
AWS
re:Invent

EUC301

Amazon WorkSpaces business continuity & disaster recovery best practices

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End User Computing

AWS

AWS re:Invent

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Agenda – Level 300 deep dive

Why choose 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

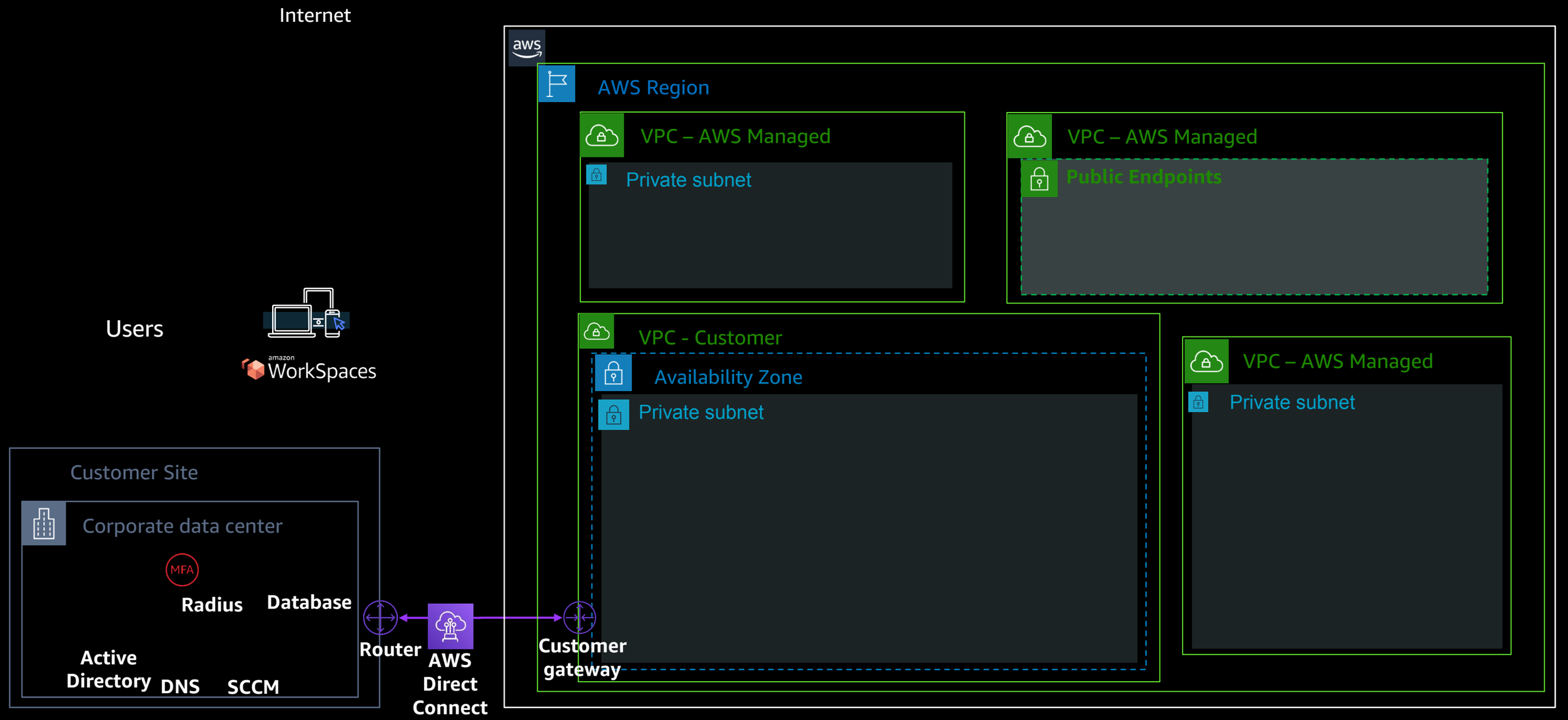
High reliability

High security & control

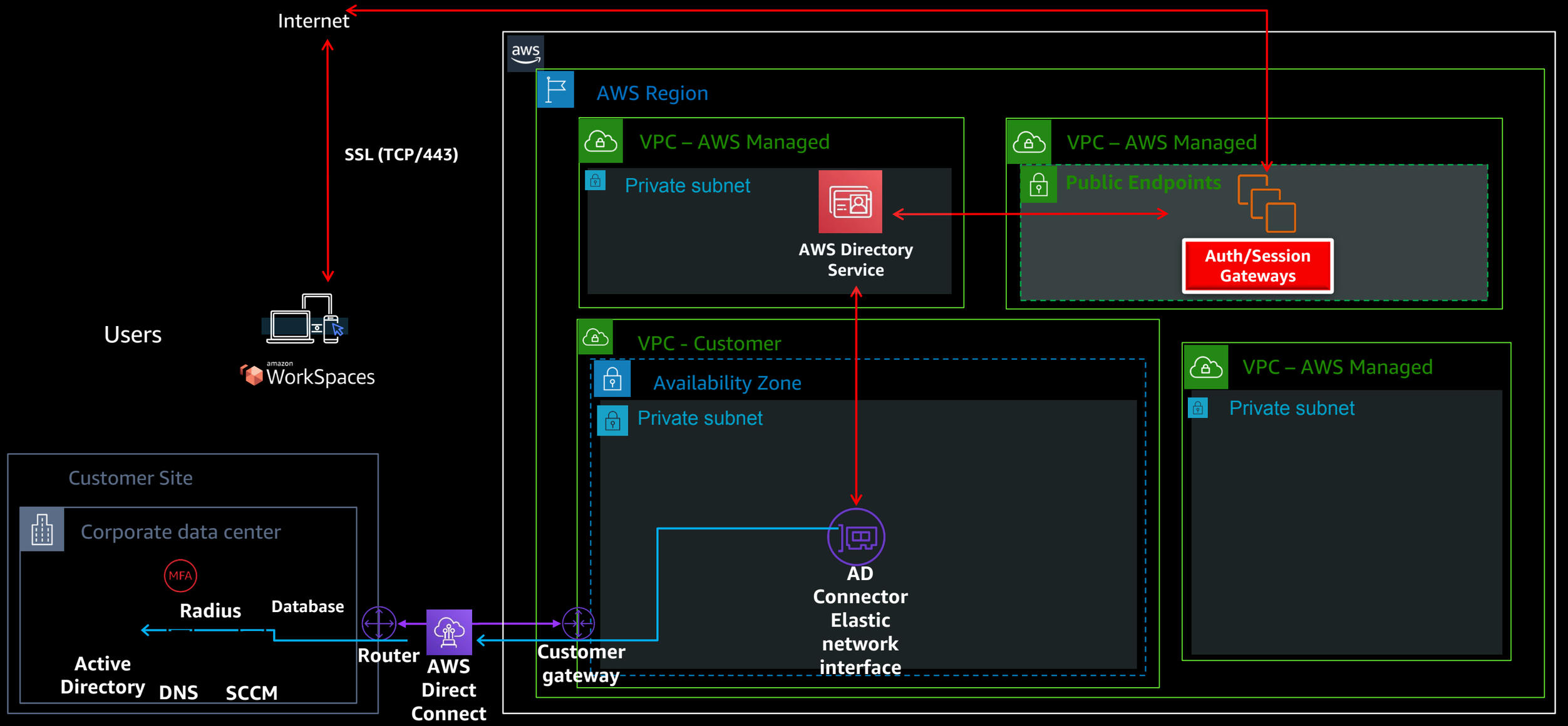
Why choose WorkSpaces for DR and BCP?

- 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)

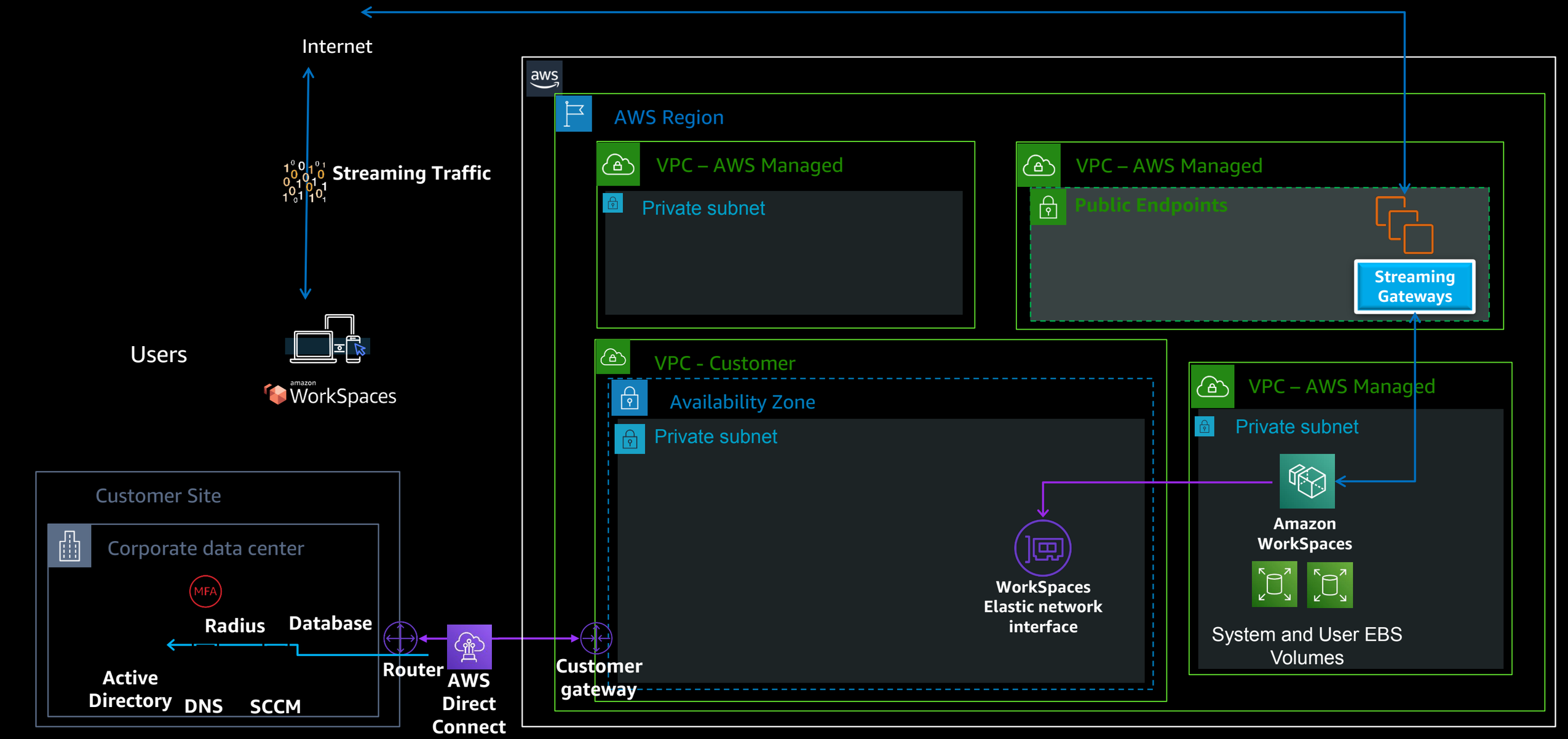
Out of the box WorkSpaces architecture



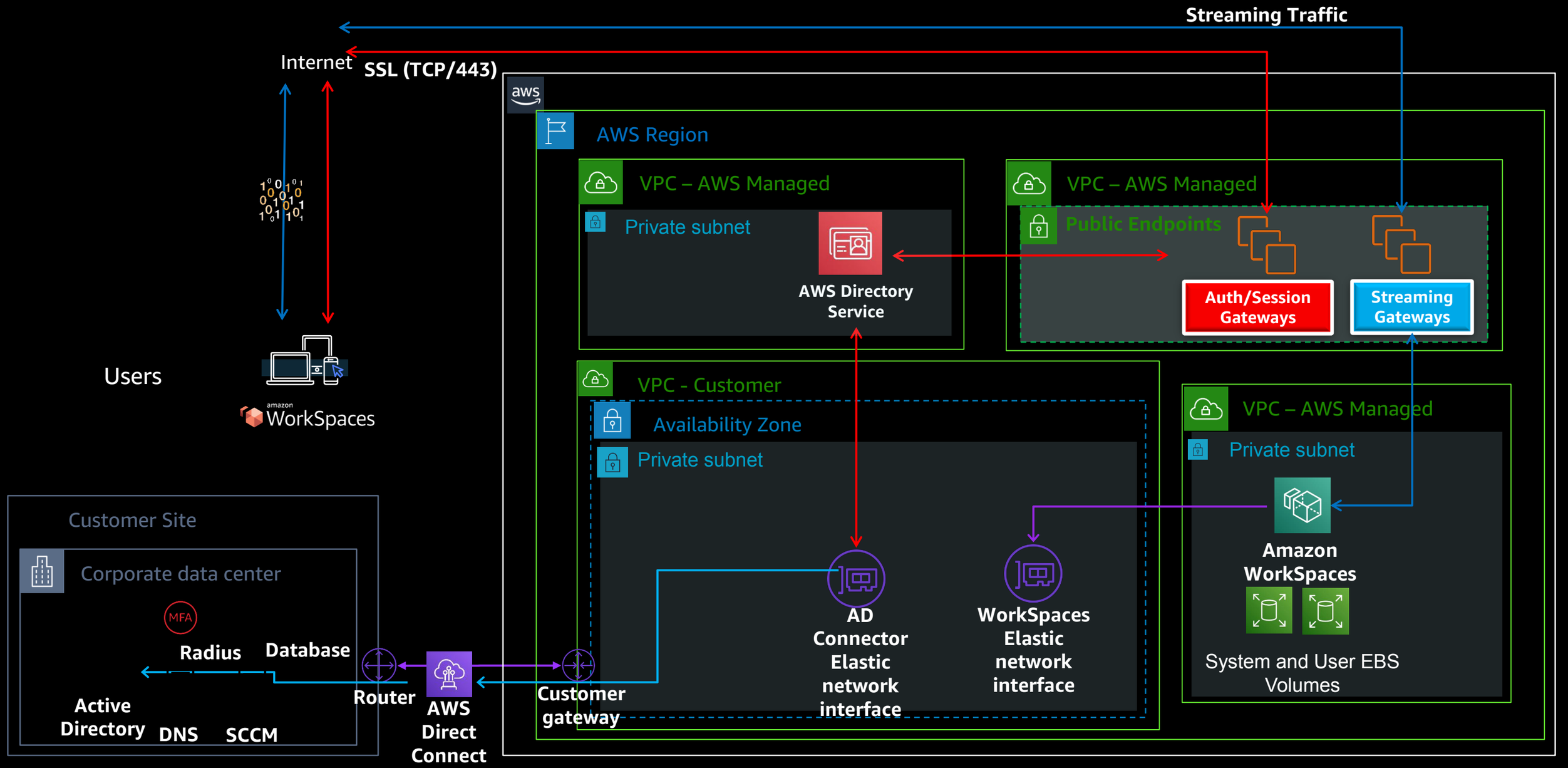
Out of the box WorkSpaces architecture



Out of the box WorkSpaces architecture



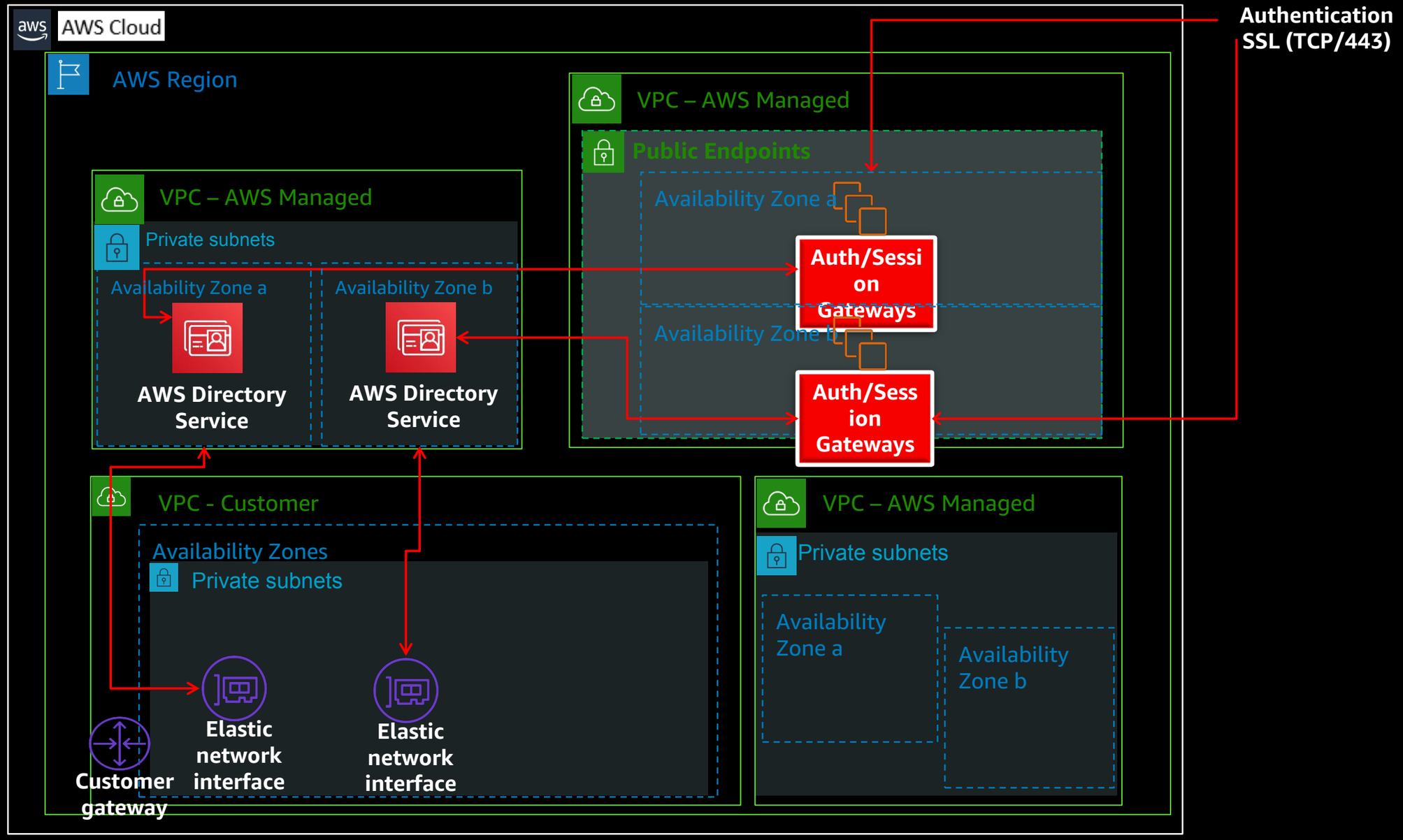
Out of the box WorkSpaces architecture



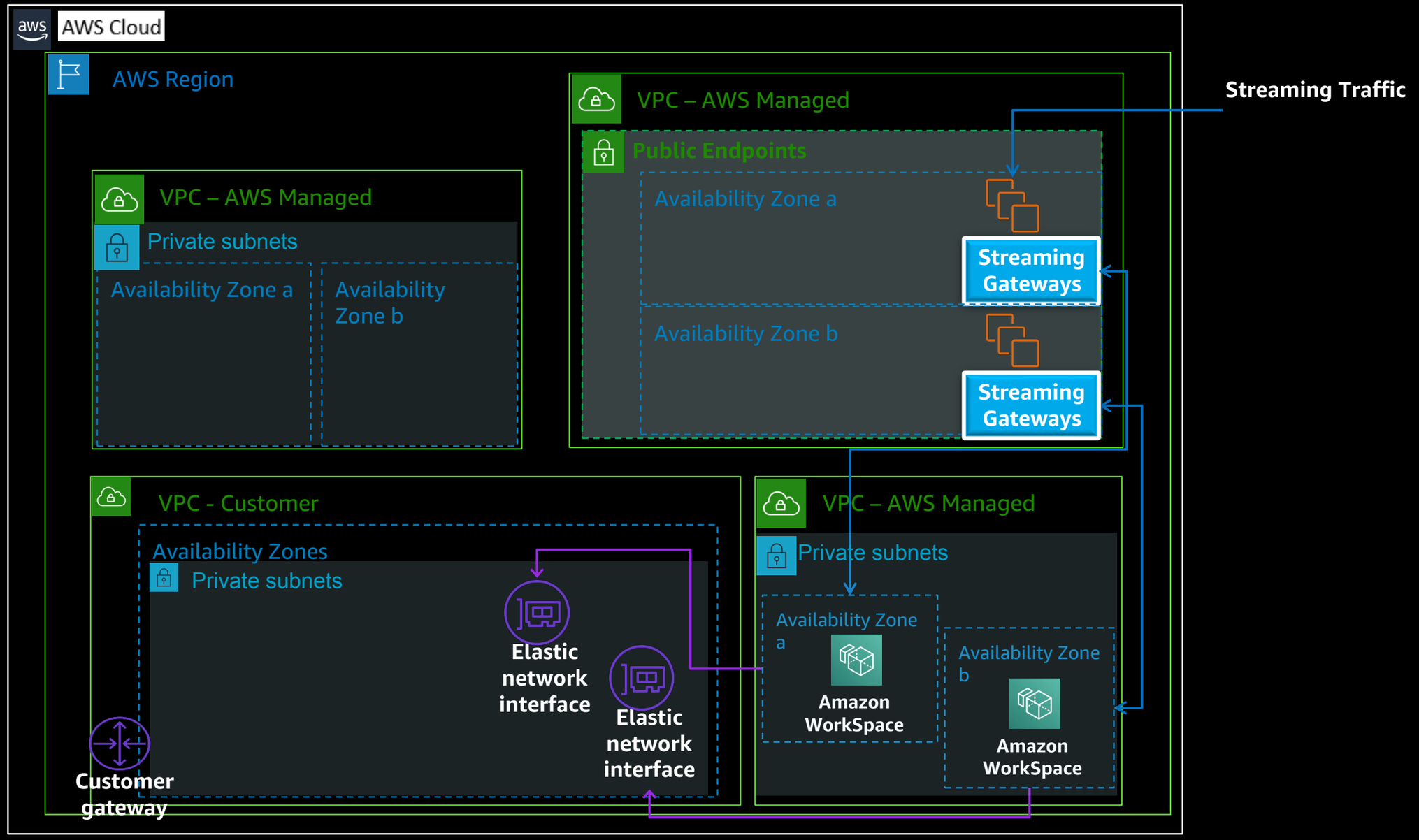
Under the hood WorkSpaces architecture



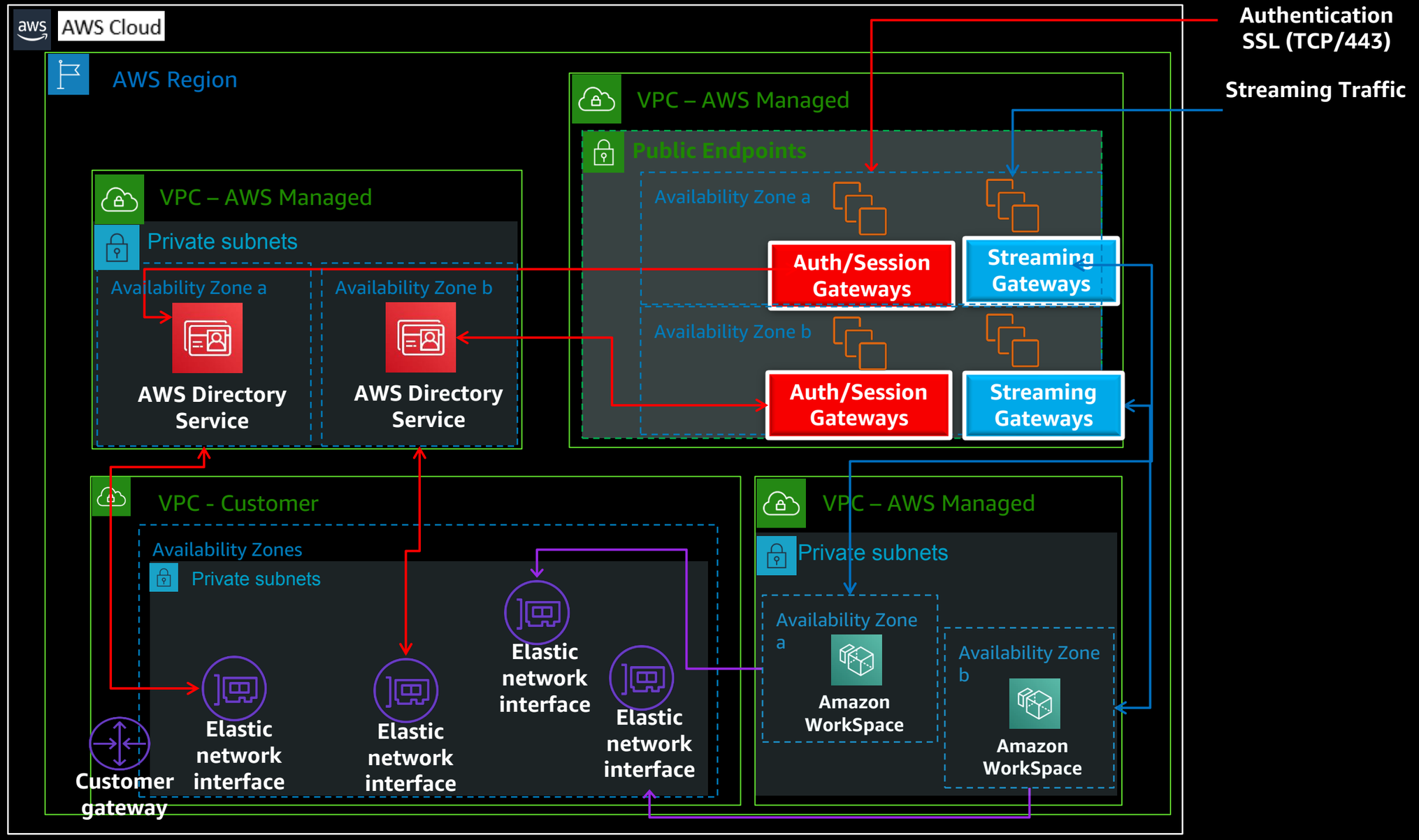
Under the hood WorkSpaces architecture



Under the hood WorkSpaces architecture



Under the hood WorkSpaces architecture



Additional infrastructure considerations

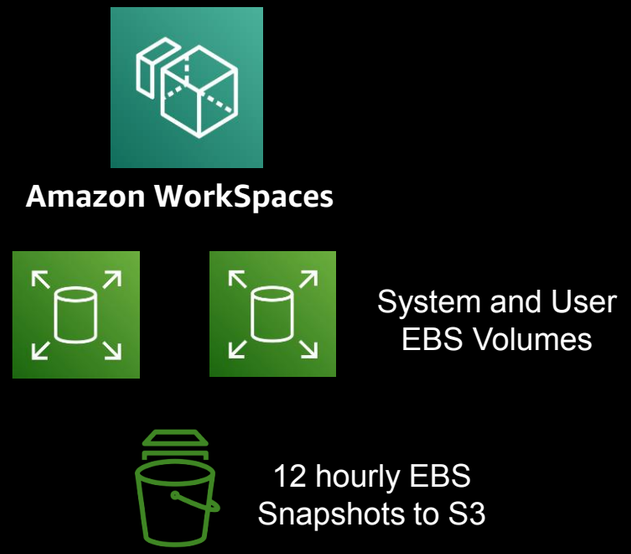
- If infrastructure on premise, multiple redundant network pathing options

- 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



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

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 EC2 or 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



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

Multi Region Deployment – Pilot Light

- Launch and scale your WorkSpaces fleet as you execute DR
  - API rate limiting depending 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

Multi Region Deployment – Hot Standby

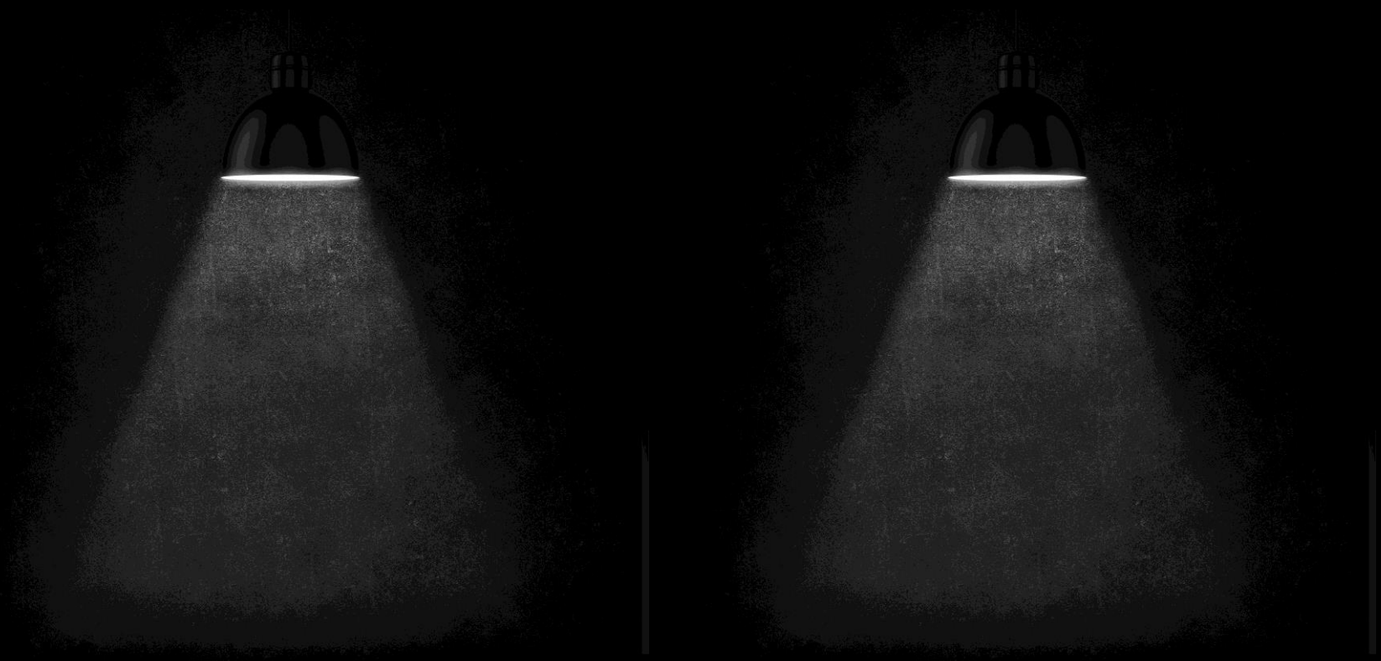
- Builds on Pilot Light scenario



- 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

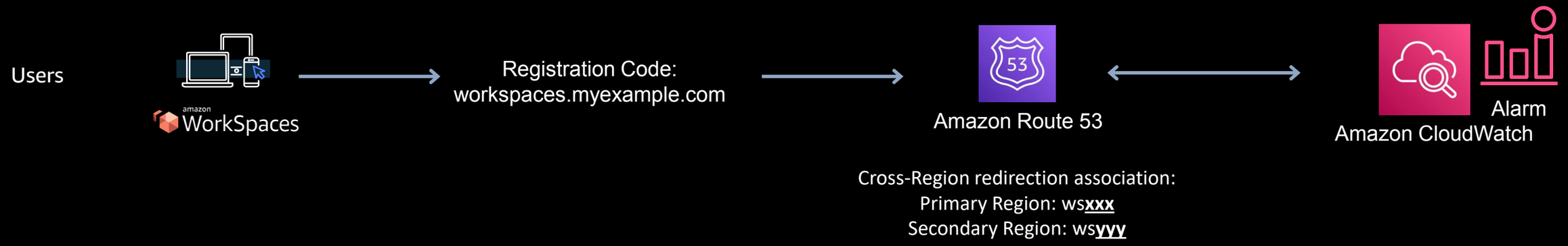
Multi Region Deployment – Hybrid

- Have key critical Users (or Groups of Users) setup in Hot Standby
- Other less essential Users to be spun up as part of Pilot Light



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



WorkSpaces Management Cons | Route 53 Console Hosted Zones | Route 53 Management Console | WorkSpaces Console | WorkSpaces Management Cons

ap-southeast-2.console.aws.amazon.com/workspaces/home?region=ap-southeast-2#listworkspaces:search=phil

aws Services ▼ Phillip Persson ▼ Sydney ▼ Support ▼

WorkSpaces

- Directories
- WorkSpaces
- Bundles
- Images
- IP Access Controls
- Account Settings

Application Manager

- Applications
- Packages
- Usage
- Subscriptions

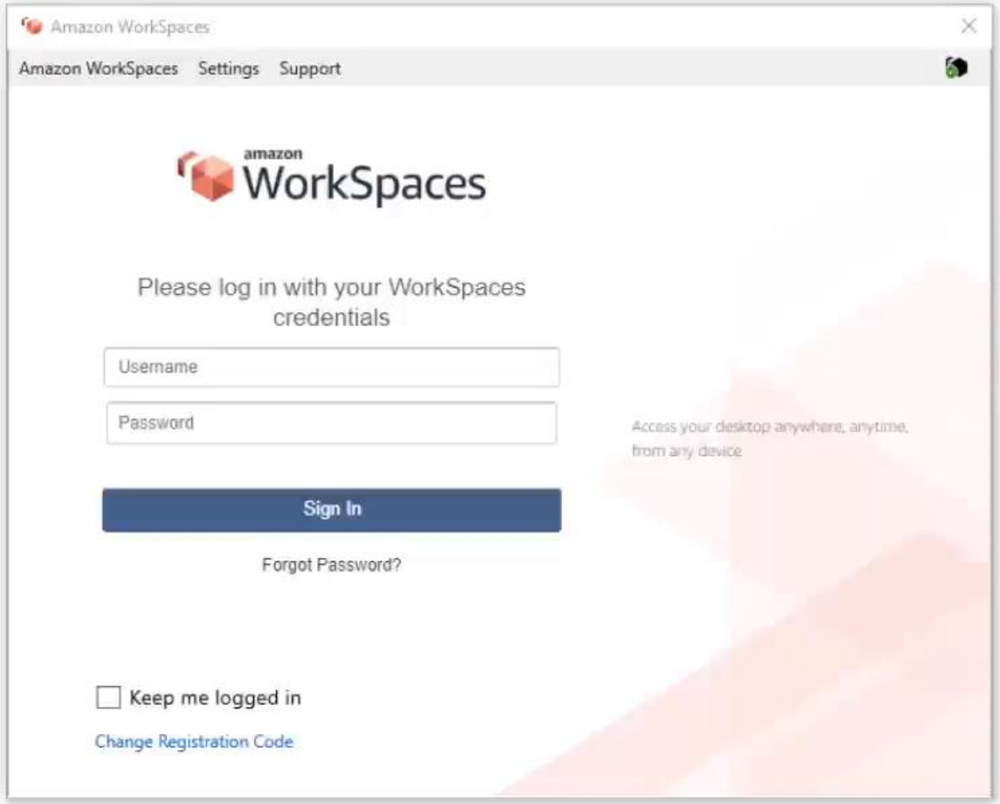
WorkSpaces

Launch WorkSpaces | Actions ▼

phil

1 to 1

WorkSpace ID	Username	Compute	Root Volume	User Volume	Running Mode	Status
ws-1yv40p1cd	Phil	Standard	80 GB	50 GB	AutoStop	AVAILABLE



Feedback English (US) ▼

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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/

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

Thank you!



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