



# aws INNOVATE

AI/ML EDITION

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# Secure & compliant implementation of AI services - Amazon Transcribe

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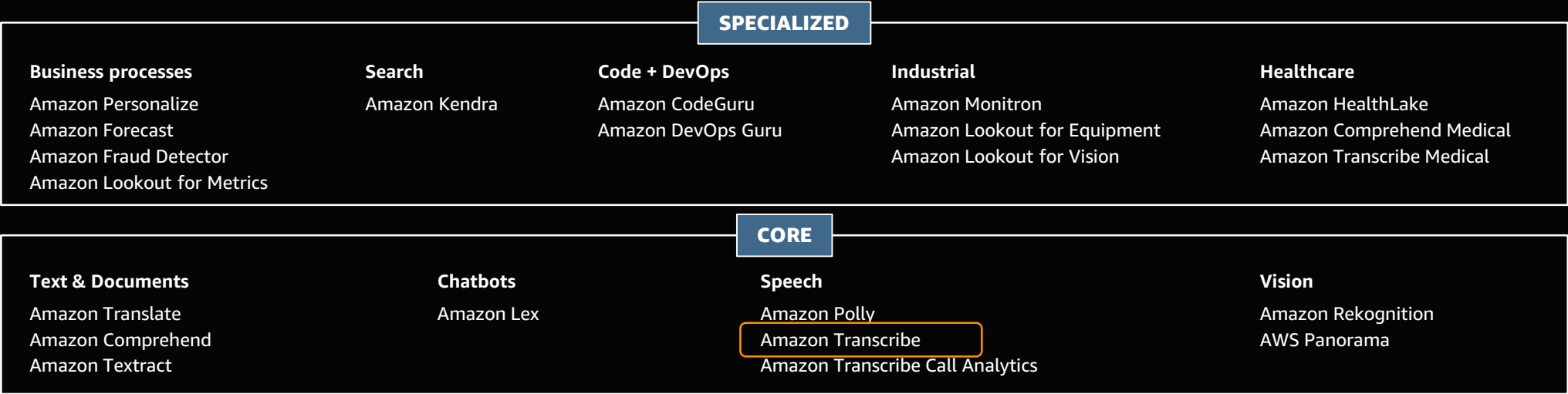
# Agenda

- Amazon Transcribe overview
- Key considerations
  - Achieving compliance
  - Data protection
  - Isolation of compute environments
  - Automating audits with APIs
- Demonstration
- Resources

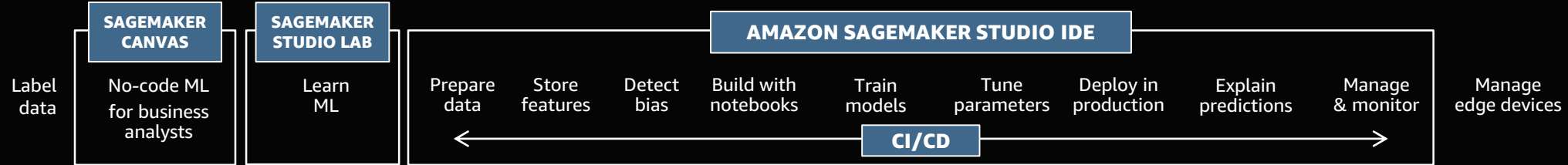
# The AWS ML Stack

BROADEST AND MOST COMPLETE SET OF MACHINE LEARNING CAPABILITIES

AI SERVICES



ML SERVICES



ML FRAMEWORKS & INFRASTRUCTURE

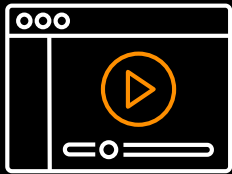
PyTorch, Apache MXNet, TensorFlow    Amazon EC2    CPUs    GPUs    AWS Inferentia    AWS Trainium    Habana Gaudi    FPGA    Elastic inference





**Are you capturing the value of your audio?**

# but...



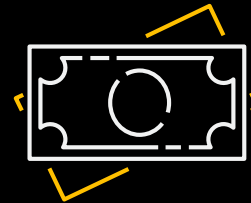
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What is it about?



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How to expand reach?



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How to monetize?

# Amazon Transcribe

SPEECH-TO-TEXT AI SERVICE

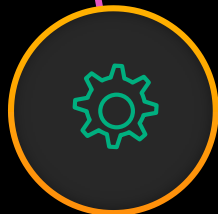
Is an automatic speech recognition (ASR) service that makes it easy to add speech to text to any application



**Audio Input**



**Easy to read transcript**



**Custom language models**



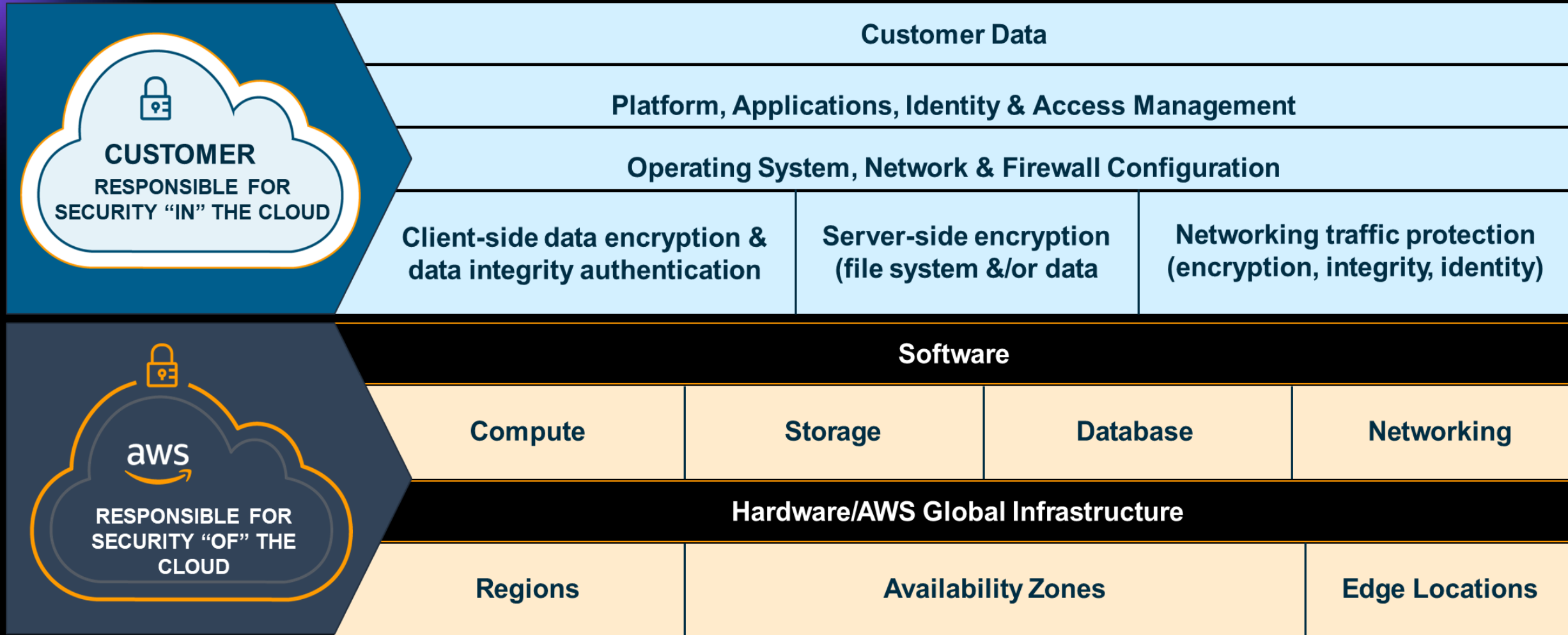
**Use case specific model**



**Safety & privacy**

# Achieving compliance with Amazon Transcribe

## AMAZON SHARED RESPONSIBILITY MODEL





# The line varies...



Amazon Elastic  
Compute Cloud  
(Amazon EC2)



Amazon Relational  
Database Service  
(Amazon RDS)

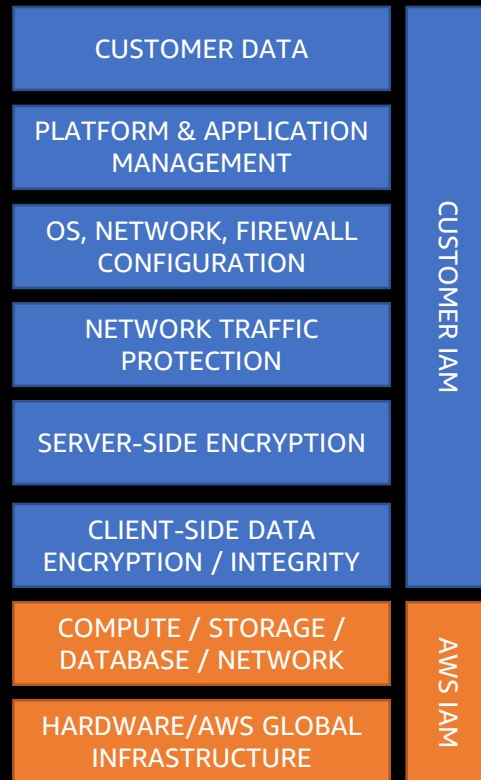


Amazon Simple  
Storage Service  
(Amazon S3)

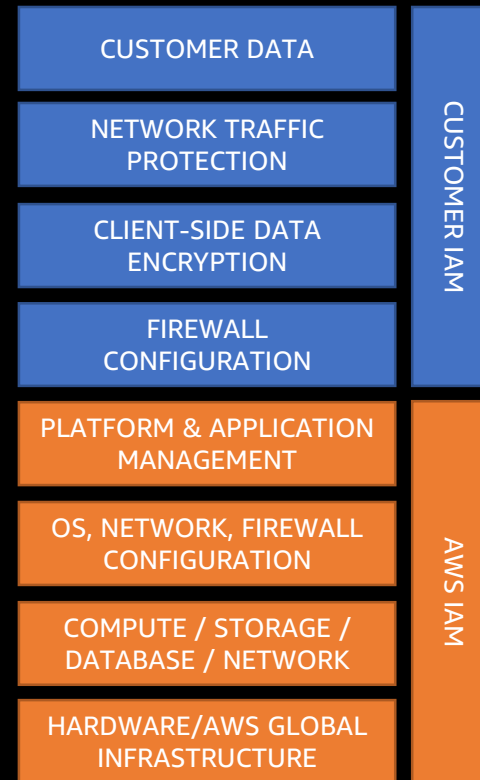


Amazon Transcribe

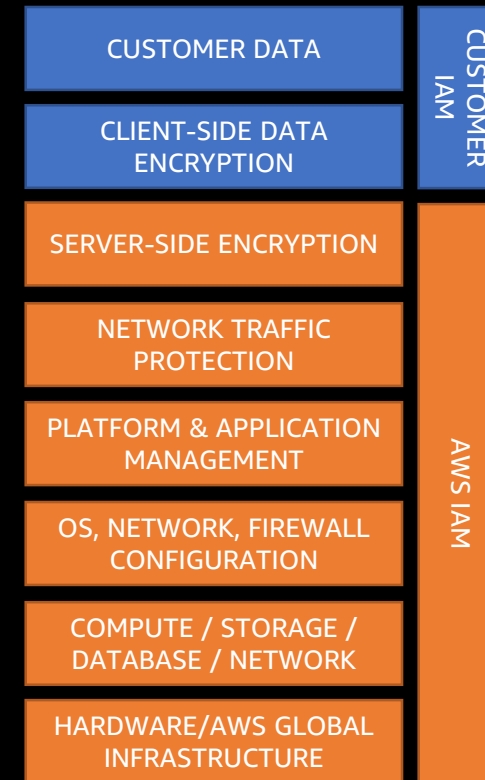
More customizable  
+  
More customer  
responsibility



INFRASTRUCTURE  
SERVICES



CONTAINER  
SERVICES



ABSTRACTED  
SERVICES

Less customizable  
+  
Less customer  
responsibility  
+  
More best practices  
built-in

# AWS documentation as evidence

- SOC 1,2,3
- PCI
- FedRAMP (Moderate and High)
- DoD CC SRG (IL2-IL5)
- HIPAA
- IRAP
- ISO/IEC [27001:2013](#), [27017:2015](#), [27018:2019](#), and ISO/IEC [9001:2015](#)
- MTCS (Regions: US-East, US-West, Singapore, Seoul)
- K-ISMS
- ENS High
- OSPAR
- HITRUST CSF
- FINMA



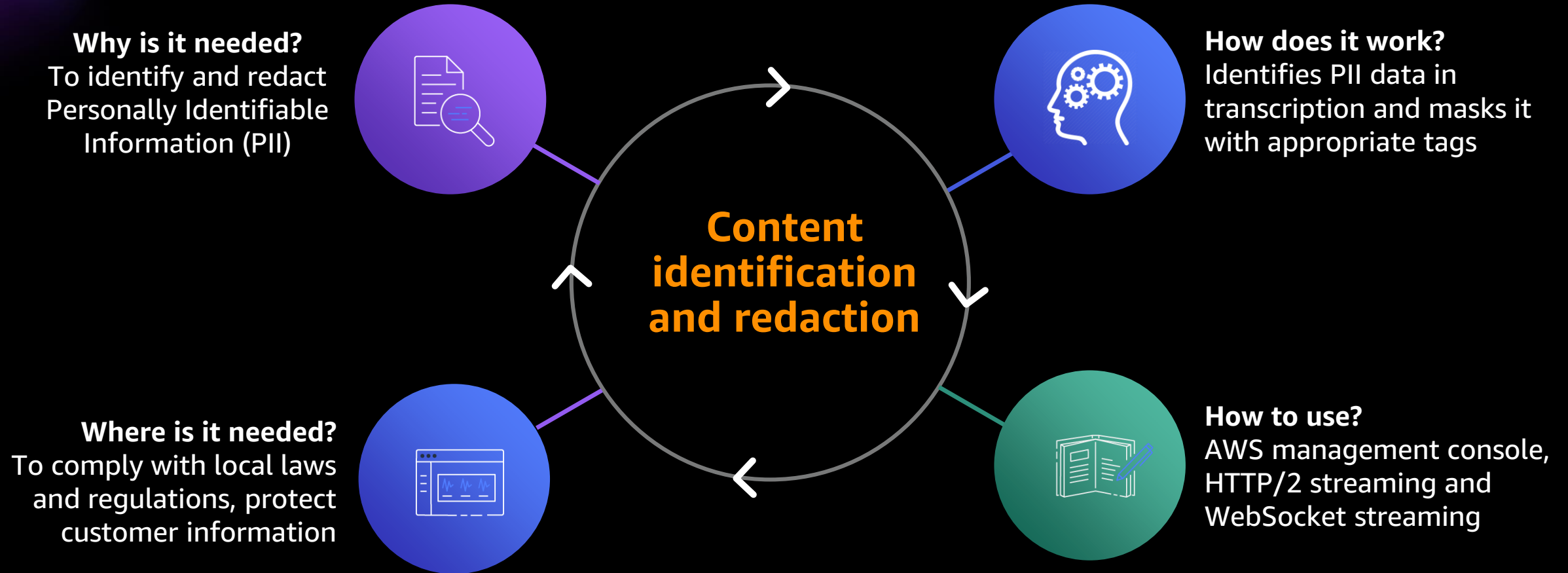
# Data protection with Amazon Transcribe

- Key management - AWS Key Management Service (AWS KMS)
- Encryption at rest - Amazon S3
- Encryption in transit - TLS
- Policy for encryption enforcement - AWS service control policy

# Code -SCP

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "Statement1",
      "Effect": "Deny",
      "Action": "transcribe:StartTranscriptionJob",
      "Resource": "*",
      "Condition": {
        "StringNotLike": {
          "transcribe:OutputEncryptionKMSKeyId": "arn:aws:kms:us-east-2:1111222233334444:key/*"
        }
      }
    }
  ]
}
```

# Content privacy- PII identification and redaction



# PII covered by automatic content redaction

- Bank account number
- Bank routing number
- Credit/debit card number
- Credit/debit card expiration date
- Credit/debit card pin
- Credit/debit card CVV Code
- Name
- Email address
- US phone number
- US mailing address
- Social security number

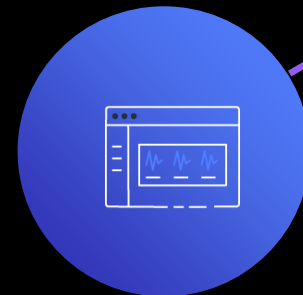
# Content privacy - Vocabulary filters

PREVENT THE DISPLAY OF OFFENSIVE OR PROFANE TERMS

**Why is it needed?**  
mask, remove, or tag  
unwanted



**Where is it needed?**  
content moderation



**Vocabulary  
filters**

**How does it work?**  
Create a list of unwanted  
words  
Create a vocabulary filter

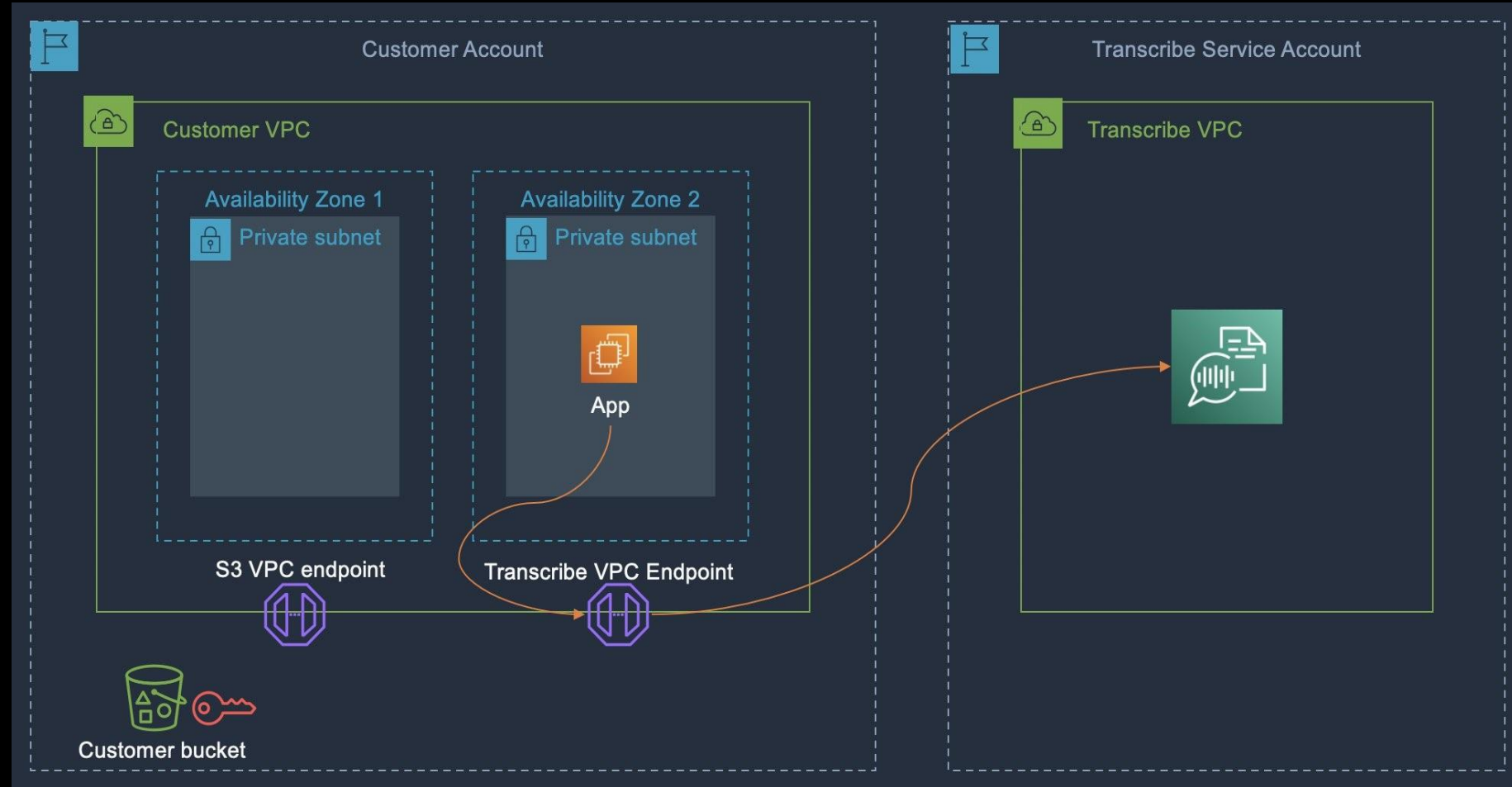


**How to use?**  
AWS management console,  
HTTP/2 streaming and  
WebSocket streaming



# Isolation of compute environments

- VPC endpoints
- Endpoints policy
- Resource based policy





# Policy example

```
{
  "Version": "2012-10-17",
  "Id": "Policy11112222333344455",
  "Statement": [
    {
      "Sid": "VPC-Endpoint-Access-only",
      "Principal": "*",
      "Action": "s3:*",
      "Effect": "Deny",
      "Resource": ["arn:aws:s3:::my-secure-bucket",
                  "arn:aws:s3:::my-secure-bucket/*"],
      "Condition": {
        "StringNotEquals": {
          "aws:SourceVpce": "vpce-111bbb22"
        }
      }
    }
  ]
}
```



# Console demo walkthrough

# Other resources

1. Documentation, videos and blogs - <https://aws.amazon.com/transcribe/resources>
2. Security in Amazon Transcribe - <https://docs.aws.amazon.com/transcribe/latest/dg/security.html>
3. Create an audio transcript with Amazon Transcribe - <https://aws.amazon.com/getting-started/hands-on/create-audio-transcript-transcribe/>
4. Add privacy to your transcriptions - <https://aws.amazon.com/getting-started/hands-on/add-privacy-transcriptions-amazon-transcribe>
5. Service control policy - [https://docs.aws.amazon.com/organizations/latest/userguide/orgs\\_manage\\_policies\\_scps\\_examples.html](https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps_examples.html)

# Visit the AI & Machine Learning resource hub for more resources

Dive deeper into these resources, get inspired and learn how you can use AI and machine learning to accelerate your business outcomes.

- The machine learning journey e-book
- 7 leading machine learning use cases e-book
- A strategic playbook for data, analytics, and machine learning e-book
- Accelerate machine learning innovation with the right cloud services & infrastructure e-book
- Choosing the right compute infrastructure for machine learning e-book
- Improving service and reducing costs in contact centers e-book
- Why ML is essential in your fight against online fraud e-book
- ... and more!



<https://bit.ly/3mwi59V>

Visit resource hub

# AWS Machine Learning (ML) Training and Certification



## AWS is how you build machine learning skills

Courses built on the curriculum leveraged by Amazon's own teams. Learn from the experts at AWS.

[aws.training/machinelearning](https://aws.training/machinelearning)



## Flexibility to learn your way

Learn online with on-demand digital courses or live with virtual instructor-led training, plus hands-on labs and opportunities for practical application.

[explore.skillbuilder.aws/learn](https://explore.skillbuilder.aws/learn)



## Validate your expertise

Demonstrate expertise in building, training, tuning, and deploying machine learning models with an industry-recognized credential.

[aws.amazon.com/certification](https://aws.amazon.com/certification)

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# Thank you!

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