

# CUSTOMER FLIGHT JOURNEY TO CLOUD ENABLEMENT JOURNEY

Kenneth Lee – General Manager, IT Solutions  
Simon Lee – Infrastructure Engineer



# Cathay Pacific Group has over...



**30 departments**  
**70 destinations**  
**190 aircrafts**  
**1000 applications**

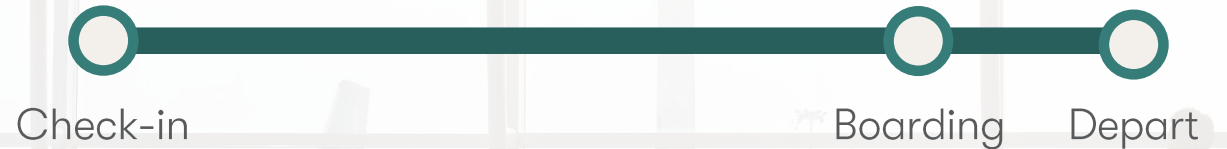
# FLIGHT JOURNEY



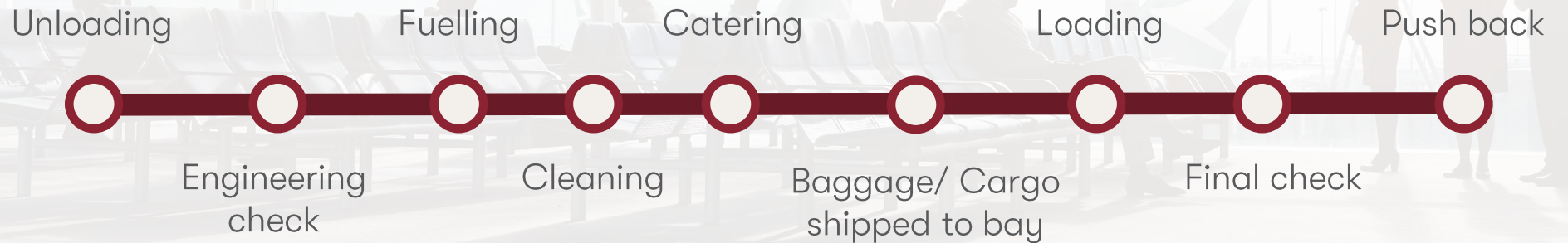
Ground Service Staff



Passenger



Ramp Operation Staff



# ABOVE THE WING



Ground Service Staff



Listen to the briefing items in the briefing room everyday



Gather scattered information from different systems



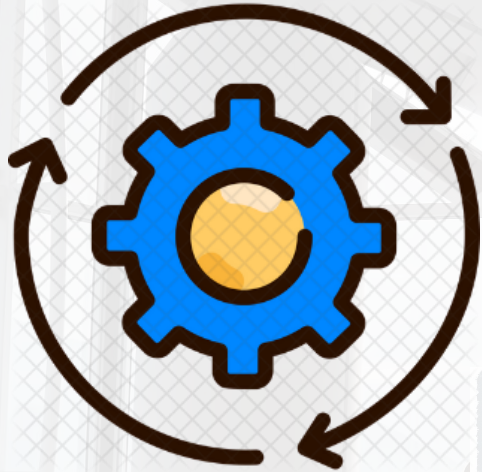
Walkie talkie used if there's any adhoc changes



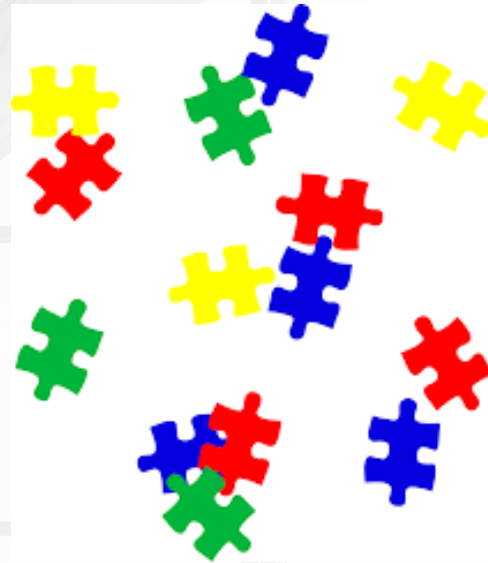
Paper report is filled and to be submitted in the office later

**PAST**

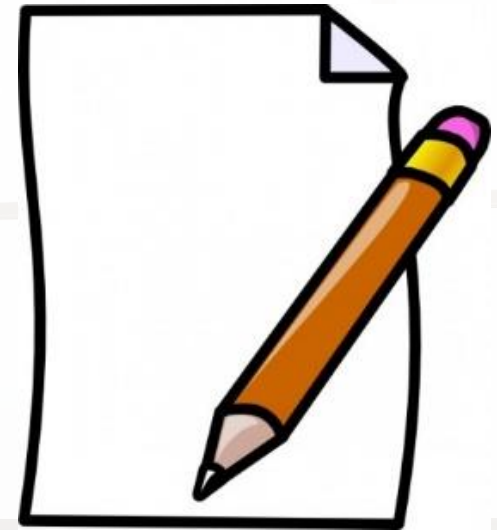
# ABOVE THE WING



Repetitive  
Manual Work



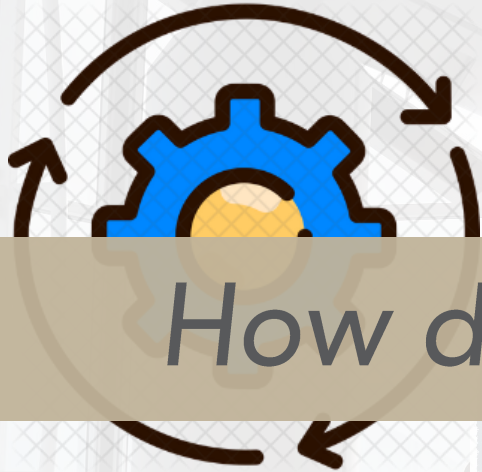
Scattered  
Information



Pen & Paper  
Working

**PAIN POINTS**

# ABOVE THE WING



*How digital transformation helps?*

Repetitive  
Manual Work

Scattered  
Information

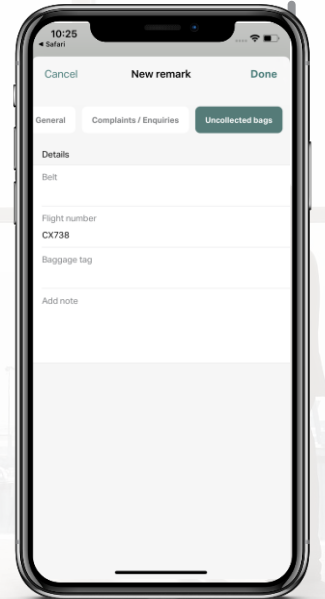
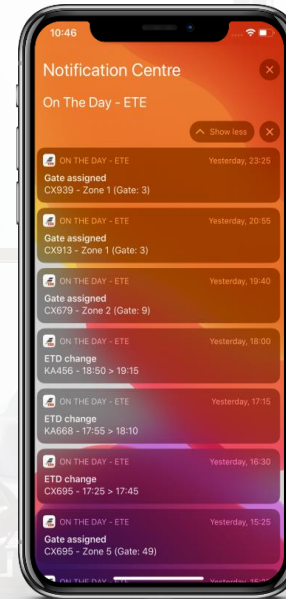
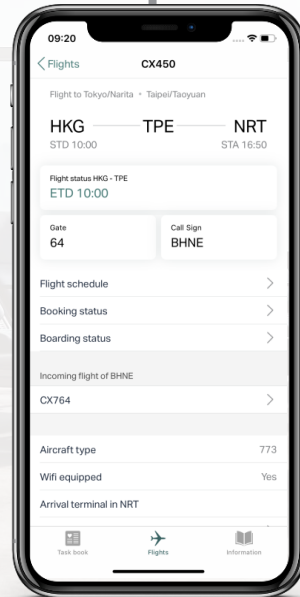
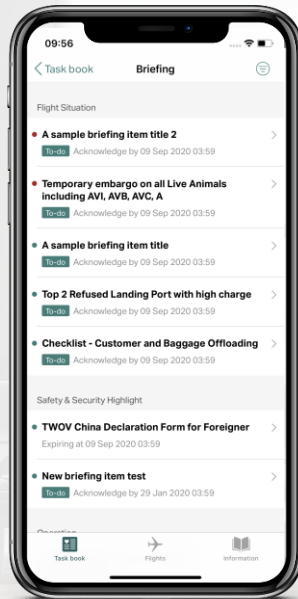
Pen & Paper  
Working

**PAIN POINTS**

# ABOVE THE WING



Ground Service Staff



# ON THE DAY APP



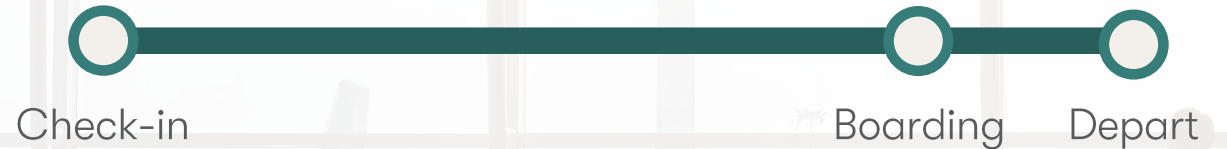
# FLIGHT JOURNEY



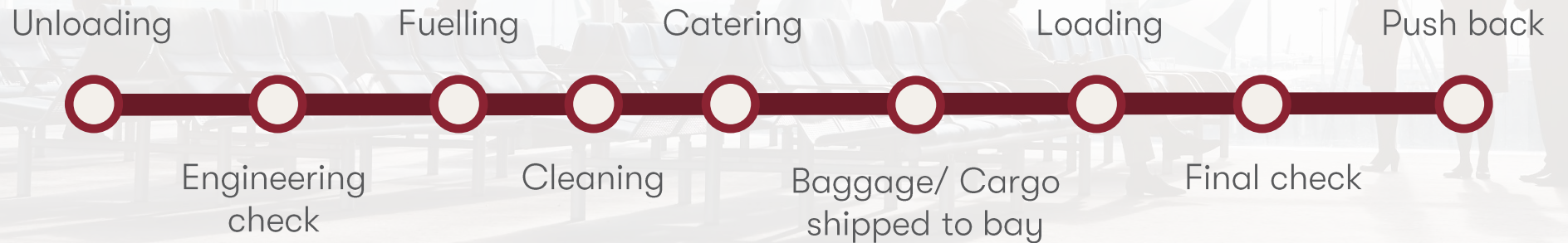
Ground Service Staff



Passenger



Ramp Operation Staff





# BELOW THE WING



# BELOW THE WING



Follow up with service provider  
**Congested ramp activities**



Report  
**Manual coordination**

Make decision

## PAIN POINTS

# BELOW THE WING



*How digital transformation helps?*

Follow-up with service provider

Congested ramp activities



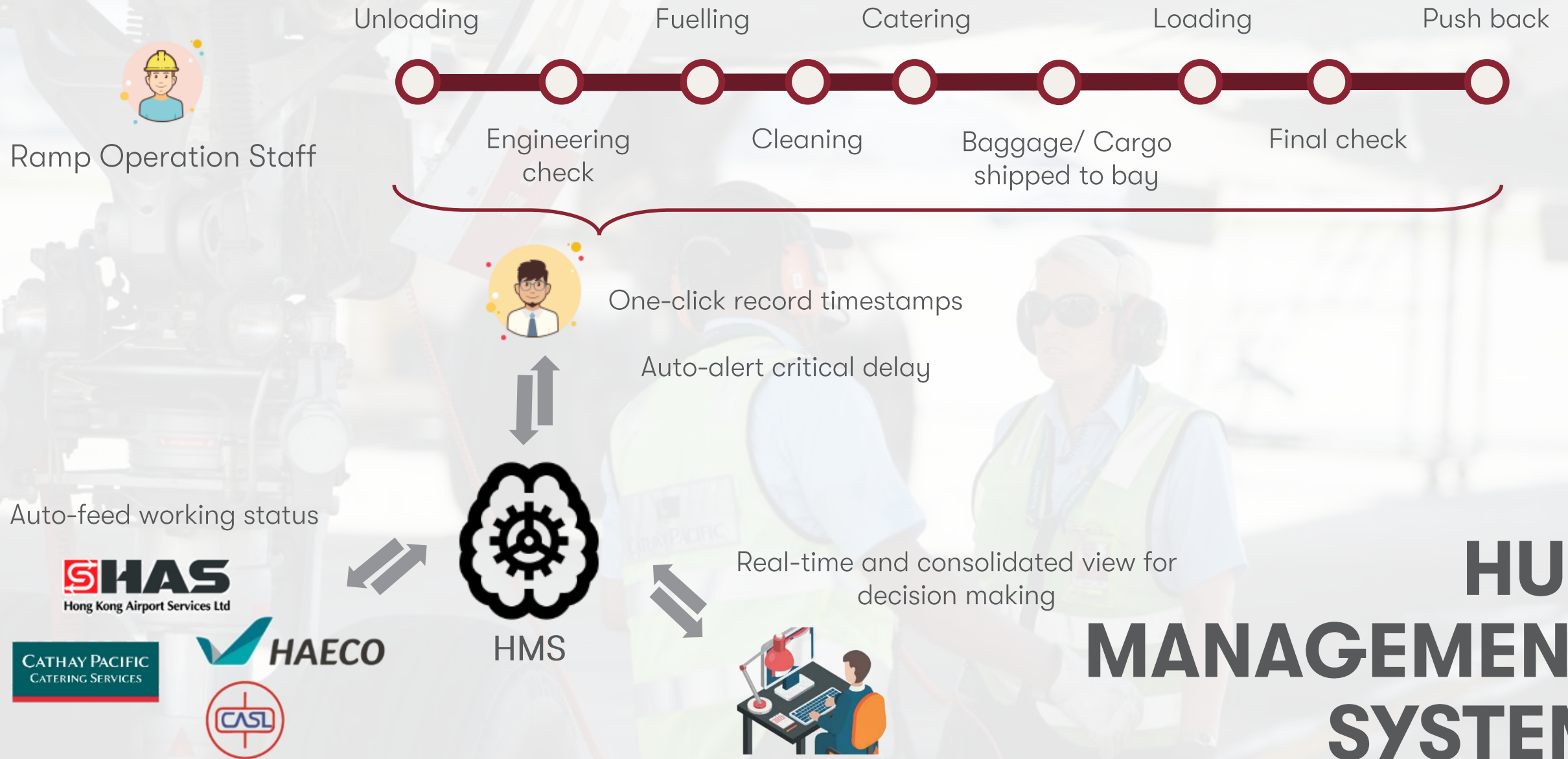
Manual coordination



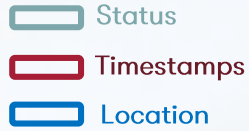
Make decision

## PAIN POINTS

# BELOW THE WING



# AIRPORT DIGITAL BLUEPRINT



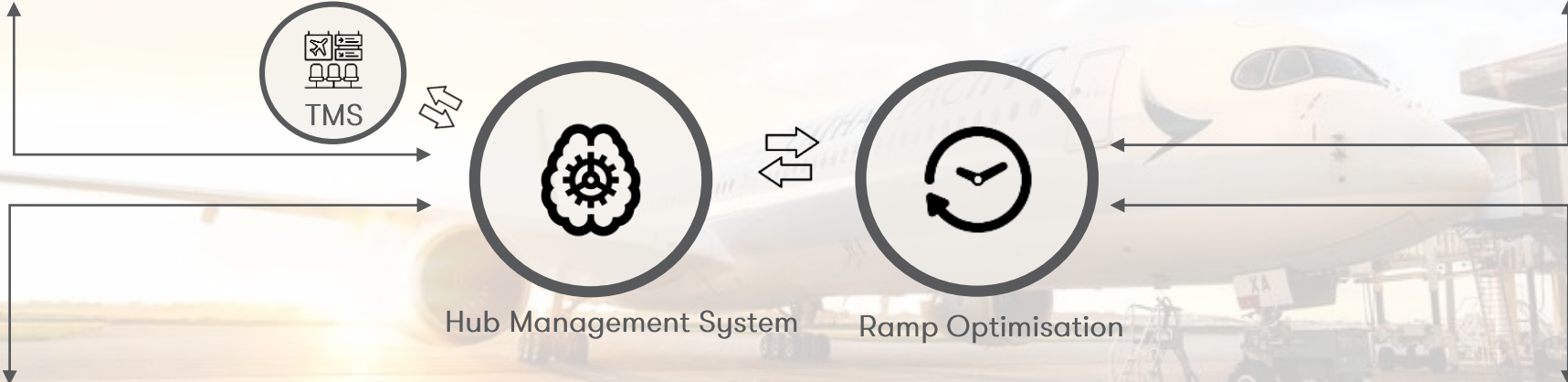
Above wing

**Status**

- On-the-day app
- Roster Optimisation
- Lounge Mobile Enhancement
- Work Automation

**Timestamps**

- AA Partnership



Below wing

**Location**

- Equipment GPS

**Status**

- Baggage Engine
- CPCS Digitisation
- Mobile Load

**Timestamps**

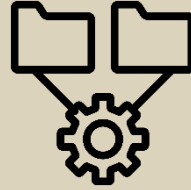
- A-CDM Data Feed

IT Architecture

# VISION



Digitally Enabled  
Work Experience



Automate Low Value,  
Repetitive Task



Enhanced Information  
Visibility

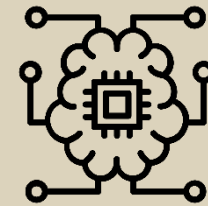


Digitally Enabled  
Ecosystem

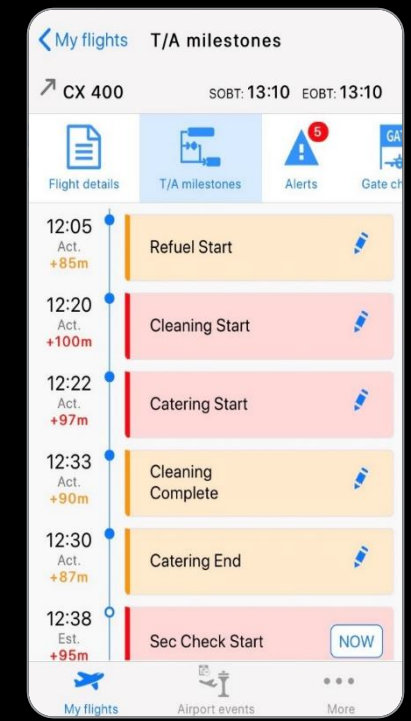
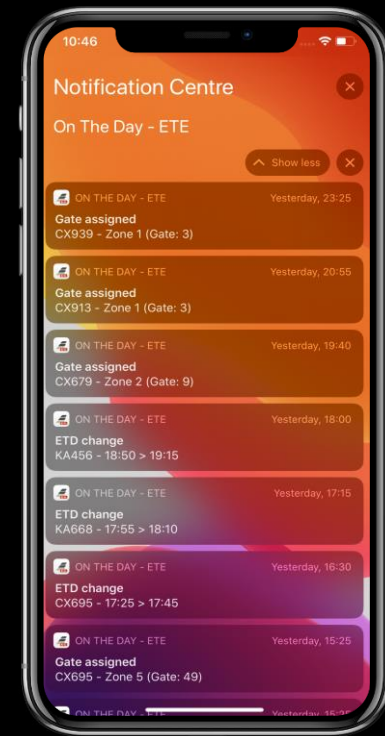
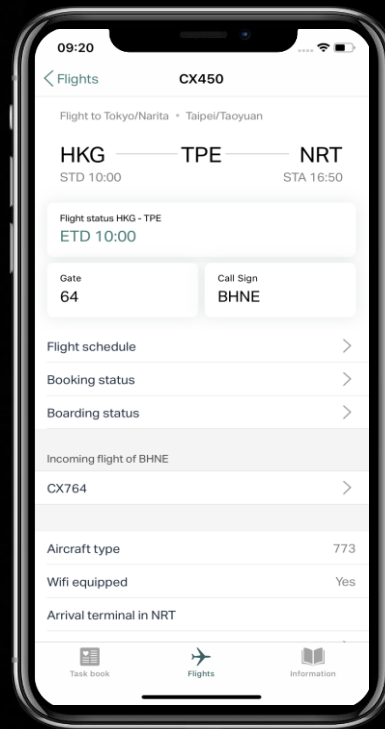
Hub



New Hub  
Operation Model



Advanced Resources  
Orchestration



# DIGITAL TRANSFORMATION

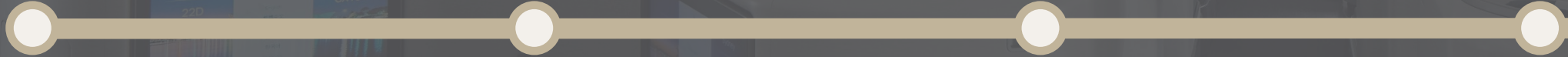
# CLOUD ENABLEMENT JOURNEY

Move to  
Public Cloud

Digital  
Transformation

Traditional IT  
Infrastructure

Establish  
DevOps





# CLOUD ENABLEMENT JOURNEY

Traditional IT Infrastructure





**TO BUILD**



**TO BUY**



**TO BUILD**



**TO BUY**

*Why build a house when you can buy?*

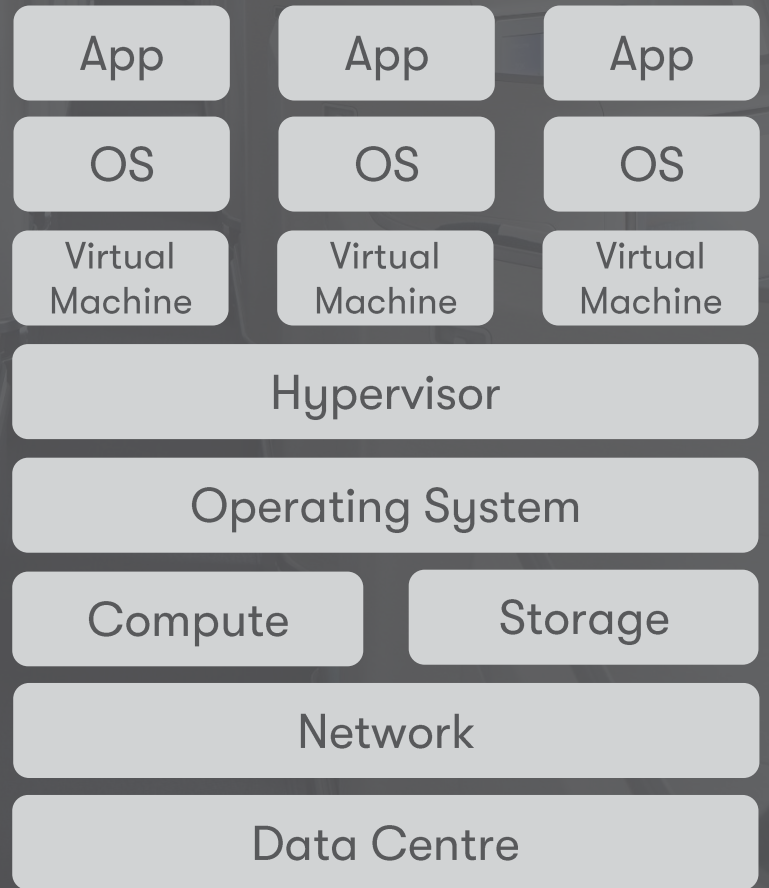
# CLOUD ENABLEMENT JOURNEY

Move to  
Public Cloud



# CLOUD ENABLEMENT JOURNEY

Move to  
Public Cloud



# CLOUD ENABLEMENT JOURNEY

Move to  
Public Cloud



# CLOUD ENABLEMENT JOURNEY

Move to  
Public Cloud



App

App

App

OS

OS

OS

Virtual  
Machine

Virtual  
Machine

Virtual  
Machine

# CLOUD ENABLEMENT JOURNEY



Establish  
DevOps

Hello VERA!





07 Oct 09:10

Hi, I'm Vera, your non-human chatbot assistant. I'm here to answer questions about your upcoming journey with **Cathay Pacific** or **Cathay Dragon**

To help me better assist you, please

- Choose from **the option buttons** whenever possible
- Or ask **short and simple questions** e.g. Can I bring pets?

What would you like to ask me about?

Baggage allowance

Flight status

Check-in counter



Vera chatbot assistant

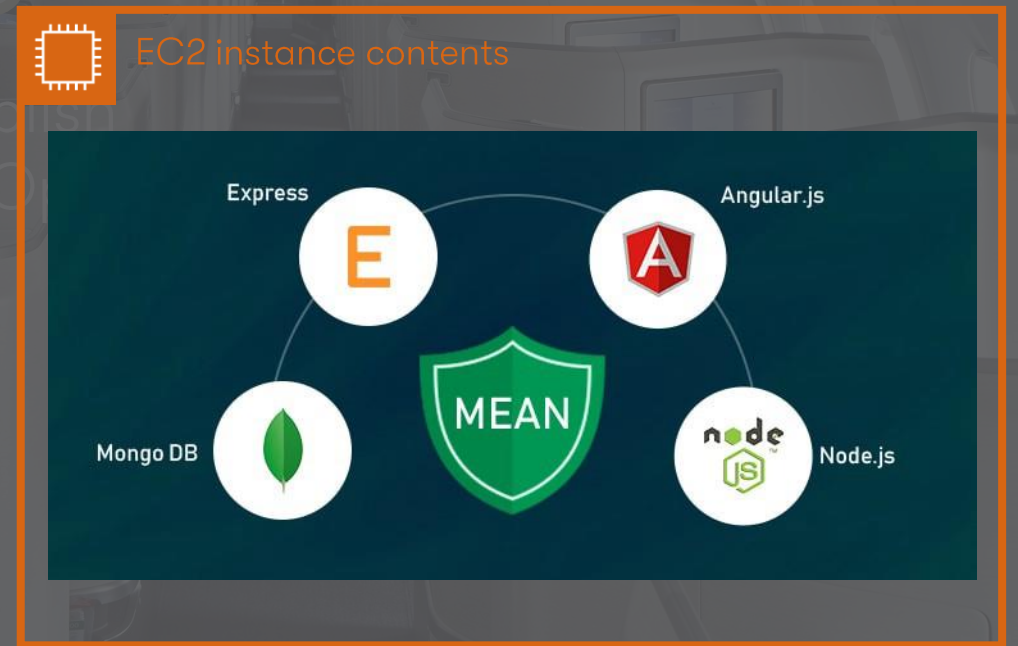
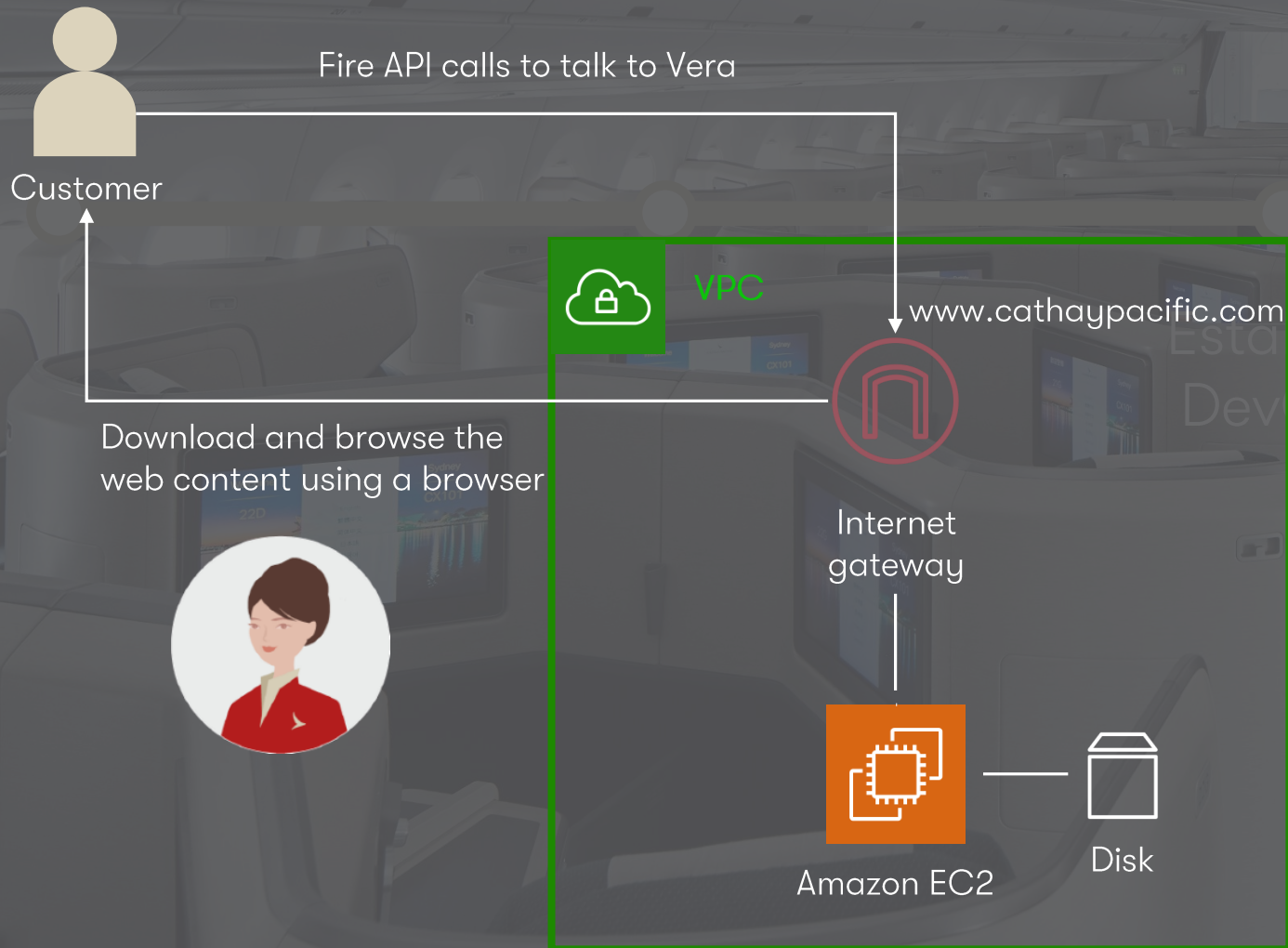
Cathay Pacific

Welcome to the chat. Our chatbot assistant Vera can help you with enquiries about baggage allowance, extra baggage charges and flight status for your upcoming trip with **Cathay Pacific** or **Cathay Dragon**.

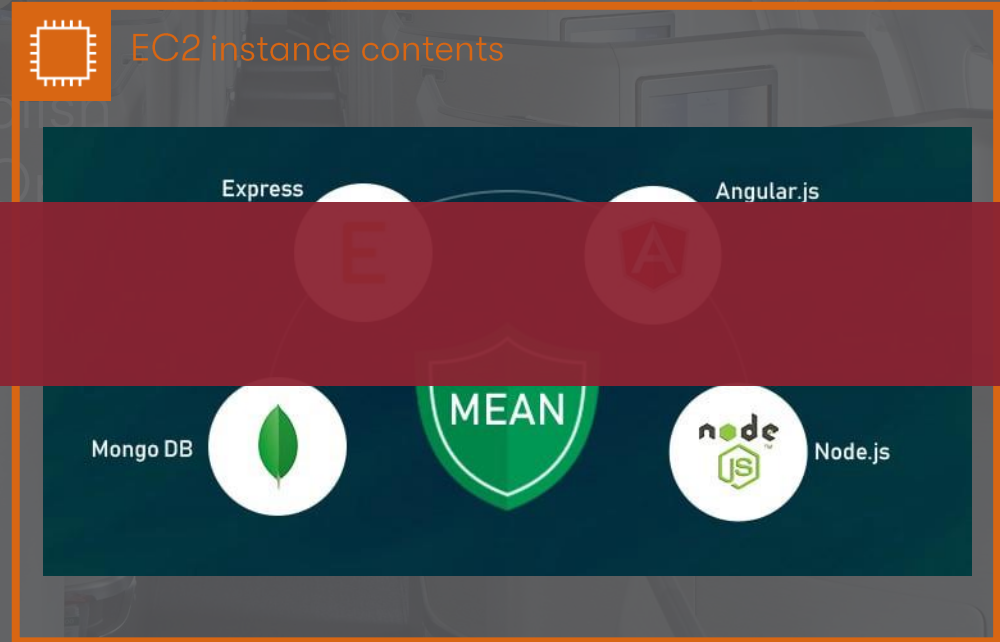
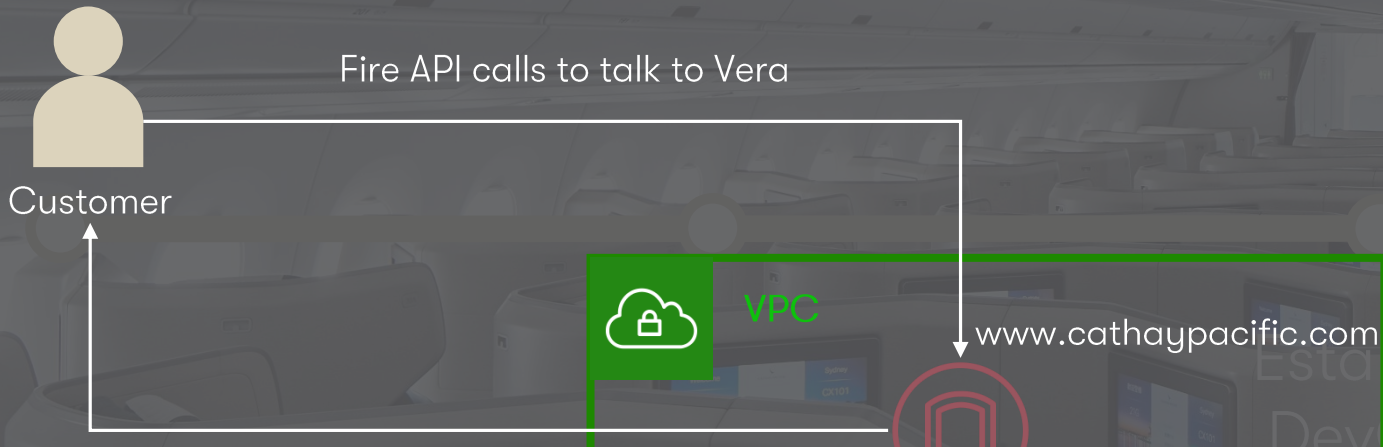
Simply select from the **options buttons** or **input short sentences** to start your query.

Type your message

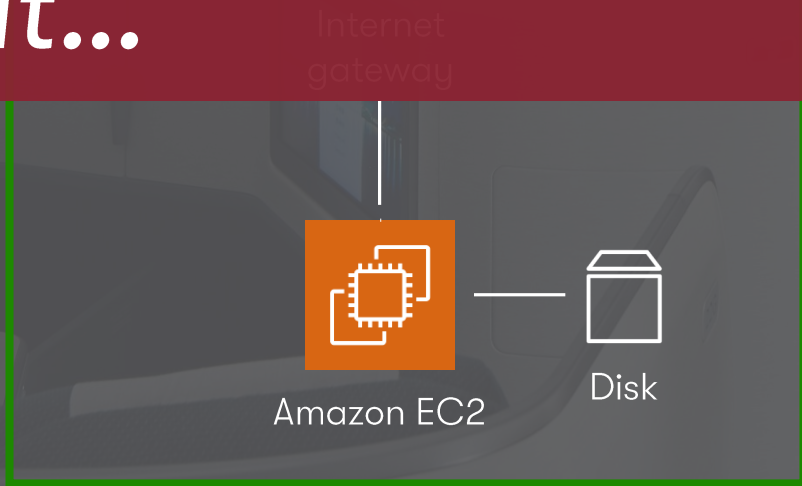
SEND



VERA



It works! But...



VERA

# How to deploy a new version of application?

Install the libraries on your laptop

Copy the deployment package to the server

Run unit test

Stop the old running application instance

Start the new application instance

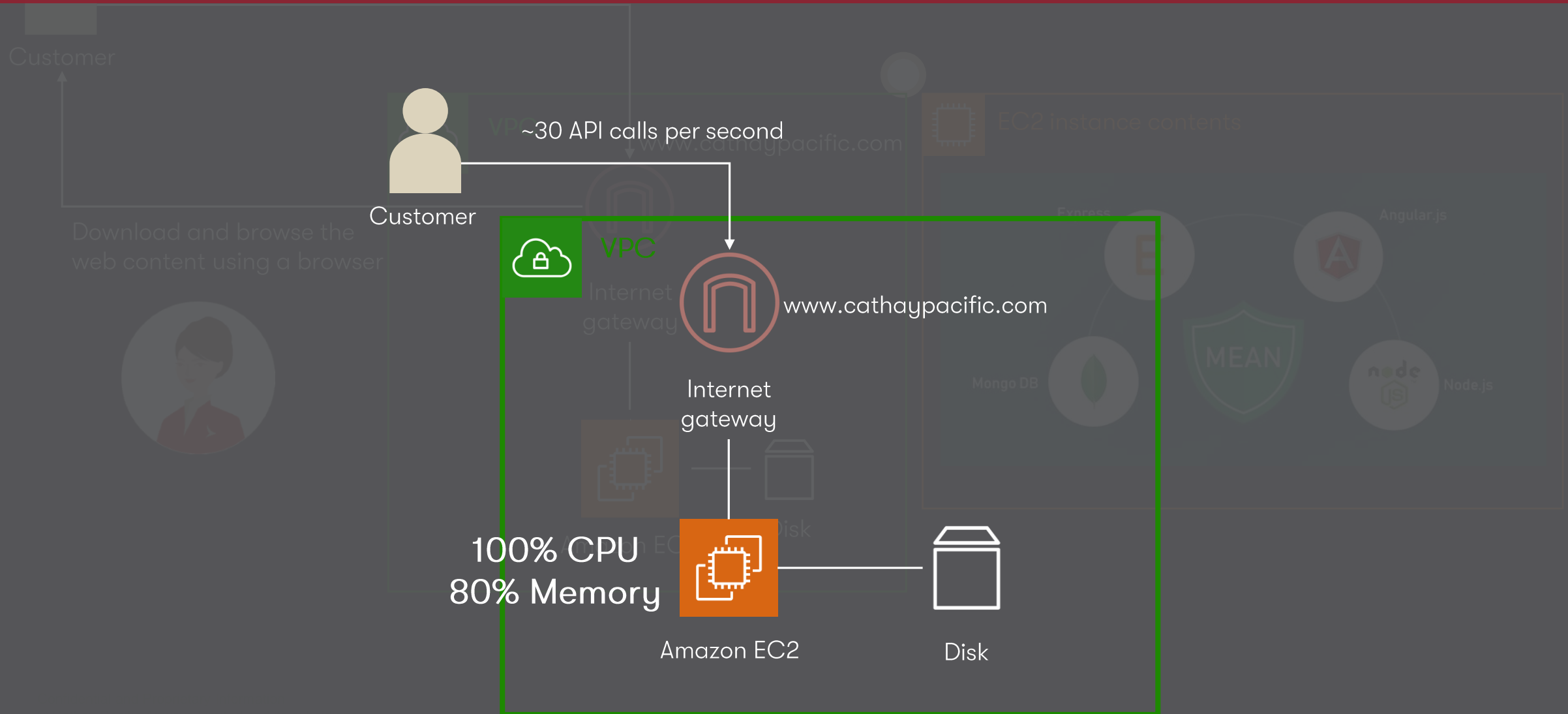
How can you make sure the environment config is the same? E.g. environment variables, os config, etc.

How do separate the testing and production data?

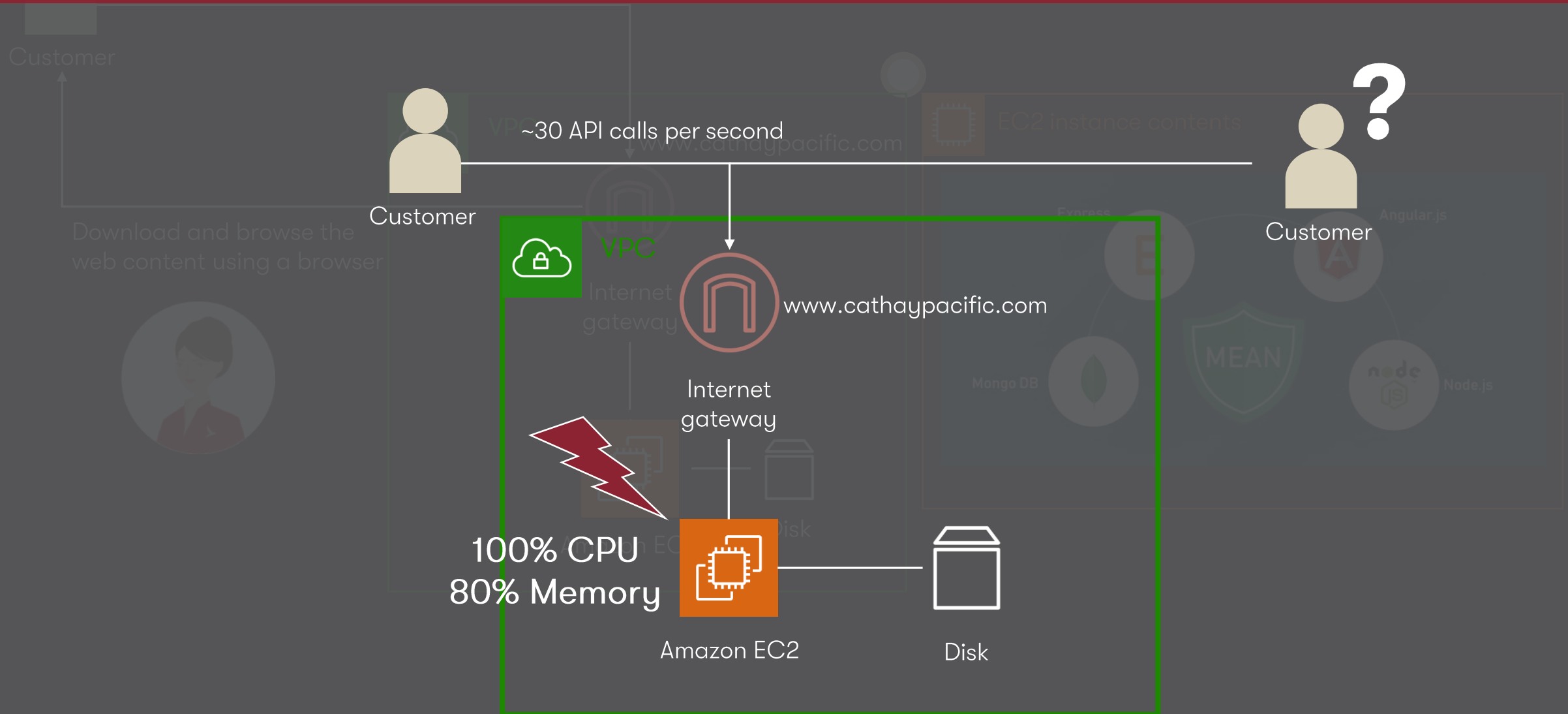
How can you guarantee there is no service downtime during deployment?

How do you rollback if the new version somehow cannot start-up or operates normally?

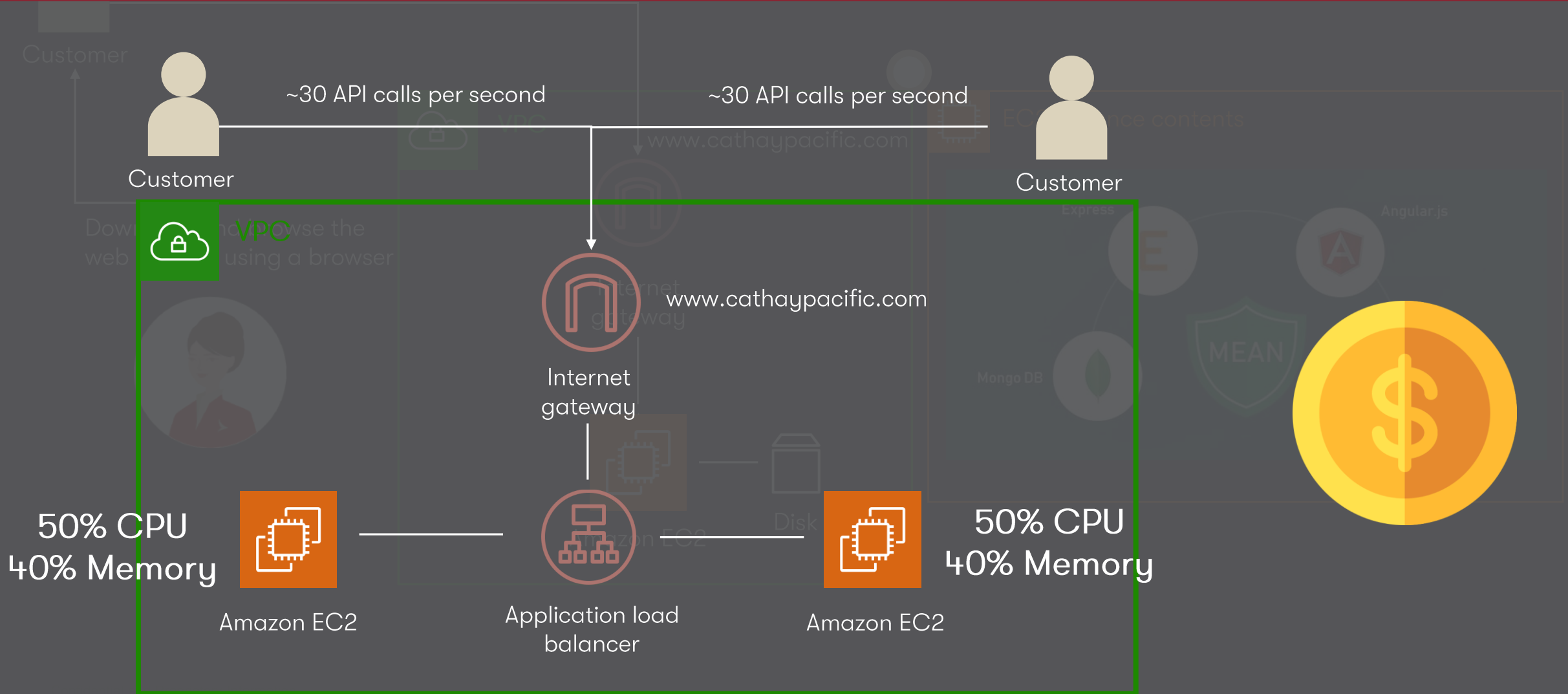
# How to ensure Availability and Scalability?



# How to ensure Availability and Scalability?



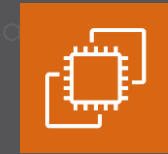
# How to ensure Availability and Scalability?



# Enable the Cloud, work in the same way?

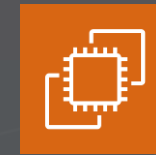
**Deploy New Version**

Production Environment



Amazon EC2

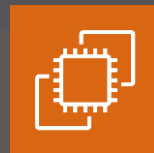
Testing Environment for  
deploying new version



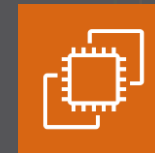
Amazon EC2

**Scalability & Availability**

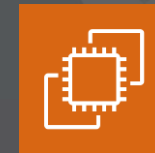
We expect at most 10 customers would use the chatbot



Amazon EC2



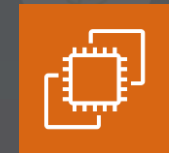
Amazon EC2



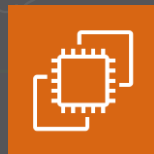
Amazon EC2



Amazon EC2



Amazon EC2



Amazon EC2



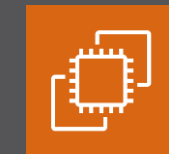
Amazon EC2



Amazon EC2



Amazon EC2



Amazon EC2



# CONTAINERISED INFRASTRUCTURE

Virtual Machine

Virtual Machine

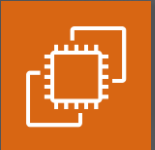
Virtual Machine



Amazon EC2



Amazon EC2



Amazon EC2



Amazon EC2

Auto Scaling 

Public Cloud Infrastructure



# CONTAINERISED INFRASTRUCTURE





Developer

# ALLOW DevOps

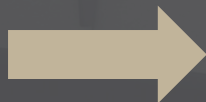
Platform



OPENSHIFT



Application Code



Code Repository



Integration & Deployment



Traditional IT  
Infrastructure

Move to  
Public Cloud

Establish  
DevOps

Digital  
Transformation

Cloud Experts



Focus on  
Implementing the foundation

DevOps Team



Focus on  
Automate & Governance

Agile Product Team



Focus on  
Business Value creation

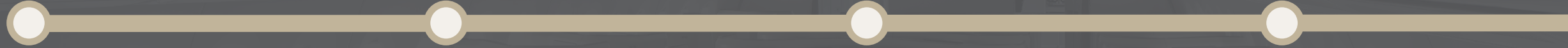
**BUILD WITH FOCUS**

Traditional IT  
Infrastructure

Move to  
Public Cloud

Establish  
DevOps

Digital  
Transformation



**FASTER**

TIME TO MARKET

**MORE**

WORK DONE

**NEW**

TECHNOLOGIES

**MULTIPLE**

BUSINESS USE CASES

# THANK YOU



Please scan the QR code to know more

