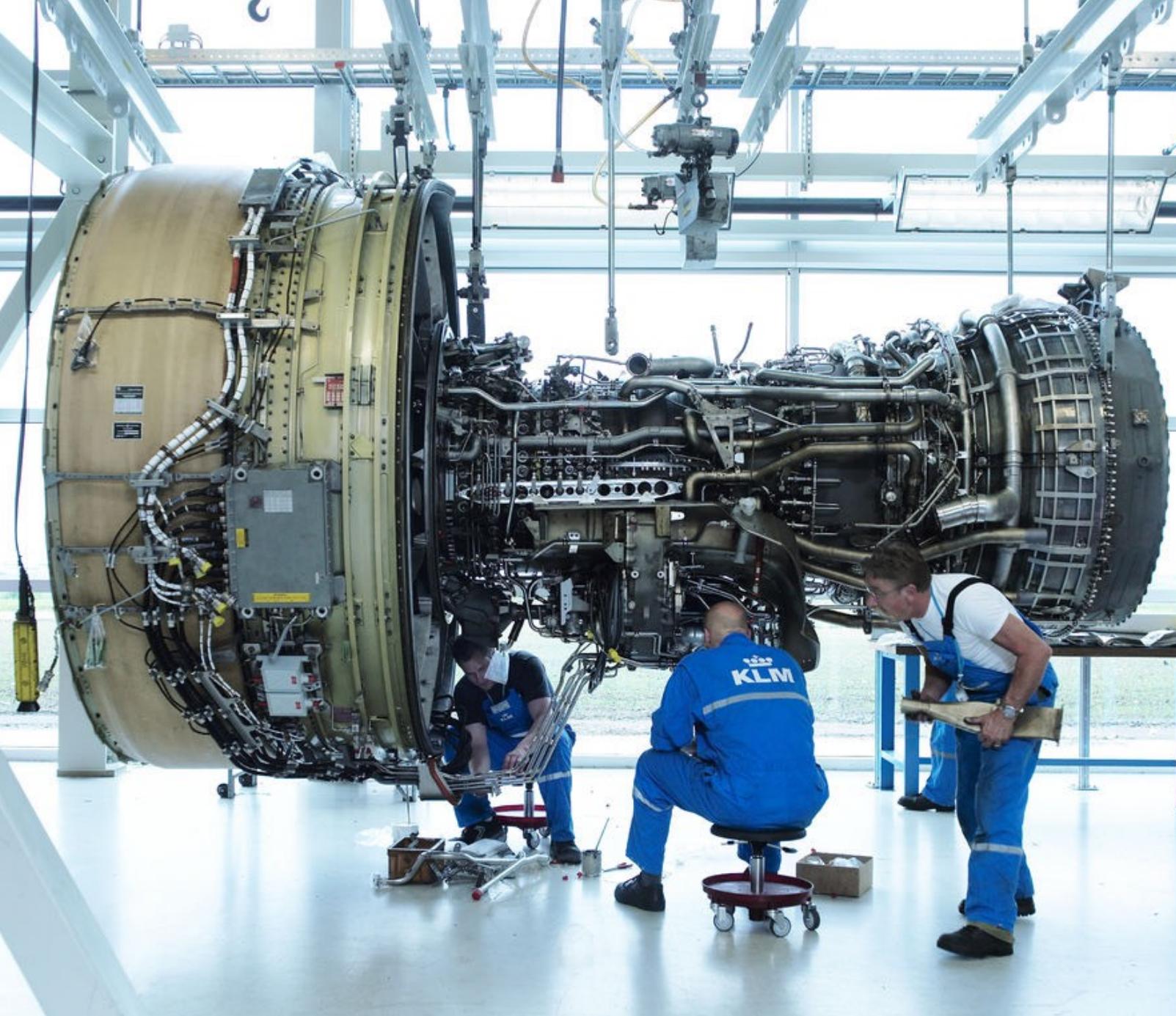


**GE Digital**  
Jet Engine Management

# About

Historic corporate giant with the mission to build the Industrial Internet.

Aimed to use sensor data to better predict engine maintenance in wind farms, power plants, locomotives, jet engines, and other things that spin.



# My Role

Help **GE Aviation engineers** use data to  
diagnose engine issues faster to better  
help **Airlines** maintain aircraft availability

# Directed 20+ projects/products for GE Aviation



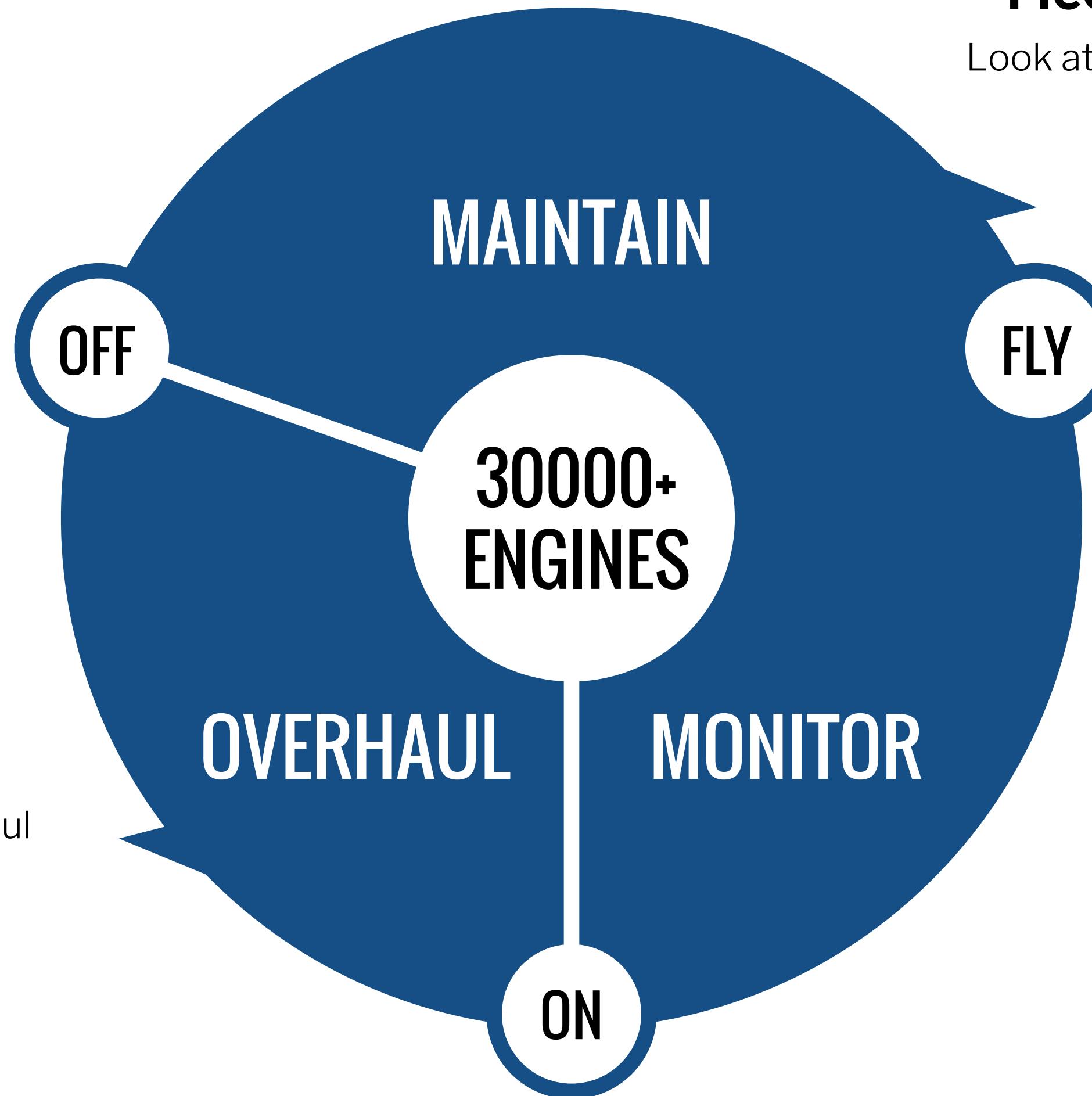
# Engine Lifecycle

## Field Service Engineers

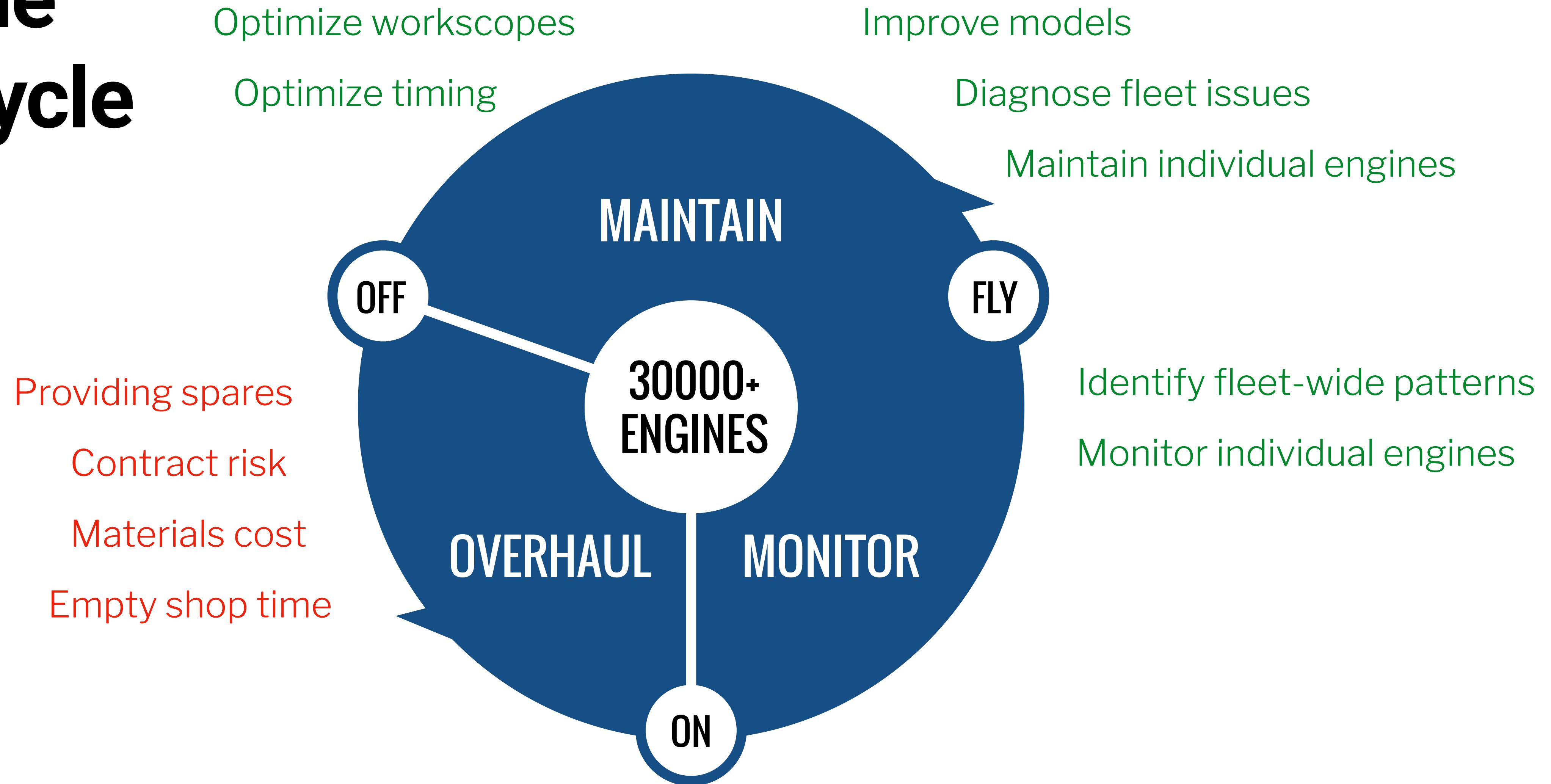
Handle onsite engine maintenance

## Fleet Monitors

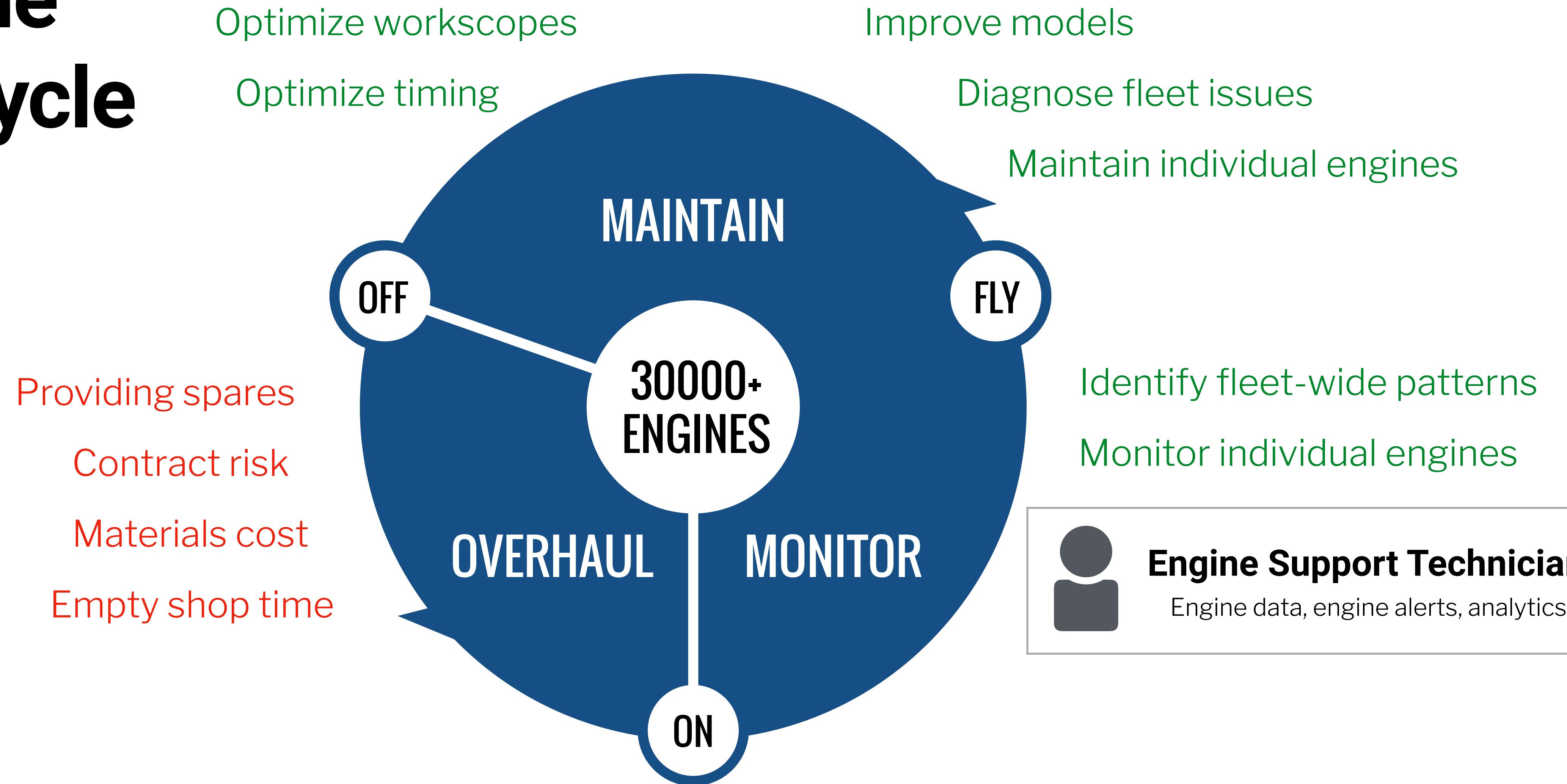
Look at fleet wide issues



# Engine Lifecycle



# Engine Lifecycle



# Led Research Programs



GE Aviation Fleet Support outside Cincinnati, Ohio



Engine Support, Fleet Managers, Propulsion Engineers

# Key Insight

## Talk was all about alerts

“The alert queue.” “This is how we’ve been doing it for 20 years.” The ancient system required them to think this way.

## Behavior was about engines

They immediately accessed contextual data about the engine in order to diagnose whether a problem existed.

# Key Insight



**Engine  
Alerts**

**Aircraft  
Availability**

**Airlines**

Focusing on alerts created a disconnect with customer airlines.  
We needed to shift how they thought and acted.

# Key Insight



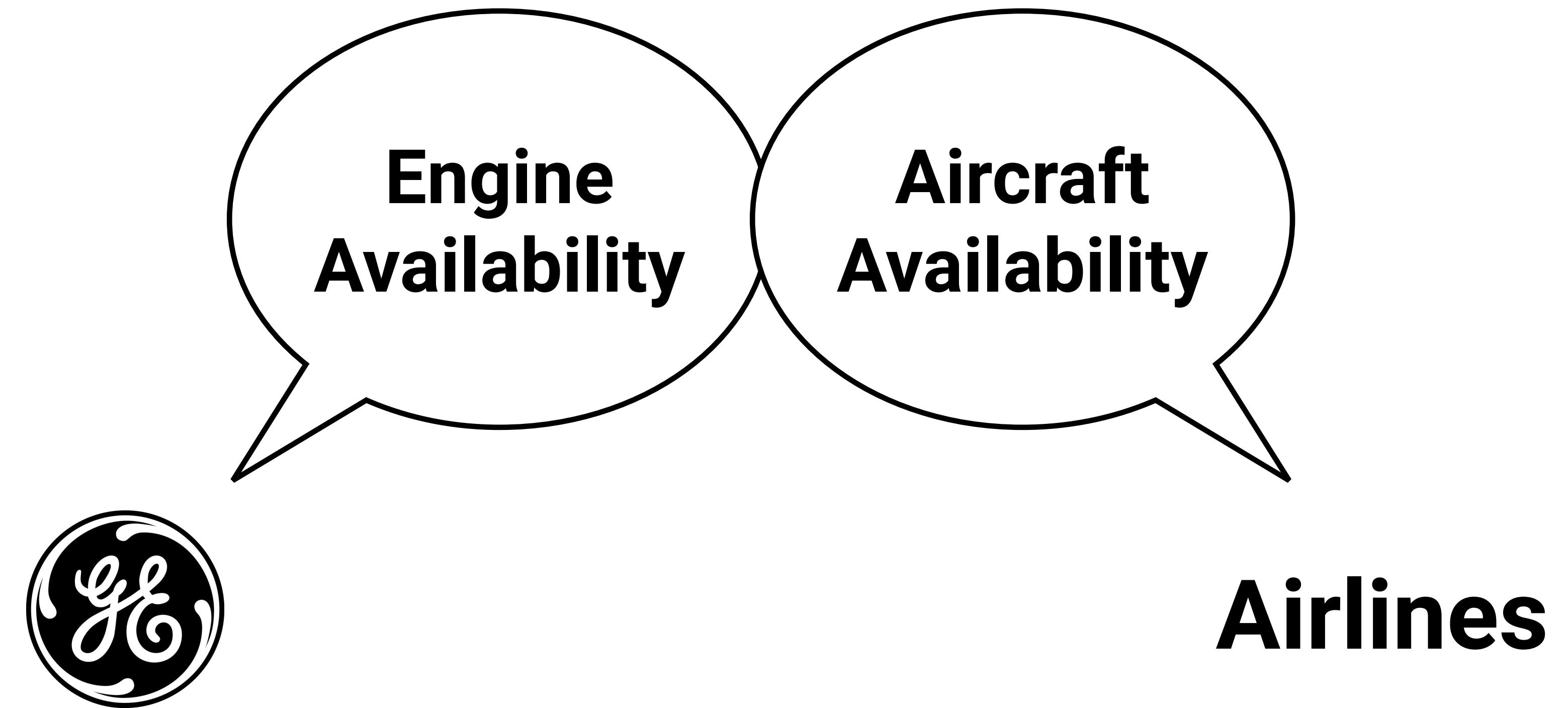
**Engine  
Health**

**Aircraft  
Availability**

**Airlines**

Focusing on alerts created a disconnect with customer airlines.  
We needed to shift how they thought and acted.

# Key Insight



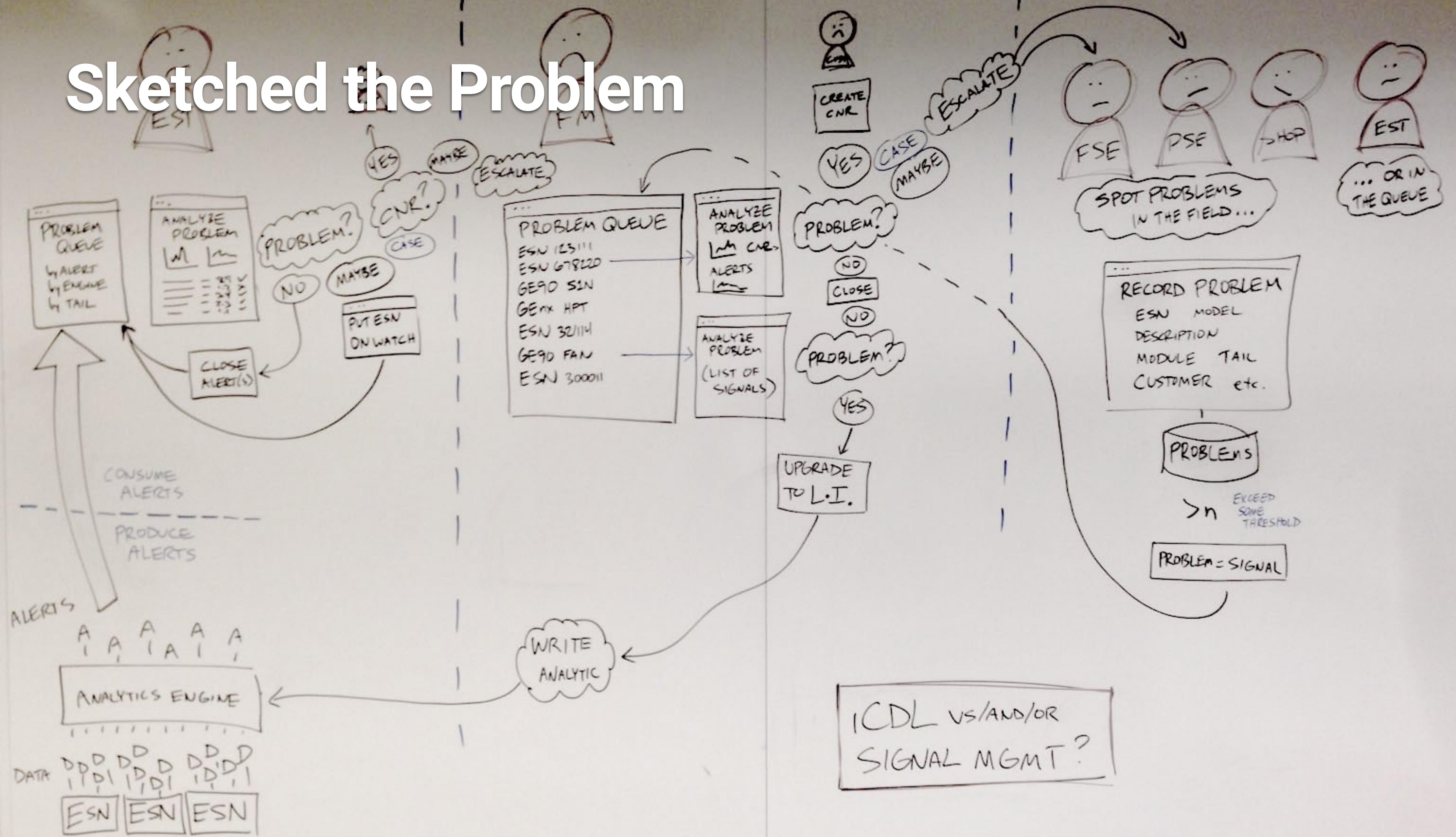
Focusing on alerts created a disconnect with customer airlines.  
We needed to shift how they thought and acted.

# Key Insight



Focusing on alerts created a disconnect with customer airlines.  
We needed to shift how they thought and acted.

# Sketched the Problem



Alerts Cases Engines



Family



Model



Aircraft



Operator



1

2

4

5

3

LanChile Open

Alert Status Open Severity All Type All Alert Date Last 7 days Flight Date Last 7 days

Classification 2 selected

Engines Alerts Faults &amp; Exceeds Sort By Severity Export

**706963** LanChile  
CF6-80C2F  
Position 2  
CC-CWY  
B767-300ER 6 Alerts  
NEWEST ALERT  
an hour ago  
25 Apr 2018 - 14:04 UTC**706741** LanChile  
CF6-80C2F  
Position 2  
LV-CDQ  
B767-300ER 2 Alerts  
NEWEST ALERT  
5 days ago  
20 Apr 2018 - 08:12 UTC**706961** LanChile  
CF6-80C2F  
Position 2  
CC-CZZ  
B767-300ER 2 Alerts  
NEWEST ALERT  
4 days ago  
21 Apr 2018 - 17:57 UTC**706725** LanChile  
CF6-80C2F  
Position 2  
CC-CWF  
B767-300ER 2 Alerts  
NEWEST ALERT  
5 days ago  
20 Apr 2018 - 14:34 UTC**707118** LanChile  
CF6-80C2F  
Position 1  
N420LA  
B767-300ER 1 Alert  
NEWEST ALERT  
7 days ago  
18 Apr 2018 - 15:41 UTC**704644** LanChile  
CF6-80C2F  
Position 1  
CC-CWF  
B767-300ER 1 Alert  
NEWEST ALERT  
5 days ago  
20 Apr 2018 - 14:33 UTC

# Fleet Monitor

We created a system that encouraged flexibility.

- 1 Filter by engine type if you have a technical role.
- 2 Or by airline if you have a customer-facing role.
- 3 Default the view to group alerts by engine.
- 4 Filter and sort flexibly.
- 5 Prioritize engines with the most and/or severe alerts.

6 ESN 706741

Aircraft Information

Aircraft Type	B767-300ER
Tail Number	LV-CDQ
Operator	LanChile
Operator Code	LAN



7

Engine Information

ESN	706741
Engine Series	CF6-80C2B6F
Engine Position	2
Last Installed	14 Apr 2011
Last Removed	Not Available
Sister Engine	704729
Engine Status	Installed

8

Times and Cycles

CSN	8371 cycles
TSN	45673 hours
CSSV	3890 cycles
TSSV	24219 hours
CSI	Not Available
TSI	Not Available

9

Last 90 Days

Cycles	96
Hours	813
Alerts	6

Alerts Cases Trends History Faults & Exceeds

Status Open ▾ Severity All ▾ Type All ▾ Sort By Severity ▾ Alert Date Last 7 days ▾ Flight Date Last 7 days ▾ Classification 2 selected ▾

10

MEDIUM OPEN ALL\_ALL\_CF6-80C2F\_GRADUAL\_INCREASE\_DEGT  
5 days ago 20 Apr 2018 - 08:12 UTC

MEDIUM OPEN ALL\_ALL\_CF6-80C2F\_SUDDEN\_INCREASE\_DEGT  
5 days ago 20 Apr 2018 - 08:12 UTC

MEDIUM OPEN ALL\_ALL\_CF6-80C2F\_GRADUAL\_INCREASE\_DEGT  
5 days ago 20 Apr 2018 - 08:12 UTC

Detected By: SEA  
Fault Confidence: NA  
Flight Phase: CRUISE  
Parameter: NA  
Parameter Value: NA  
SEA007828

▼ Trends

Alerting Parameters

# Fleet Monitor

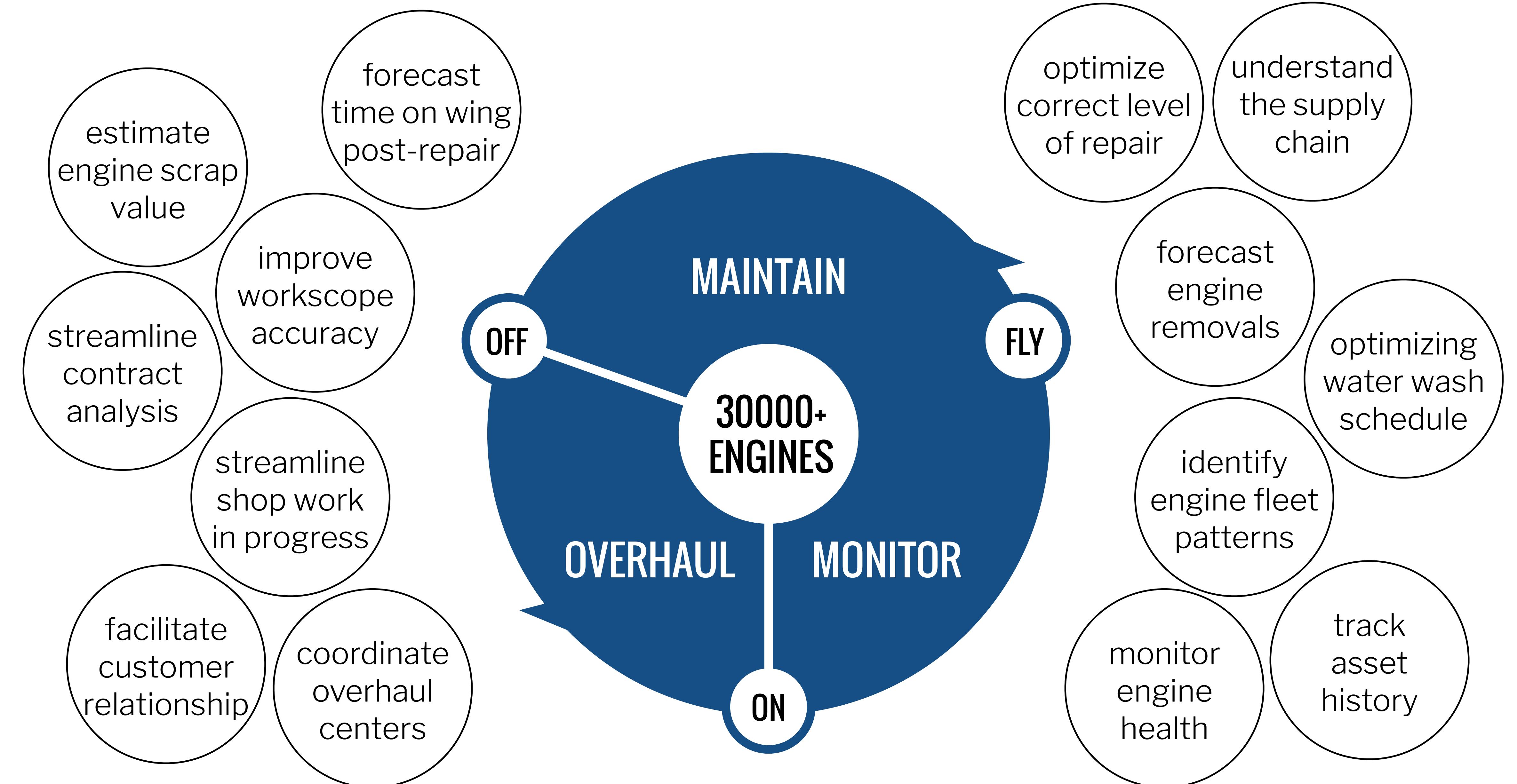
We presented the engine as a whole.

- 6 Focus analysis on the engine, not the alerts.
- 7 Introduce the concept of viewing by aircraft.
- 8 Provide access to the sister engine to compare operational performance.
- 9 Incorporate related data from other systems.
- 10 View all currently active alerts for this engine.

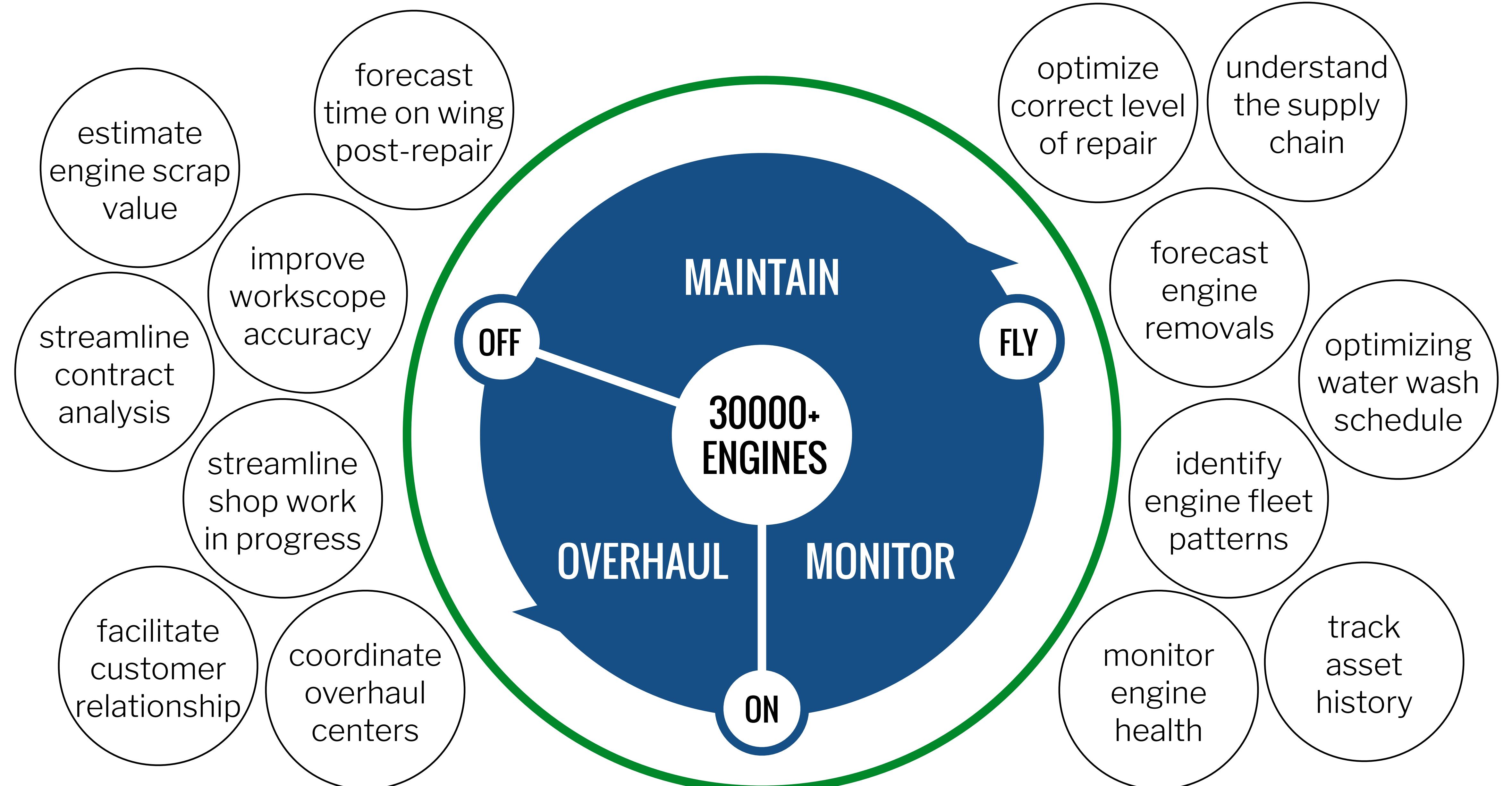
# Outcomes

Evolved how GE Aviation conceived of monitoring, from alert queue to fleet health. They even rebranded the group to be Fleet Support.

Simpler system reduced dependence on decades of expertise, which allowed opening more support centers globally and reducing response time.



**Built up a solid portfolio across the Aviation business...**



**...and the system started to sink in**

# **Proposed a new approach to planning**

## **From reactive planning...**

A new collection of projects every year that address the current hot topics.

## **...to proactive planning**

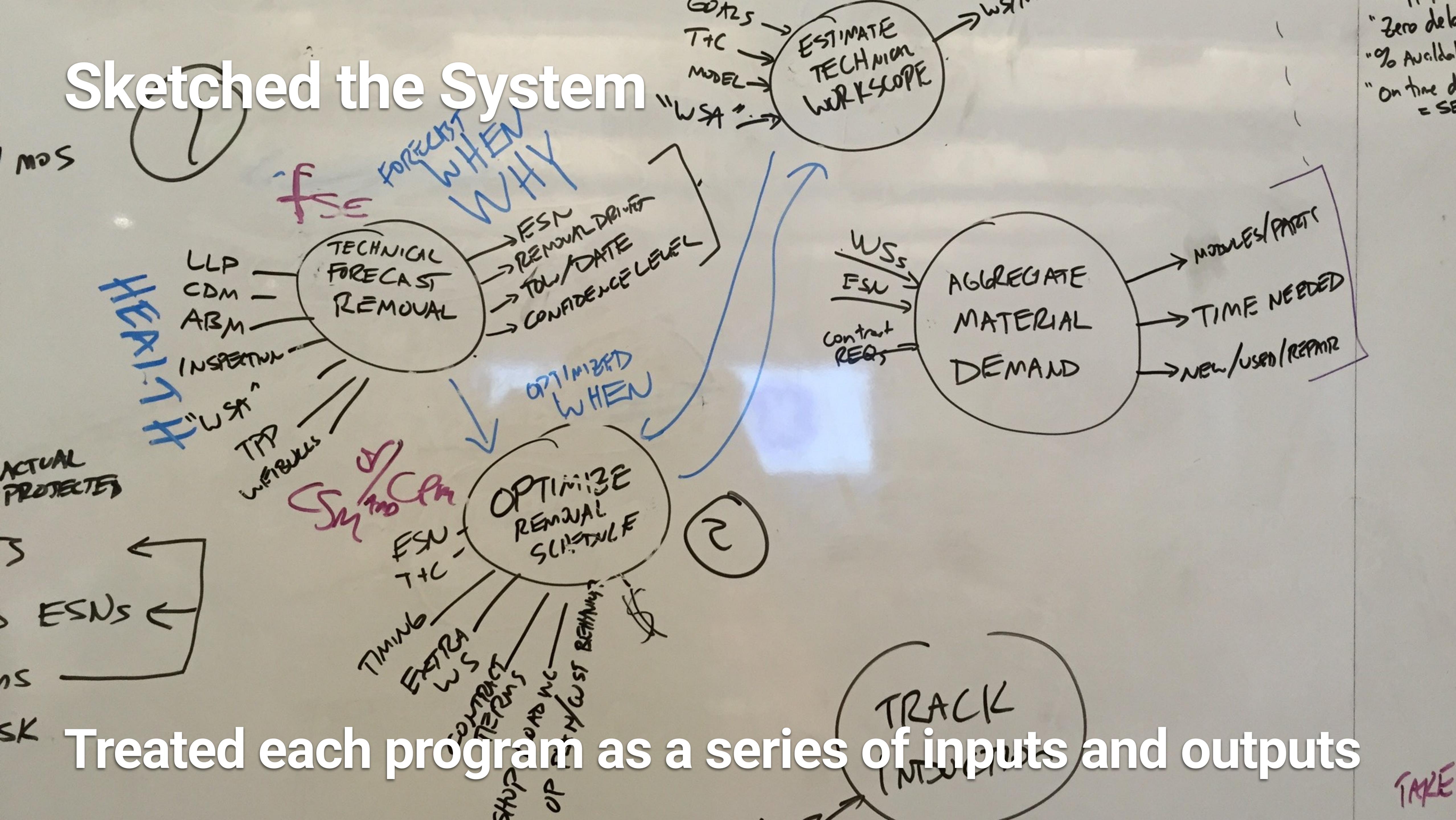
A systemic approach of how all these projects add up together to form a whole.



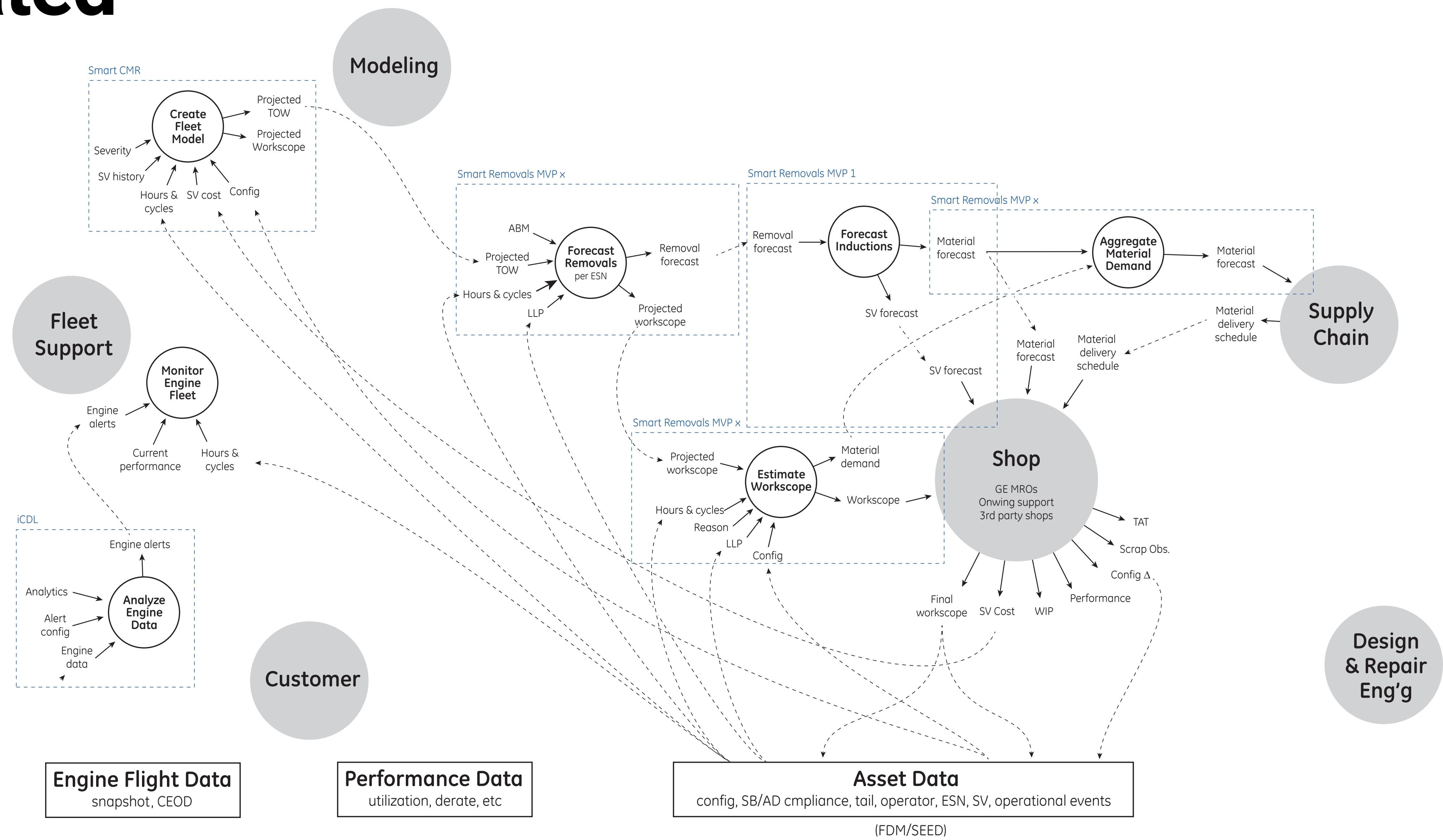
GE Aviation stakeholders in GE Design Center

# Stakeholder Workshops

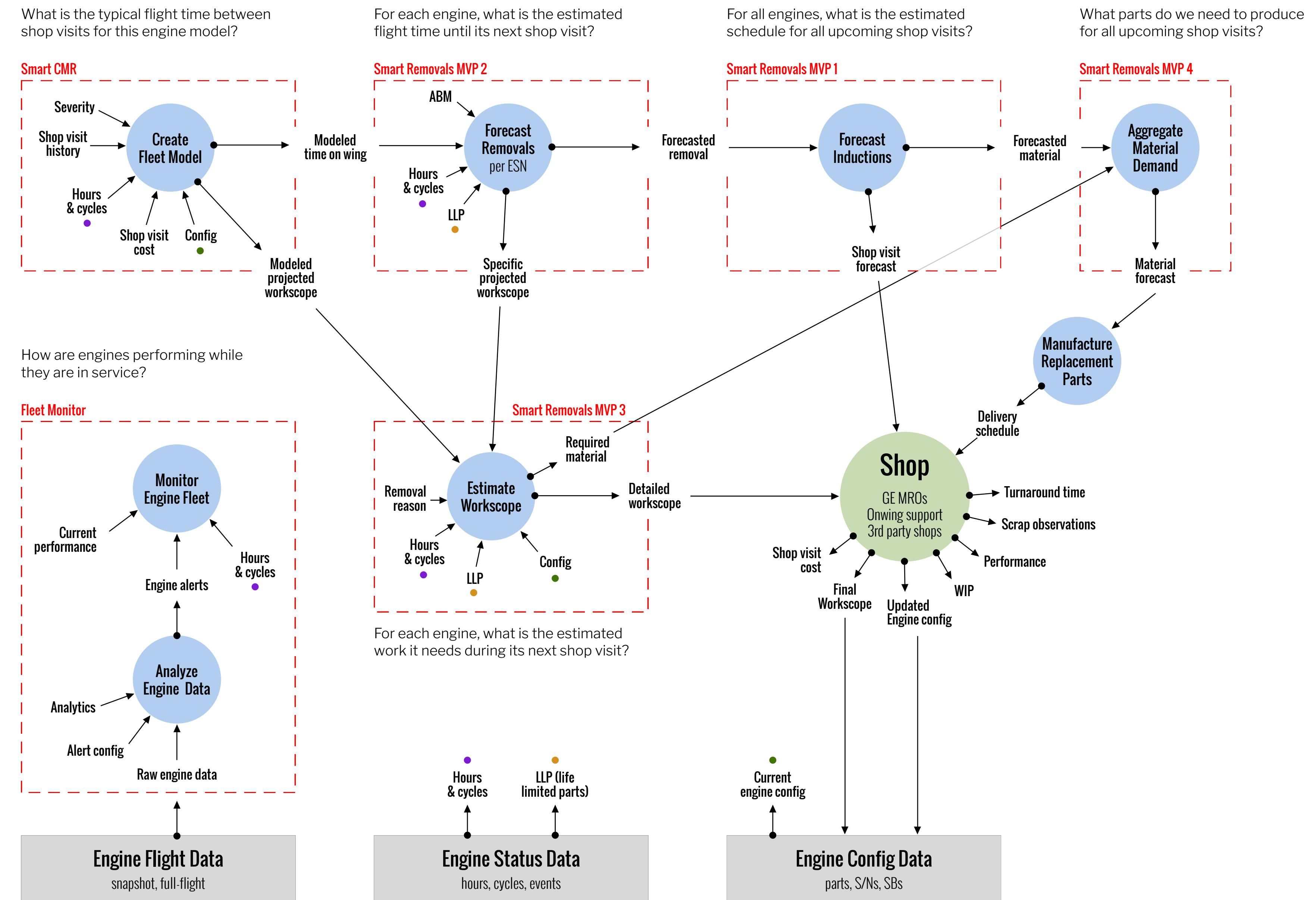
# Sketched the System



# Iterated



# Distilled



=CRM(CAL)

FINANCIAL

# Sketched the Concept

=REPUBLIC

ONE PLAT

=CF34-8E

## REPUBLIC AIRLINES • GLOBAL FLEET

129 TAILS    278 ENGINES    20 SPARES    3 OPERATORS

Cycles/month

--	--	--	--	--	--

hours/month

--	--	--	--	--	--

IMPACT \$ OM%? BASE?	ON WATCH 42	WIP 12	Available Spares 8	TOW "AUG" HIGHEST	COST RETRO 1.6 \$4.5M BILLING RETRO .45 DEFERRED BALANCE \$1.2M	Monthly Billing Avg Supplied Up \$1.2M W/Bal
----------------------------	----------------	-----------	--------------------------	-------------------------	---	---

ESN 123456 23	MARGIN 8.9	WATCH -	Δ PREDICTION (150) 233	CSV 8500 "STR-FWZ2"	RECOMMENDATION CEL-FW31	CONFIDENCE 20% (0.2%)
463111 ▼1	14.2	Tech Risk %	Finance Risk %			100% 2.32

# Designed the Vision



REPUBLIC AIRLINES ▾  
CF34-8E CSA

OVERVIEW ▾

GE34-8E	Op Parameters (3yr avg)	Fleet hours per month
Tails: 176	Hours: 2652	N D J F M A M J J A S O N D J F M A
Engines: 380	Cycles: 1890	176
WIP: 15	Flight Leg: 1.40	380
Spares: 13		15

CONTRACT	2015 CMR	FINANCIAL IMPACT	ON WATCH	43	FLEET ACTIONS				
OM%	73.3%	Cost Retro	1.64	CSA Base	\$xxMM	CDM / ABM / CNR	26	2X WW	100%
DB MM	\$159	Billing Retro	.41	2015 FM, TOW	\$xxMM	Reduced BSI	14	Climb Derate	85%
Past Dues	\$3MM	Shop Visits	23/61	2015 FM, Cost	\$xxMM	Performance	3	Hot Spares	70%

REMOVAL RECOMMENDATIONS

ENGINES	RISK ▾	PLAN ▾		
ESN 193729 Status: Off-wing LLP Life: 7166	ECSN: 17834 ECSV: 12349	FINANCIAL OPERATIONAL	Recommended Remove: IND - Sep 18, 2015 Induct: STR - Sep 25, 2015	Workscope: Heavy Δ OM: 3.5%
ESN 193943			Scheduled	

# Outcome: A Holistic Initiative

GE Aviation created a multi-year initiative: **DMRO**.  
(Digital Maintenance, Removal, and Overhaul)

Four of the applications that we worked on are still in operation today: Global Shop Visit Forecasting, Intelligent Slot Tracker, Enterprise Workscoping Tool, and Material Optimizer



**Zendesk**  
Workflow Experience

# About

Customer support SaaS pioneer.

Transitioning from multiple SMB products to an enterprise platform.

Workflow was the original heart of Zendesk, but also the deepest technical and experience debt.



# The Deepest Technical Debt



## THE ORIGINAL ZEN DESK

It's true that Zendesk was created to bring a sense of calm to the often chaotic world of customer service.

It's also true that Zendesk was born on a literal desk. Well, actually it was a door. And really, it was more of a kitchen table. A lot of beer was spilled on it. Innocence was lost here, direction and purpose found.

You probably don't want to touch it, but if you look close, you'll see the exact spot where Zendesk began.

# My Role

Help **Admins** to create workflows that  
Help **Customer Service Agents** to  
Help **End Customers** solve problems

# Admins

Responsible for agents' workflow  
in dealing with the end customer

Sometimes team lead, sometimes not

Sometimes coders, sometimes not

# Context

- 1 “Triggers” were atomic rules with limited logic capabilities
- 2 ... thus requiring 100s or 1000s of triggers to replicate necessary business logic
- 3 ... and the only management tool offered was searching by title

## Triggers

Triggers take action when a ticket is created or updated. For example, use a trigger to send email notifications when an agent adds a comment to a ticket. The order of your triggers is important because triggers can act on changes made by other triggers. [Learn more](#)

Name	Last updated	Usage (last 7 days)	⋮
Notify group of assignment	2017-11-10	9	
Notify assignee of reopened ticket	2018-01-15	8	
Notify all agents of received request	2017-11-02	7	
Notify requester of comment update	2018-01-14	6	
Notify assignee of assignment	2018-01-15	5	
Example Answer Bot trigger for Nicolette Robichaud	2018-01-15	4	
Tonkean System Trigger	2017-02-12	3	
Ticket Form thing	2017-11-10	2	
Set high priority for Nicolette Robichaud	2017-11-10	1	

# Customer Research

24–30 admins walked us through their workflows and challenges in managing them

A screenshot showing a video conference interface at the top with four participants: Bill DeRouche, Fred Bove, and Alex Song. Below the video is a browser window displaying the Zendesk support center at [support.zendesk.com/admin/triggers?active=true&page=2&per\\_page=100&sort\\_by=position](https://support.zendesk.com/admin/triggers?active=true&page=2&per_page=100&sort_by=position). The left sidebar shows various Zendesk modules like Contextual Workspaces, Dynamic Content, Sunshine, Sandbox, Channels (Email, Twitter, Chat, Facebook, Talk, Text, Widget, API, Mobile SDK, Channel Integrations), Business Rules (Routing, Triggers, Automations, Service Level Agreements, Rule Analysis, Answer Bot), and Settings. The main content area lists 18 ticket items from Oct 14, 2019, with titles such as [Ticket Category] Ticket Form is Finding or Purchasing Courses → Ticket Category is S Discovery/Enrollment, [Ticket Category] Ticket Form is Student: Payments, charges and receipts → Issue with a charge, and [Ticket Category] Ticket Form is Student: Payments, charges and receipts → Payment error.

Ticket Title	Date	Views
[Schedule] Default Schedule → Set General SF Hours Schedule on Tickets with No Schedule	Oct 14, 2019	2265
[Ticket Category] Ticket Form is Finding or Purchasing Courses → Ticket Category is S Discovery/Enrollment	Oct 14, 2019	2
<input type="checkbox"/> [Ticket Category] Ticket Form is Student: Payments, charges and receipts → Issue with a charge	Oct 14, 2019	3622
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Payment error	Oct 14, 2019	7105
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Coupon or promotion issue	Oct 14, 2019	2730
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Currency	Oct 14, 2019	1174
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Missing course	Oct 14, 2019	916
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Boleto question or issue (Brazil only)	Oct 14, 2019	670
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Gift or redemption code issue	Oct 14, 2019	210
[Ticket Category] Ticket Form is Student: Payments, charges and receipts → Receipts and taxes	Oct 14, 2019	3031
[Ticket Category] Ticket Form is Issues while Taking a Course → Ticket Category is S Course Taking	Oct 14, 2019	4674
[Ticket Category] Ticket Form is Refund → Ticket Category is S Refund	Oct 14, 2019	127597
[Ticket Category] Ticket Form is Account/Profile Questions → Ticket Category is S Account/Profile	Oct 14, 2019	8801
[Ticket Category] Ticket Form is Account/Profile (Instructor) → Ticket Category is Ins Account/Profile	Oct 14, 2019	901

# Result

Admins were suffering.

Unsurprisingly, they avoided editing workflows because it was so difficult.

Worse? Nothing had changed in 10+ years.

# Data Analysis

Performed the first textual analysis of triggers. First designer to ask for, and get, access to the data lake.

27,000+ accounts, 1,000,000+ triggers

Relearned python to build an analysis tool

```

binning = ', '.join(str(e) for e in bin)
print(str(i) + " : " + str(bin[0:5]) + "... " + str(bin[-5:]))
rules_sql = """SELECT id, account_id, definition FROM data_lake_classic.rules WHERE
deleted_at is null"""
sql_str = rules_sql.format(f_ids=bin_string)
rules_df = pd.read_sql(sql_str, conn)
tr1 = rules_df.shape[0]
trt += tr1
print("{} triggers, {} total".format(tr1,trt))
acts_l = []
alls_l = []
anyss_l = []
defs_packed = []
fireOn_l = []

definition_list = rules_df['definition'].tolist()
for definition in definition_list:
    temp_def = process_rule(definition)
    temp_acts = temp_def['acts']
    temp_all = temp_def['alls']
    temp_anys = temp_def['anyss']
    if "onCreate" in temp_all:
        fireOn_tmp = "onCreate"
    elif "onChange" in temp_all:
        fireOn_tmp = "onChange"
    else:
        fireOn_tmp = "onEvery"
    defs_packed.append(item)

```

## Tiers of complexity

Triggers	# Accounts	% Total
10-24	18,618	67.3%
25-49	5,093	18.4%
50-99	2,370	8.6%
100-249	1,173	4.2%
250-499	286	1.0%
500-999	101	0.4%
1000+	38	0.1%
Total	27,679	

Triggers	# Accounts	% Total
10+	27,679	100.0%
25+	9,061	32.7%
50+	3,968	14.3%
100+	1,598	5.8%
250+	425	1.5%
500+	139	0.5%
1000+	38	0.1%

## Highest customer usage

account_id	account_name (not necessarily customer name)	# triggers
2144605		33665
1470967		4820
1908154		3383
888110		3114
34989		3063
9618821		3030
2184366		3026
2046910		2935
9519405		2774
9163788		2679
2363060		2674
1208524		2574
2097762		2192
9114058		2124
761341		2106
5194		1989
2201375		1981

## Fields used most often

Source	Count	% Usage
Total	6,046,092	
Custom ticket field	1,050,433	17.4%
Tags	623,491	10.3%
Ticket	598,545	9.9%
Status	532,930	8.8%
Group	459,427	7.6%
Comment text	311,798	5.2%
Assignee	304,887	5.0%
Email user	275,791	4.6%
Subject text	212,875	3.5%
Received at	199,321	3.3%
Target	188,495	3.1%
Form	177,688	2.9%
Organization	139,924	2.3%
Comment is	136,559	2.3%
Update via	105,570	1.7%
Priority	102,183	1.7%

## Field usage by tier

Trigger Tiers	Total	10-24	25-49	50-99	100-249	250-499	500-999	1000+
# accounts	27,679	67.3%	18,618	18.4%	5,093	8.6%	2,370	4.2%
# triggers	1,052,494	25.3%	265,923	16.5%	173,431	15.5%	163,619	16.6%
<b>Ticket status</b>								
Fire on new tickets only	36.3%	30.7%	81707	34.3%	59423	37.5%	61335	40.4%
Fire on updated tickets only	13.7%	13.5%	35858	11.6%	20132	11.2%	18398	13.2%
Ticket status doesn't matter	50.0%	55.8%	148358	54.1%	93876	51.3%	83886	46.5%
<b>Group (group_id)</b>								
in Actions	22.4%	12.1%	32245	22.1%	38302	24.8%	40539	26.1%
in Conditions All	11.2%	8.4%	22225	10.3%	17889	11.7%	19098	14.0%
in Conditions Any	2.8%	3.4%	8966	2.3%	4045	2.5%	4066	3.1%
<b>Assignee (assignee_id)</b>								
in Actions	9.1%	8.2%	21844	10.7%	18582	11.2%	18381	10.3%
in Conditions All	11.1%	22.1%	58757	11.8%	20413	8.3%	13614	7.0%
in Conditions Any	1.5%	3.2%	8429	1.3%	2260	1.0%	1607	0.8%
<b>Priority (priority_id)</b>								
in Actions	8.0%	5.9%	15814	9.8%	16942	10.5%	17176	9.5%
in Conditions All	1.3%	1.3%	3565	1.8%	3195	1.6%	2699	1.6%
in Conditions Any	0.2%	0.2%	554	0.2%	419	0.2%	388	0.3%
<b>Status (status_id)</b>								
in Actions	9.8%	6.6%	17622	10.2%	17635	11.3%	18494	10.9%
in Conditions All	33.1%	38.5%	102422	34.3%	59567	31.7%	51787	28.4%
in Conditions Any	2.0%	2.8%	7344	2.5%	4292	2.3%	3726	1.7%

# Key Insight: Clones

The most interesting insight was discovering “cloned triggers,” triggers that were logically identical and followed the same pattern.

**40% of all triggers were clones.**

**Cloned triggers**

account_id	account_name (not necessarily customer name)	# triggers	# unique triggers	% clones
2144605		33665	13	100.0%
1908154		3383	15	99.6%
2019803		152	1	99.3%
874624		999	9	99.1%
9853087		996	9	99.1%
729218		215	2	99.1%
998695		105	1	99.0%
2201375		1981	20	99.0%
2046910		2935	30	99.0%
9660190		708	10	98.6%
9165692		186	3	98.4%
515664		1614	32	98.0%
9242597		396	8	98.0%
2153462		97	2	97.9%

For example,

Company A has 2932 triggers, 99% of which are logically:

```
if (status == X) and (organization == Y)  
    then custom_field.vip = Z
```

Company B has 850 triggers, 40% of which are logically:

```
if (ticket_form == X) and (theatre_visited == Y)  
    then group = Z
```

Company C has 683 triggers, 79% of which are logically:

```
if (recipient == X)  
    then group = Z
```

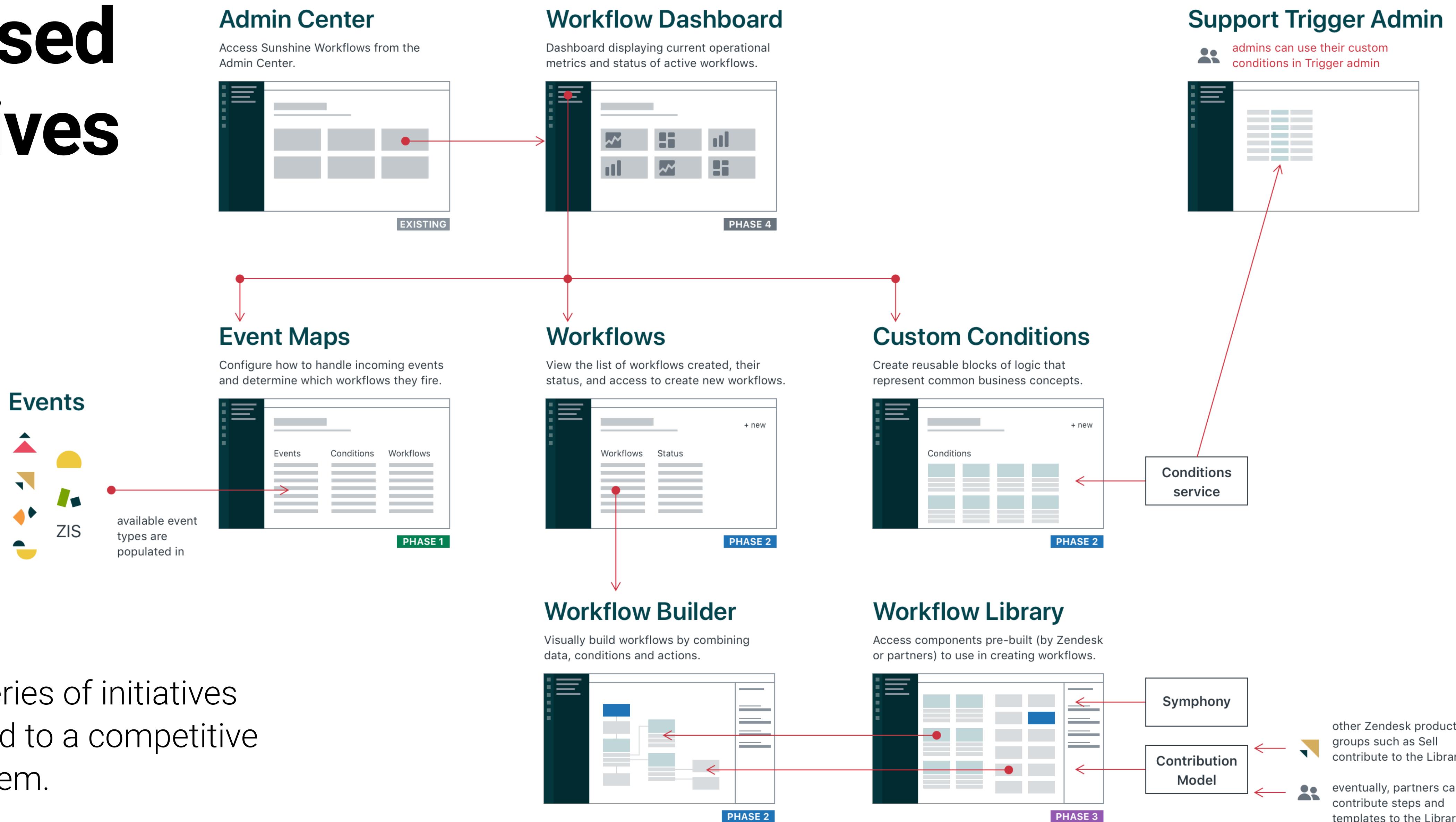
**In these common examples, changing one piece of business logic would require editing hundreds of triggers.**

# Core Research Insight

We needed to provide **modularity**.

To upscale from SMB to enterprise,  
to handle more complex workflows,  
to handle more varied channels (messaging, chat, social media...),  
to reduce challenges for admins,  
and frankly to catch up to the competition,  
Zendesk needed to build modularity into its workflow offerings.

# Proposed Initiatives

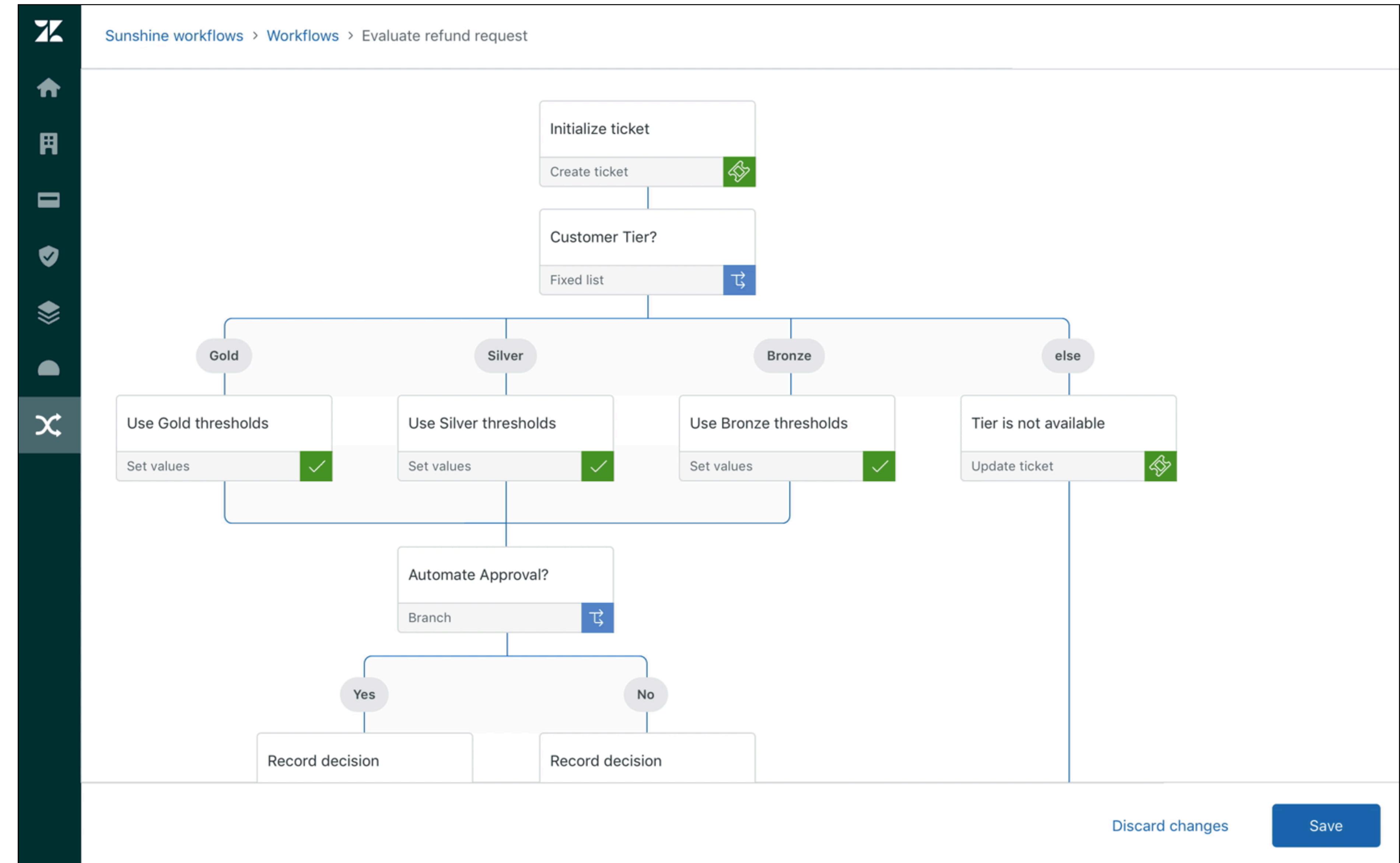


Proposed a series of initiatives that would lead to a competitive workflow system.

# Workflow Builder

Aligned three different product teams on a single approach to a visual workflow builder.

Started with design-only workshops to find common patterns, then worked with product managers to develop a common benefit.



...and then **the pandemic** started.

Every long-term initiative stopped.

It was time to focus on targeted fixes.

# Trigger Filters

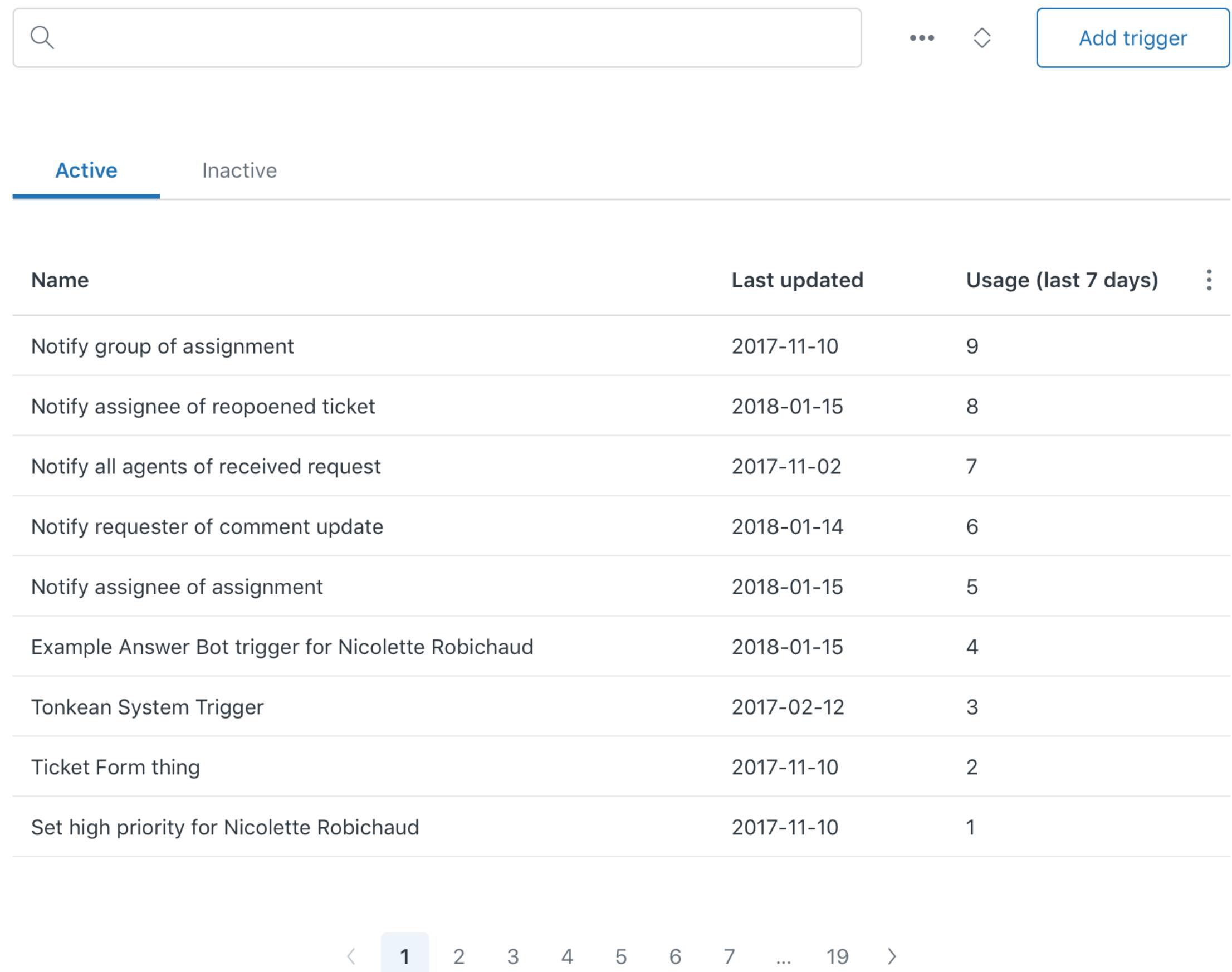
Scaled back to focus on the trigger list.

From our research, we knew admins need to find triggers that check specific fields (conditions) or set specific fields (actions).

Designed and introduced filtering that leveraged existing admin behavior of relying heavily on the search bar.

## Triggers

Triggers take action when a ticket is created or updated. For example, use a trigger to send email notifications when an agent adds a comment to a ticket. The order of your triggers is important because triggers can act on changes made by other triggers. [Learn more](#)



The screenshot shows the Zendesk Triggers list. At the top right is a search bar with a magnifying glass icon, followed by three dots, a dropdown arrow, and a blue 'Add trigger' button. Below the search bar are two filter buttons: 'Active' (which is underlined in blue) and 'Inactive'. The main area is a table with columns: 'Name', 'Last updated', 'Usage (last 7 days)', and a three-dot menu icon. The table lists nine triggers:

Name	Last updated	Usage (last 7 days)	⋮
Notify group of assignment	2017-11-10	9	
Notify assignee of reopened ticket	2018-01-15	8	
Notify all agents of received request	2017-11-02	7	
Notify requester of comment update	2018-01-14	6	
Notify assignee of assignment	2018-01-15	5	
Example Answer Bot trigger for Nicolette Robichaud	2018-01-15	4	
Tonkean System Trigger	2017-02-12	3	
Ticket Form thing	2017-11-10	2	
Set high priority for Nicolette Robichaud	2017-11-10	1	

At the bottom of the table is a navigation bar with page numbers 1 through 19 and arrows for navigating between pages.

Original text

# Trigger Filters

From this live example, we can see how the feature works.

People can still simply start with the name of the trigger to find matches. However, they can also now enter the text of the description, or the details from the conditions or actions entered.

The feedback from this was huge.

(Categories were also included, although that was a related effort in which I had professional say, yet another designer worked on it.)

## Triggers

Set up event-based rules that run every time a ticket is created or updated. Popular triggers include notifying customers when a new comment is added to their ticket or an out-of-office reply. [Learn about triggers](#)

Edit order

Add trigger

The screenshot shows the Zendesk Triggers list interface. At the top, there's a search bar with a dropdown menu set to 'Name' and a magnifying glass icon. Below the search bar, it says 'Showing 318 triggers'. There are two tabs: 'Active' (which is selected) and 'Inactive'. The main area is divided into sections by category:

- Name**: This section contains a list of triggers:
  - Notifications (7 items):
    - Notify assignee of assignment
    - Notify assignee of comment update
    - Notify assignee of reopened ticket
    - Notify requester and CCs of comment update
    - Notify requester and CCs of received request
    - Notify requester of new proactive ticket
    - Notify all agents of received request
  - + Add trigger
- Categories** (34 items):
  - Check if 265/35ZR22
  - Check if 235/55R20

Live example

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Edit order

Add trigger



Filter Field Operator

Conditions Comment text (any) x

Add another filter Showing 8 triggers

Active Inactive

Name :

- Check if 225/60R18  
Categories
- Check if 235/55R19  
Categories
- Check if 235/55R20  
Categories
- Check if 245/45R20  
Categories
- Check if 255/45R20  
Categories
- Check if P255/45RF20  
Categories
- Check if 265/35ZR22  
Categories
- Check if 265/40ZR21  
Categories

Live example

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The screenshot shows the Zendesk Triggers interface. At the top, there are filter options: 'Filter' set to 'Actions', 'Field' set to 'Location', and a dropdown menu for 'Value' which is currently empty. Below these are buttons for 'Edit order', 'Add trigger', and a dropdown menu. A modal window is open, titled 'Showing 7 triggers', with tabs for 'Active' (selected) and 'Inactive'. The 'Name' column lists trigger names, each with a checkbox and a 'Locations' button. The 'Value' column shows a dropdown menu with a placeholder '(any)' and a list of locations: Topeka, Denver, Fayetteville, Cheyenne, Austin, San Antonio, and St. Louis. The 'Locations' button for each trigger row is also visible.

Live example

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Filter

Name

Showing 873 triggers

Filter

Name

Showing 8 triggers

Filter

Conditions

Field

Operator

Value

Showing 144 triggers

New  
 Open  
 Pending  
 Solved  
 Closed

Filter

Actions

Field

Value

Showing 67 triggers

Low  
 Normal  
 High  
 Urgent

Live example

# Custom Ticket Status

Another deep technical debt problem with a very tight set of constraints.

Customers had complained for over a decade that they needed more than the fixed list of ticket statuses.

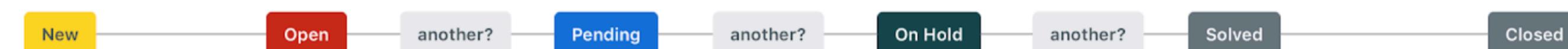
Led research and mentored a designer to work through the problem. Talked with 12 admins to diagram out how they would use custom ticket statuses.

Explored how adding custom statuses would affect several areas of the product, the agent experience, editing views, admin experience, and more.

Original fixed list



Did customers need additional statuses in the sequence?



Or did they need variations for describing the core statuses?



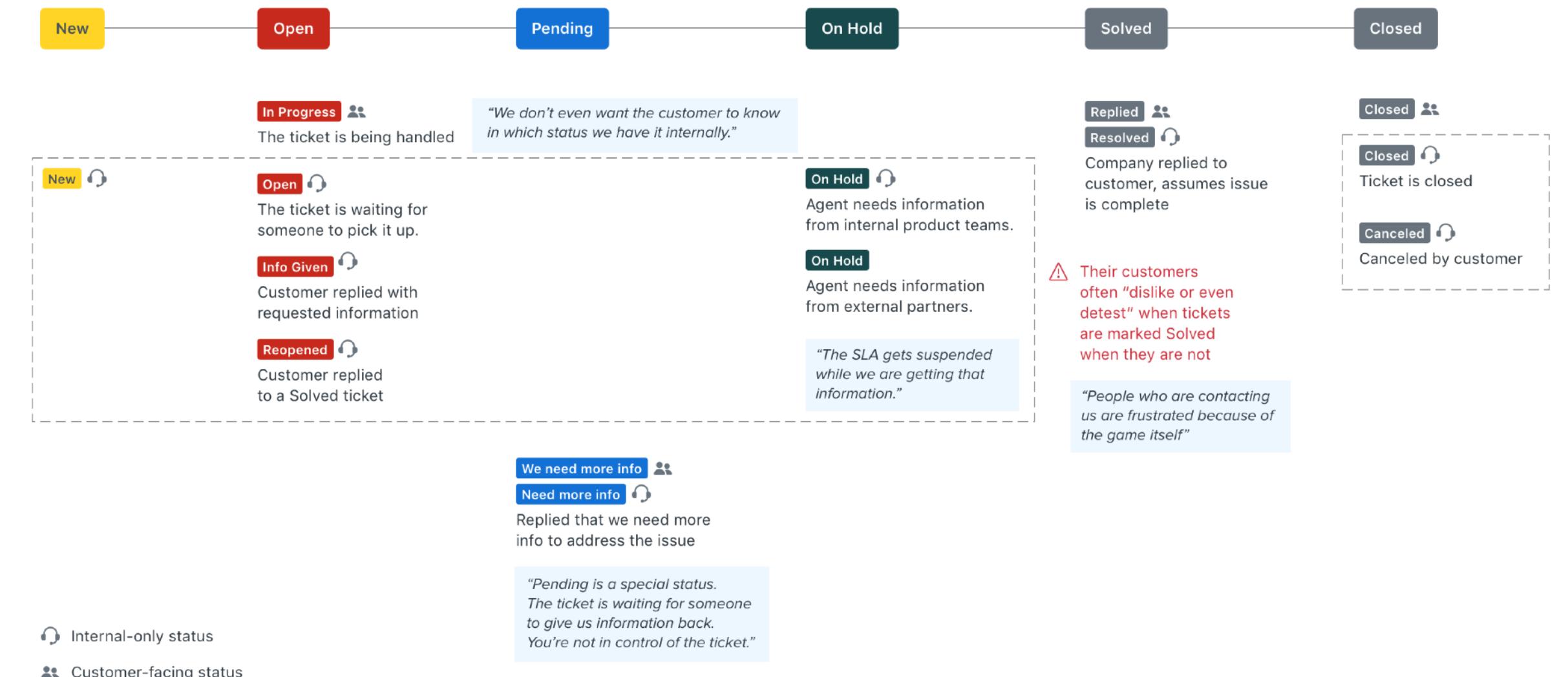
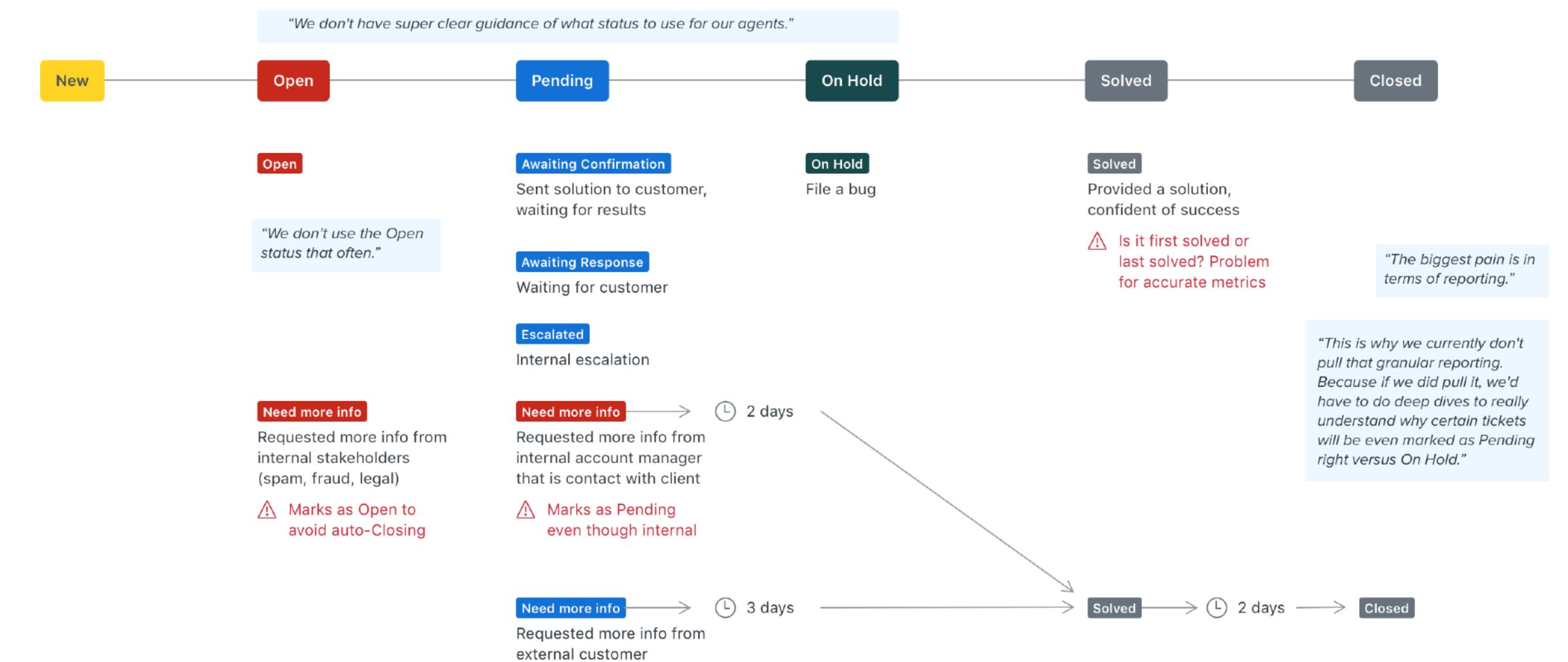
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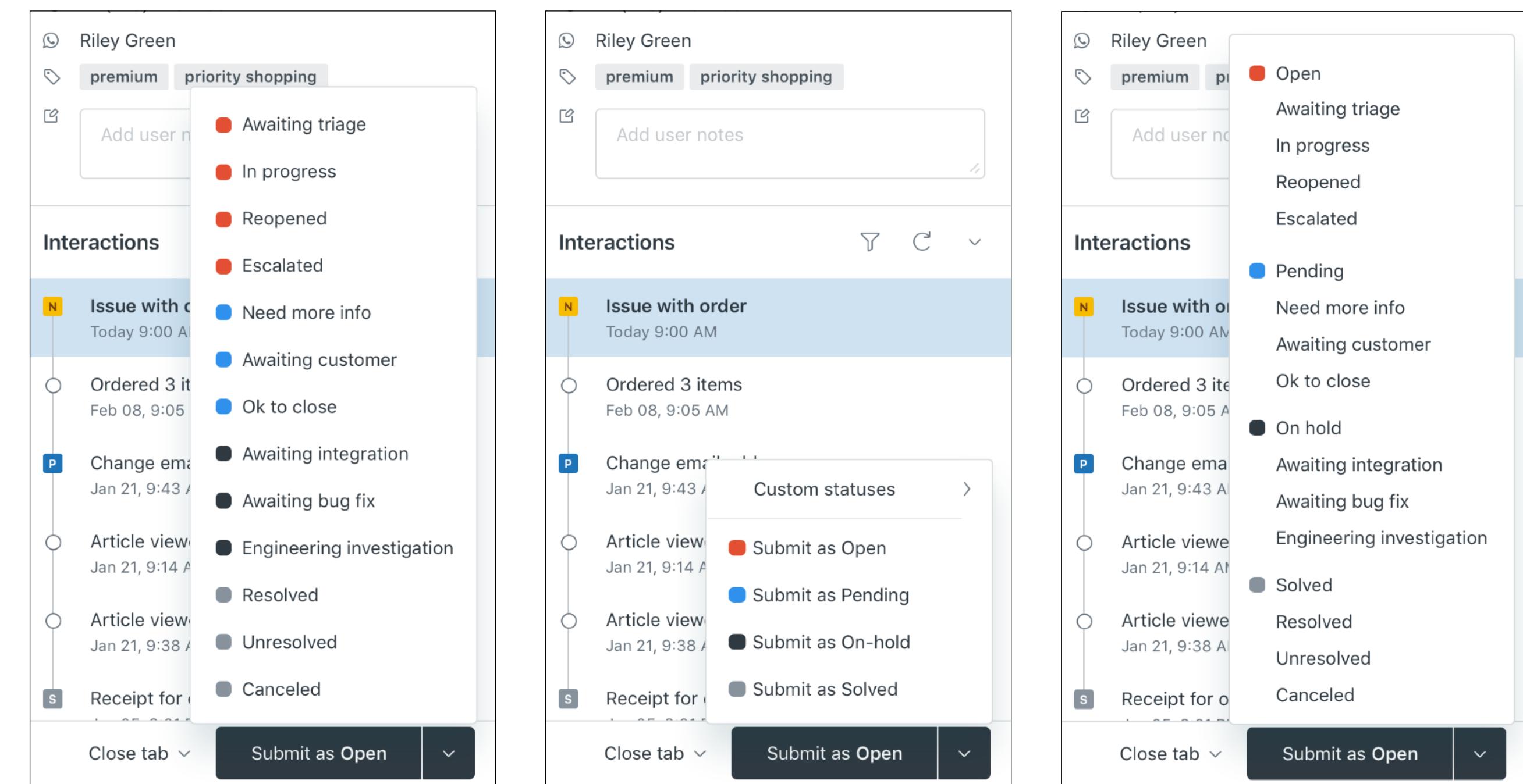
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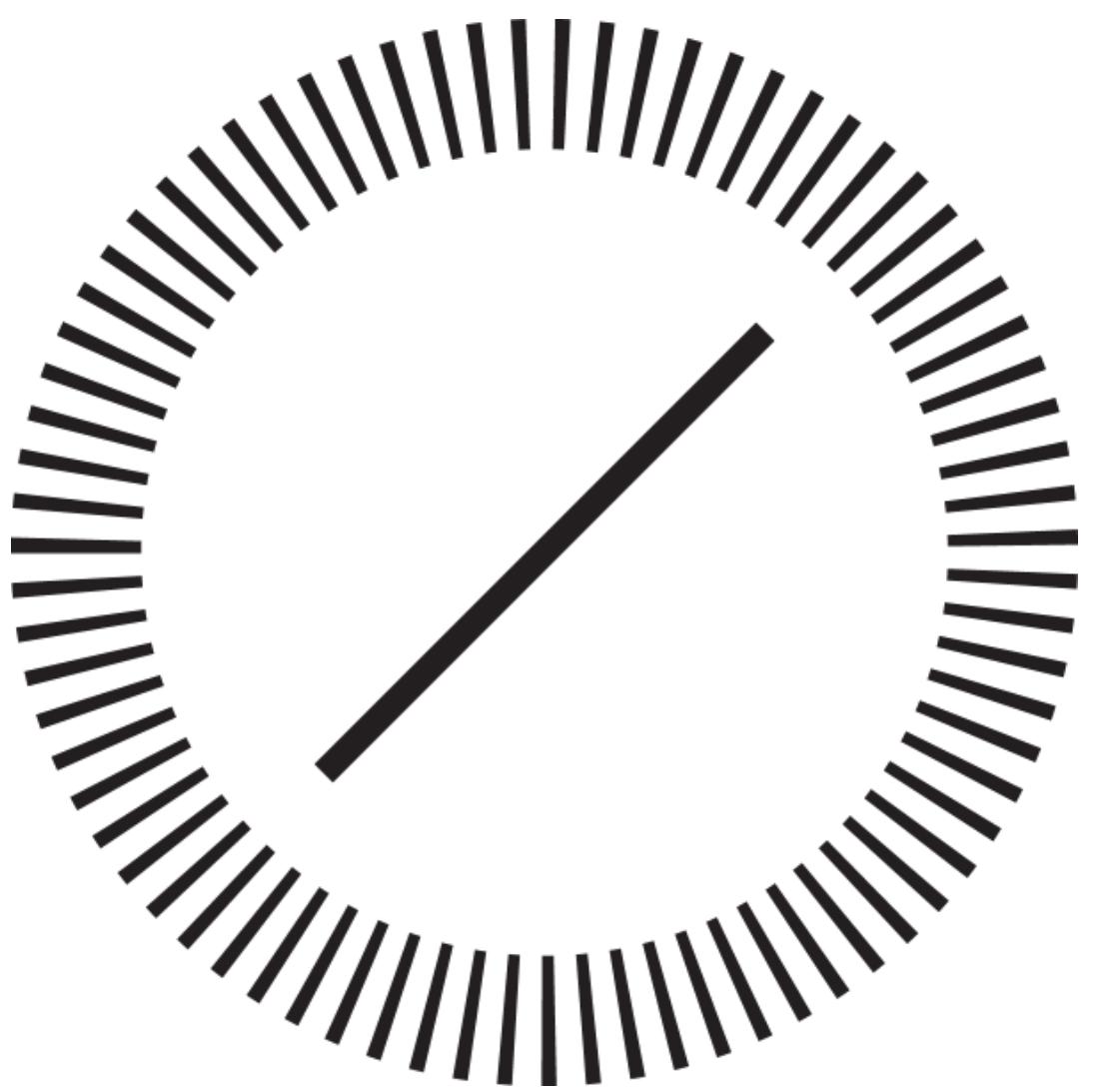
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# Outcome: Product Momentum

Several product features that I kicked off have continued to be developed and hopefully will address admin pain.

Visual workflow builder, custom ticket status, custom conditions, and the general push to make workflow more holistic.



# **Compass Realty**

## Agent Jobs & Tasks

# About

High-end real estate company

Goal is to be the industry platform  
for real estate transactions

Struggling to incorporate two  
key acquisitions made in 2021



# Situation

They asked for two things:

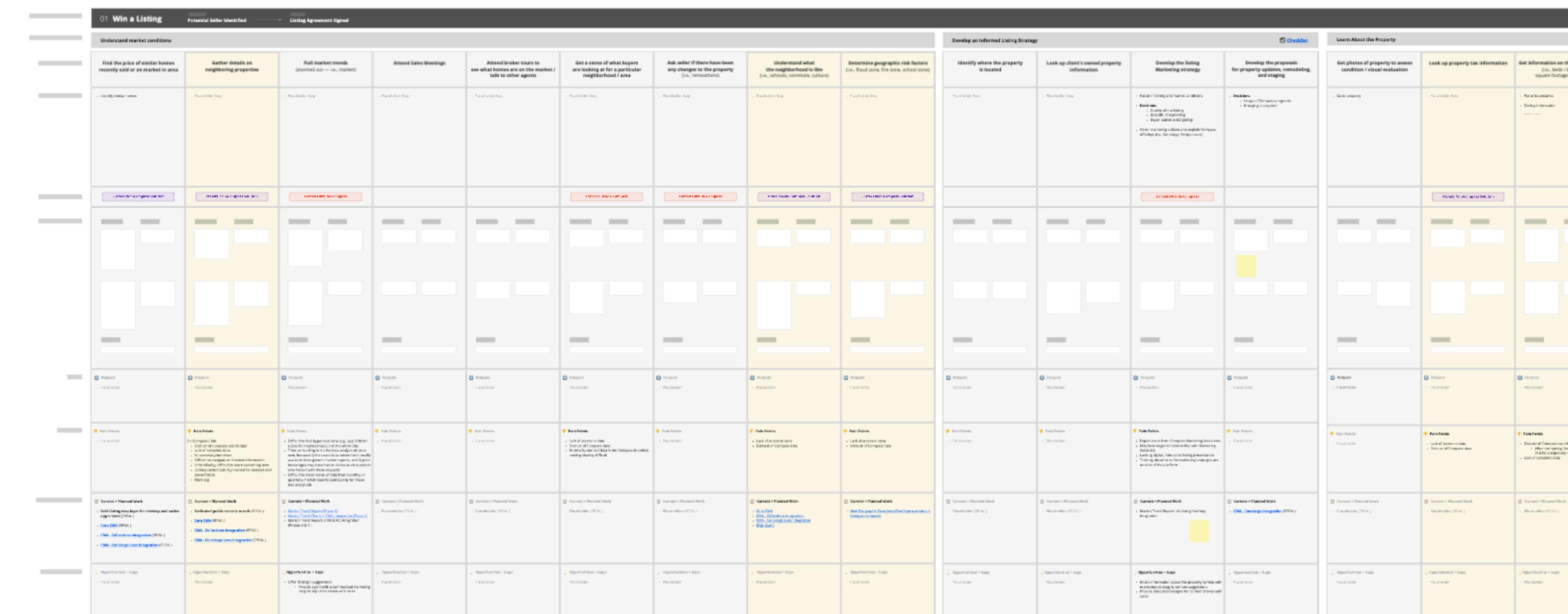
1. Map the customer journey of real estate agents  
(via the design leader)
2. Data for prioritizing the development roadmap  
(via the engineering leader)

# Prior Research

This was not the first attempt at mapping an agent's journey. Most of this research already existed, just not coherently.

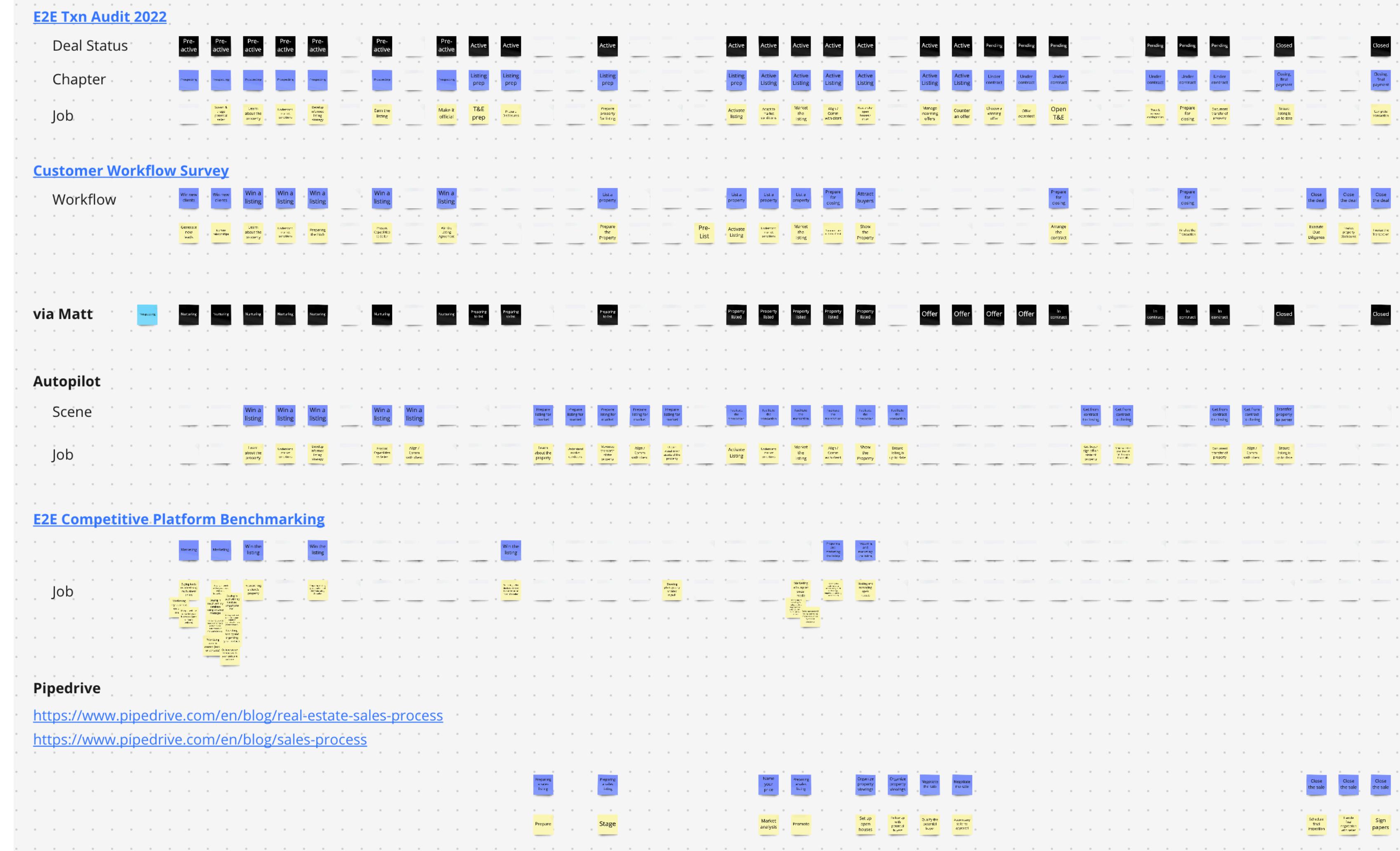


Also, the results were too overwhelming for colleagues outside the research team to easily consume or act upon.



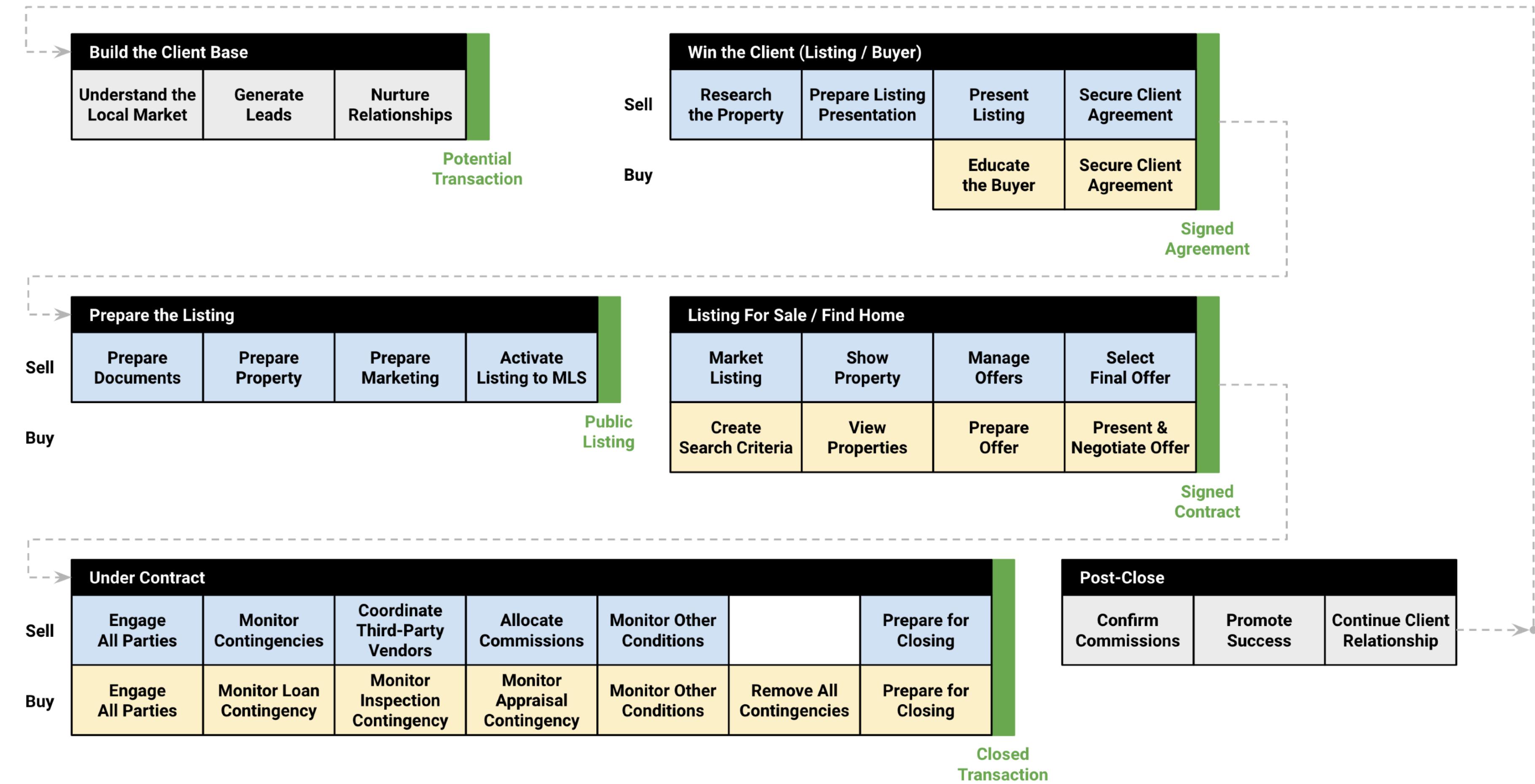
# Synthesis

Dissected, overlaid, and collated prior research efforts to discover gaps, overlaps, and how they phrased jobs and tasks.



# Proposed List: Jobs to be Done

Distilled the prior research plus agent feedback into this simple list of agent jobs to be done.



# Proposed List: Tasks per Job

Documented the list of tasks per job, also iterated based on agent feedback.

SELL - Listing For Sale				BUY - Find Home			
Market Listing	Show Property	Manage Offers	Select Final Offer	Create Search Criteria	View Properties	Prepare Offer	Present & Negotiate Offer
Market to Compass Private Exclusive members  Share listing with network	Coordinate availability and preparation with seller  Prepare materials for open house	Review and organize received offers  Communicate offers to seller  Strategize with seller whether to accept, reject, or counter each offer	Discuss final decision with seller  Collect seller signatures on offer (or counter offer) to send to buyer  Receive executed offer package from buyer agent (counter)	Learn the buyer's preferences (location, schools, attributes, etc)  Inform seller of agreement  Attach current market estimates for their preferences  Send buyer sample listings that match their preferences  Receive feedback from client and adjust search criteria as needed  Curate initial listings to showcase  Set up automated searches  Share newly matching listings	Learn the buyer's availability  Schedule a home tour  Coordinate with listing agents  Obtain property access information  Create tour itinerary  Tour listings  Capture and review buyer's feedback  Contact listing agent for additional information  Learn if buyer wants to submit an offer	Review market conditions  Create competitive analysis  Discuss price and terms with buyers  Reach out to listing agent for any conditions and to establish connection  Review seller disclosures  Draft offer  Draft cover letter  Review offer with buyer and obtain signatures	Alert listing agent of offer  Submit offer, cover letter & buyer finance qualifications  Sign seller disclosures  Review and respond to counter offer (if receive)  Receive & review seller executed agreement  Attach completed offer documents to compliance checklist
Market listing to team members  Run advertising campaign (social media, digital ads, regional ads)  Monitor buyer interest levels  Strategize with client to adjust pricing or marketing strategy, if needed	List open house on the MLS  Coordinate and host broker tours  Host (or delegate) open house(s)	Inform buyer agent that you're making a counter offer  Complete counter offer forms  Review counter offer package with seller and collect signatures  Submit counter offer to buyer agent and confirm receipt	Update MLS status				

# Proposed Data Model

Developed a data model of information that they needed to capture about each job and task.

**Identity.** General metadata about this job.

- **job-ID.** Each job will need a unique identifier at a system level.
- **job-name.** Short 2-4 word phrase, starting with an action verb, written from an agent's perspective. For example: "Generate Leads"
- **job-desc.** One to two sentences that further describe this job.

**Ownership.** Who internally is responsible for this job?

- **flow-team.** The team responsible for improving this task for agents, clients and staff.
- **flow-contact.** Primary point of contact from Flow Owner to support data collection.

**Flow.** Where does this job sit in the flow?

- **job-side.** Sell side, buy side, or both?
- **job-stage.** A higher-level phase of the process where this job happens, such as Prospect, Nurture, Prepare listing, In Contract, Closed.
- **job-previous.** Job(s) required to be completed in order to start.
- **job-next.** Job(s) blocked until this job is complete.
- **job-inputs.** List of items that are required to start this job.  
(Need to work out how to handle regional differences here.)
- **job-outputs.** List of items that this job produces.  
(Need to work out how to handle regional differences here.)

**Current State.** How are we delivering right now?

- **coverage.** (high/medium/low/none) How much does Compass already cover this job?
- **mobile coverage.** (high/medium/low/none) How well do we support this job on mobile today?
- **web coverage.** (high/medium/low/none) What functionality do we have available today (if any)? How well do we feel that technology is meeting the needs of transaction participants? If functionality is forthcoming, what is the timeline for delivery?
- **service desk.** (high/medium/low/none) How extensive do we offer help with our paid services?
- **platform engagement.** (high/medium/low/none) How often are agents using the Compass platform as part of their workflow for this item

**Research.** What have we learned about this job?

- **roles.** (multiple) List of roles typically involved in achieving this job. Buyer agent, seller, agent, transaction coordinator, buyer, seller, mortgage broker. (Another deep complicated section, likely needing its own data model. For now, a list of sample roles is enough.)
- **insights.** (multiple) Things we've learned about this job.
- **opportunities.** (multiple) Product concepts we have to improve this job.
- **documents.** (multiple) Links to documents about this job.
- **frequency.** (high/medium/low) How often do agents do this job? (likely more task than job)
- **complexity.** (high/medium/low) How difficult is this job to perform?
- **impact.** (high/medium/low) How much would improving this impact an agent's workflow?
- **entitlement.** (high/medium/low) How much do agents expect Compass to provide this (vs readily-available solutions like calendaring)
- **mood.** (high/medium/low) Can we capture an agent's mood about this job?
- **primary competing process.** What are the most common ways agents complete this task today and what are the primary general purpose and real-estate specific tools used to assist in the completion of this task?

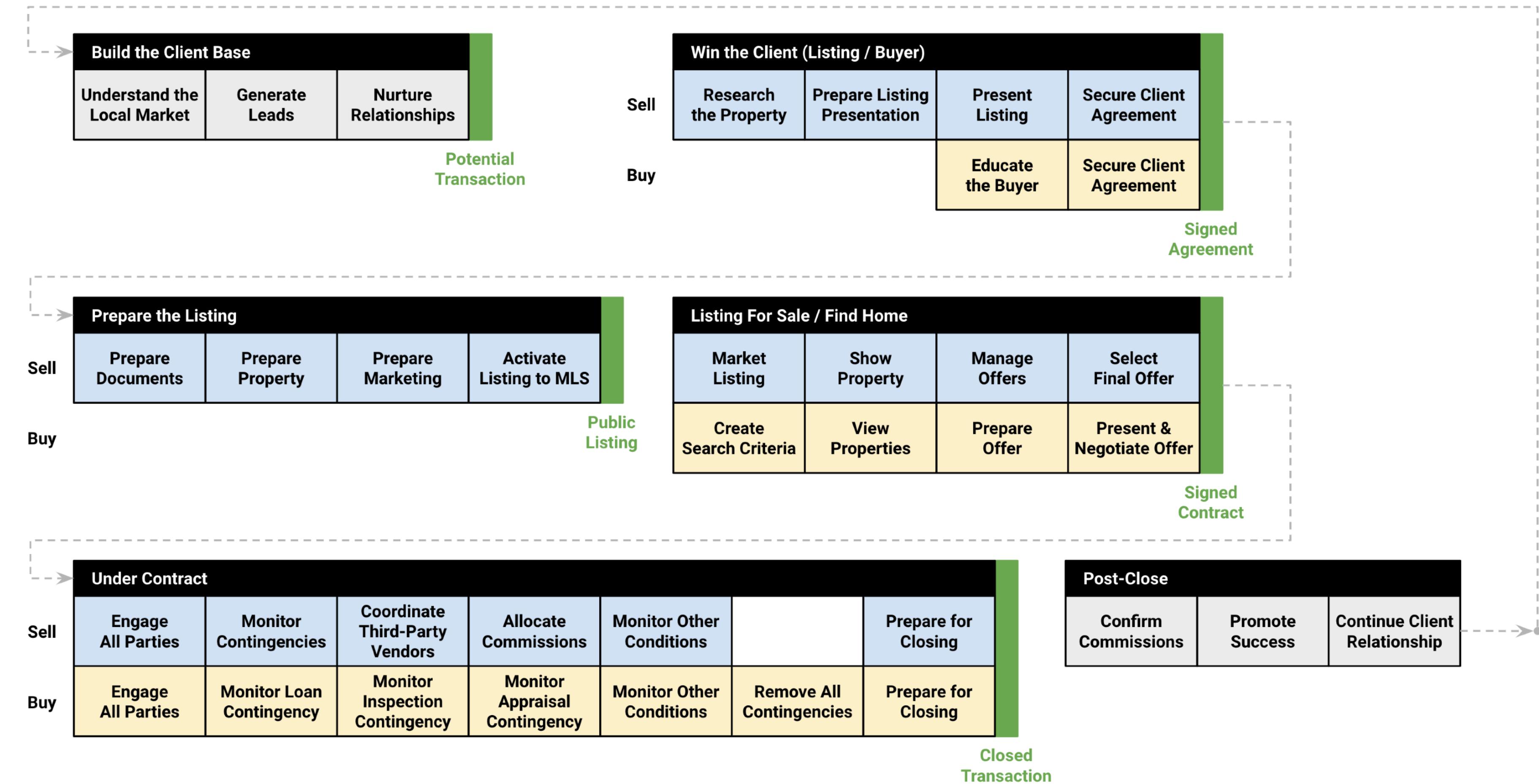
**Opportunity**

- **potential value-add.** (high/medium/low) How strong is our conviction that technology can positively impact this task? Do we have specific ideas on how this might be done?
- **effort.** (high/medium/low) What is the relative size of the development effort? Is there legacy tech debt to overcome?
- **platform integration.** (high/medium/low) Would improving this job also contribute to a platform effort, improving other jobs as a side benefit?
- **third-party integration ease.** (high/medium/low) How effectively could we provide coverage of this task more via a third-party integration? Are there any third-party tools we should prioritize integrating due to their popularity? (e.g. DocuSign)
- **mobile.** (high/medium/low) Where should this task fall in our priority list

# Outcome: A Shared Language

They never had had a simple list like this.

Several leaders said this framework should be used in annual planning, performance monitoring, and new agent training.



**Thank you!**