
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

SAS303

SaaS anywhere: Building SaaS solutions that run in hybrid models

Dhammika Sriyananda

Sr. PSA, SaaS Factory
AWS

Oren Reuveni

Principal PSA, SaaS Factory
AWS

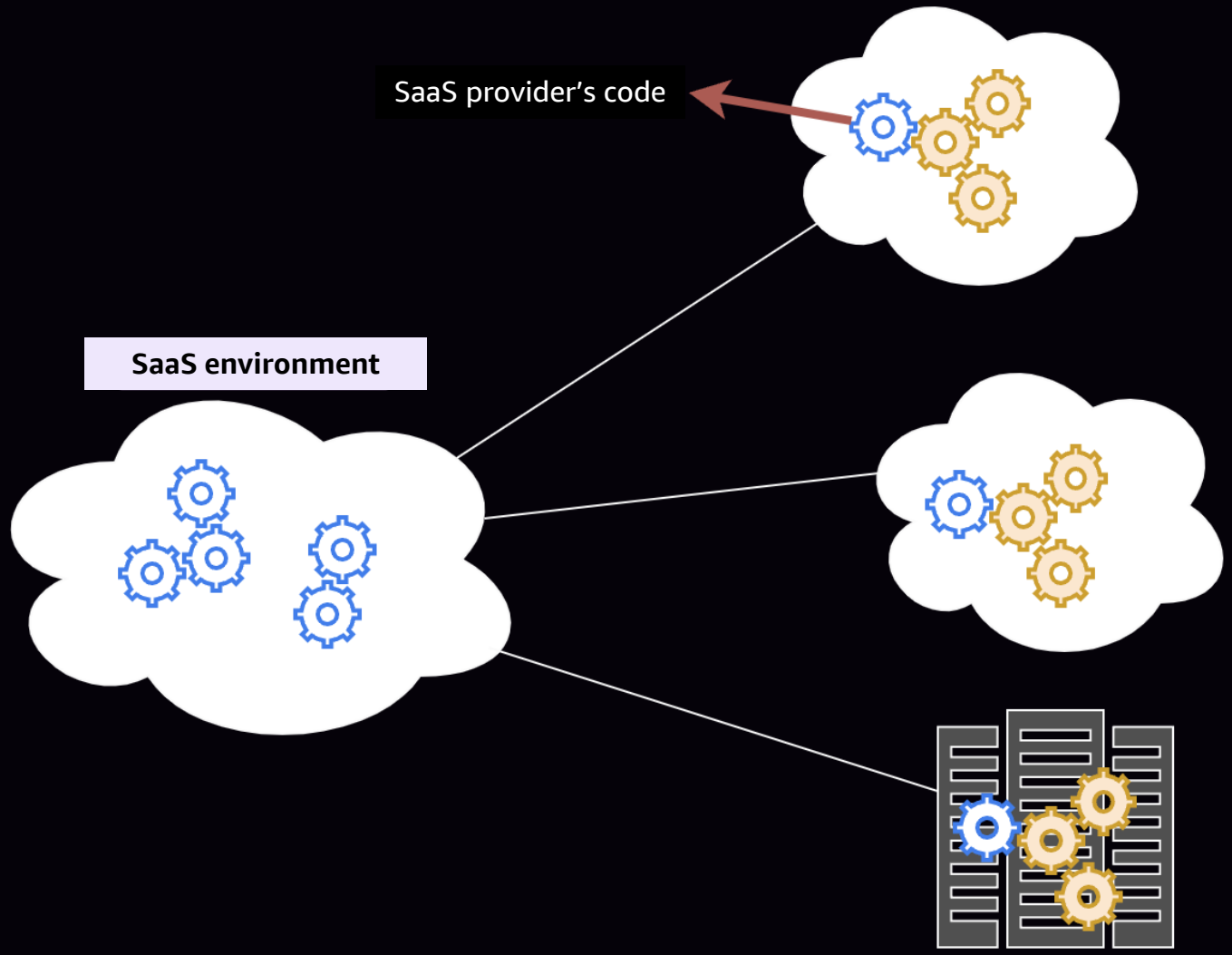
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Agenda

What is SaaS anywhere?

Use cases and challenges

Solutions and best practices

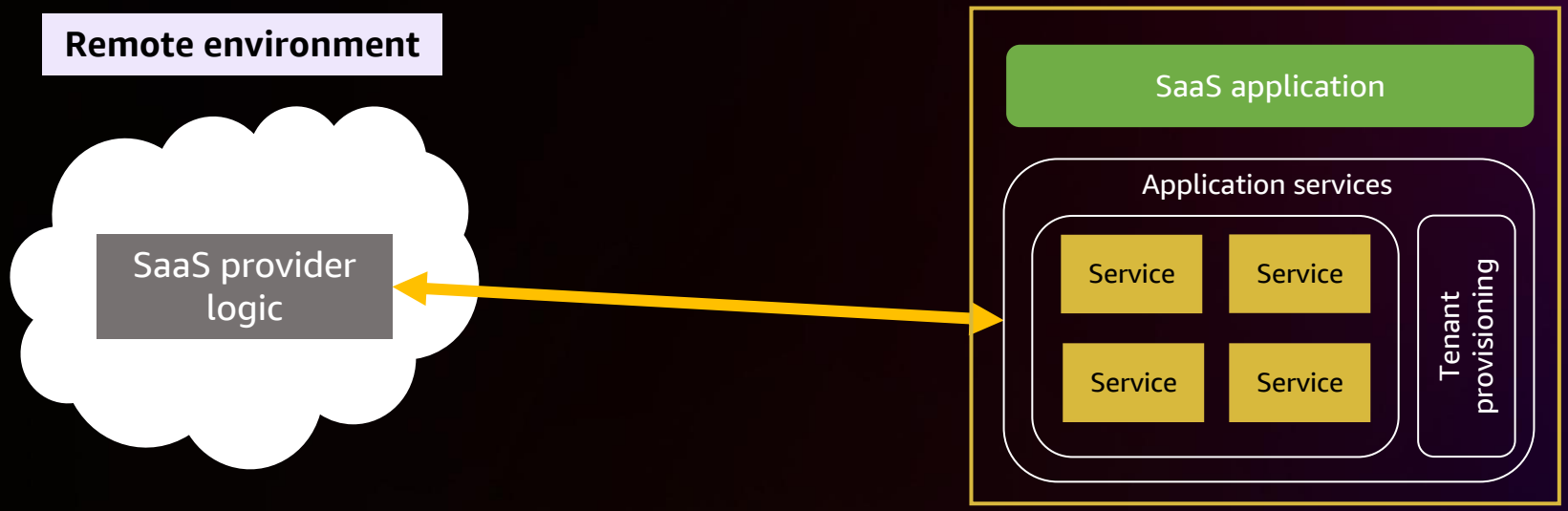


© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

SaaS anywhere

Some SaaS solutions need to run in complex environments that push the boundaries of traditional SaaS models

Parts of the SaaS solution require deployment outside of the SaaS environment



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Why SaaS anywhere?

What constraints drive SaaS anywhere solutions?



Compliance

Security, regulatory requirements, data residency



Cost effectiveness

Processing data on the remote environment is more effective



Latency

Execution speed of the workload matters



Domain requirements

Use cases demand remote workloads and integrations



Legacy requirements

Workloads are not yet ready to move out to the cloud



Non-tech constraints

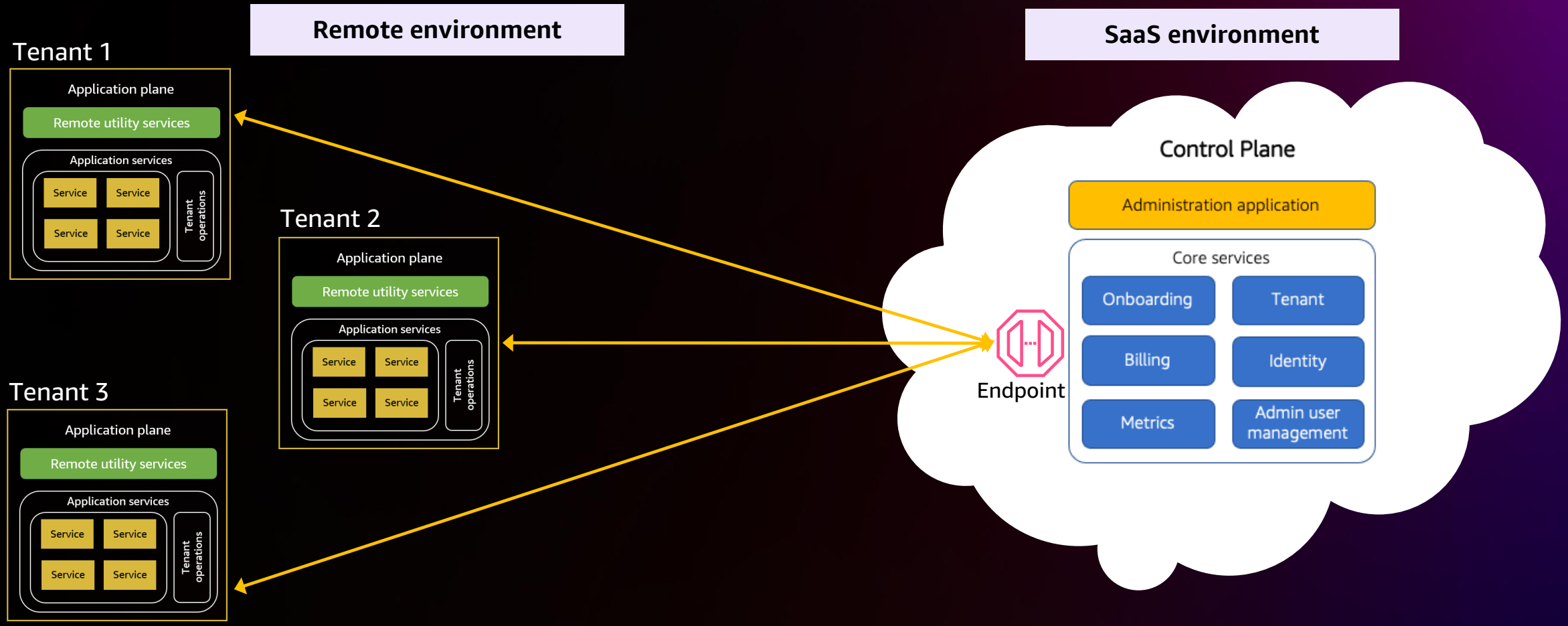
Organizational culture

aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

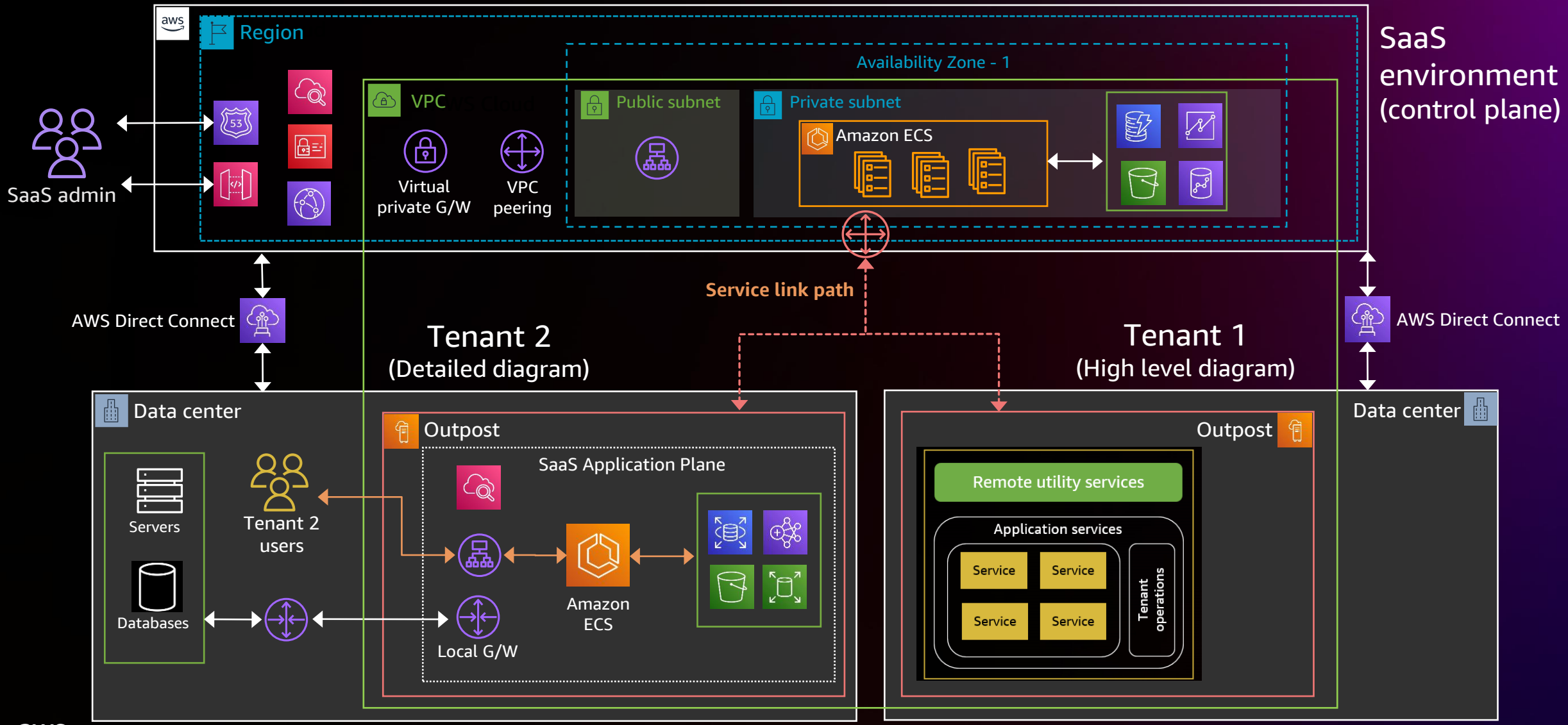
Use case 1: Deploying the application plane remotely

Deploying the complete application plane of the solution on the remote environment



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Example 1: SaaS anywhere with AWS Outposts



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Handling multi-tenancy with the remote workload



Tenant onboarding

Workload distributed via installers

Handshaking with SaaS environment

A tenant ID should be assigned



SaaS identity & security

Centralized tenant identity management based on the use case

API calls with TLS/SSL encryption



Tenant isolation

Silo-based isolation per tenant

Passing tenant ID to SaaS environment to implement isolation



Metering & billing

Tenants own remote infra and the cost

Tracking tenant-wise infra usage for consumption based pricing



Metrics, analytics & observability

Remote metrics are pushed to SaaS environment

May need a remote data processing unit based on the use case



SaaS operations & agility

Remote utility services to manage updates/patches/operations

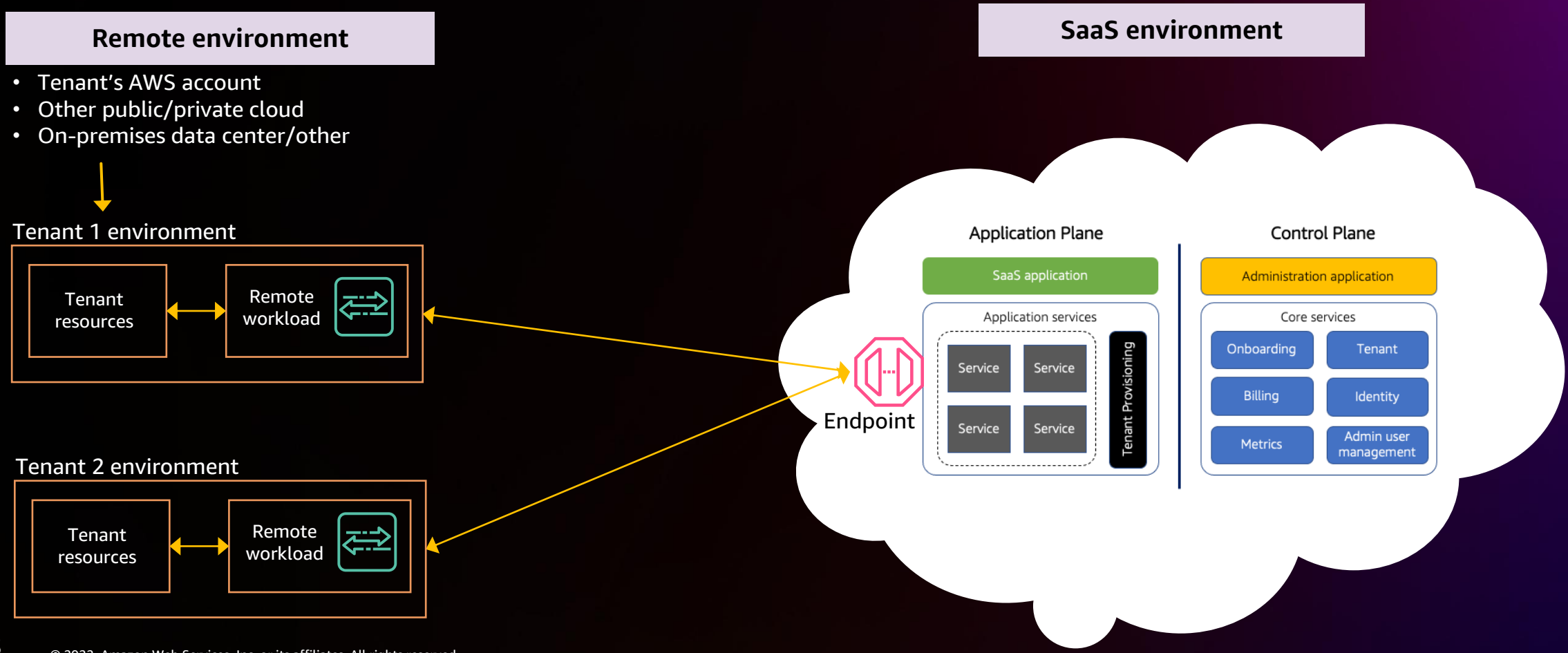
Backward compatibility

aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

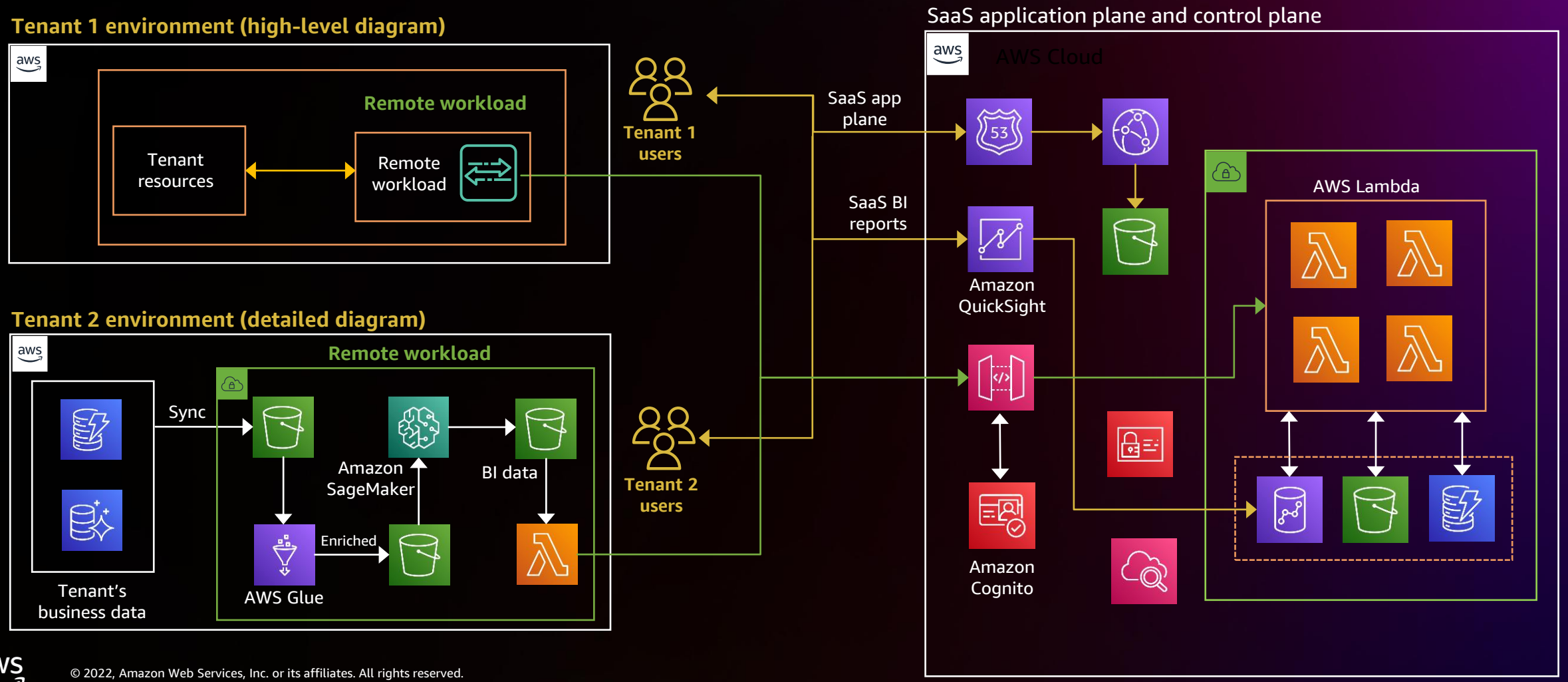
Use case 2: Deploying software components remotely

Deploying a subset of software in the remote environment to interact with customer-specific resources



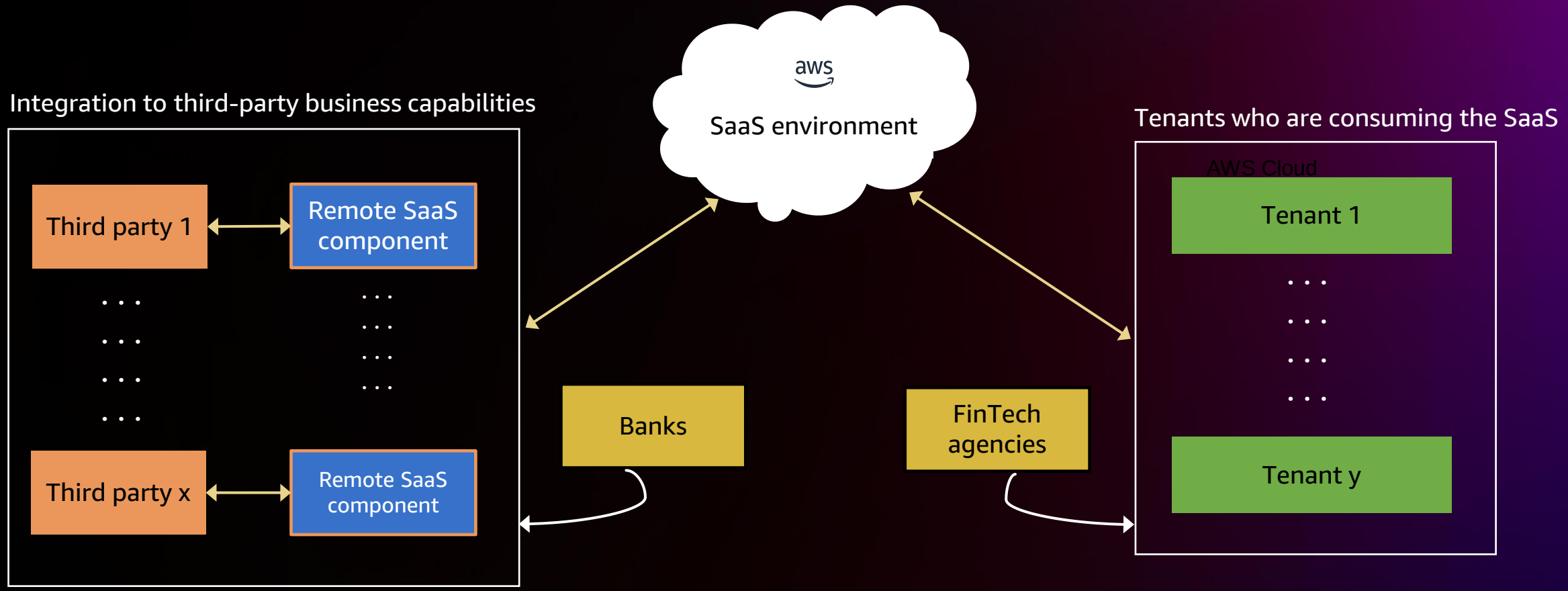
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Example 2: Deploying ML workloads in the remote environment



© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

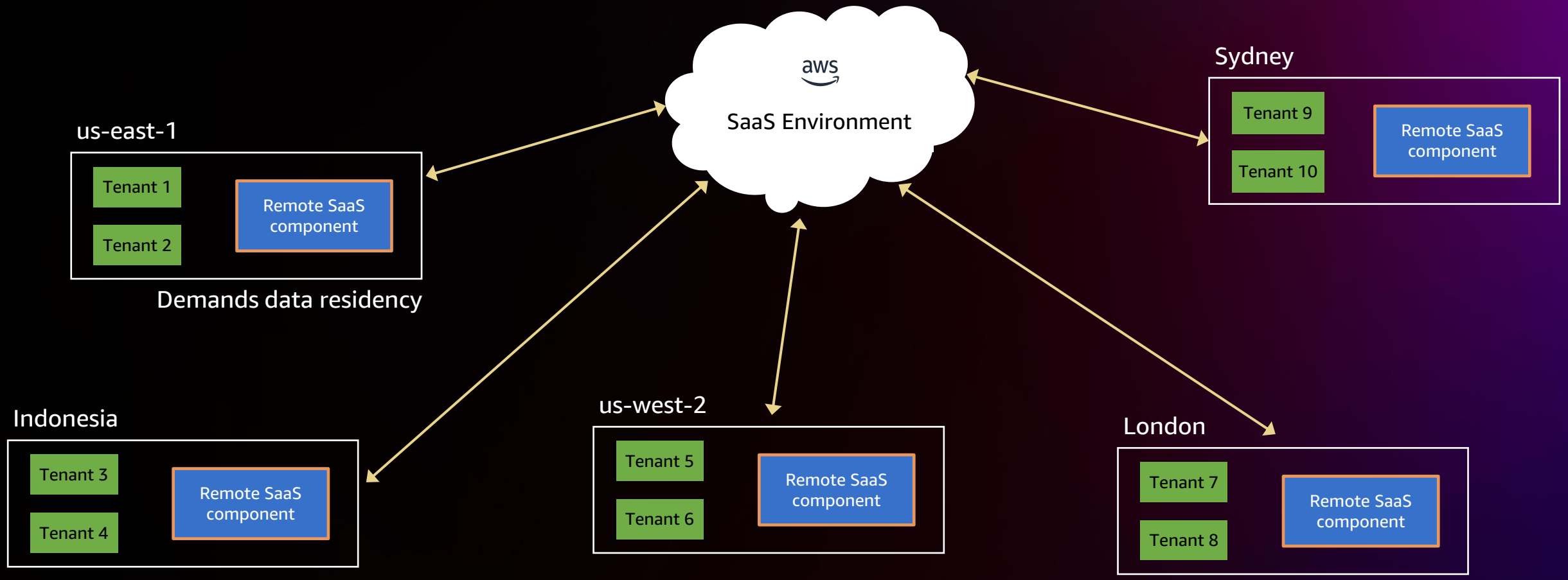
Use case 3: SaaS with third-party integrations



Ex 3: Banking as a service (BaaS) solutions

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Use case 4: Deploying Multi-Region components



Ex 4: Fraud detection SaaS for health insurance claims

aws
© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Open discussion

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

More SaaS sessions

Breakout Sessions

- SAS305 – SaaS architecture patterns: From concept to implementation
- SAS405 – SaaS microservices deep dive: Simplifying multi-tenant development
- SAS306 – SaaS migration: Inside a real-world multi-tenant transformation
- SAS302 – Supporting extensibility in SaaS environments
- PEX310 – Optimizing your multi-tenant SaaS architecture

Workshops

- SAS403 – SaaS microservices deep dive: Multi-tenancy meets microservices
- SAS402 – Serverless meets SaaS: Inside a real-world serverless SaaS solution
- SAS401 – Amazon EKS SaaS: Building a working multi-tenant environment

Business Session

- PEX209 – Building your SaaS journey on AWS

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

More SaaS sessions

Chalk Talks

- SAS307 – DevOps and SaaS: Applying automation in multi-tenant environments
- SAS303 – SaaS anywhere: Building SaaS that runs in hybrid models
- SAS301 – Multi-tenant meets ML: Building ML-based SaaS environments
- SAS304 – Solving the SaaS compliance puzzle
- PEX313 – The SaaS control plane: The heart of SaaS growth
- ARC403 – Amazon EKS SaaS deep dive: Inside a multi-tenant EKS solution
- ARC323 – Designing a multi-tenant SaaS tiering and throttling strategy
- SVS315 – Building multi-tenant applications with AWS Lambda and AWS Fargate

Builders' Session

- ARC327 – How to optimize cost in your multi-tenant architecture

aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Additional resources

1

Subscribe to AWS SaaS Insights

Get monthly emails with bite-size advice and the latest updates

2

Explore SaaS on AWS

Check out the SaaS on AWS page for more resources and insights

3

Discover resources for builders

Access our curated list of SaaS reference solutions, demos, tech events and more

aws

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.

Thank you!



Please complete the session survey in the **mobile app**

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved.