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AWS Solutions Architect Associate

Session 1102

Migration & Transfer: Snow Family, Transfer Family

August/2024

Cloud Migration Services

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- Database
  - Database Migration Services (Session 701)
- Hybrid Storage
  - AWS Storage Gateway (Session 1001)
  - AWS Direct Connect (Session 402)
- Online Data Transfer
  - AWS DataSync
  - AWS Transfer Family
  - S3 Transfer Acceleration
  - Snowcone
  - Kinesis Firehose (Session 1202)
- Offline Data Transfer
  - Snowcone
  - Snowball
  - Snowmobile
- Unmanaged
  - rsync
  - S3 CLI
  - S3 Glacier CLI

Taken from https://aws.amazon.com/cloud-data-migration/ (06/08/2024)

Offline Data Transfer (Snow Family)

Snowcone

2 CPU, 4GB RAM, TB HD. NFS (v3 and v4.1) to AWS, DataSync for Online.
Main usage cases: Hard env, IoT, military.

Snowball and Snowball Edge

Snowmobile

Taken from https://aws.amazon.com/snow/ and https://aws.amazon.com/snowcone/faqs/ (06/08/2024)

Online Data Transfer: DataSync

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"…online data transfer service that simplifies, automates, and accelerates moving data between on-premises storage systems and AWS Storage services, as well as between AWS Storage services."

1. Other locations and AWS.
2. Between AWS Storage services
3. Between OnPrem and AWS.

The DataSync software agent connects to your Network File System (NFS), Server Message Block (SMB) storage, and your self-managed object storage, so you don't have to modify your applications.
You can use DataSync to migrate active data sets or archives to AWS, transfer data to the cloud for timely analysis and processing, or replicate data to AWS for business continuity.

Taken from https://aws.amazon.com/datasync/?whats-new-cards.sort-by=item.additionalFields.postDateTime&whats-new-cards.sort-order=desc (06/08/2024)

Online Data Transfer: DataSync

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Features:

Simplify and automate transfers
Move data 10x faster: Propietary Protocol
Reduce operational costs

Usage Cases:

Data migration
Data processing for hybrid workloads
    If you have on-premises systems generating or using data that needs to move into or out of AWS for processing, you can use DataSync to accelerate and schedule the transfers.
Archiving of cold data
    If you have large amounts of cold data stored in expensive on-premises storage systems, you can move this data directly to durable and secure long-term storage such as Amazon S3 Glacier or Amazon S3 Glacier Deep Archive.
Data protection
    if you have large Network Attached Storage (NAS) systems, you likely have a lot of files to protect—either with replication or backup to a second hardware stack

Taken from https://aws.amazon.com/datasync/?whats-new-cards.sort-by=item.additionalFields.postDateTime&whats-new-cards.sort-order=desc (06/08/2024)

Online Data Transfer: DataSync

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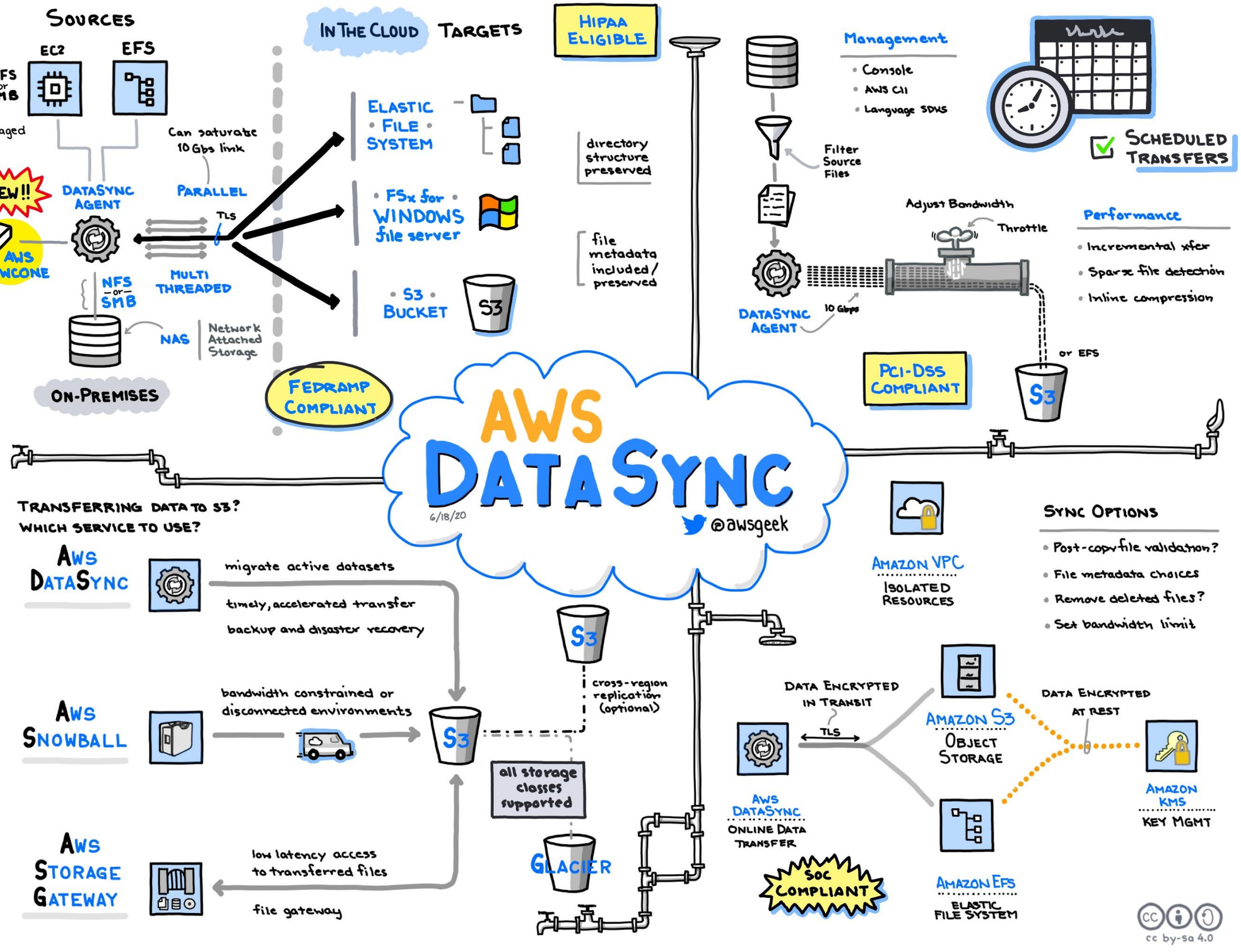
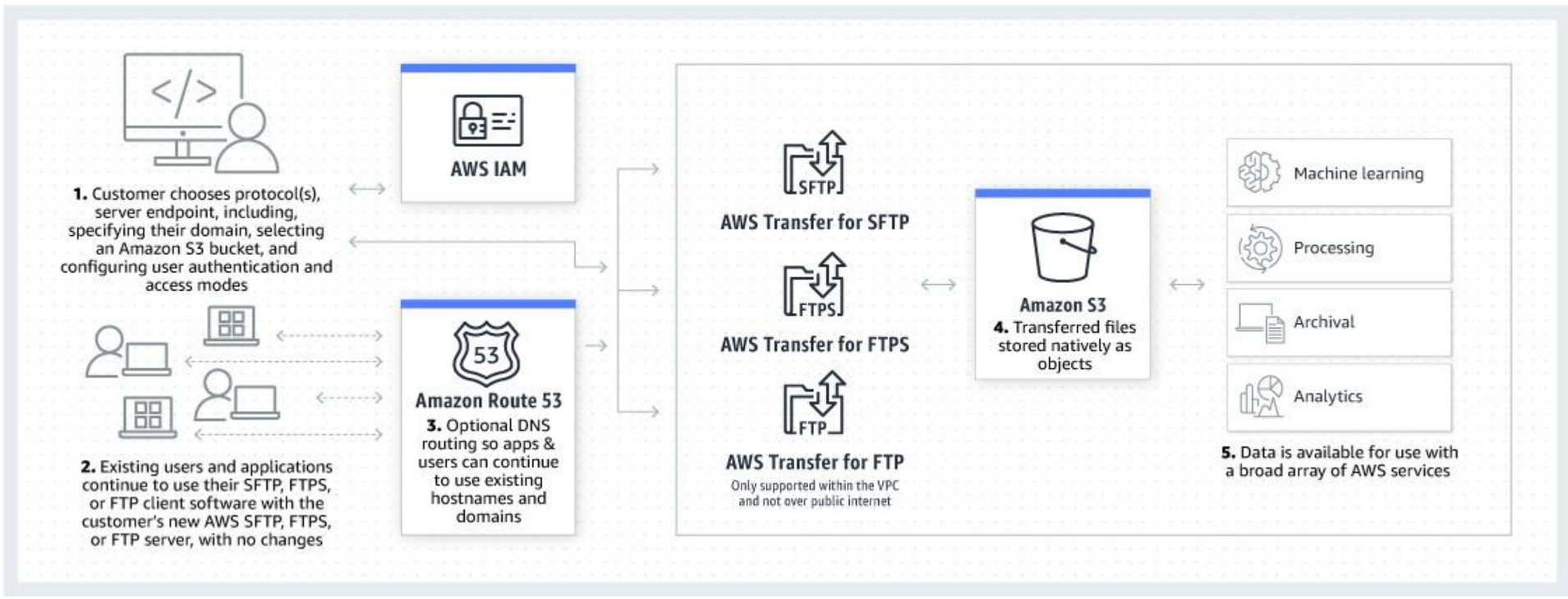


Taken from https://www.awsgeek.com/AWS-DataSync/ (23/11/2020)

Online Data Transfer: Transfer Family



Auth Options: BYO Auth (AD, LDAP, Okta?) or Managed (i.e. Cognito, IAM)

Taken from https://aws.amazon.com/aws-transfer-family/features/ (06/08/2024)

Transfer Family: Infografic

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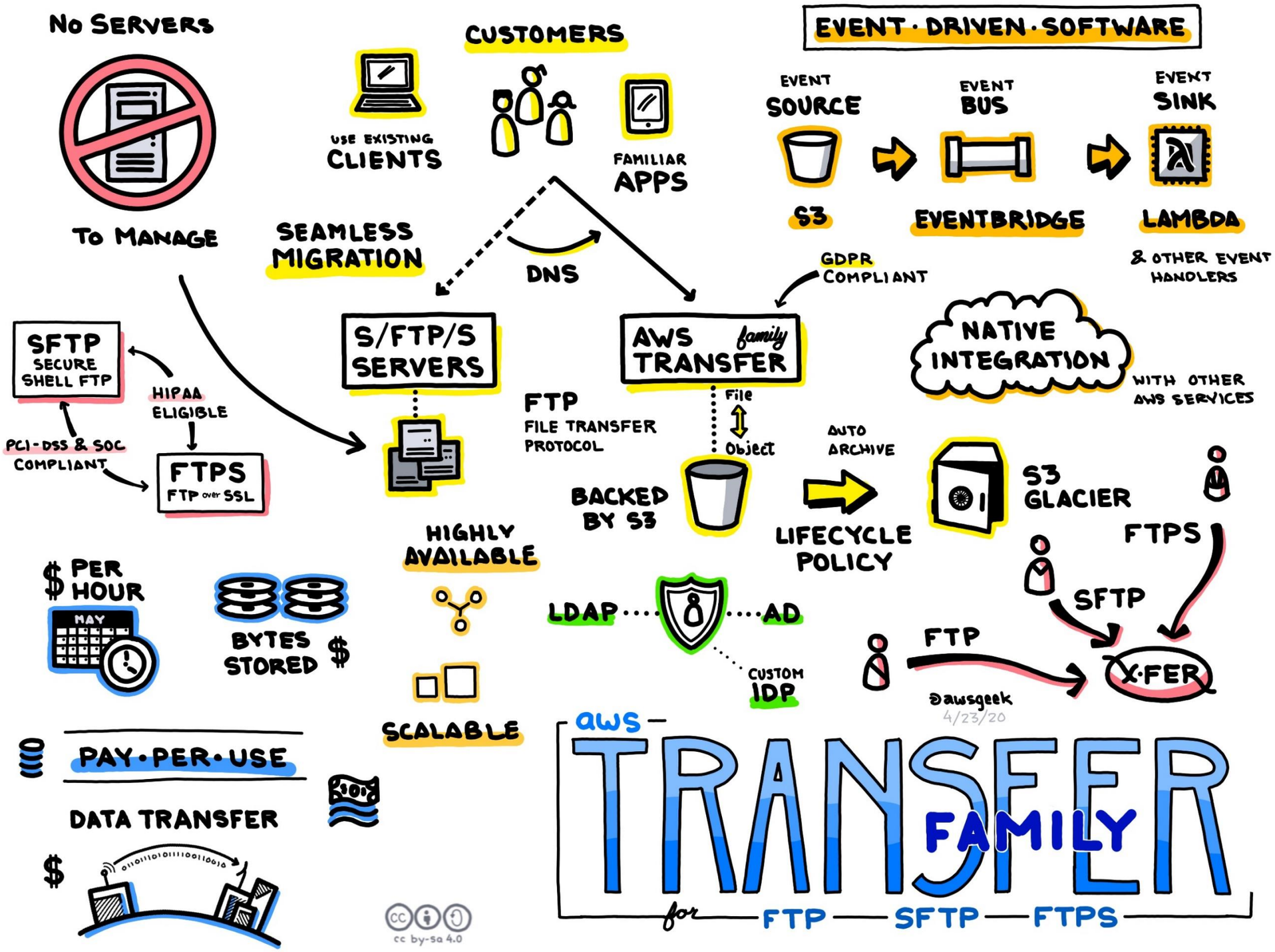

Taken from https://www.awsgeek.com/AWS-Transfer-Family/ (23/11/2020)

Online Data Transfer: S3 Transfer Acceleration

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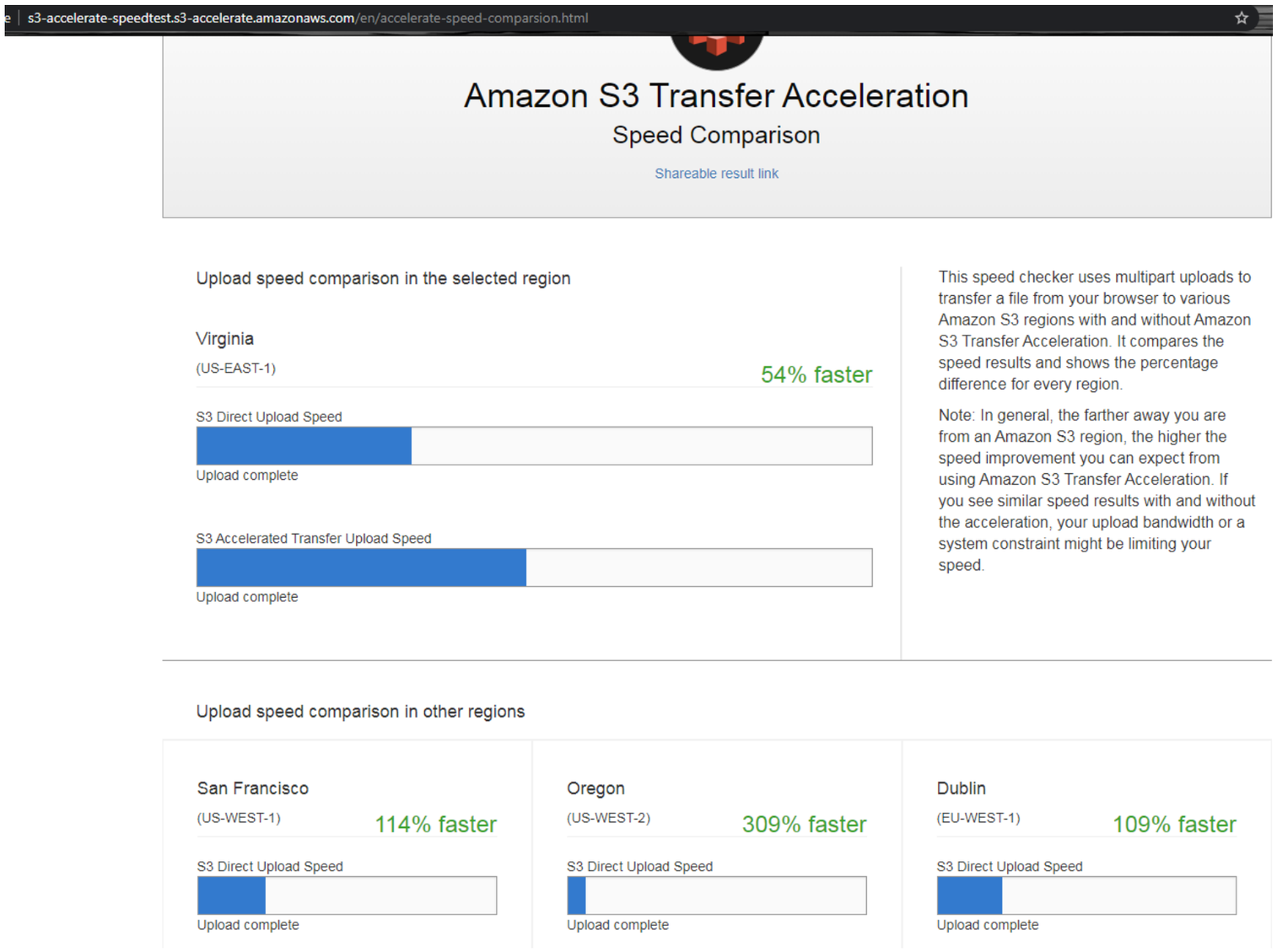
S3 Connection goes to PoP and then have an uniform latency to centralized S3 bucket.

S3TA vs DxC: AWS Direct Connect is a good choice for customers who have a private networking requirement or who have access to AWS Direct Connect exchanges. S3 Transfer Acceleration is best for submitting data from distributed client locations over the public Internet, or where variable network conditions make throughput poor.
S3TA vs CF Put/Post: Better High throughput on S3TA, but if you have data < 1GB use Cloudfront Put/Post.

Taken from https://aws.amazon.com/s3/faqs/#Amazon_S3_Transfer_Acceleration , https://docs.aws.amazon.com/AmazonS3/latest/userguide/transfer-acceleration.html and https://docs.aws.amazon.com/whitepapers/latest/s3-optimizing-performance-best-practices/use-amazon-s3-transfer-acceleration-to-minimize-latency-caused-by-distance.html (06/08/2024)

S3 Transfer Acceleration



Taken from http://s3-accelerate-speedtest.s3-accelerate.amazonaws.com/en/accelerate-speed-comparsion.html (23/11/2020)

Global Accelerator

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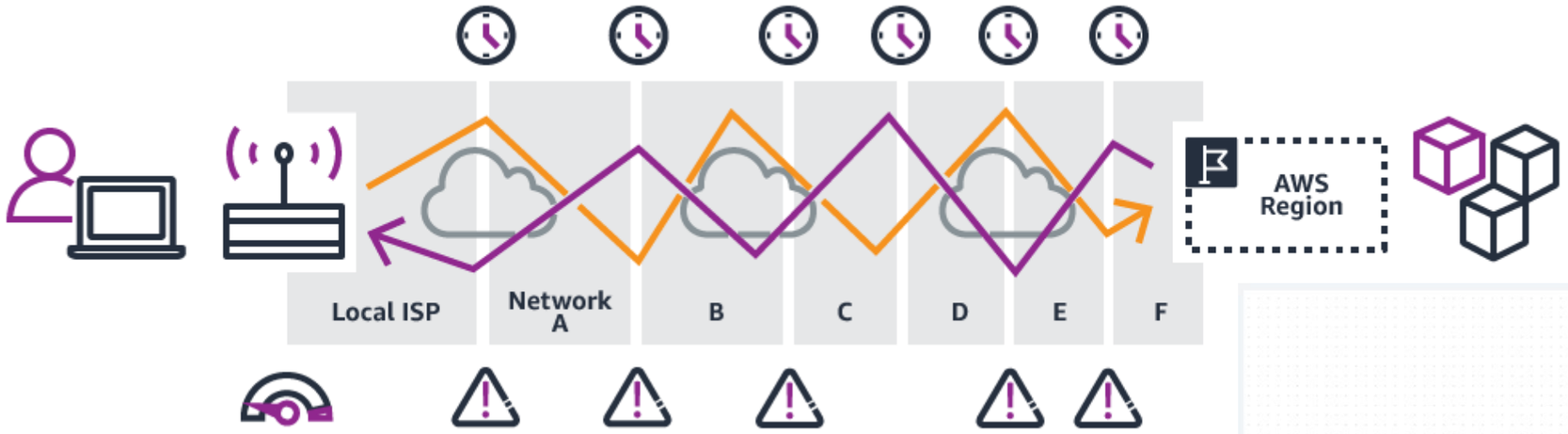
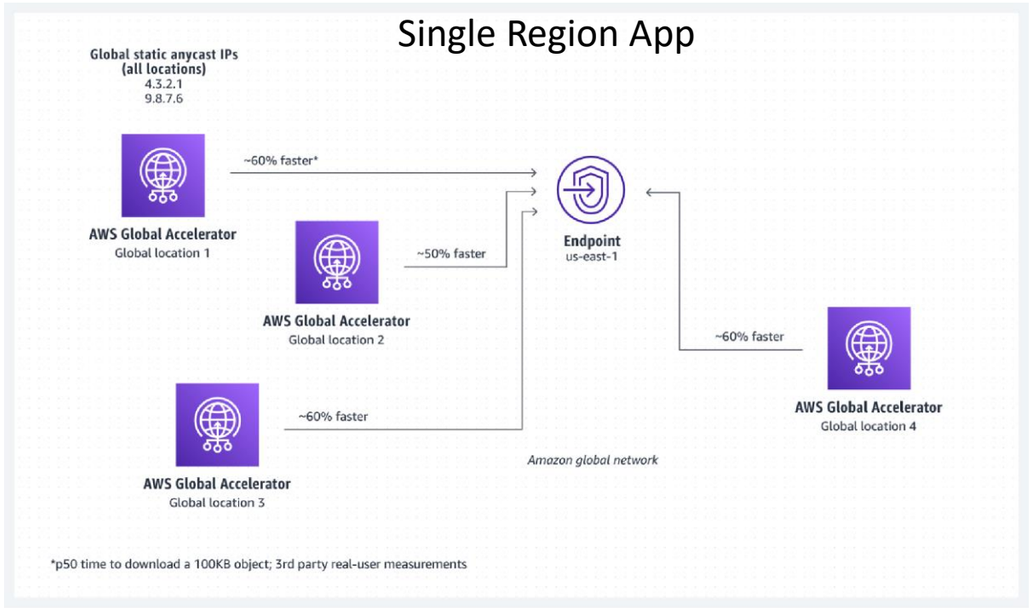
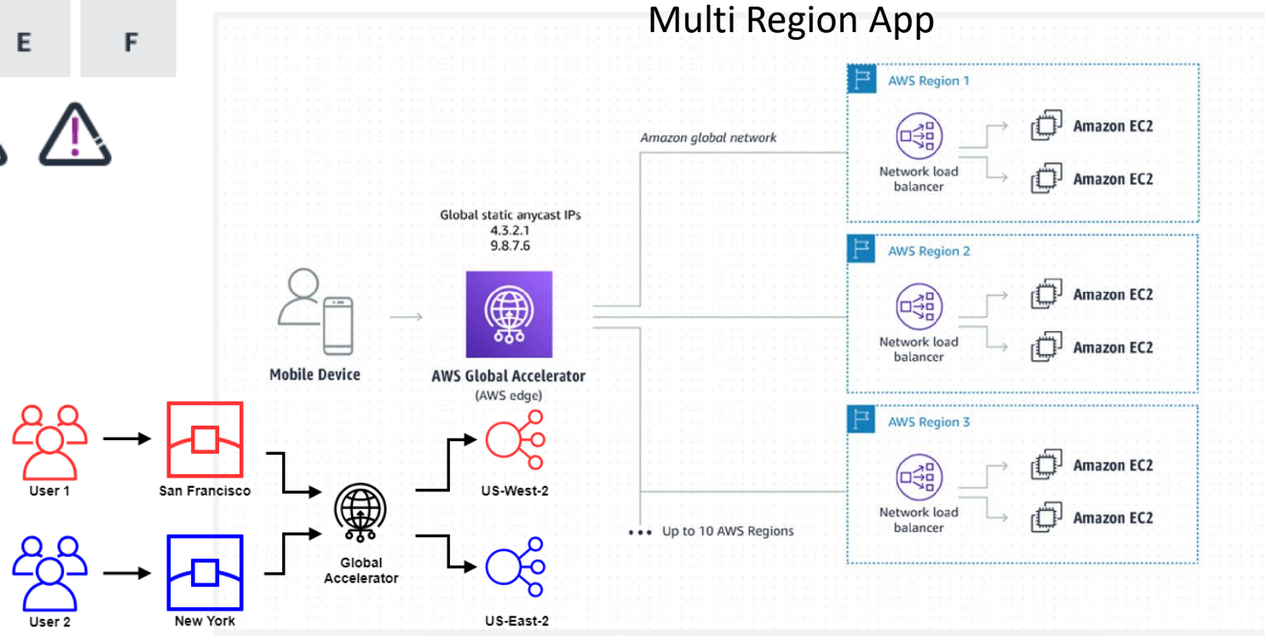
Provided Edge endpoint (2 Static IPs behind) on specific region that you can distribute your traffic to nearest endpoint: EC2, NLB, ALB, can be private . Up to 60%. Affinity from Source and Health check for Balancing.



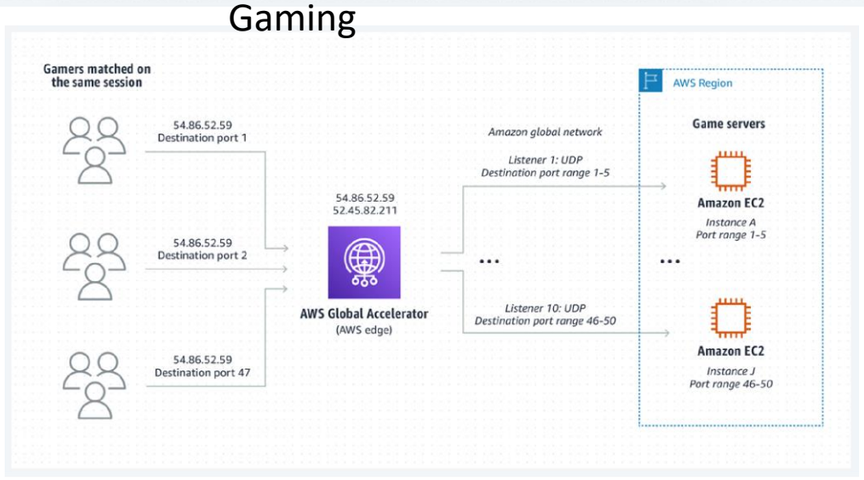
Single Region App



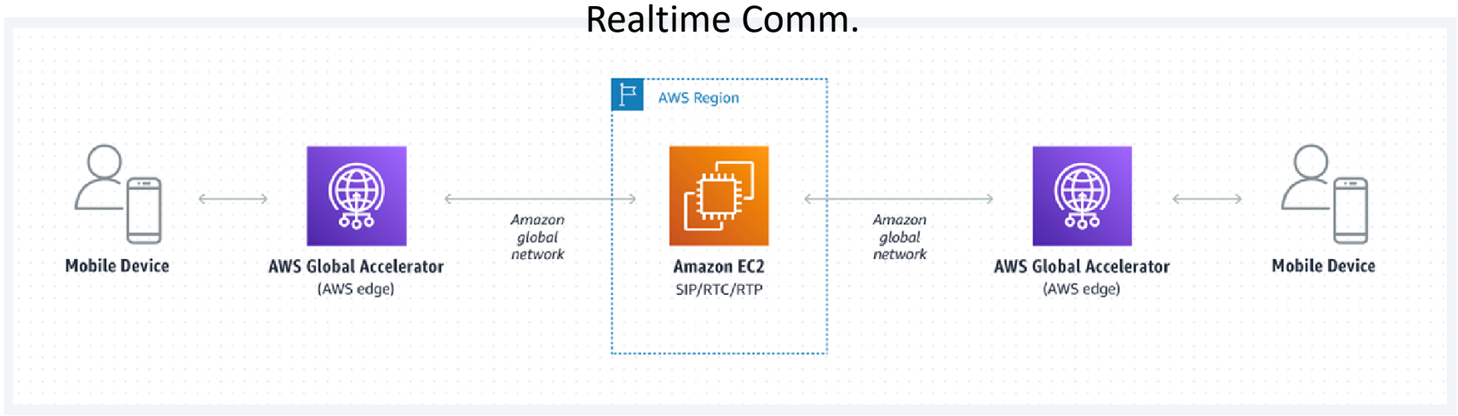
Multi Region App



Gaming



Realtime Comm.



Taken from https://aws.amazon.com/global-accelerator/features/ https://intro-to-global-accelerator.workshop.aws/en/ (06/08/2024).
You can find some workshops on https://github.com/jtouzi/aws_global_accelerator and https://catalog.us-east-1.prod.workshops.aws/workshops/ac213084-3f4a-4b01-9835-5052d6096b5b/en-US (06/08/2024)