

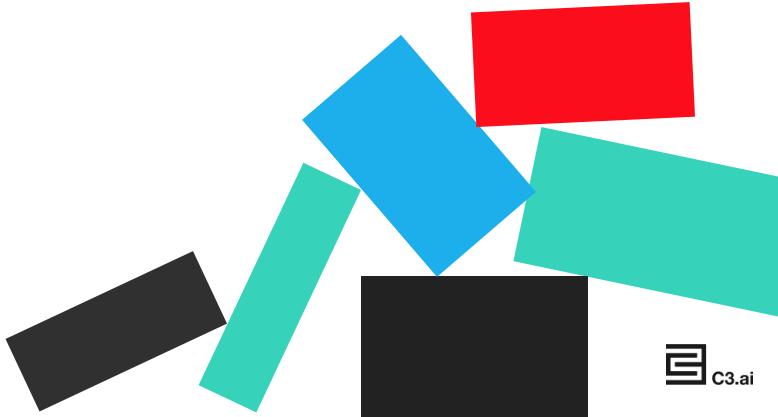
Case Study: Customer Management

How we helped PM find a better solution with 10X impact.

Team: Riley(PM), Emily(UX Designer)

My Role: Lead Designer

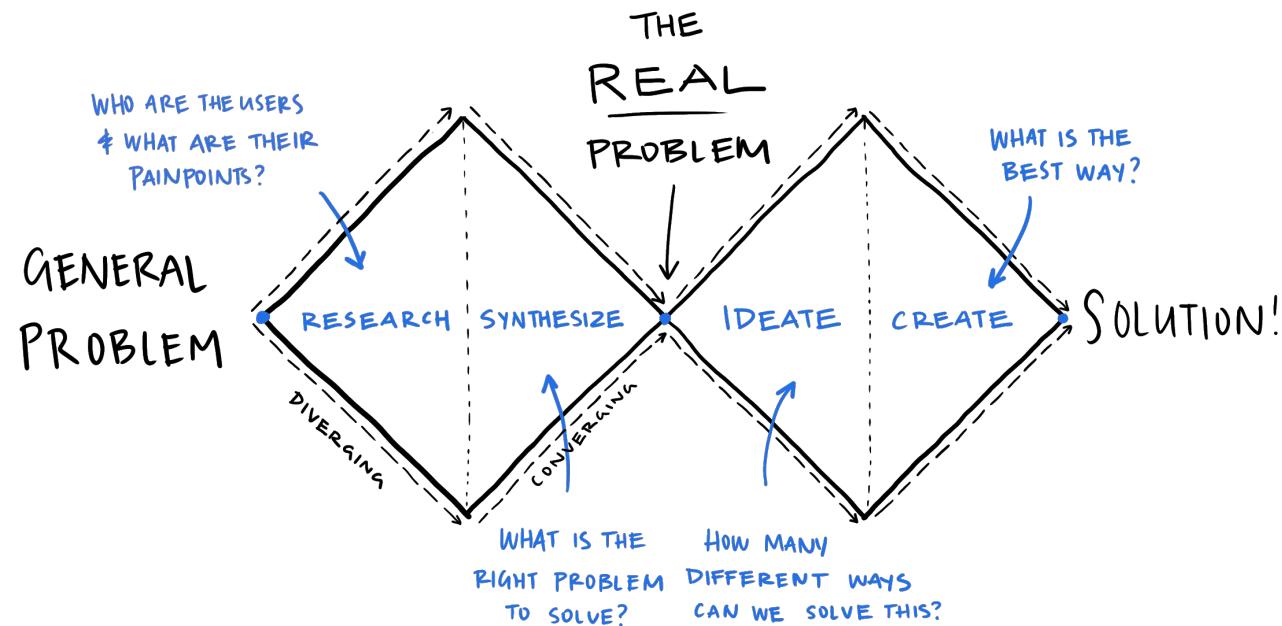
Time: 09/2018 - 04/2019



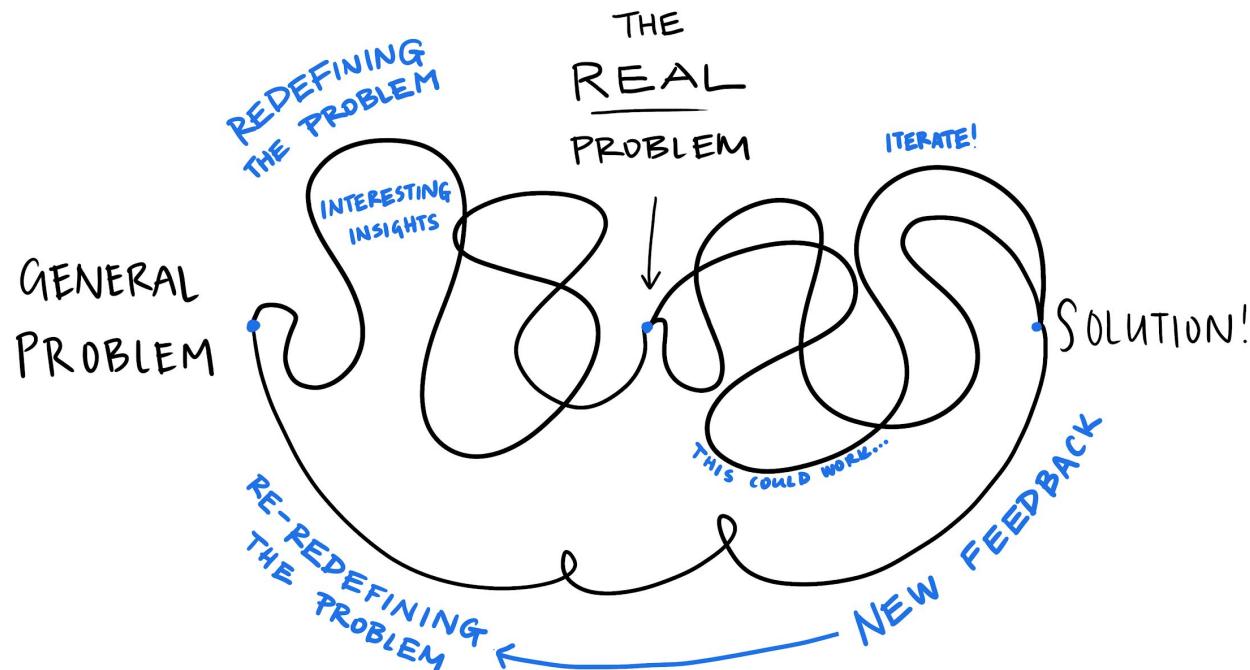
In September 2018, PM came to the design team with an internal tool idea

**How might we help C3 manage
our customers better?**

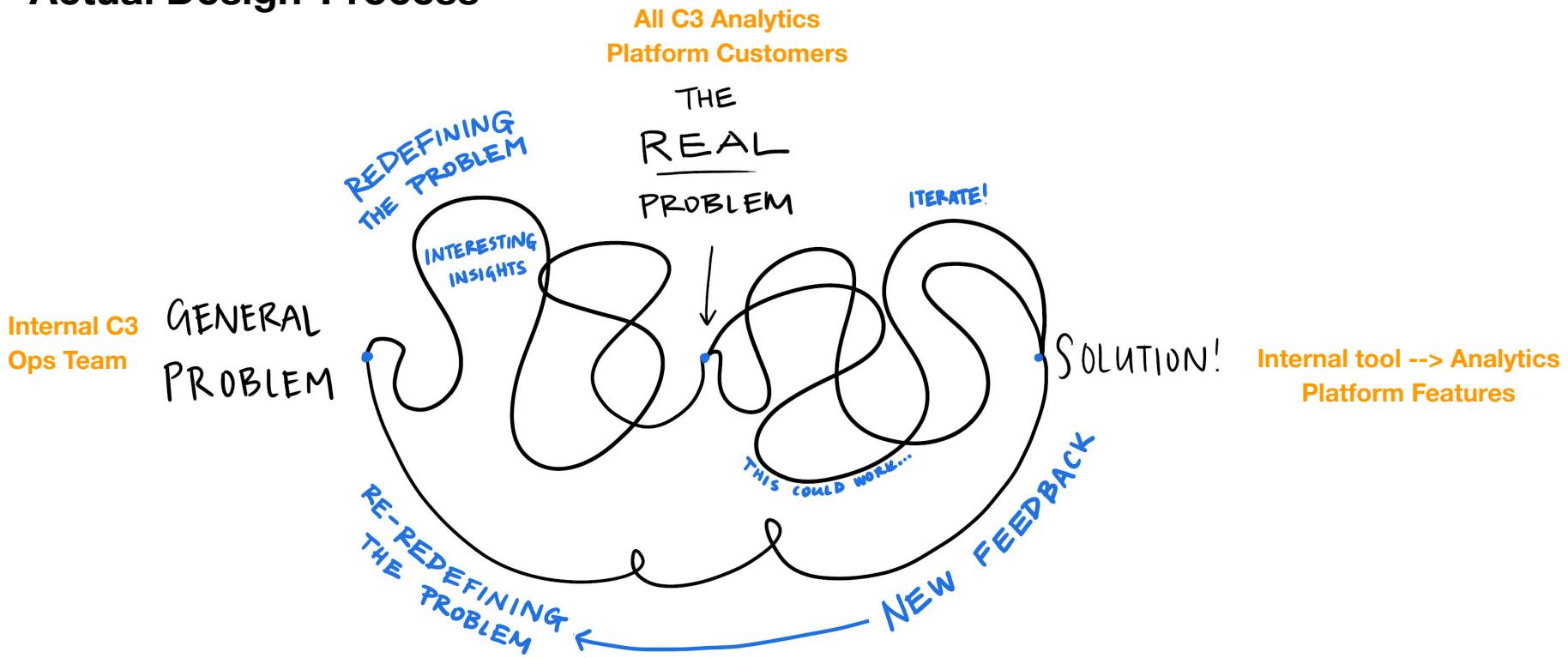
Ideal Design Process



Actual Design Process



Actual Design Process



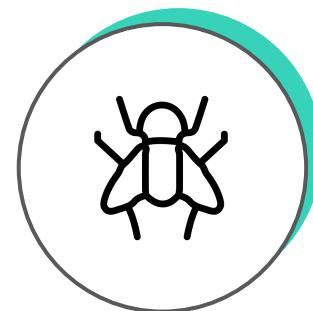
Case Study

Research

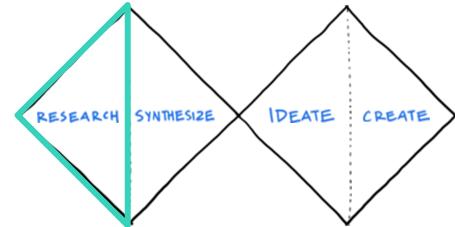
- Understand users and their pain points
- Understand current process and task flow



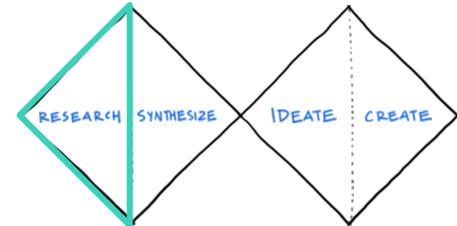
Semi-Structured Interviews



Fly-on-the-wall Observation



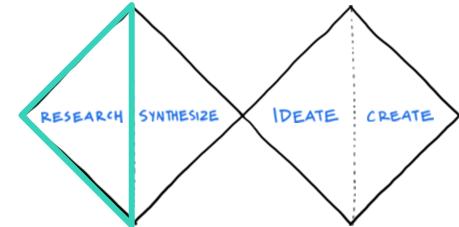
User Interviews



Red accounts are customers that we risk losing. We try to prevent before it gets to that stage.

– Ted Tran

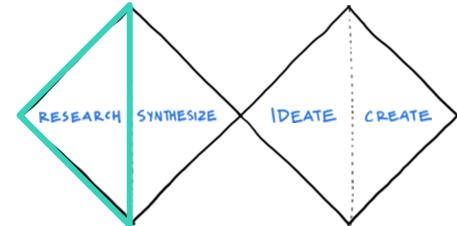
User Interviews



It's difficult separating the Operations team's priority, which is the company priority, and [someone's] personal priority.

– Nick Cogswell

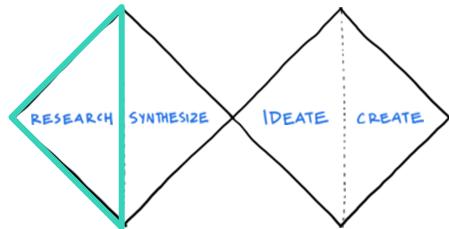
User Interviews



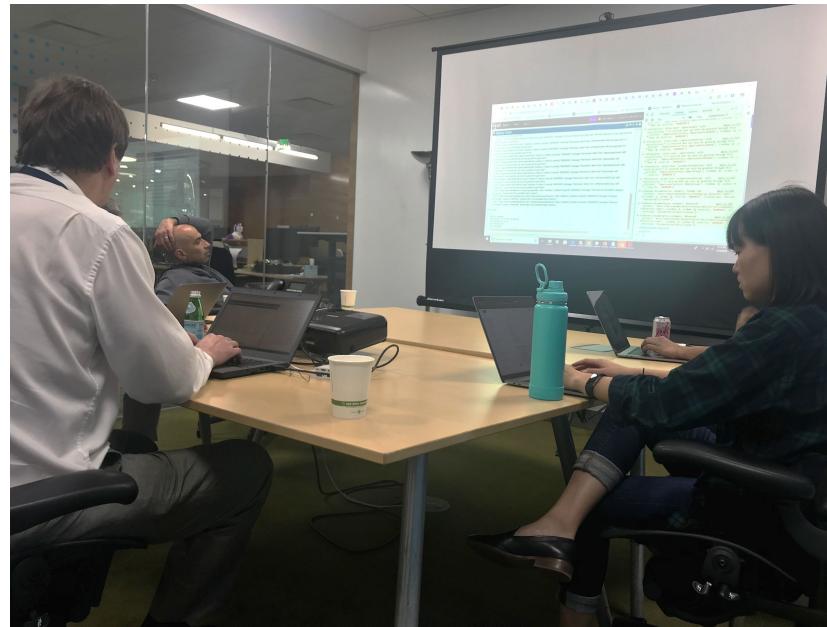
When there are too many alerts, it's easy to be complacent and ignore all the symptoms. It takes more time to read through and prioritize.

– Nick Cogswell

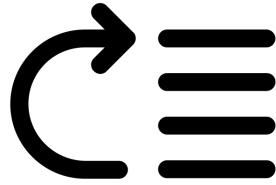
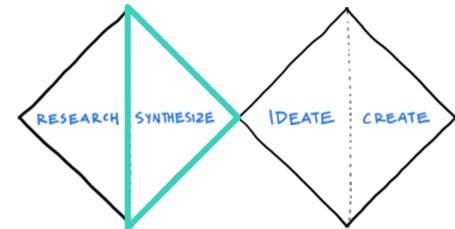
Red Account Meeting Observation



Why is this [ticket]
marked as red?
This shouldn't be
red.



Main Research Insights



Lack of alignment on defining priorities



Overwhelming number of tasks and alerts



Ted

Direction, Operations

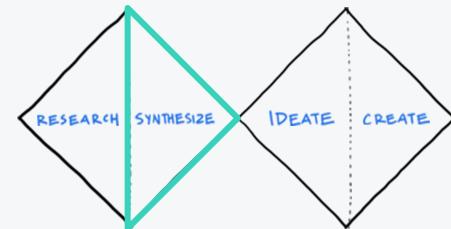
Ted leads the Developer Operations team and has worked at C3 for 5 years. He has a high level view across all customers.

Ted needs a way to decide his team's priority so that they can focus their energy on the most pressing issues.

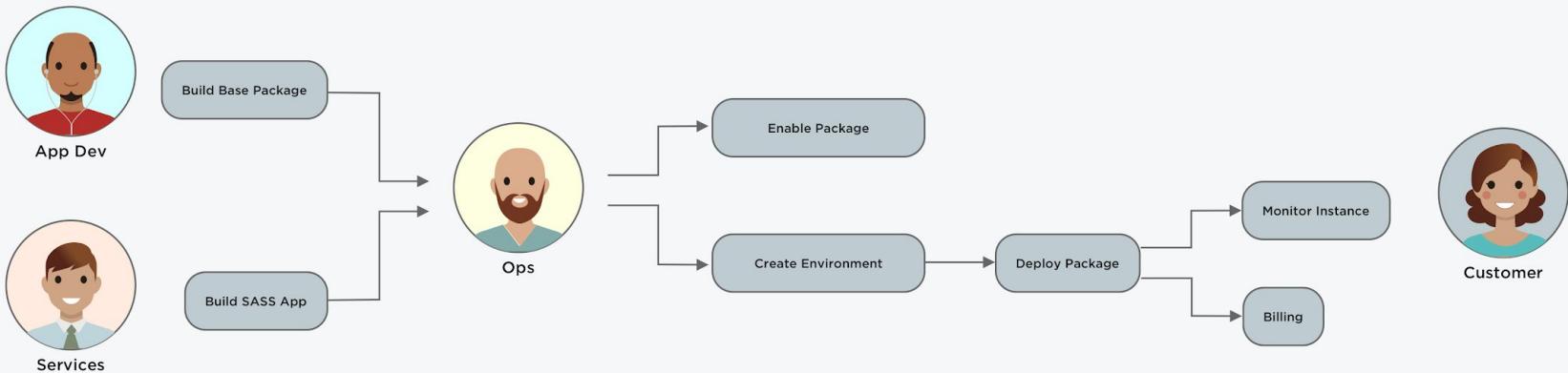
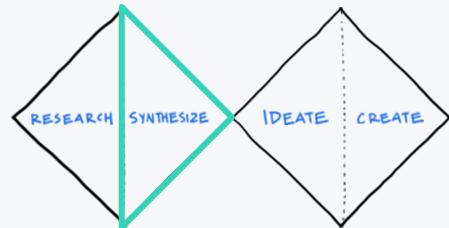
“Someone might mark a ticket as a P0, but it’s not really a company P0...I’ve been here a long time, so I know the priority.”

PAIN POINTS

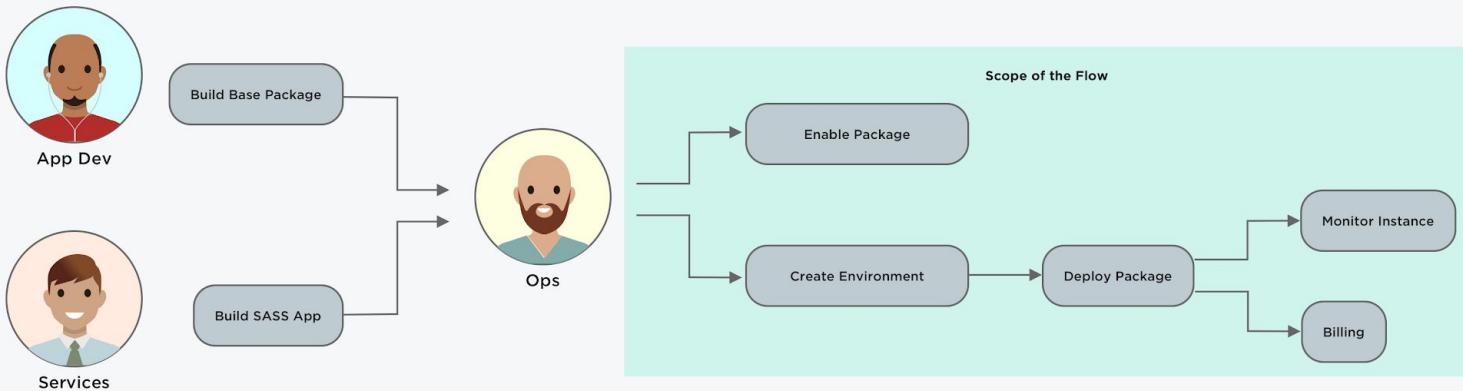
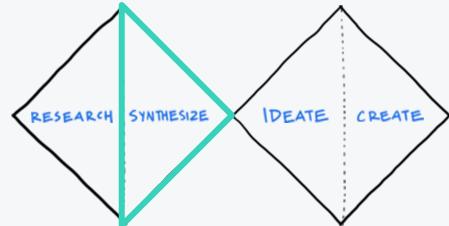
- Lack of alignment on priority
- Interruptive social pressure
- Too many alerts and notifications
- Lack of formal communication process



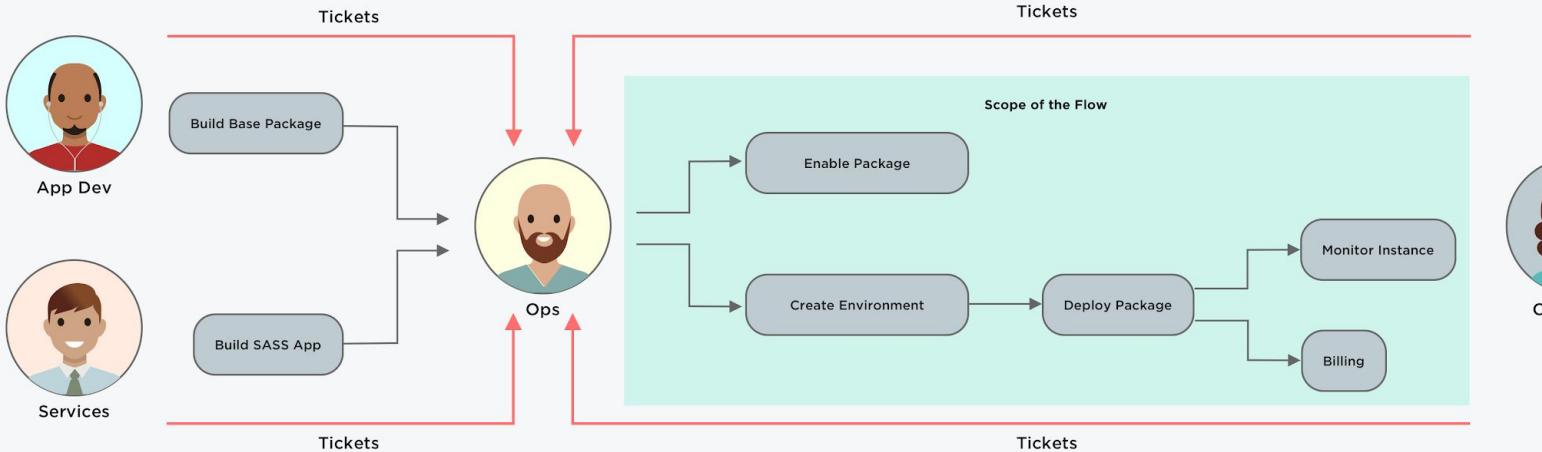
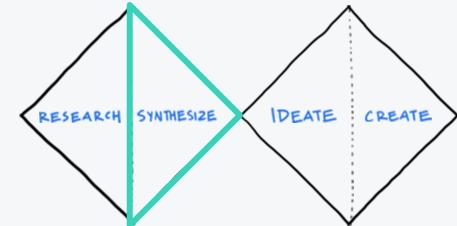
User Journey Map



User Journey Map



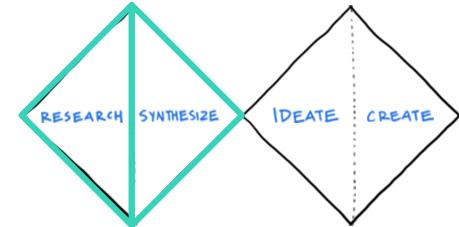
User Journey Map



User Needs

Ted needs a way to...

- Streamline customer creation and monitoring process
- Align company priorities
- Prioritize tickets



Filter

Name

Is Red Account
 Red account
 Pending requests
 Pending upgrade

Relationship Manager

Open Tickets 

Min Max

Filter Clear All

Customers

Filter  Create Customer

Name	Avai...Env	Active...kers	Open Tickets	Relations...ager	Creator	Creation date
3M	4/5	46	4	Denny	Denny	09-11-2019
Eg	3/6	55	24	Ryan	Ryan	10-13-2019
BGE	2/3	52	2	Denny	Ryan	07-24-2019
AEP	2/2	86	73	Denny	Ryan	02-25-2019
Westar	3/3	86	55	Ryan	Denny	03-19-2019
SunPower	5/5	86	3	Denny	Denny	02-25-2019
John Deere	4/4	35	55	Denny	Denny	10-12-2019
Exelon	3/3	52	34	Denny	Denny	09-04-2019
SunPower	3/3	52	55	Denny	Denny	10-30-2019
DIU	2/2	86	4	Ryan	Ryan	12-21-2019
Westar	2/2	48	6	Denny	Denny	09-19-2019
Origin Energy	2/2	55	2	Denny	Denny	05-16-2019

Rows per page: 1-12 of many 1 2 3 4 5 ... > >>

Streamline customer creation



Customers

Customers > Add Customer

Streamline customer creation

Create Customer

Enter information to create a customer.

Customer Name

Used for ...

Customer Organization

Used for ...

All-env Url

Used for ...

All-env Auth



Certificate

GitHub Repo

Repo which c3 will connect to

Dev Cluster Url

Used for ...

Dev Cluster Auth



Certificate

Users(Optional)

- x
- x
- x
- x
- x

Users who will be registered in all-env

Create**Cancel**

Filter

Name

Status
 Red account
 Pending requests
 Pending upgrade

Relationship Manager

Open Tickets 

Min Max

Filter Clear All

Customers

Filter

 Create Customer

Name	Avai...Env	Active...kers	Open...ets	Relations...ager	Creator	Creation date	
Caterpillar	4/5	46	4	Denny	Denny	09-11-2019	
3M	3/6	55	24	Ryan	Ryan	10-13-2019	
Eg	2/3	52	2	Denny	Ryan	07-24-2019	
AEP	2/2	86	73	Denny	Ryan	02-25-2019	
Westar	3/3	86	55	Ryan	Denny	03-19-2019	
SunPower	5/5	86	3	Denny	Denny	02-25-2019	
John Deere	4/4	35	55	Denny	Denny	10-12-2019	
Exelon	3/3	52	34	Denny	Denny	09-04-2019	
SunPower	3/3	52	55	Denny	Denny	10-30-2019	
DIU	2/2	86	4	Ryan	Ryan	12-21-2019	
Westar	2/2	48	6	Denny	Denny	09-19-2019	
Origin Energy	2/2	55	2	Denny	Denny	05-16-2019	

Rows per page: 12 ▾ 1-12 of many

|◀ < 1 2 3 4 5 ... > ▶|

Streamline customer creation

Customers

Customers > Caterpillar-IO

Caterpillar-IO
Last updated 2 hours ago
Relationship Manager: Denny

Billing

Create Ticket

Available Environments
2/3

Open Tickets 27

Longest Open Ticket
(OP-10922) Need a new AWS test environ...
Created 14 days ago

Active 498

Environments & Packages

Environments

Name	Available	Open Tickets	Active / Total Workers	Users (last 30 days)	Splunk URL
Dev	Up	10	198 / 200	12 (- 5)	https://dev-splunk...monitor
QA	Up	16	100 / 160	12 (- 0)	https://qa-splunk...monitor
Prod	Down	1	200 / 200	24 (- 0)	https://prod-splunk...monitor

Packages

Name	Description	Date Created	Status
Standard Dependencies	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	11-07-2019	Enabled
Foundation	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	12-16-2019	Enabled
Predictive Maintenance	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	02-21-2019	Enabled
AI Studio	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	04-10-2019	Disabled
Alerts	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	04-25-2019	Disabled
Analytic Result Explanation	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	09-26-2019	Disabled
Anomaly Detection	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	01-04-2019	Disabled
Anti-Money Laundering	C3 Predictive Maintenance provides maintenance planners and equipment operators with comprehensive insl...	05-11-2019	Disabled

Rows per page: 12 | 1-12 of many | 1 2 3 4 5 ... > >>

Monitor customers



Monitor customers

Customers

Customers > Caterpillar-IO > Request Environment

Request Environment for Caterpillar

Enter customer information to request an environment.

Name

Canonical URL

Pod - cat-IO - Tenant (optional) - Tag (optional) .c3.ai

Default URL defined by C3

Vanity URL

customer-pod-tenant-tag .c3.ai

Custom URL defined by customer

Configuration

Is Data Warehouse

Ex-Machina

Integrated Development Studio (IDS)

Cluster Size

	<input type="radio"/> Small	<input type="radio"/> Medium	<input type="radio"/> Large	<input type="radio"/> Extra-Large
Cassandra ring	3 node	6 node	12 node	24 node
Time series data	<= 1.4 TB	<= 2.7 TB	<= 5.4 TB	<= 10.8 TB
Relational Data	<= 1 TB	<= 2 TB	<= 3 TB	<= 4 TB

Host

Select

Customer VPC Sub-Account URL

https://...



Notifications

JIRA 1 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

JIRA 3 mins ago

- OP-7486 (PO, CAT)
opened for over 72 hours

Shell 5 mins ago

High Utilization
Old Gen Memory > 80%

Caterpillar 9 mins ago

New Env Request
submitted by Denny

Shell 10 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

3M 15 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

3M 15 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

JIRA 15 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

JIRA 16 mins ago

- OP-4242 (PO, Shell)
resolved by Mayur N

Highest Risk Customers



Caterpillar-IO

Available Env

2/3

Open Tickets

27

Longest Open Ticket

(OP-10922) Need a new AWS test environm...

Created 14 days ago



3M

Available Env

5/5

Open Tickets

31

Longest Open Ticket

(OP-10922) Need a new AWS test environm...

Created 14 days ago

Align company priorities



Shell

Available Env

4/4

Open Tickets

14

Longest Open Ticket

(OP-10922) Need a new AWS test environm...

Created 14 days ago

Prioritized Tickets

See All

Ticket ▾

Comment ▾

OP-8987: Create IAM roles to access Redshift clusters in c3

(PO) Shell Red Account

Updated 08/15/2019

This ticket is high priority because Shell is signing an deal with us, and this issue will affect several departments in Shell.

OP-8987: Create IAM roles to access Redshift clusters in c3

(PO) Shell Red Account

Updated 08/15/2019

This ticket is high priority because Shell is signing an deal with us, and this issue will affect several departments in Shell.

OP-8987: Create IAM roles to access Redshift clusters in c3

(PO) Shell Red Account

Updated 08/15/2019

This ticket is high priority because Shell is signing an deal with us, and this issue will affect several departments in Shell.

OP-8987: Create IAM roles to access Redshift clusters in c3

(PO) Shell Red Account

Updated 08/15/2019

This ticket is high priority because Shell is signing an deal with us, and this issue will affect several departments in Shell.

OP-8987: Create IAM roles to access Redshift clusters in c3

(PO) Shell Red Account

This ticket is high priority because Shell is signing an deal with us, and this issue will affect several departments in Shell.





Tickets

Filter

Ticket

Level

Customer

Is Red Account
 Yes

Last Update

Tickets			...
Ticket	Rating	Comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	
OP-8987: Create IAM roles to access Redshift clusters in c3 Updated 08/15/2019	Urgency Size Severance	Add comment	

What do you think the user would say?

Filter

Clear All

Rows per page: 12 1-12 of many

Prioritize tickets



Prioritize tickets

Filter

Ticket

Level

▾

Customer

Is Red Account

Yes

Last Update



Min 12/31/2018

Max 10/21/2019

Filter

Clear All

Tickets	
Ticket	Comment
OP-8987: Create IAM roles to access Redshift clusters in c3    Updated 08/15/2019	Add comment
OP-8987: Create IAM roles to access Redshift clusters in c3    Updated 08/15/2019	Add comment
OP-8987: Create IAM roles to access Redshift clusters in c3     Updated 08/15/2019	Add comment
OP-8987: Create IAM roles to access Redshift clusters in c3    Updated 08/15/2019	Add comment
OP-8987: Create IAM roles to access Redshift clusters in c3    Updated 08/15/2019	Add comment
OP-8987: Create IAM roles to access Redshift clusters in c3    Updated 08/15/2019	Add comment

Product Council Presentation

WAHOOOO~~~~~
We did it!



Product Council Presentation

I think our customers
need something like
this as well...



How might we help C3 manage our customers better?

~~How might we help C3 manage
our customers better?~~

**How might we help all platform
customers manage their own
customers?**

User Needs

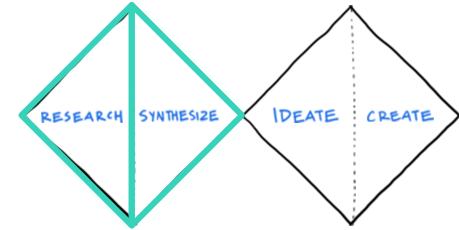
Ted needs a way to...

- Streamline customer creation and monitoring
- Align company priorities
- Prioritize tickets

User Needs

Platform customers need a way to...

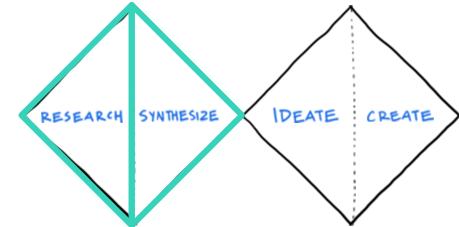
- Streamline customer creation and monitoring
- Align company priorities
- Prioritize tickets



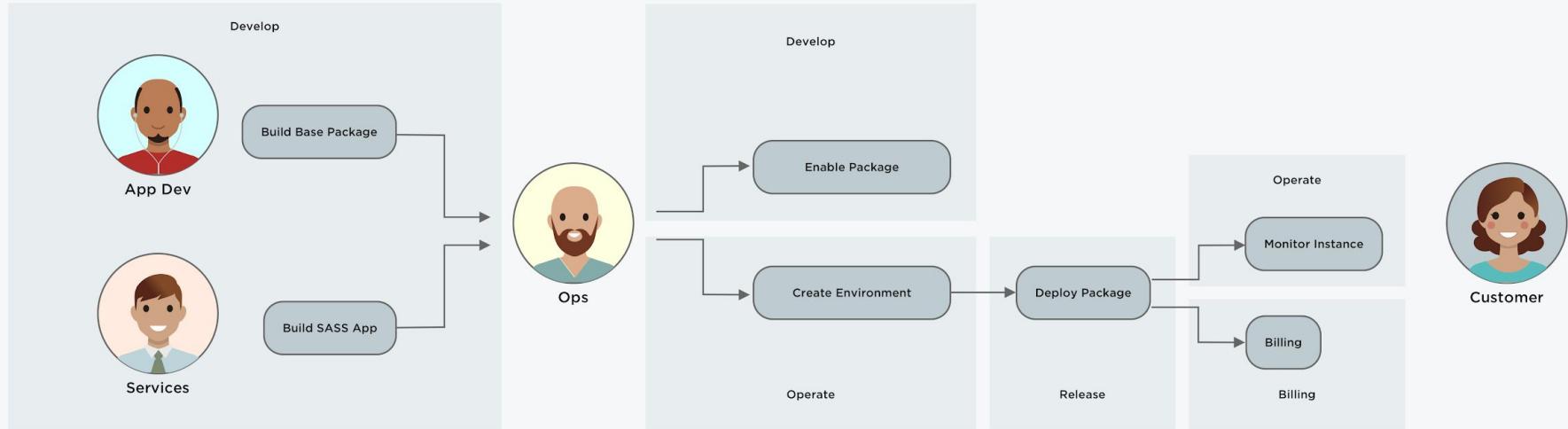
User Needs

Platform customers need a way to...

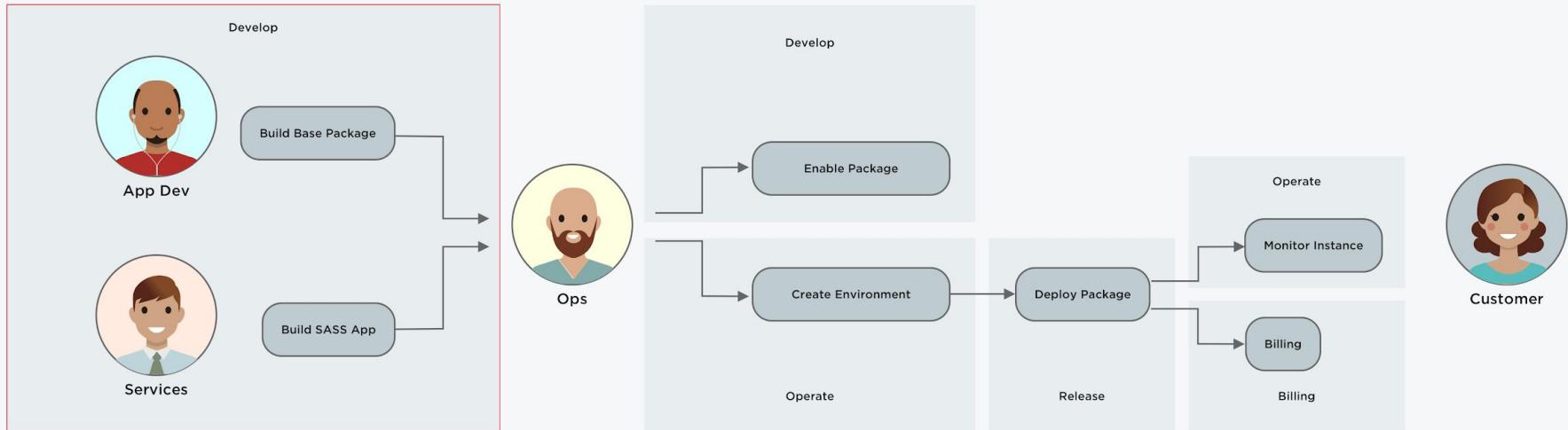
- Streamline customer creation and monitoring
- Align company priorities
- Prioritize tickets



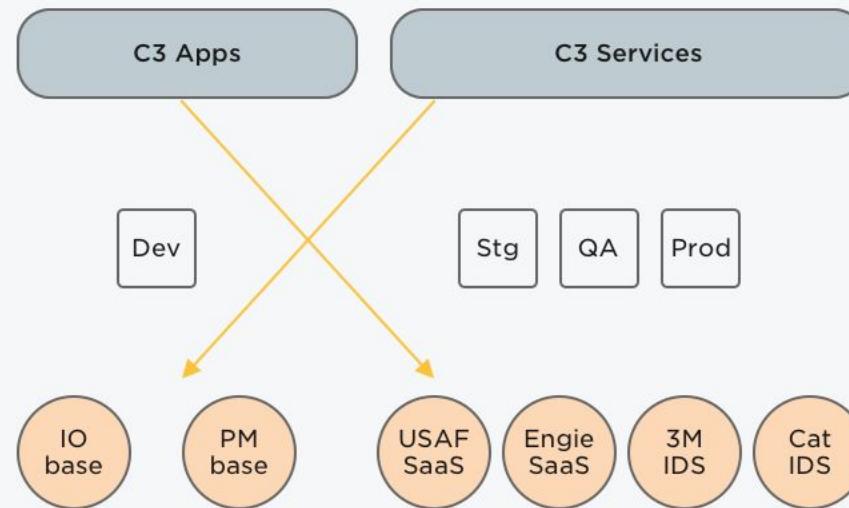
Bring down to current C3 Analytics Platform User Journey



What we're missing...

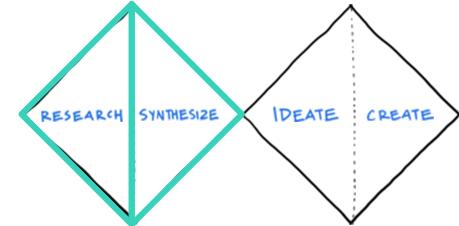


1 repo = 1 platform => risks accessing each other's code...

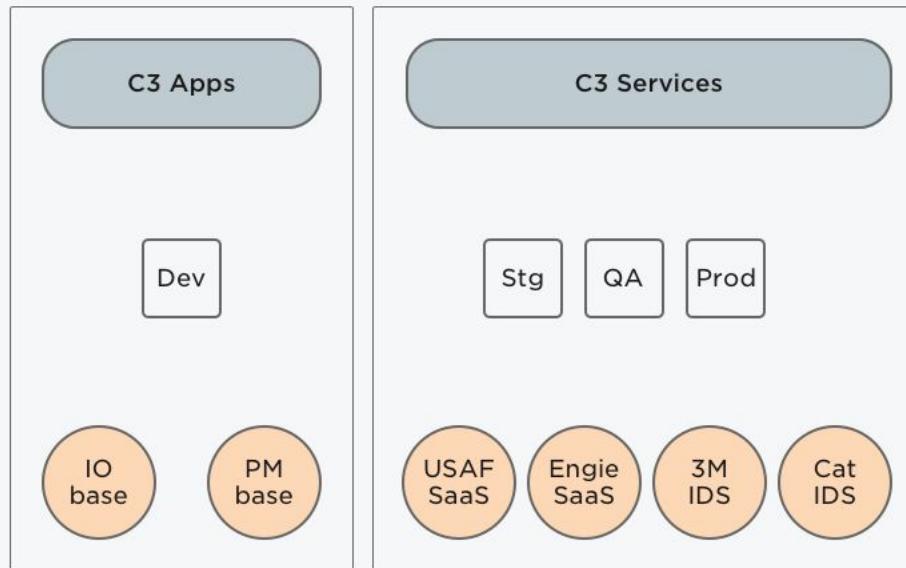
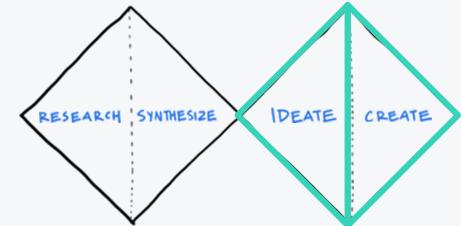


User Need 1

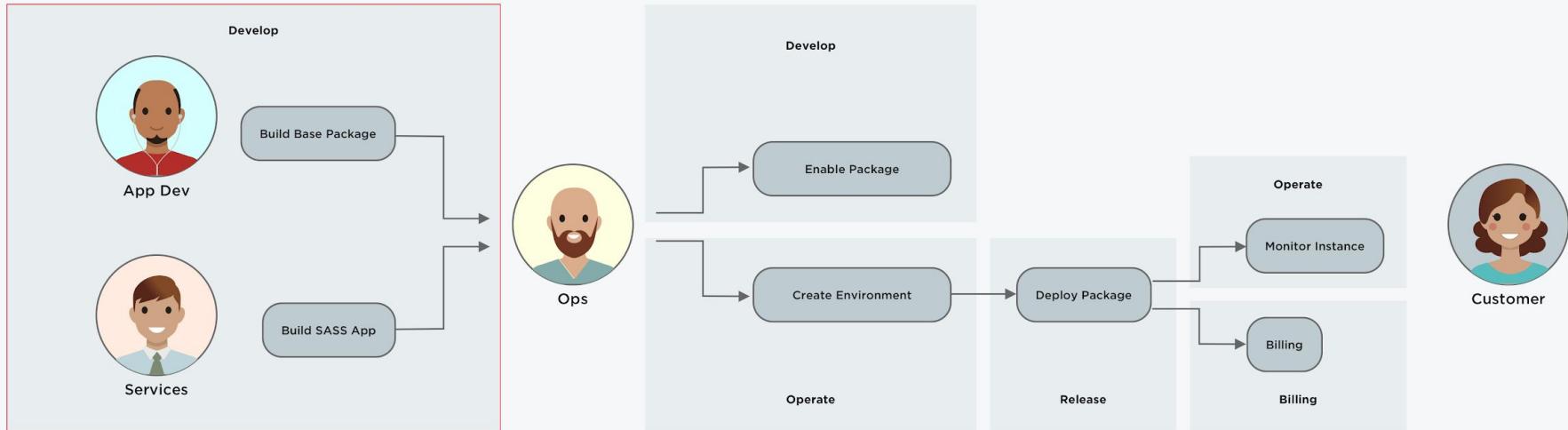
Platform customers need a way to enable enhanced **access control** so that **multiple teams** can work in IDS.



Space – Enable access control



Space





Add Space

Name

GitHub Repo

[Update github token](#)

Add

Cancel



Spaces

 Search...

Create Space

...

Name

Github

Services

<https://github.com/c3-e/c3customers>

Rows per page:

12

1-12 of many

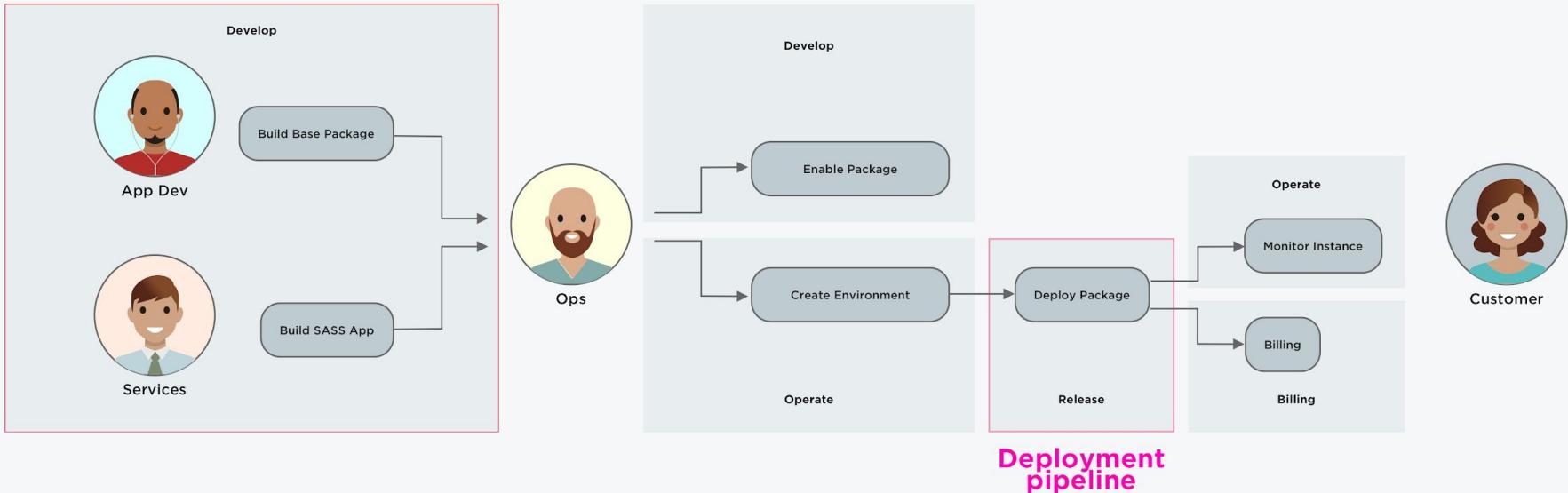
|< < 1 2 3 4 5 ... > >|



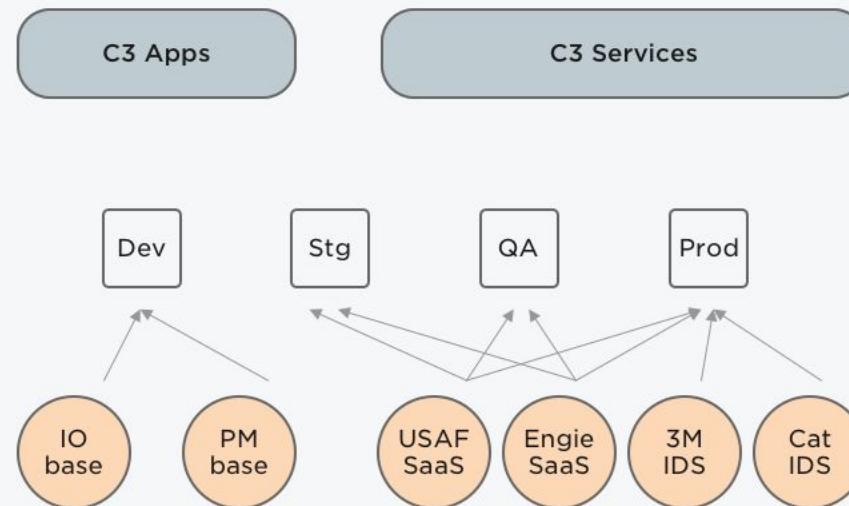
Spaces Value Add

- More scalable — Enable multiple teams to work in C3 platform
- Increased security and access control

Space

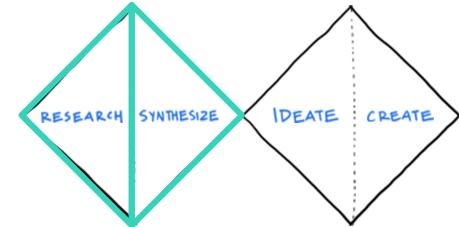


Map multiple envs to multiple pkgs

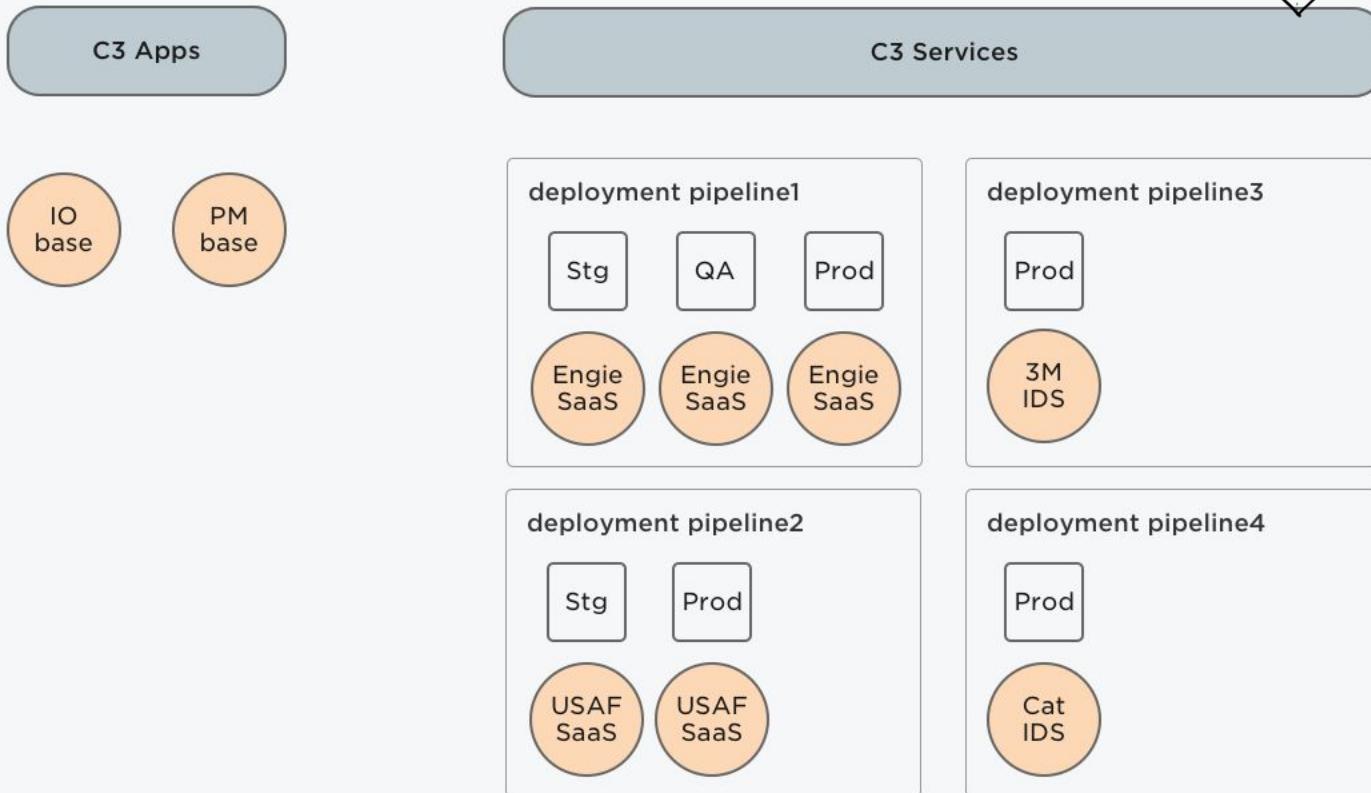
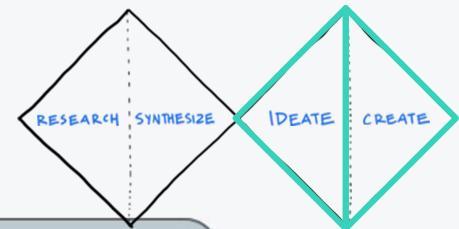


User Need 2

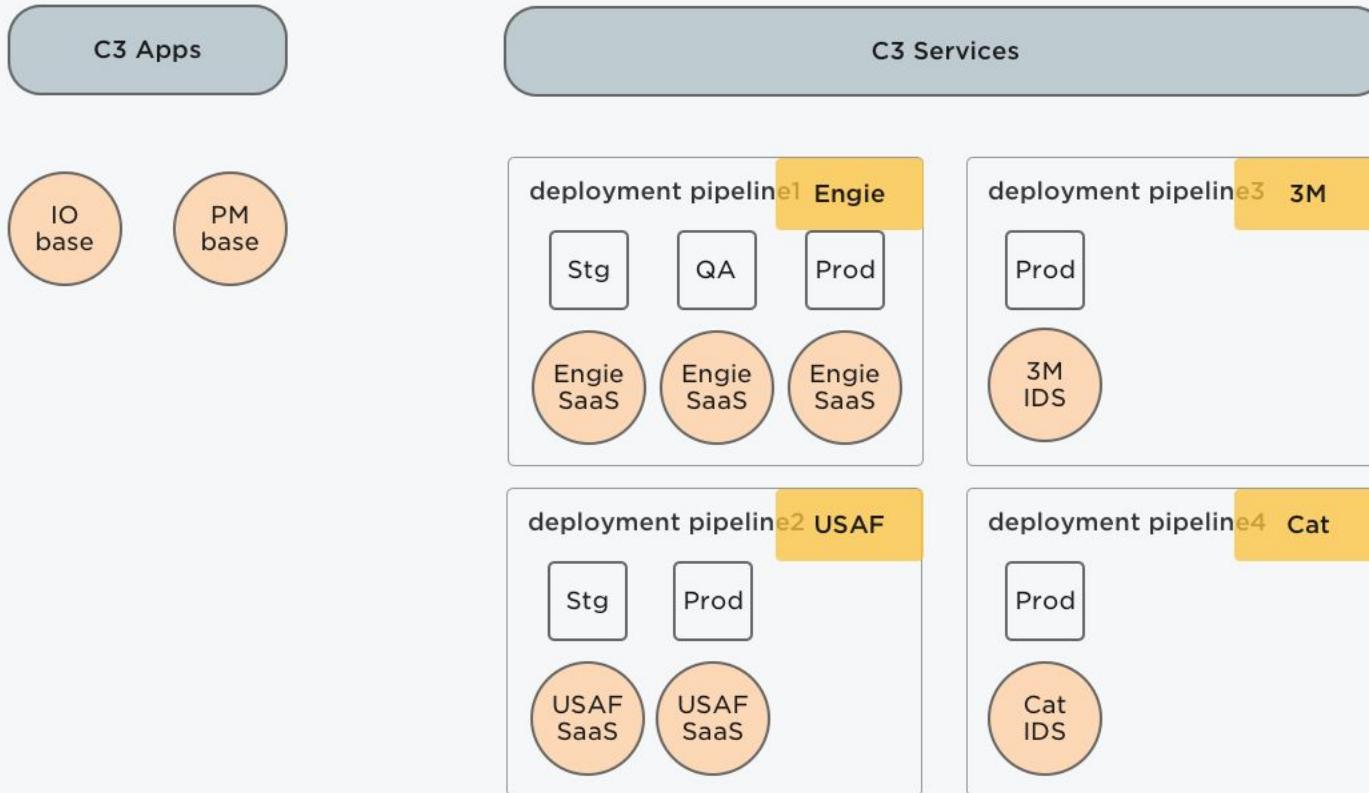
Platform customers need a way to
streamline package deployment
to multiple environments.



Deployment Pipeline



Enable Billing





Home



Develop



Release



Operate



Alerts



Docs



Marketplace



Customers



Configs



Support



Filter



Space

Pipeline

Package

All Deployment Pipelines

Create Deployment Pipeline



Deployment Pipeline/Packages



No deployment pipeline created

Create a deployment pipeline
to start deploying packages[Create Deployment Pipeline](#)[Filter](#)[Clear All](#)

Rows per page: 12 ▾ 1-12 of many

|◀ < 1 2 > ▶|



Create Deployment Pipeline

Pipeline Details

Name

Customer

Linked Packages (optional)

Pipeline Steps (Optional)

Step 1

[+ Step](#)[Create](#)[Back](#)



Create Deployment Pipeline

Pipeline Details

Name

Customer

Linked Packages (optional)

Pipeline Steps (Optional)

Step 1

Step 2

Step 3

[+ Step](#)[Create](#)[Back](#)



Filter



Space

All Spaces

Pipeline

Search...

Package

Search...

All Deployment Pipelines

+ Create Deployment Pipeline



Deployment Pipeline/Packages

Engie Pipeline

Staging

creating c3-staging-env...



QA

creating c3-qa-env...



Prod

creating c3-engie-prod-env...

Rows per page:

12

1-12 of many

|< < 1 2 > >|





Filter



Space

All Spaces

Pipeline

Search...

Package

Search...

All Deployment Pipelines

+ Create Deployment Pipeline



Deployment Pipeline/Packages

Engie Pipeline

Staging

c3-staging-env



QA

c3-qa-env



Prod

c3-engie-prod-env

Rows per page:

12

1-12 of many

|< < 1 2 > >|



Filter



Space

All Spaces

Pipeline

Search...

Package

Search...

All Deployment Pipelines

+ Create Deployment Pipeline



Deployment Pipeline/Packages

Engie Pipeline

Deploy Package



Staging

c3-staging-env



QA

c3-qa-env



Prod

c3-engie-prod-env

Rows per page:

12



1-12 of many

|< < 1 2 > >|





Deploy Package

Engie Pipeline

Package Name

Engie Energy Management

Version

5.1

Deploy

Back



Filter



Space

All Spaces

Pipeline

Search...

Package

Search...

All Deployment Pipelines

+ Create Deployment Pipeline



Deployment Pipeline/Packages

Engie Pipeline

Staging

c3-staging-env

QA

c3-qa-env

Prod

c3-engie-prod-env

Engie Energy Mgt V5.1

6/29/2018, 08:48:41 pm

Filter

Clear All

Rows per page:

12

1-12 of many

< 1 >



Filter



Space

All Spaces

Pipeline

Search...

Package

Search...

All Deployment Pipelines

Create Deployment Pipeline



Deployment Pipeline/Packages

Engie Pipeline

Staging

c3-staging-env



QA

c3-qa-env



Prod

c3-engie-prod-env

Engie Energy Mgt V5.1

6/29/2018, 08:48:41 pm



View Build Details

View Environment Details

Promote

Rollback

Delete

Rows per page:

12

1-12 of many

< > 1 2



Filter



Pipeline

 Search...

Package

 Search...

Space

All Spaces

All Deployment Pipelines

[+ Create Deployment Pipeline](#)

Deployment Pipeline/Packages ▾

Engie Pipeline

Staging

c3-staging-env



QA

c3-qa-env



Prod

c3-engie-prod-env

Engie Energy Mgt V5.1

6/29/2018, 08:48:41 pm

Engie Energy Mgt V5.1

6/4/2018, 05:45:21 pm

Engie Energy Mgt V5.1

6/4/2018, 05:45:21 pm

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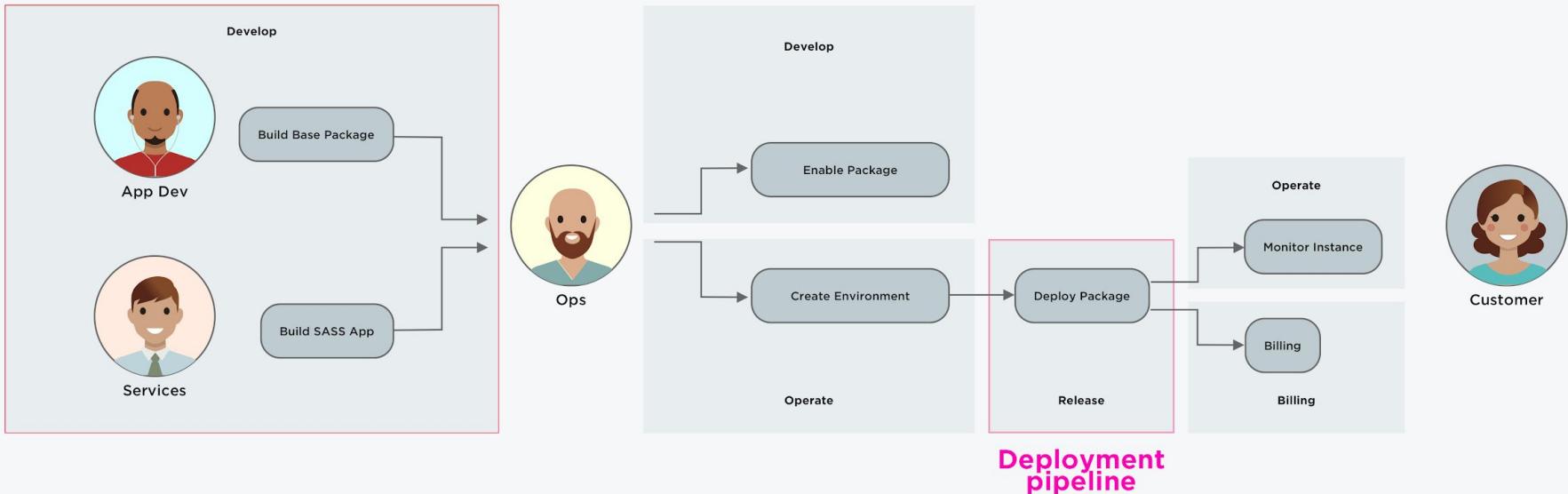
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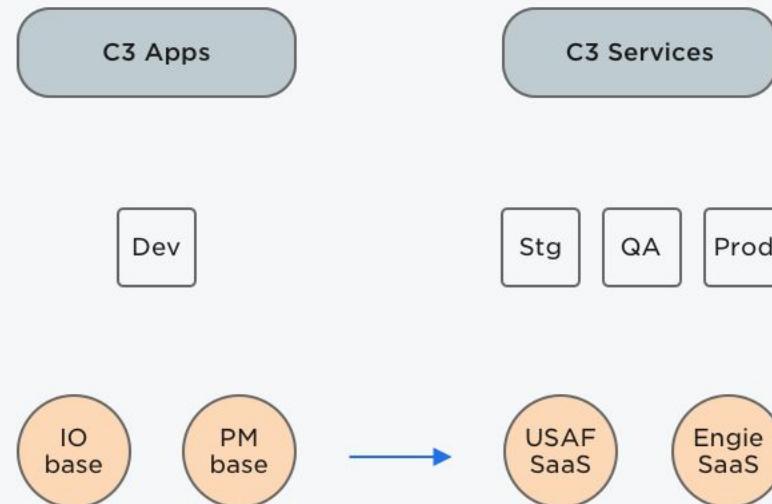
Deployment Pipelines Value Add

- Enhance flexibility and robustness of package deployment
- Enable billing
- Enable ownership management

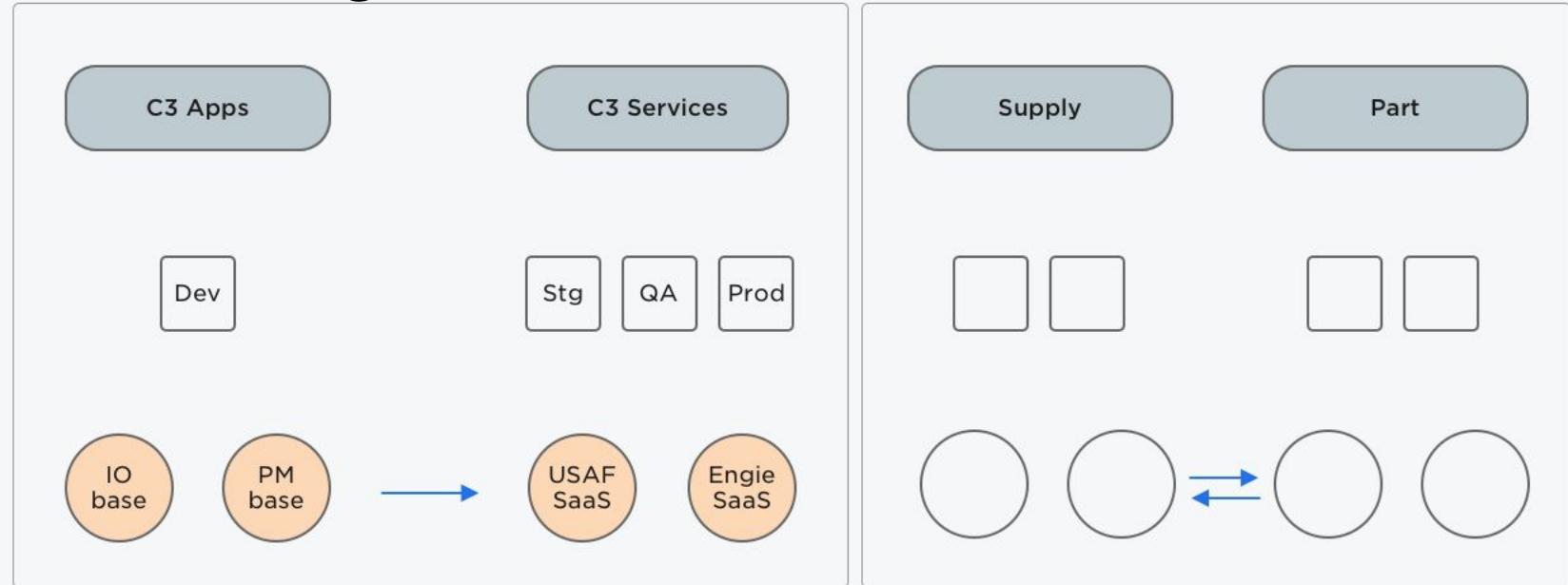
Space



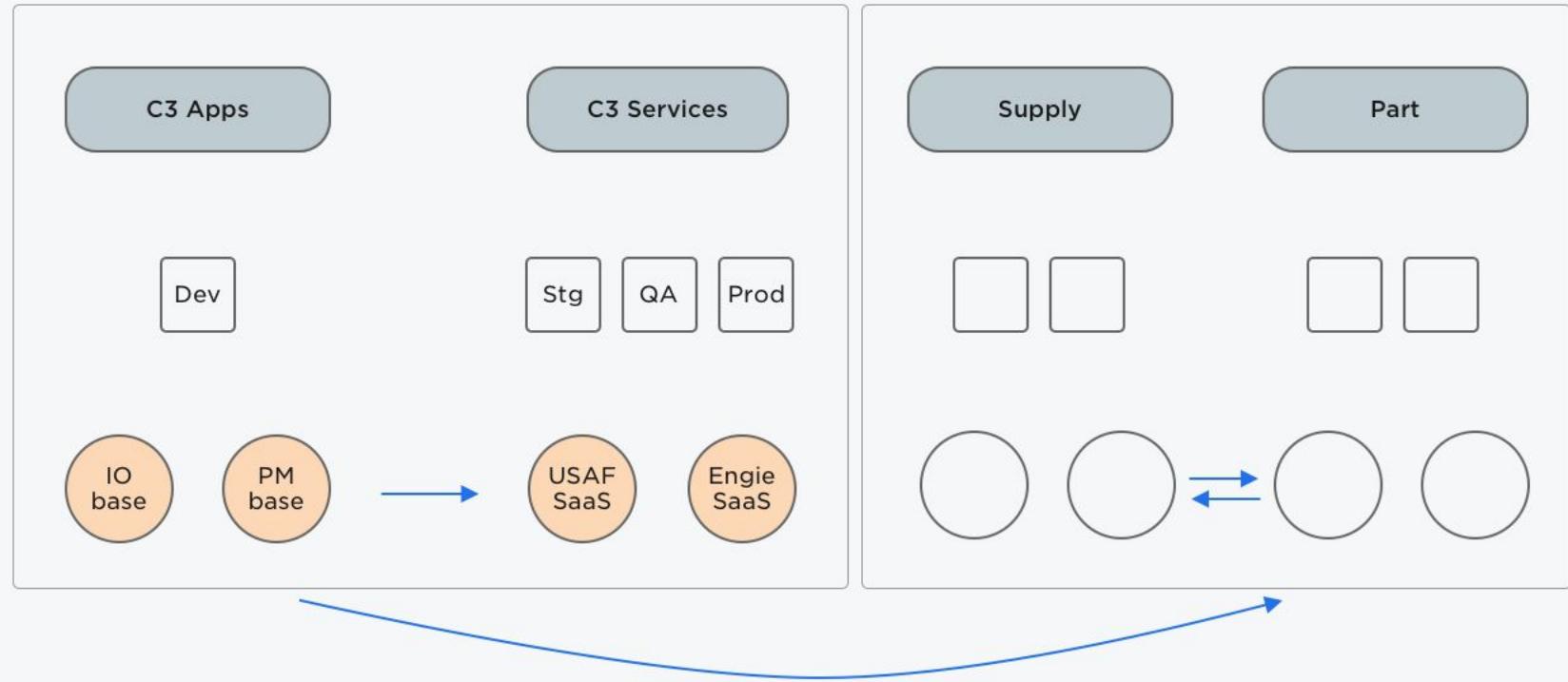
In C3, the Services team uses packages developed by the Apps team



Similarly, Engie might want to share packages between orgs

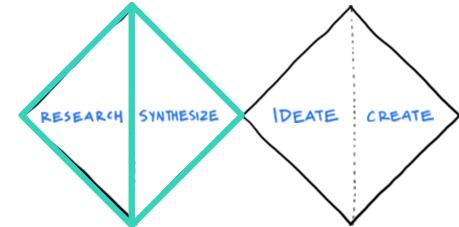


And use C3 base packages

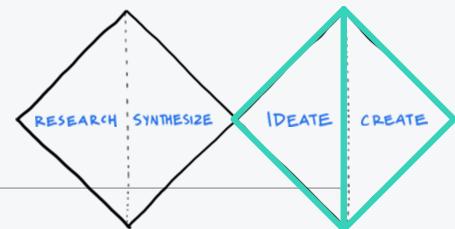
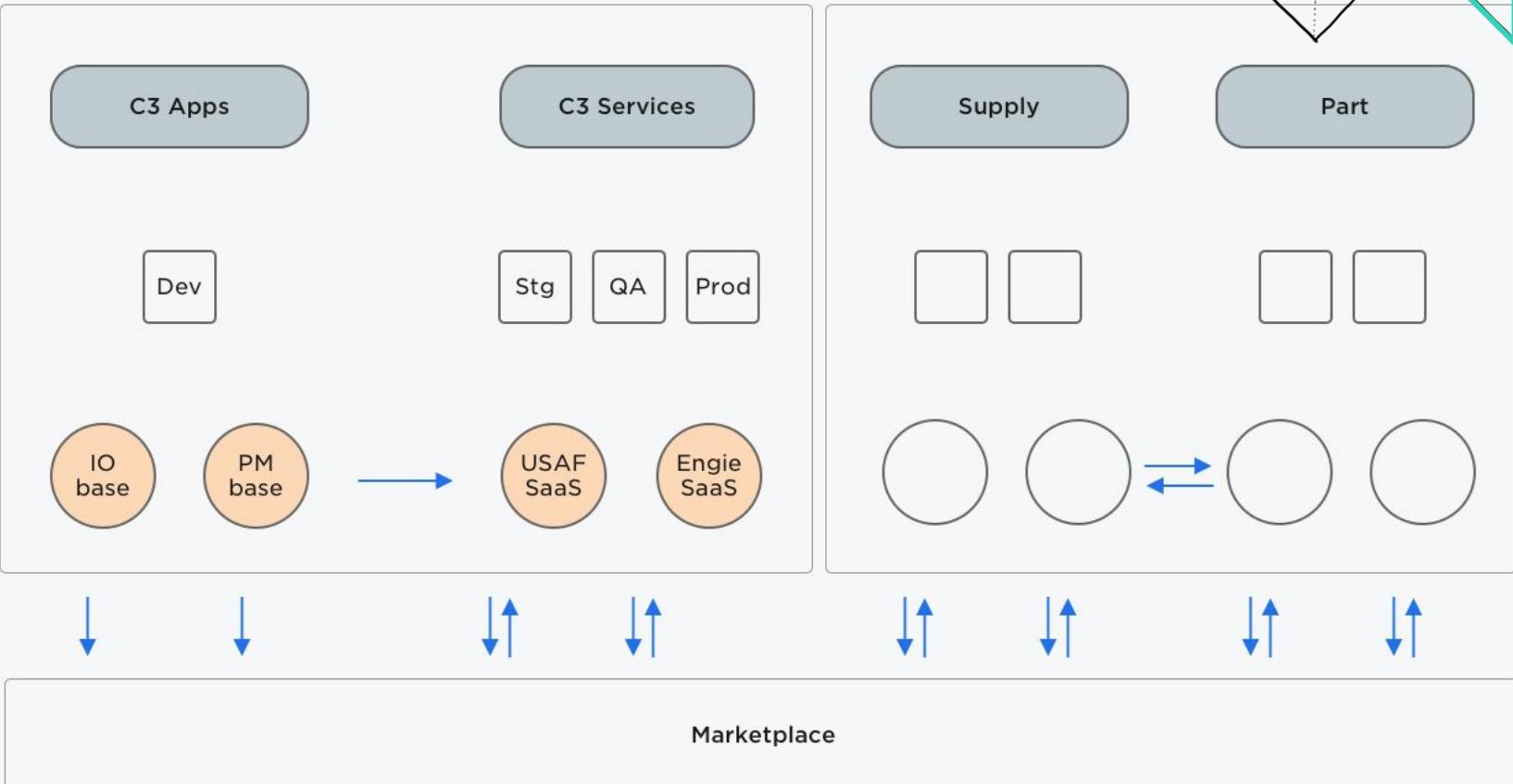


User Need 3

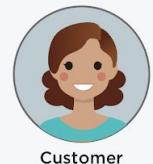
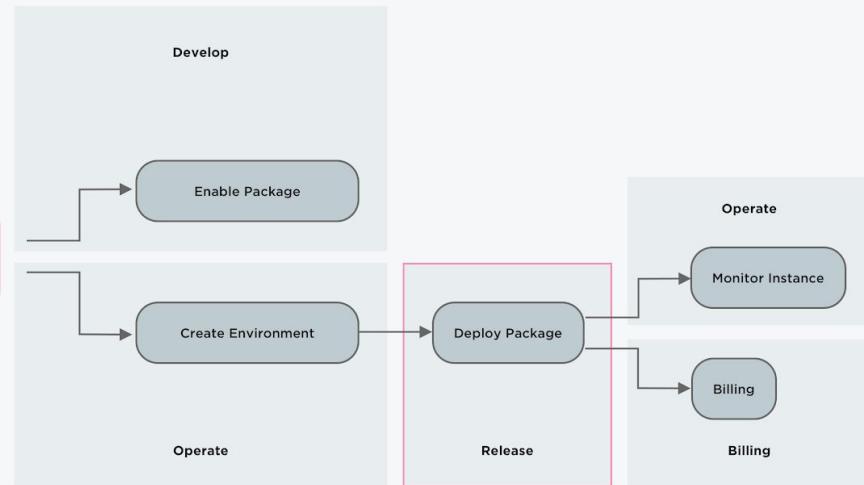
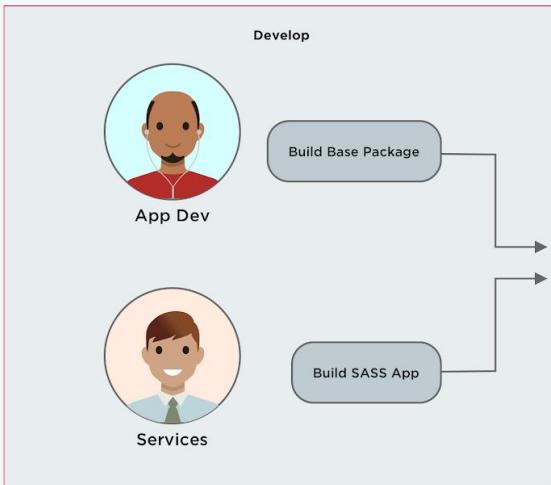
Platform customers need a way to
streamline package management.



Marketplace



Space



Deployment
pipeline



Filter



Package

 Search...

Category

- Business Intelligence
- Visualization
- Machine Learning APIs
- Data Catalog

Vendor

- 3M
- C3
- Caterpillar
- Enel

[See more...](#)

Is available

- Yes
- No

[Filter](#)[Clear All](#)

Packages

 Search...

...

Name	Version	Description	Publisher	Ratings
Ocelot	2.1	Donec facilisis tortor ut augue lacinia, at viverra est semper.	C3	 34
ML Studio	5.5	Donec facilisis tortor ut augue lacinia, at viverra est semper.	3M	 34
Ocelot	3.2	Donec facilisis tortor ut augue lacinia, at viverra est semper.	ENEL	 34
Inventory Optimization	2.5	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Pella	 34
Energy Management	3.2	Donec facilisis tortor ut augue lacinia, at viverra est semper.	BGE	 34
Energy Management	5.5	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Caterpillar	 34
Data Studio	3.2	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Avnet	 34
Energy Management	5.5	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Avnet	 34
Data Studio	3.5	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Con Edison	 34
ML Studio	4.3	Donec facilisis tortor ut augue lacinia, at viverra est semper.	Con Edison	 34
Predict Maintenance	7.1	Donec facilisis tortor ut augue lacinia, at viverra est semper.	ENEL	 34
Inventory Optimization	4.2	Donec facilisis tortor ut augue lacinia, at viverra est semper.	ENEL	 34

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< 1 2 3 4 5 ... >





Ocelot

★★★★★ 34 | Version 2.1 | Sold by C3

Jane Oliver has sent a request

[Purchase](#)

Ocelot is a commercial reporting and analytics server built for the C3 Platform that can run standalone or be embedded in your application. Create storylines comprising pivot charts, bar charts, line charts, pie charts, waterfalls and more. Pre-built connectors included for C3 Types, SQL Server, Oracle, MySQL, Postgresql, AWS RDS, Cassandra, MongoDB, AWS DynamoDB, Redshift, BigQuery and Azure Data Warehouse. Professional support is available from 3M Premium Support.

CATEGORY

Business Intelligence

COMPATIBLE PLATFORM VERSIONS

7.8, 7.9, 7.10, Orion

[Overview](#)

[Support](#)

[Reviews](#)

Quick Start Guide

STEP 1

Click the "Purchase" button. This makes this package available in all your environments.

STEP 2

Go to "Application Summary" page of the specific application you want to this package to. If you want to make this a standalone package, please create a new empty application and go to 'Application Summary' page of this new application.

STEP 3

Click on "Add Dependencies", add this package and click "Submit".

Pricing

SUBSCRIPTION FEE

\$35,700/month

RUNTIME FEE

\$1.78 /hour

Marketplace Value Add

- Accelerate C3's product release time
- Enable customers to gain revenue from C3 eco-system
- Incentivize innovation from broader C3 community

User Needs

~~Tech~~ Platform customer needs a way to...

- Streamline customer creation and monitoring
- ~~Align company priorities~~
- ~~Prioritize tickets~~
- Allow multiple teams to co-work in IDS with enhanced access control
- Streamline pkg deployment to multiple envs
- Streamline pkg management

From solving internal problem to all C3 customers' problem

We helped PM find a better solution with 10x impact.

Lessons Learned

Takeaway

- User Research
- Feedback
- Systems Thinking

User Research

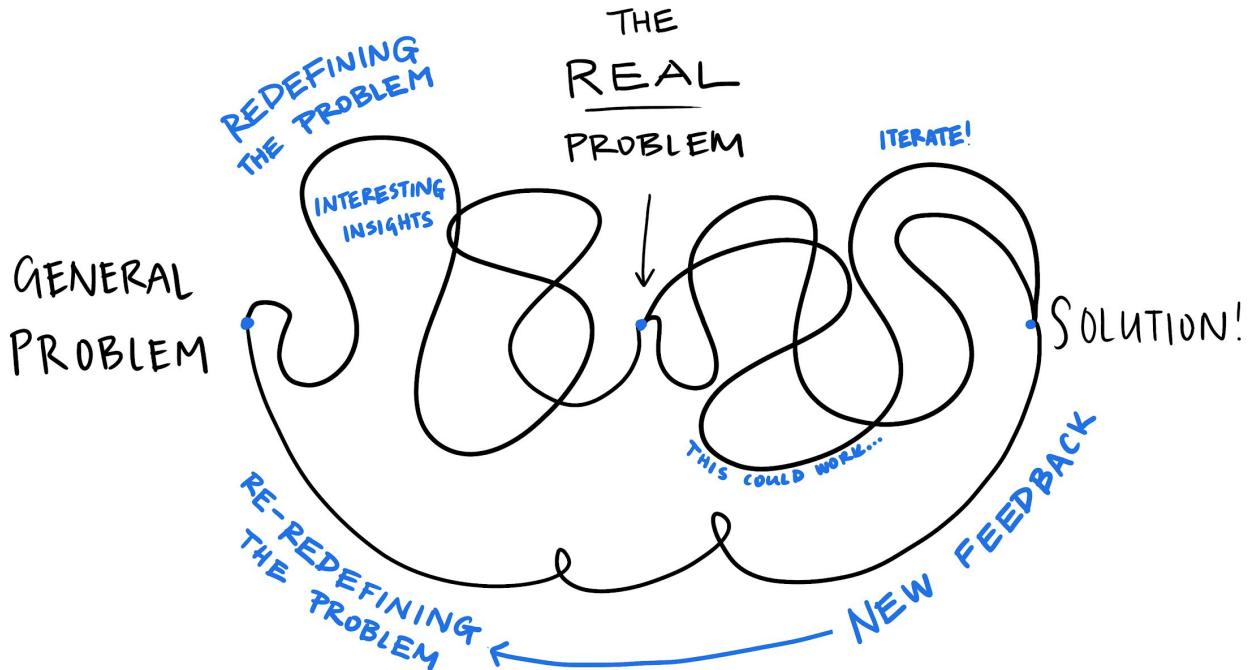
- Mixed method approach: observation vs. interview
- Understand current process, task workflows, user mental model
- Discover unknown user needs and pain points
- Learn user vocabulary

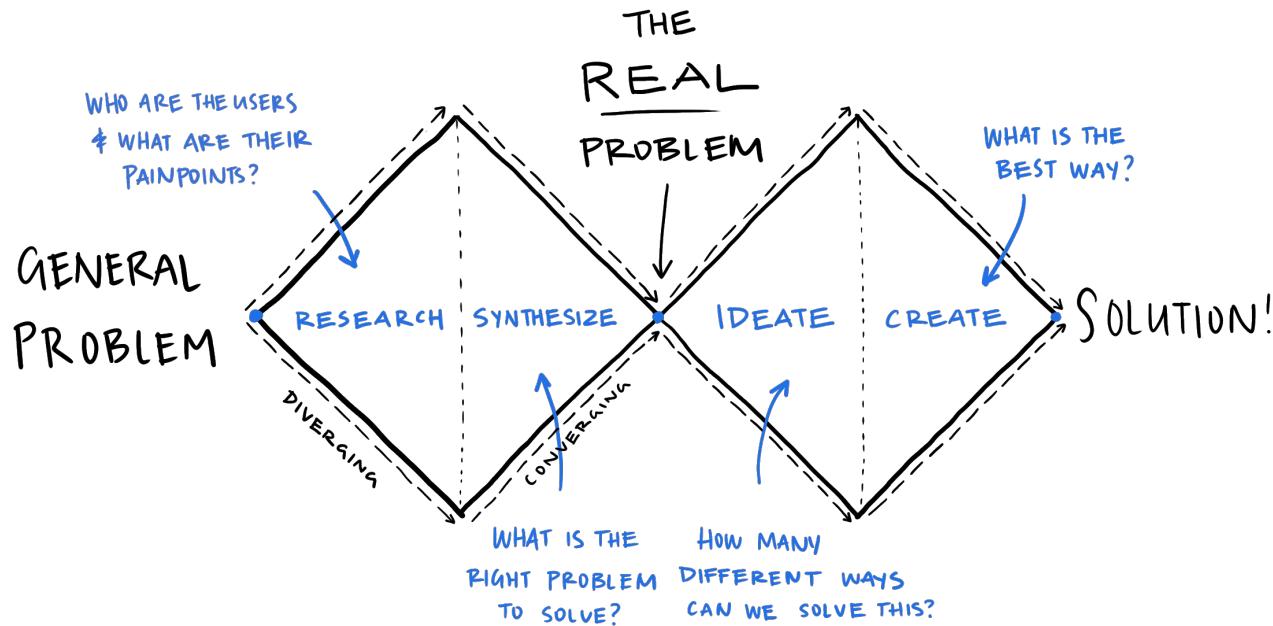
Feedback

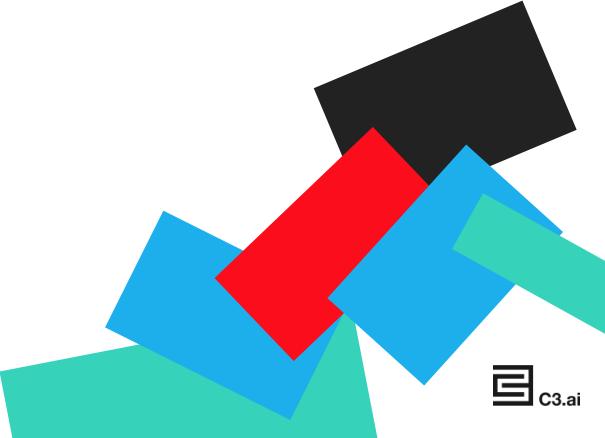
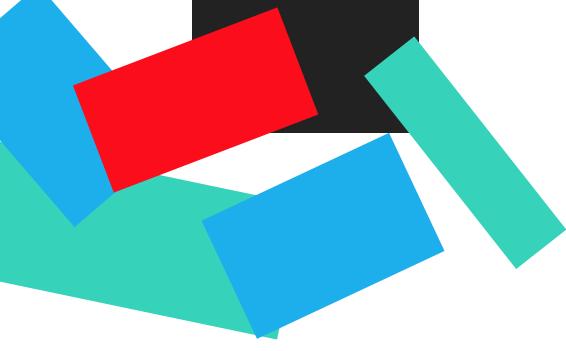
- Involve users early & often
- Sanity check — you are not the user
- Remember stakeholders too!

Systems Thinking

- Visualize complexity to help understand
- Consider one component's impact to broader ecosystem







Thank you