AWS re:Invent

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Amazon WorkSpaces business continuity & disaster recovery

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Objectives

- Why choose Amazon WorkSpaces for DR and BCP?
- Out-of-the-box architecture
- Additional infrastructure considerations
- User working environment
- Multi-Region deployments
- New feature release
- Wrap-up

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Amazon desktops as a service

amazon WorkSpaces

Persistent desktops



Fully-managed cloud services

Delivery at scale

High reliability

High security & control

aws

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Why choose WorkSpaces for DR and BCP?

Access your WorkSpace desktop from anywhere on any device

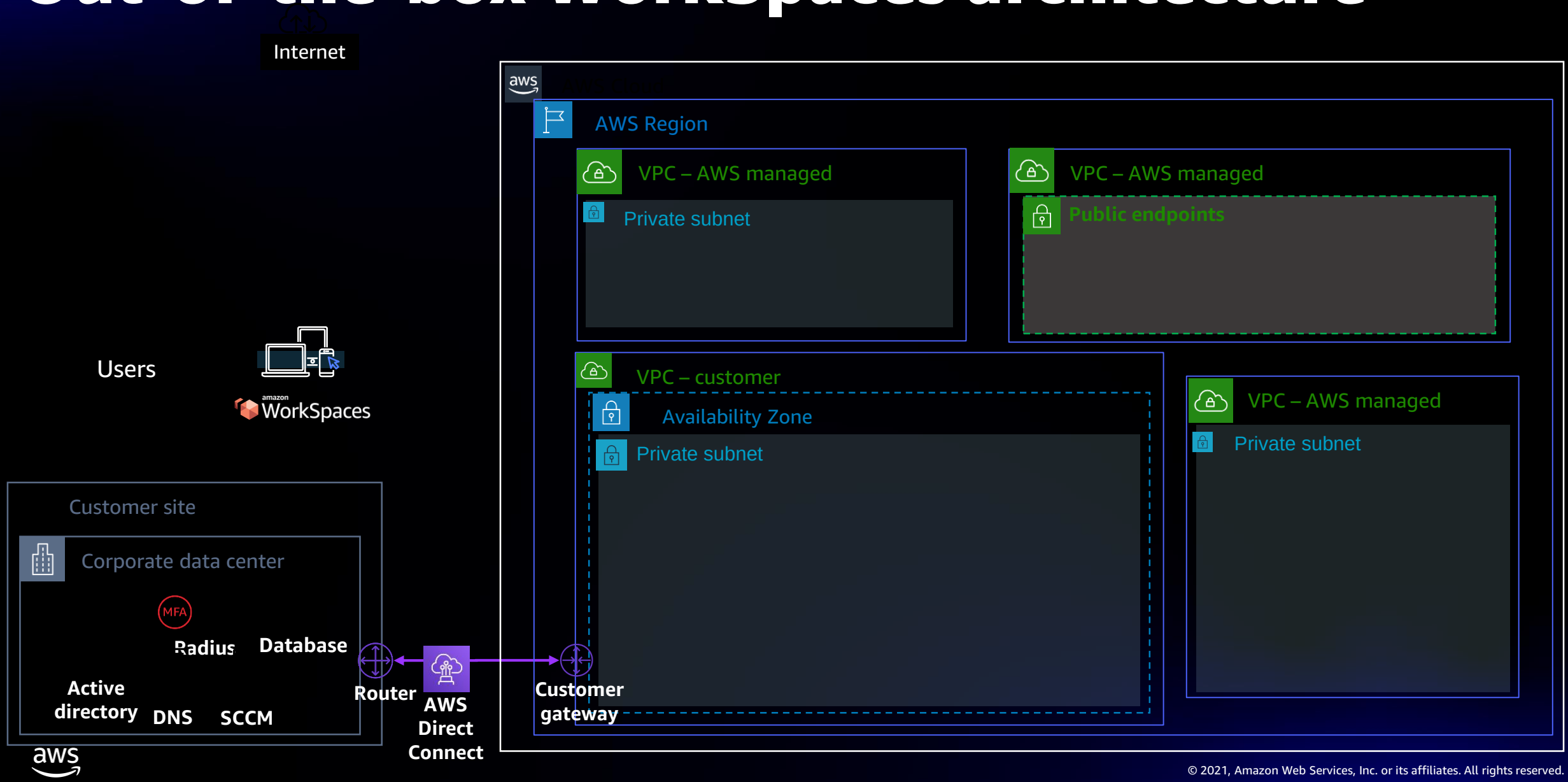
- Natural disasters
- Human-induced disasters

Amazon WorkSpaces can scale as fast as you need it to

You only pay for what you use (by the hour or by the month)

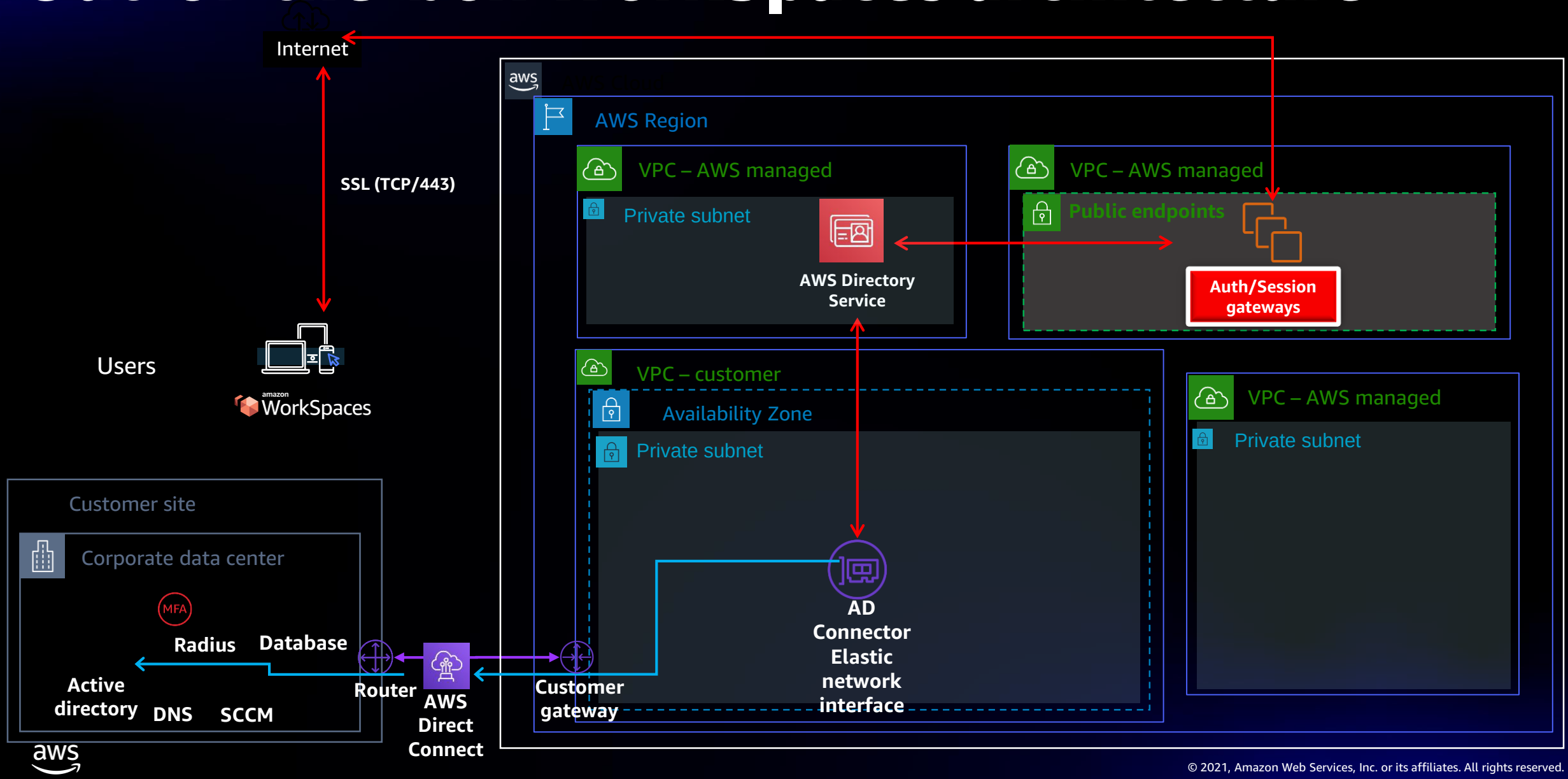
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Out-of-the-box WorkSpaces architecture



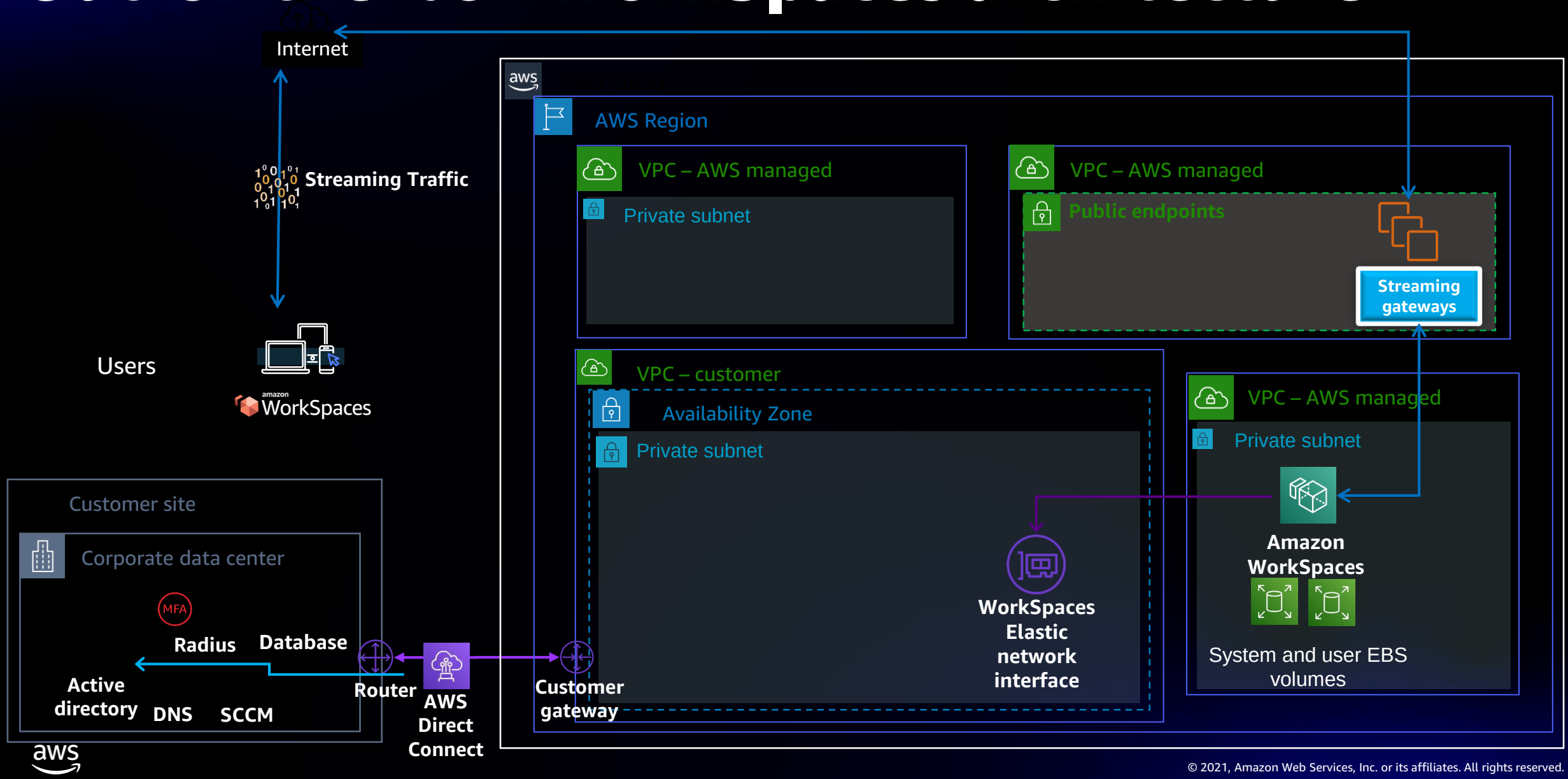
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Out-of-the-box WorkSpaces architecture



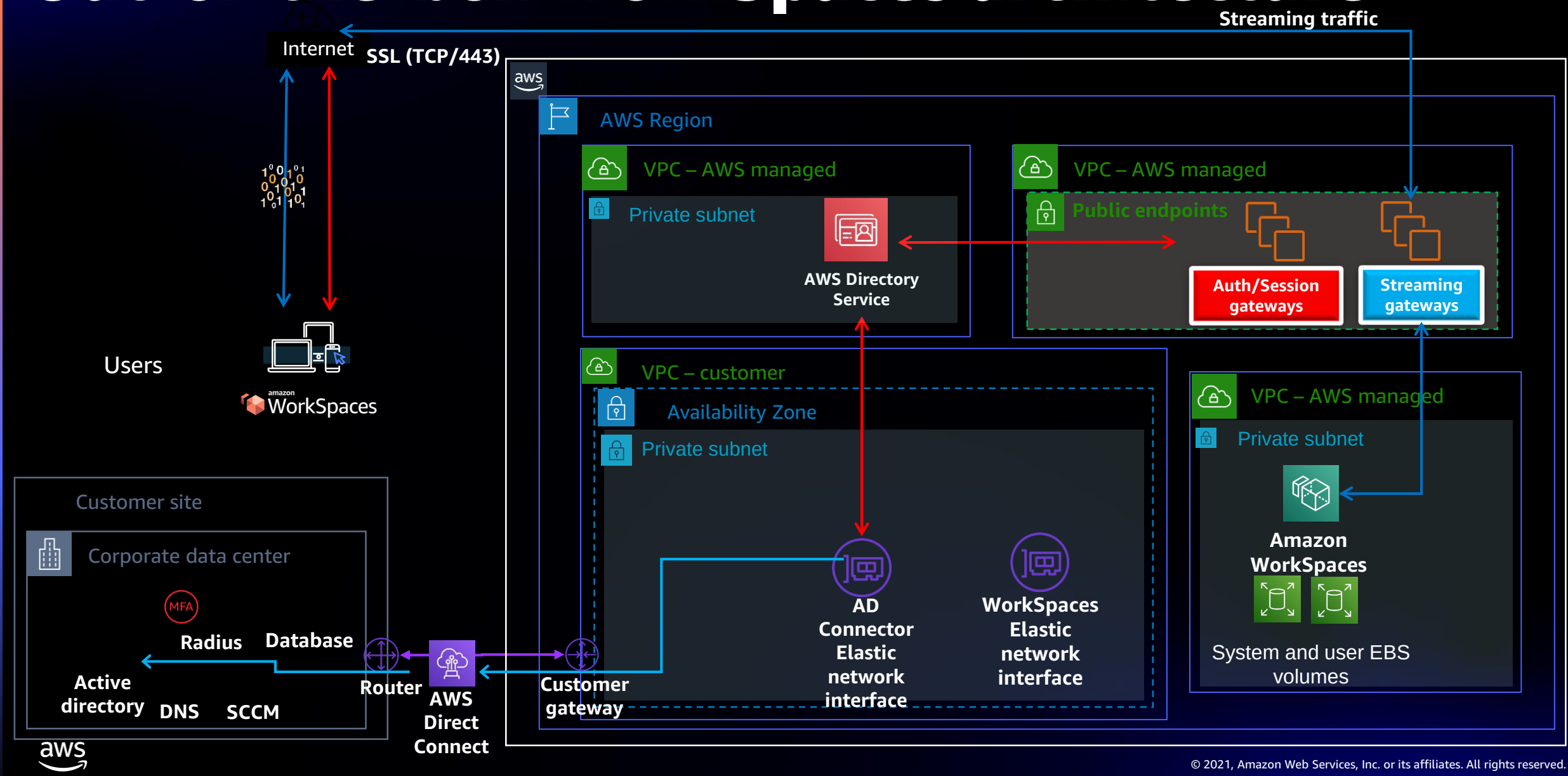
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Out-of-the-box WorkSpaces architecture



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Out-of-the-box WorkSpaces architecture



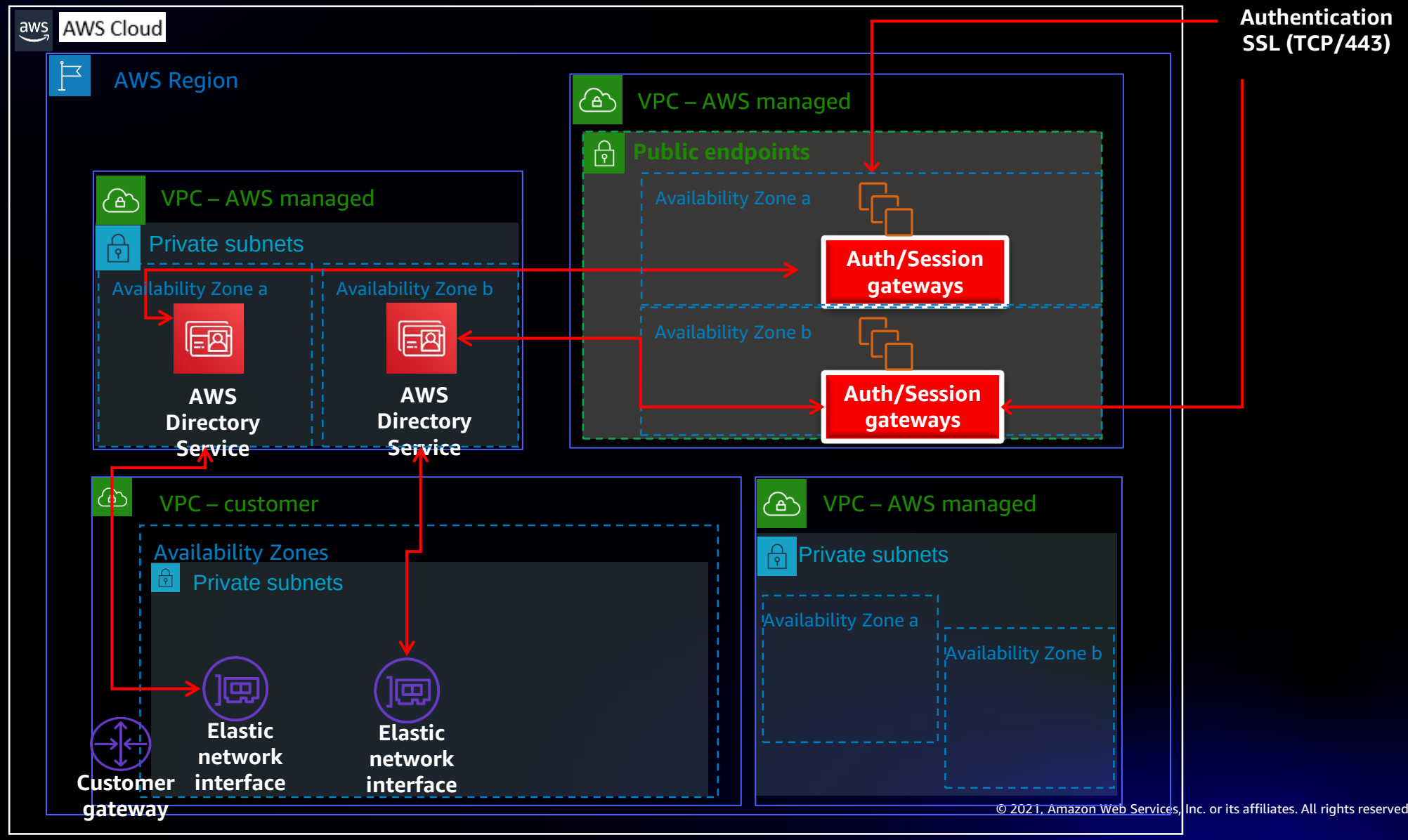
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Under-the-hood WorkSpaces architecture



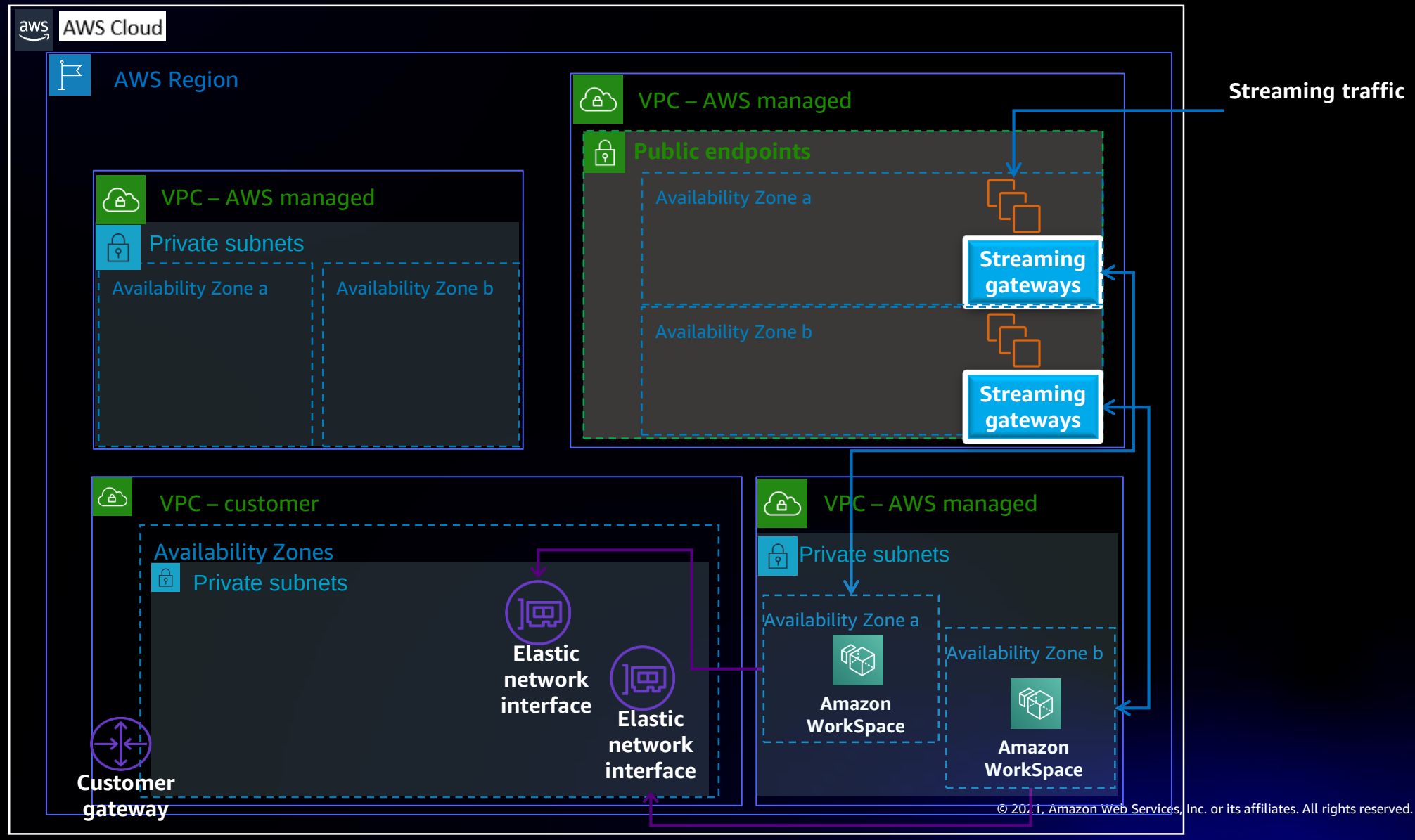
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Under the hood WorkSpaces architecture



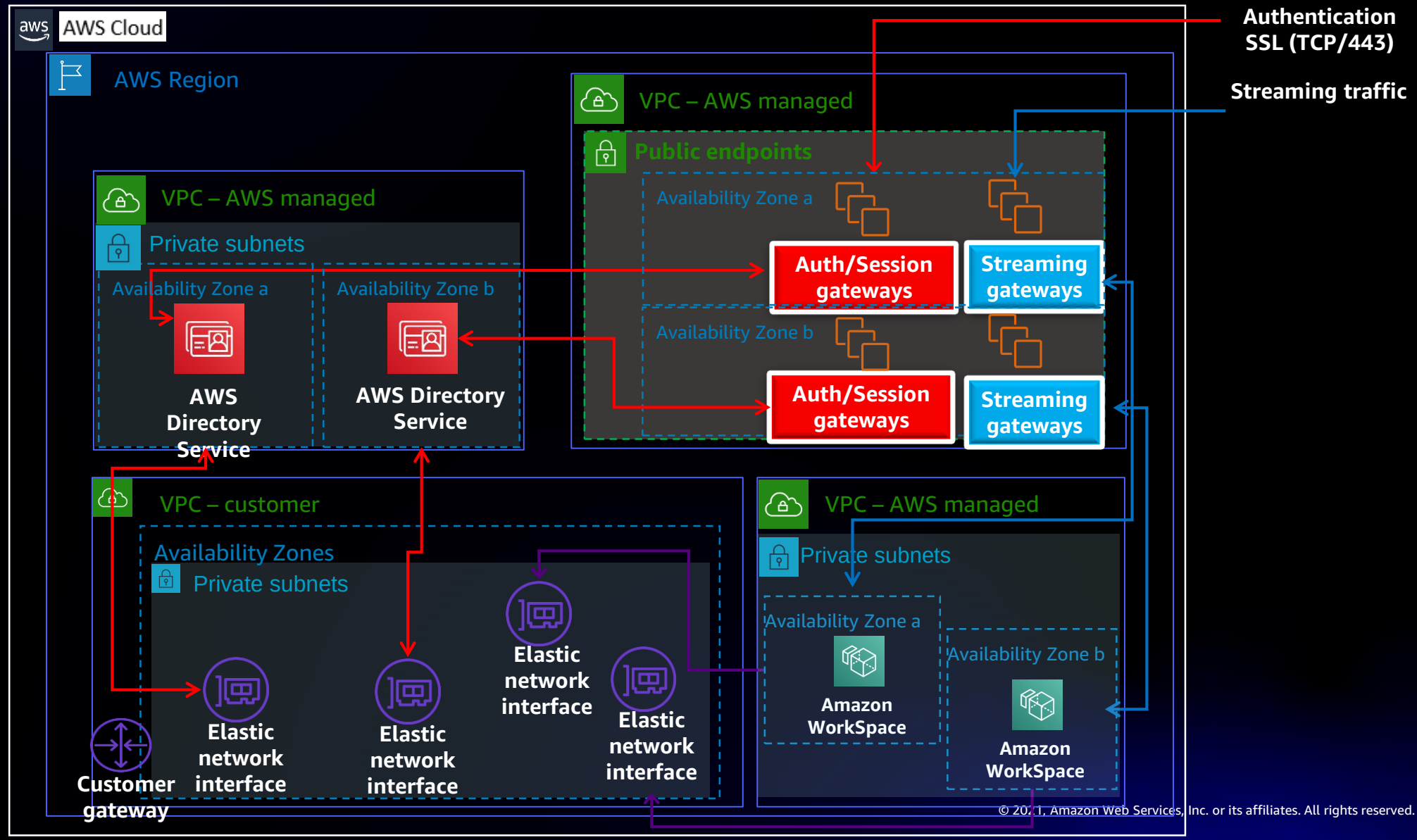
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Under the hood WorkSpaces architecture



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Under the hood WorkSpaces architecture



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Additional infrastructure considerations

If infrastructure on premise, multiple redundant network pathing options

Supporting infrastructure across multiple Availability Zones

- AD Domain Controllers and DNS servers
- RADIUS servers for MFA
- File shares
- Ancillary supporting servers
- Application servers or services

Follow the AWS Well-Architected framework



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WorkSpaces user working environment



Recovery options:

- Restore: Keeps the underlying WorkSpace instance, replaces both the system and user volumes from last known good snapshot

- Rebuild: Creates a new WorkSpace instance (logic to pick healthy Availability Zone), system volume coming back from image, and the user volume coming from last known good snapshot

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Extend on this by

- Leveraging roaming profile or profile synchronization solutions
  - Out-of-the-box AD roaming profile
  - 3rd-party profile sync solutions
  - Sync to file shares on Amazon EC2 or Amazon FSx

- Leverage file sharing and collaboration solution such as Amazon WorkDocs
  - Mounts a local drive, synchronizes the contents to the AWS Cloud
  - Access your files from anywhere on any device



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Multi-Region deployment: Pilot Light



Reduces your reliance on a single AWS Region

Supporting infrastructure pre-deployed and running in the target AWS Region

Supporting infrastructure replicating with your primary Region:

- Full replicas of Active Directory Domain Controllers and DNS
- File shares
- Patch, and application deployment servers

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Multi-Region deployment: Pilot Light

- Launch and scale your WorkSpaces fleet as you execute DR
  - API rate limiting depending on how many WorkSpaces and how fast you are deploying
  - Time consideration needed for each WorkSpace to:
    - Join to your active directory
    - Apply group policies
    - Download latest patches (delta from image)
    - Have applications pushed down from deployment solution
- Image update frequency
- Balance between risk and cost

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Multi-Region deployment: Hot Standby



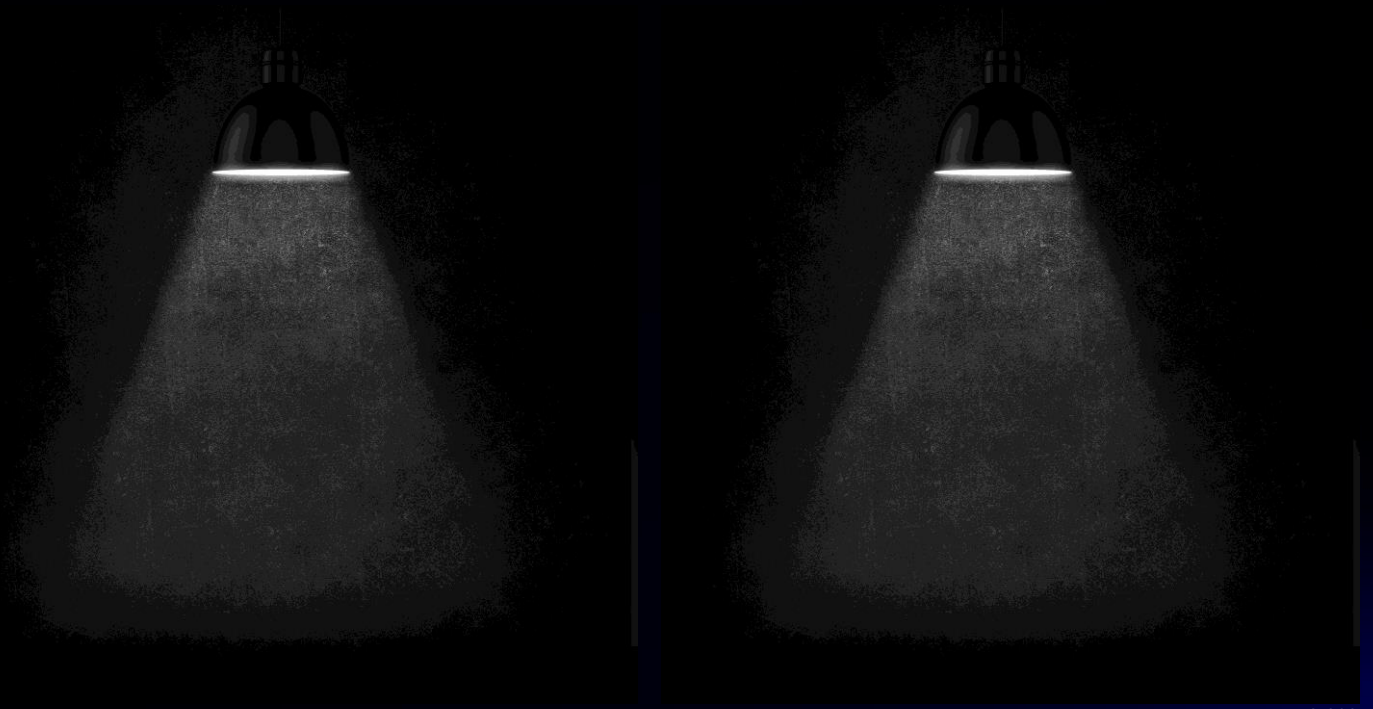
- Builds on Pilot Light scenario
- Pre-launched your WorkSpaces fleet:
  - Set to AutoStop
  - Regularly started each month (latest patches, A/V, apps, etc.)
- Users can change the registration code in the WorkSpaces client
- Rapid DR in minutes

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Multi-Region deployment: Hybrid

Have key critical users (or groups of users) set up in Hot Standby

Other less essential users to be spun up as part of Pilot Light

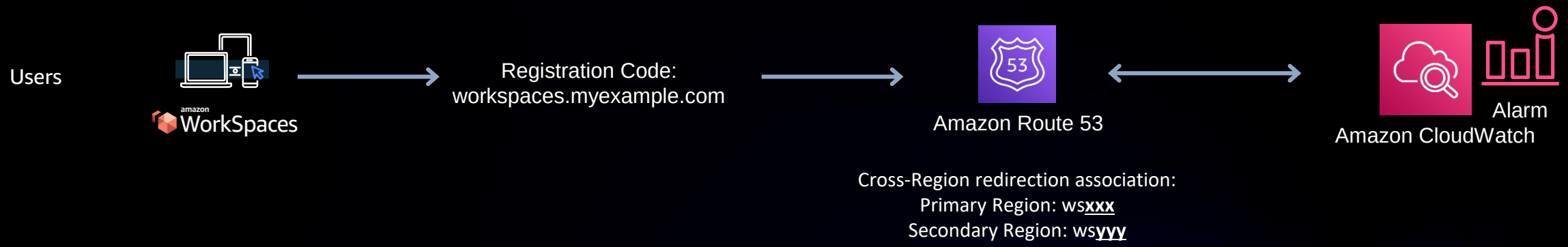


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Multi-Region deployment: New WorkSpaces feature

Cross-Region redirection

- Works with your Domain Name System (DNS) failover routing policies
- Can redirect your WorkSpaces users to an alternate AWS Region when their primary WorkSpaces aren't available



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Next steps and resources

- https://docs.aws.amazon.com/workspaces/latest/adminguide/business-continuity.html
- https://aws.amazon.com/blogs/desktop-and-application-streaming/business-continuity-and-disaster-recovery-with-amazon-workspaces/
- https://aws.amazon.com/blogs/desktop-and-application-streaming/building-a-multi-region-disaster-recovery-environment-for-amazon-workspaces/
- https://aws.amazon.com/architecture/well-architected
- https://docs.aws.amazon.com/general/latest/gr/api-retries.html
- https://aws.amazon.com/builders-library/timeouts-retries-and-backoff-with-jitter/

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Wrap-up and takeaways



- Out-of-the-box architecture -> Multi-AZ by design
- Additional infrastructure -> Ensure Multi-AZ deployment
- User working environment -> File collaboration or synchronization
- Multi-Region deployments -> For greater RTO
- Talk to your AWS account team

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