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

STG218

Accelerate compute workloads with Amazon File Cache

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aws

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We meet you where you are
in your cloud journey

Burst to the cloud



Amazon File Cache

Move to the cloud

FSx

Amazon FSx

Build in the cloud



Amazon EFS

aws

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FSx

Amazon FSx

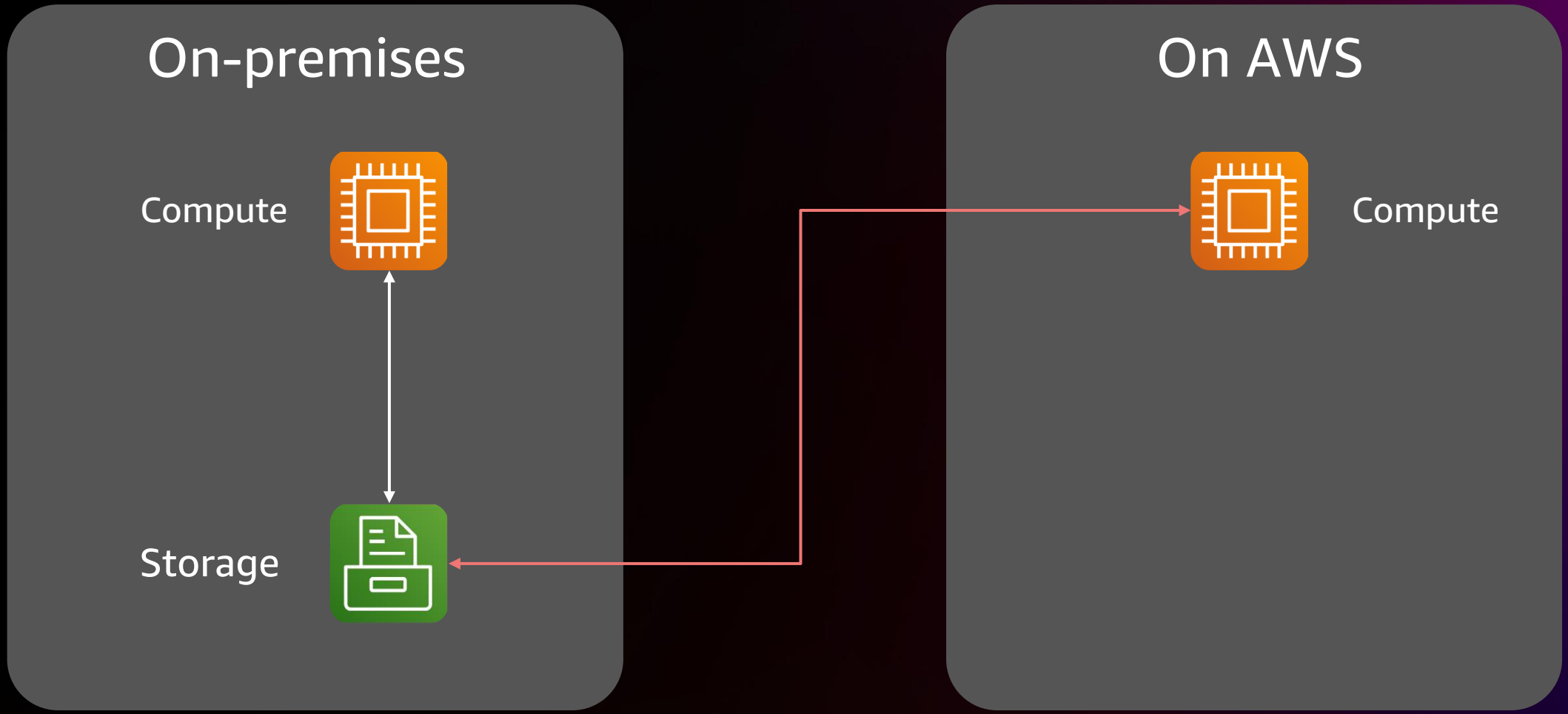
Build in the cloud



Amazon EFS

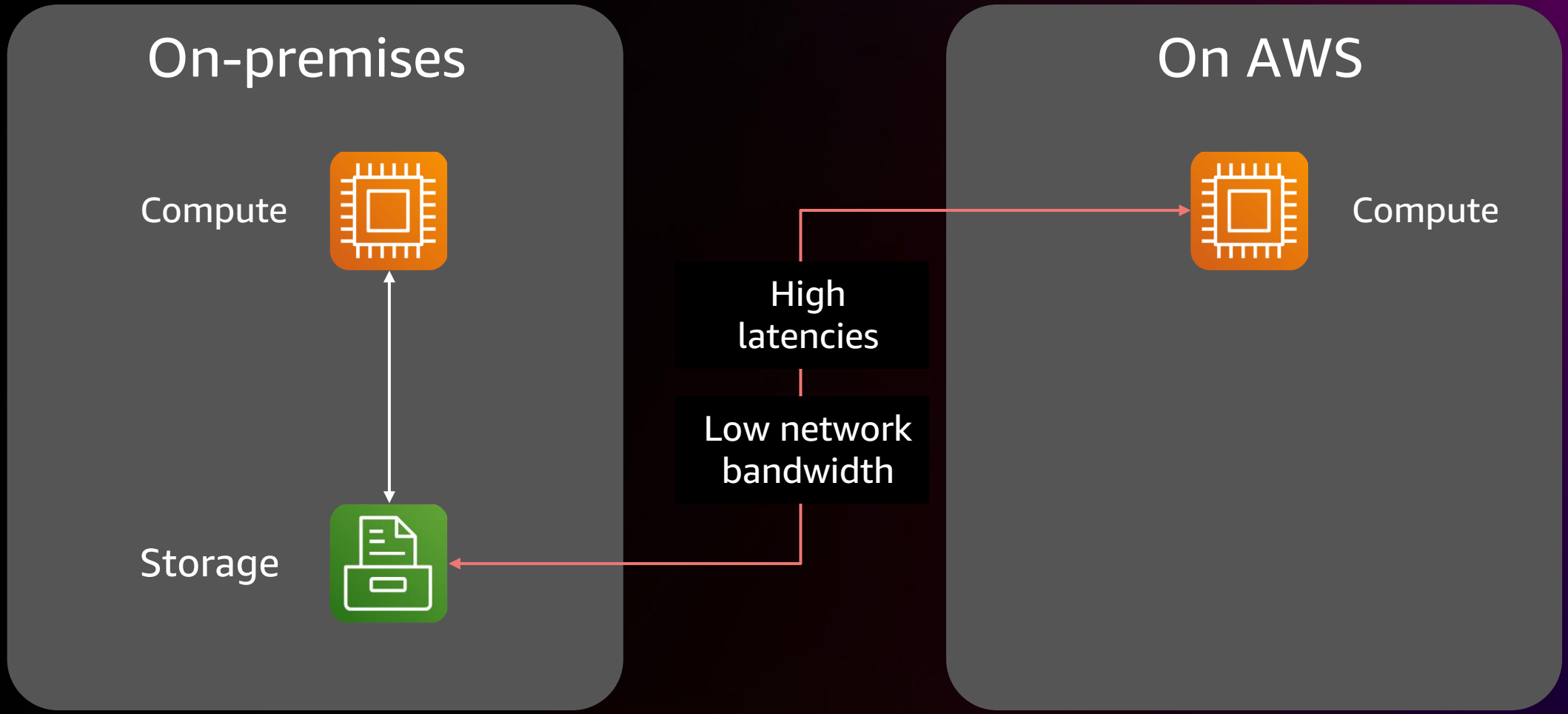
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What is cloud bursting



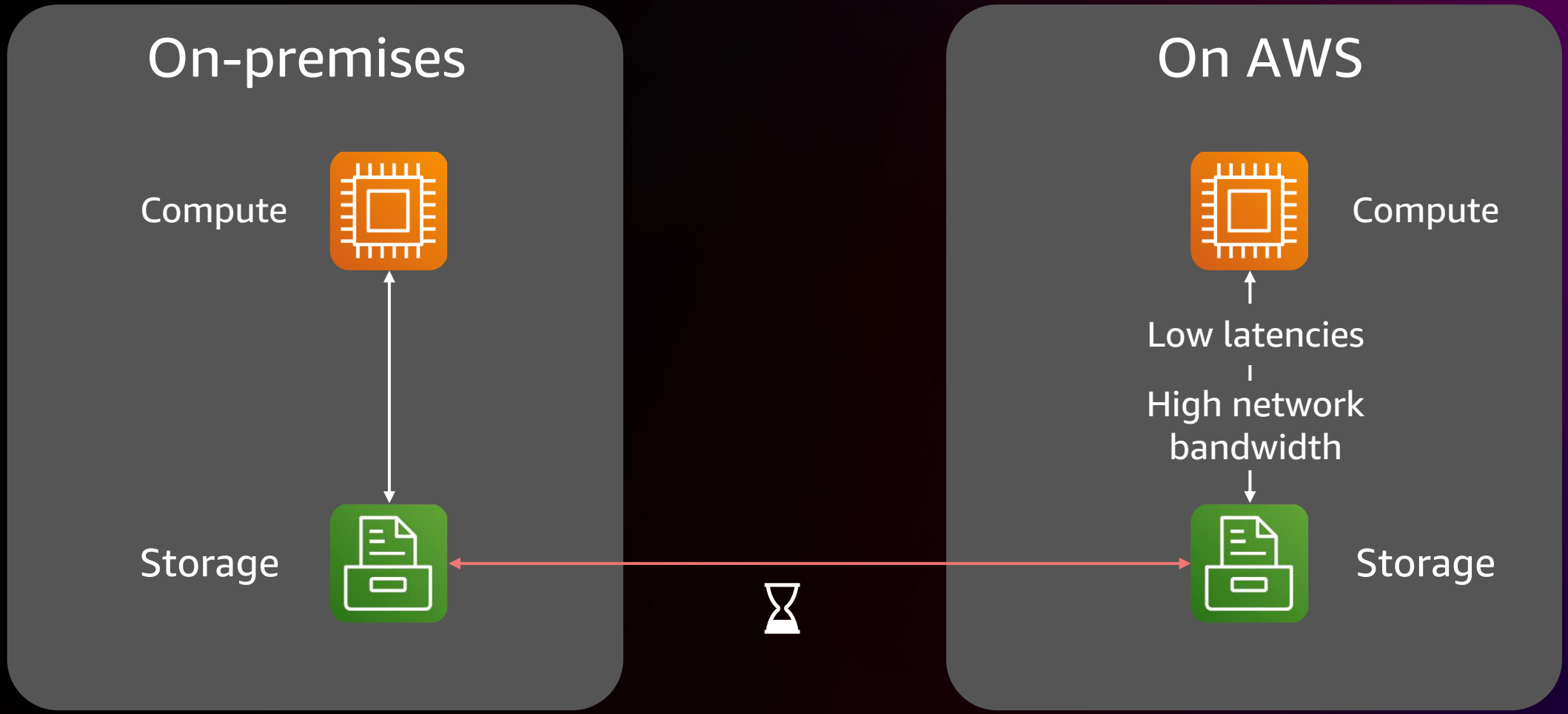
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The challenge with cloud bursting



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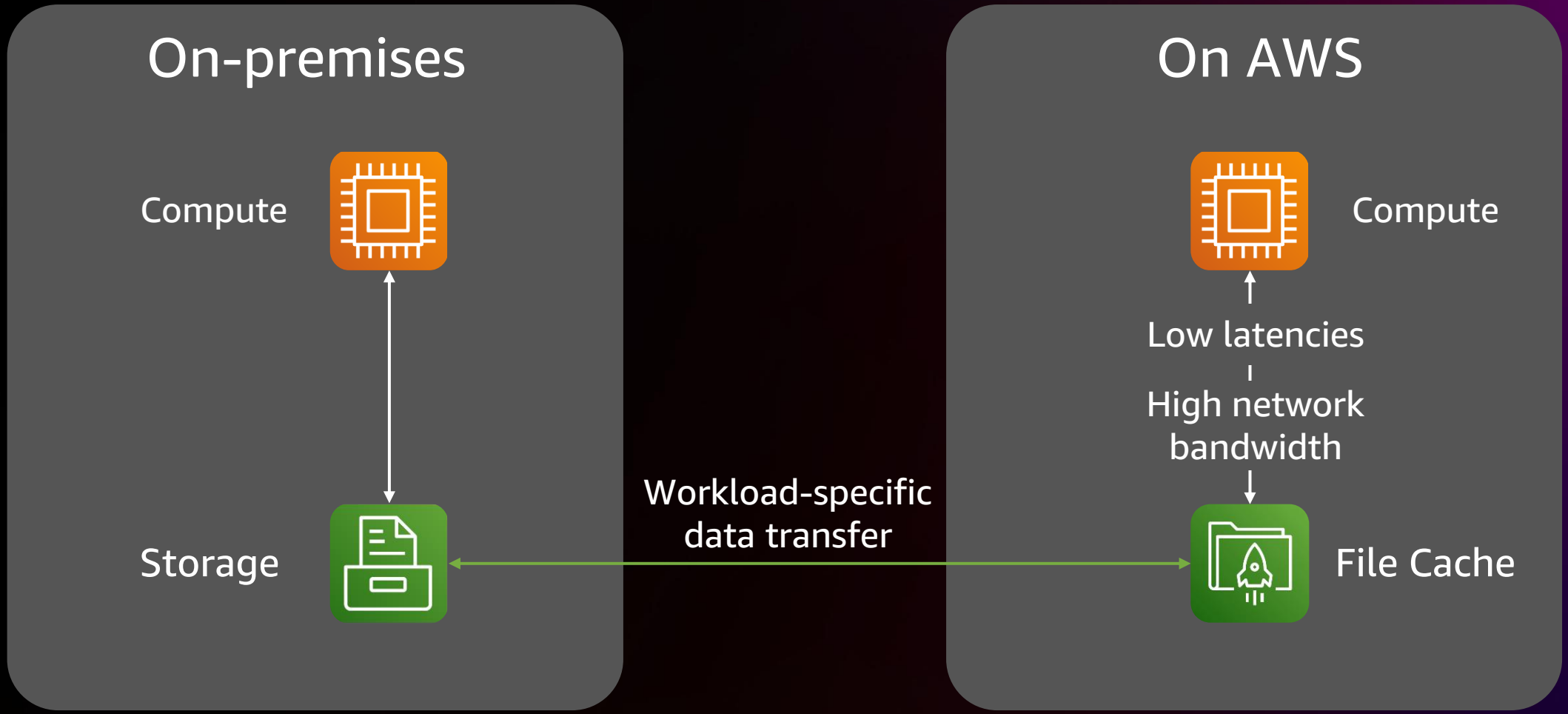
Migrating data for short workloads isn't efficient



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Amazon File Cache

HIGH-SPEED CACHE FOR ON-PREMISES OR AWS DATASETS



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Amazon File Cache

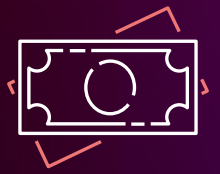
HIGH-SPEED CACHE FOR ON-PREMISES OR AWS DATASETS



Simplify cloud bursting from on-premises file systems to AWS



Lazy-load only the data you need to run your workload



Minimize storage costs by automatically evicting older datasets



Scale performance with up to 100s of GB/s of throughput and millions of IOPS

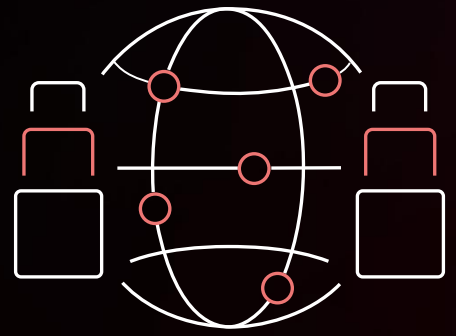


Deploy caches as infrastructure as-code using an API

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In addition...



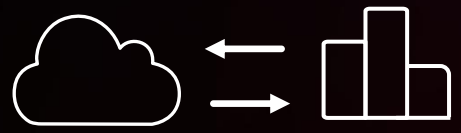
Unify Amazon S3 datasets across one or more AWS Regions

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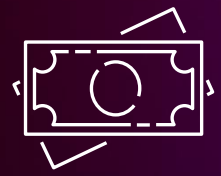
Fast

Complete projects faster and accelerate time-to-insight



Simple

Run your on-premises workloads in the cloud without changing your workflows



Cost effective

Minimize storage costs required to run your workload

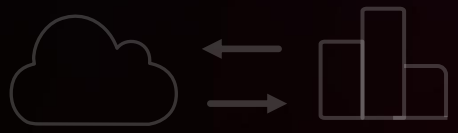
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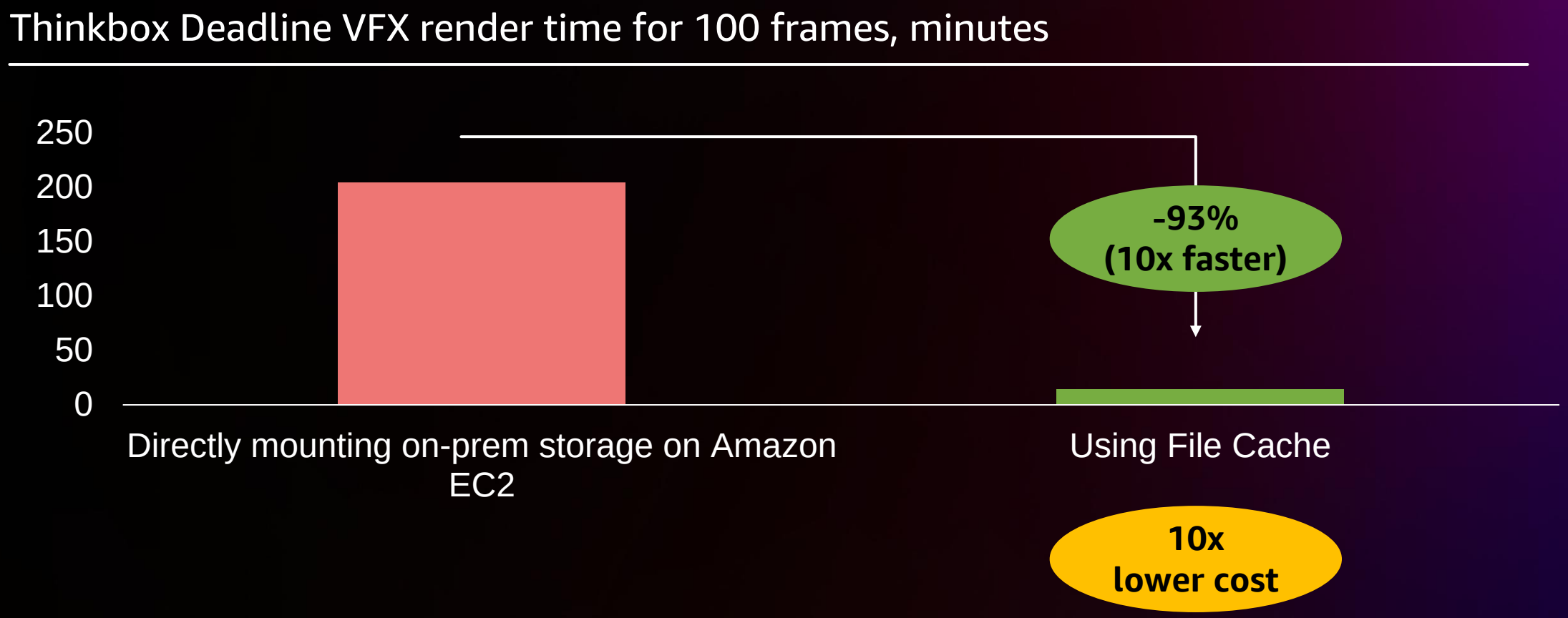
Cost effective

Minimize storage costs required to run your workload

aws

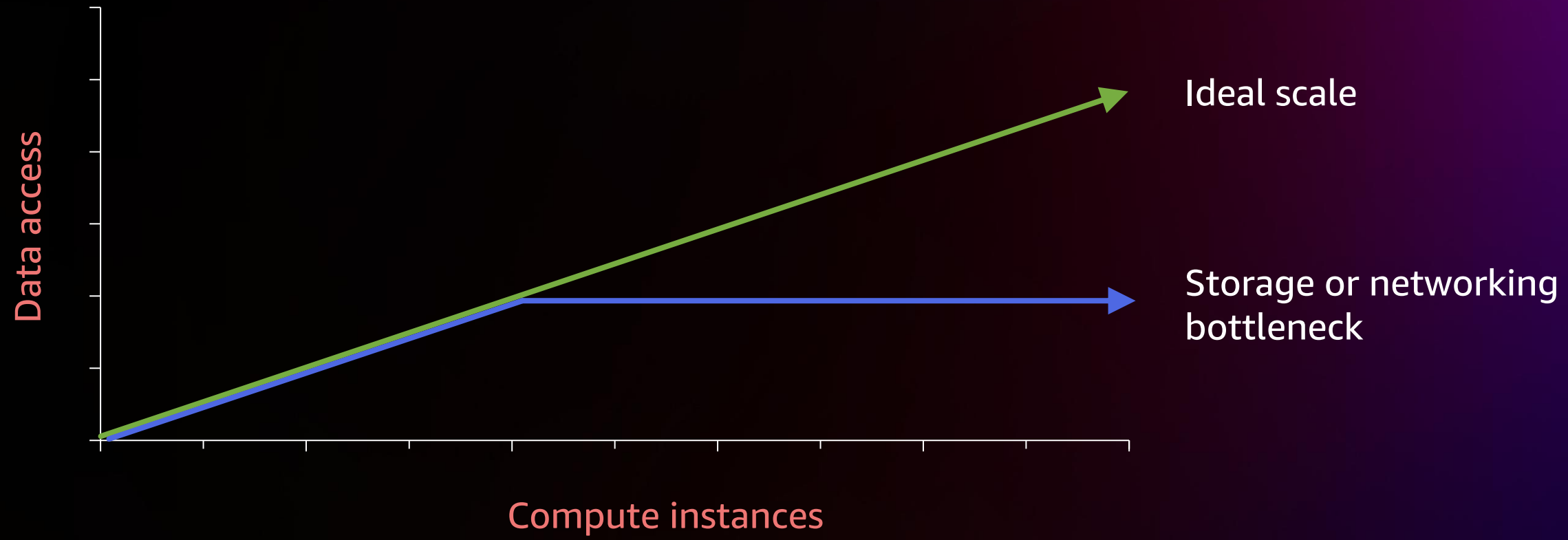
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Case study: Render 100 video frames 10x faster with File Cache vs. directly mounting on-premises storage



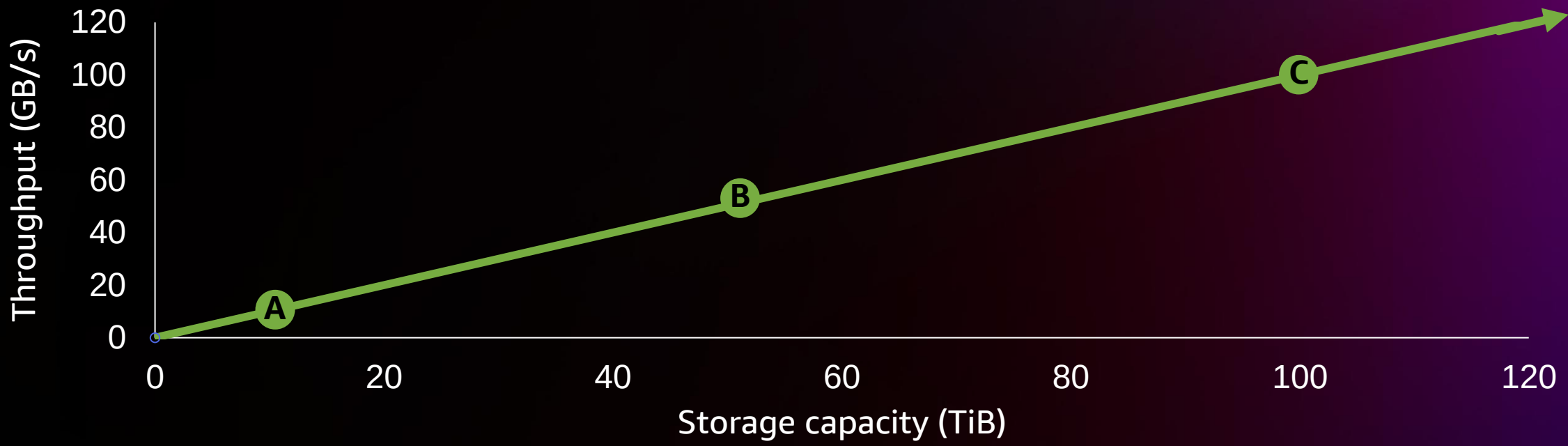
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On-premises storage and networking can limit scalability



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File Cache provides scalable performance



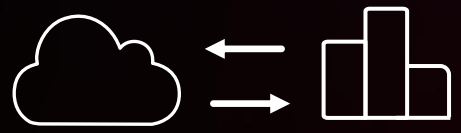
	Cache storage capacity	Throughput	IOPS	Latencies
A	10 TiB	10 GB/s	Tens of thousands	Sub-millisecond
B	50 TiB	50 GB/s	Hundreds of thousands	Sub-millisecond
C	100 TiB	100 GB/s	>1 Million	Sub-millisecond

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Run your on-premises workloads in the cloud without changing your workflows



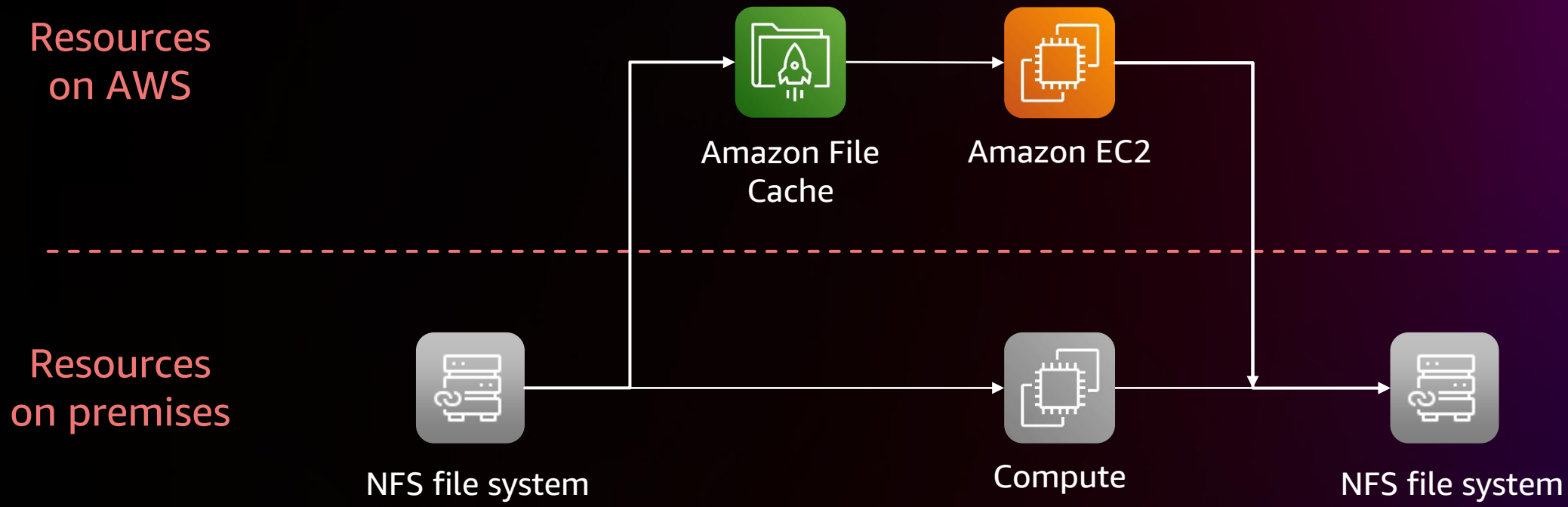
Cost effective

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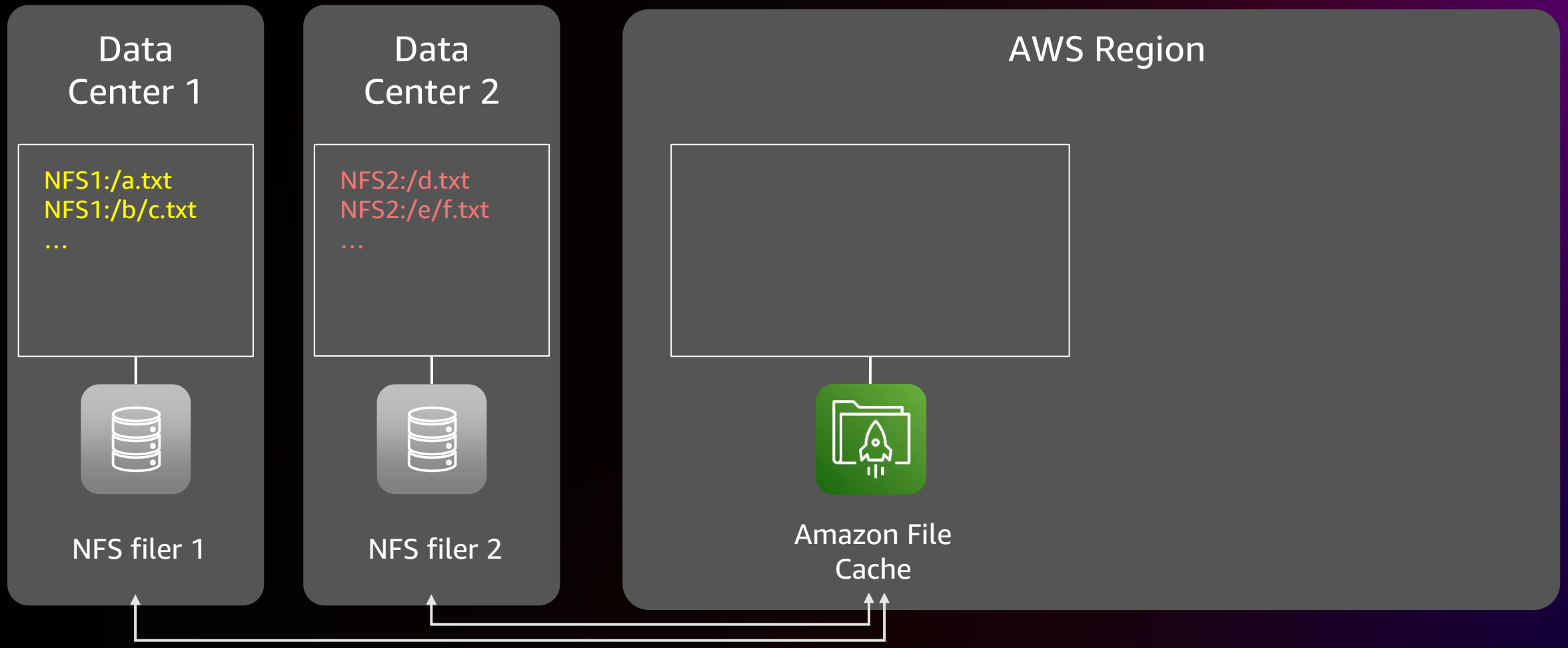
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Burst to the cloud without changing workflows



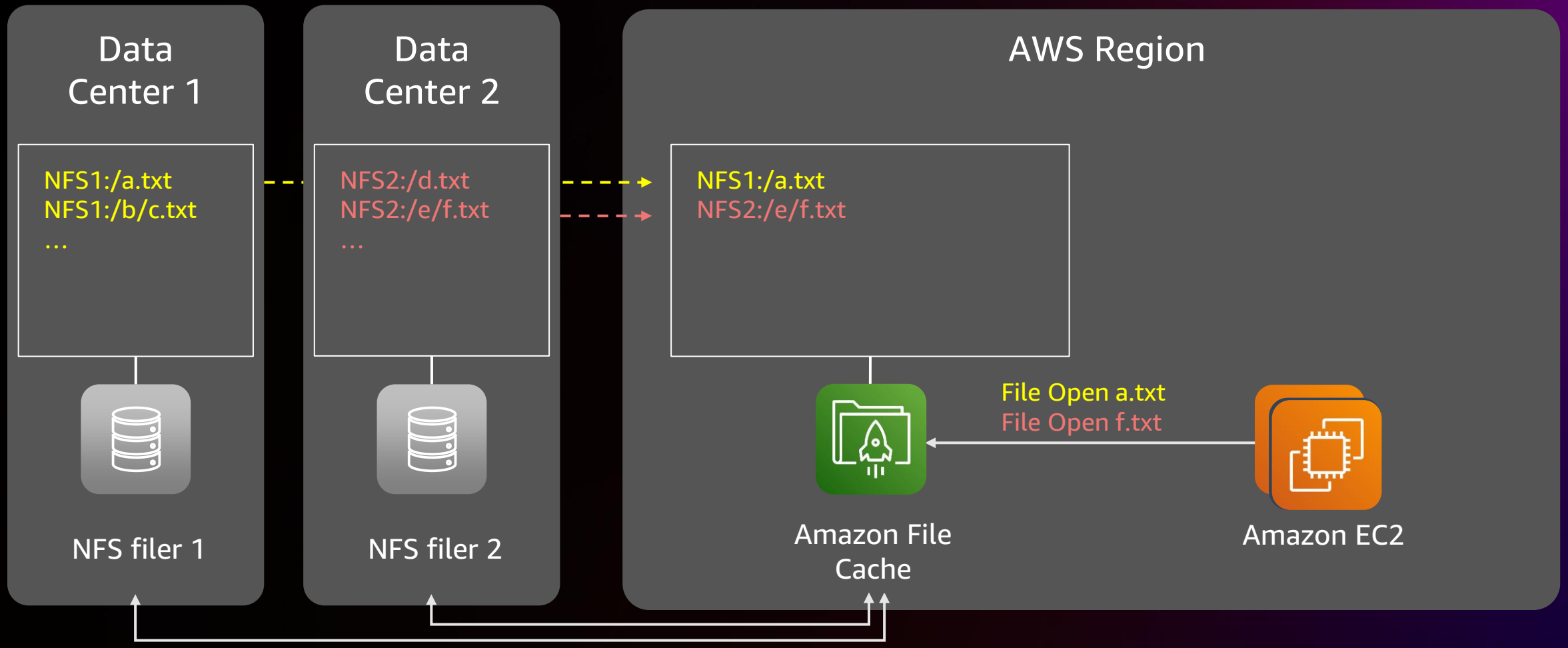
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File Cache integrates with your on-premises NFS file system



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File Cache automatically loads data for your workload



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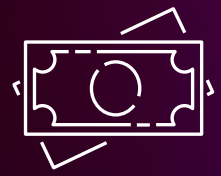
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Run your on-premises workloads in the cloud without changing your workflows



Cost effective

Minimize storage costs required to run your workload

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Minimize storage resources, pay as you go

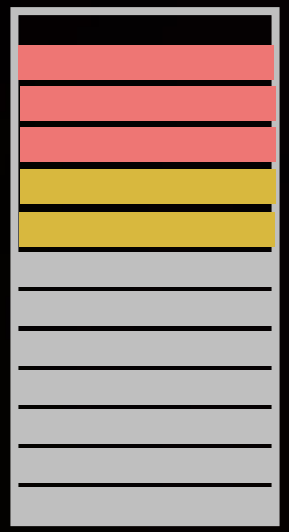
Storage type	Hourly storage price
Cache storage	$1.82 per TB-hour

Additional charges	
Data ingest from on-premises file system	Free
Data transfer/IO costs between EC2 instances and cache	Free within the same AZ
Data transfer out of AWS	Varies by region

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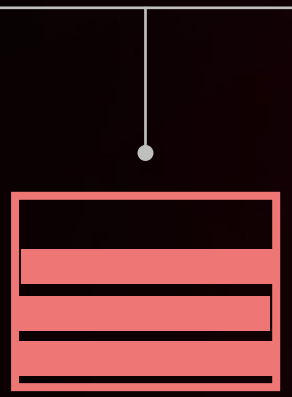
Minimize cache storage capacity

Active data sets



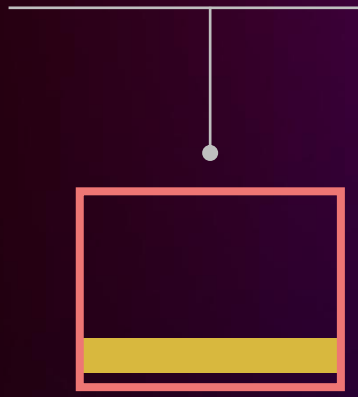
On-premises storage

Provision capacity to hold your active data set



Cache storage

Automatically release older data to make space for new data

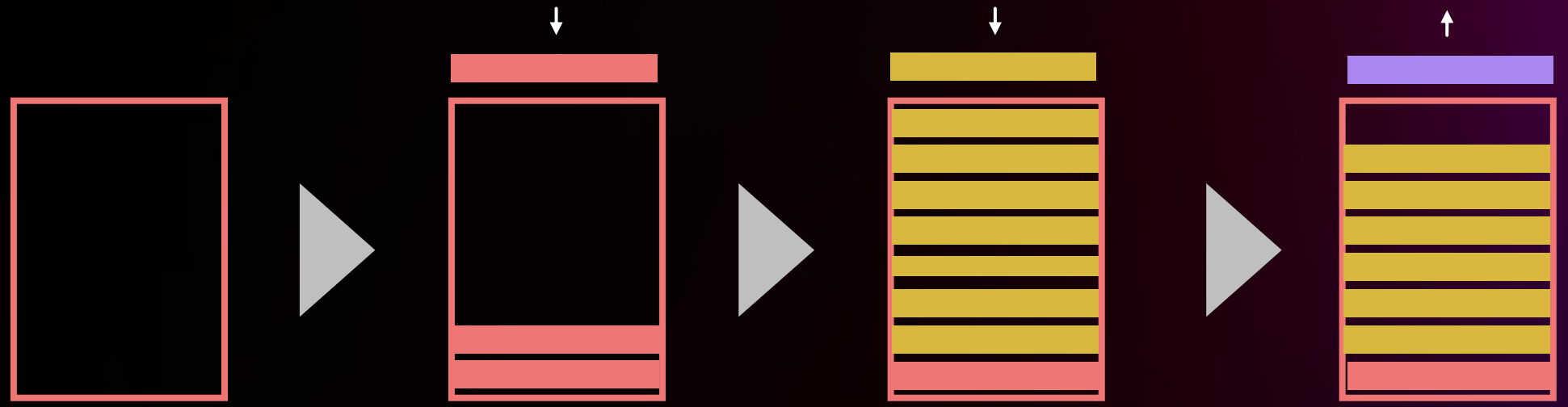


Cache storage

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Automate capacity management

AMAZON FILE CACHE ENSURES THE CACHE ALWAYS HAS ENOUGH FREE SPACE



Cache is provisioned

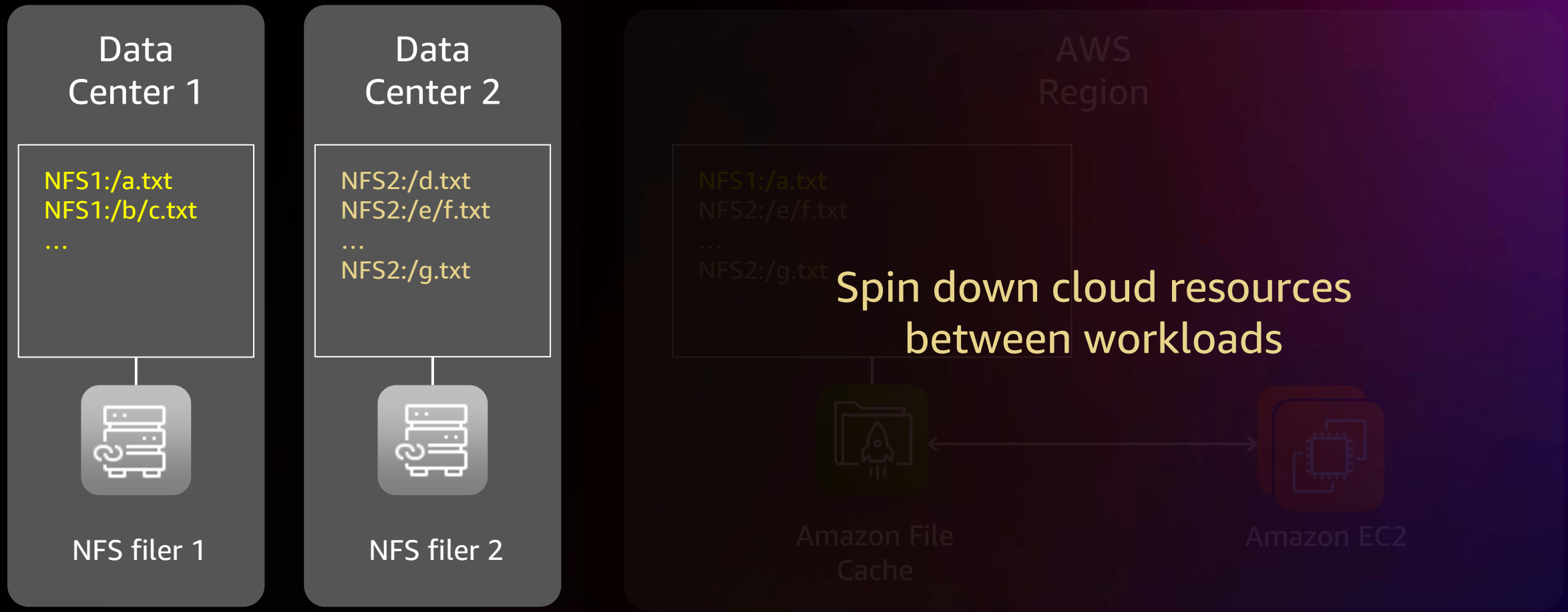
Data is added to cache

Cache approaches storage limit

Cache automatically releases older data

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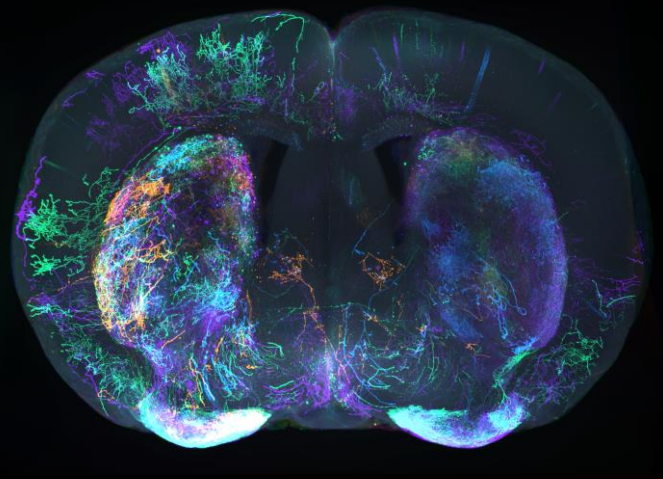
Run long-term or spin-down your cache alongside compute resources to optimize cache costs



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Cajal Neuroscience accelerates time-to-insights with Amazon File Cache

Cajal Neuroscience



Cajal Neuroscience is a drug discovery company focused on neurodegenerative disease

Processes hundreds of TB of images for Parkinson's and Alzheimer's research. Amazon File Cache brings the power and scale of AWS to their on-premises data.

"Ten-fold growth in lab imaging is driving the need for more on-premises integration"

Avi Levitan, Principal Software Engineer
Cajal Neuroscience

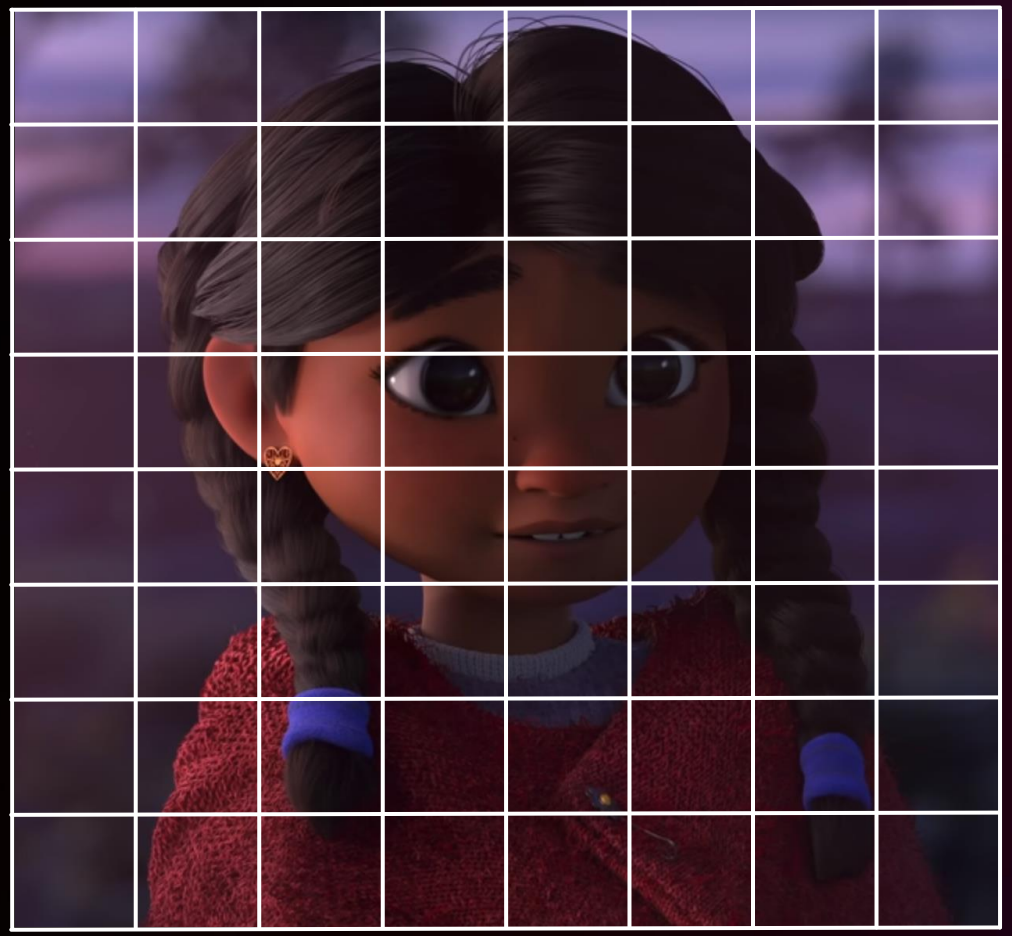
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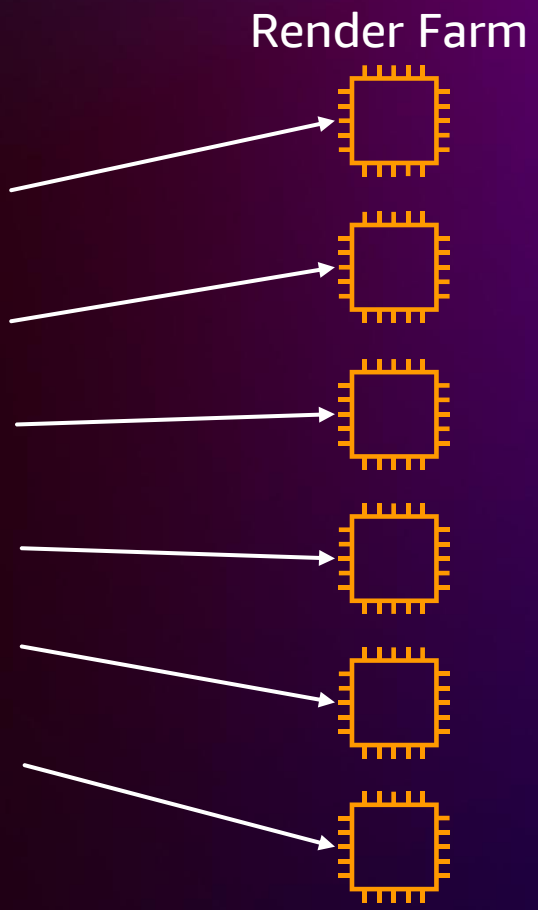
Visual Effects in Media & Entertainment

VFX rendering on AWS



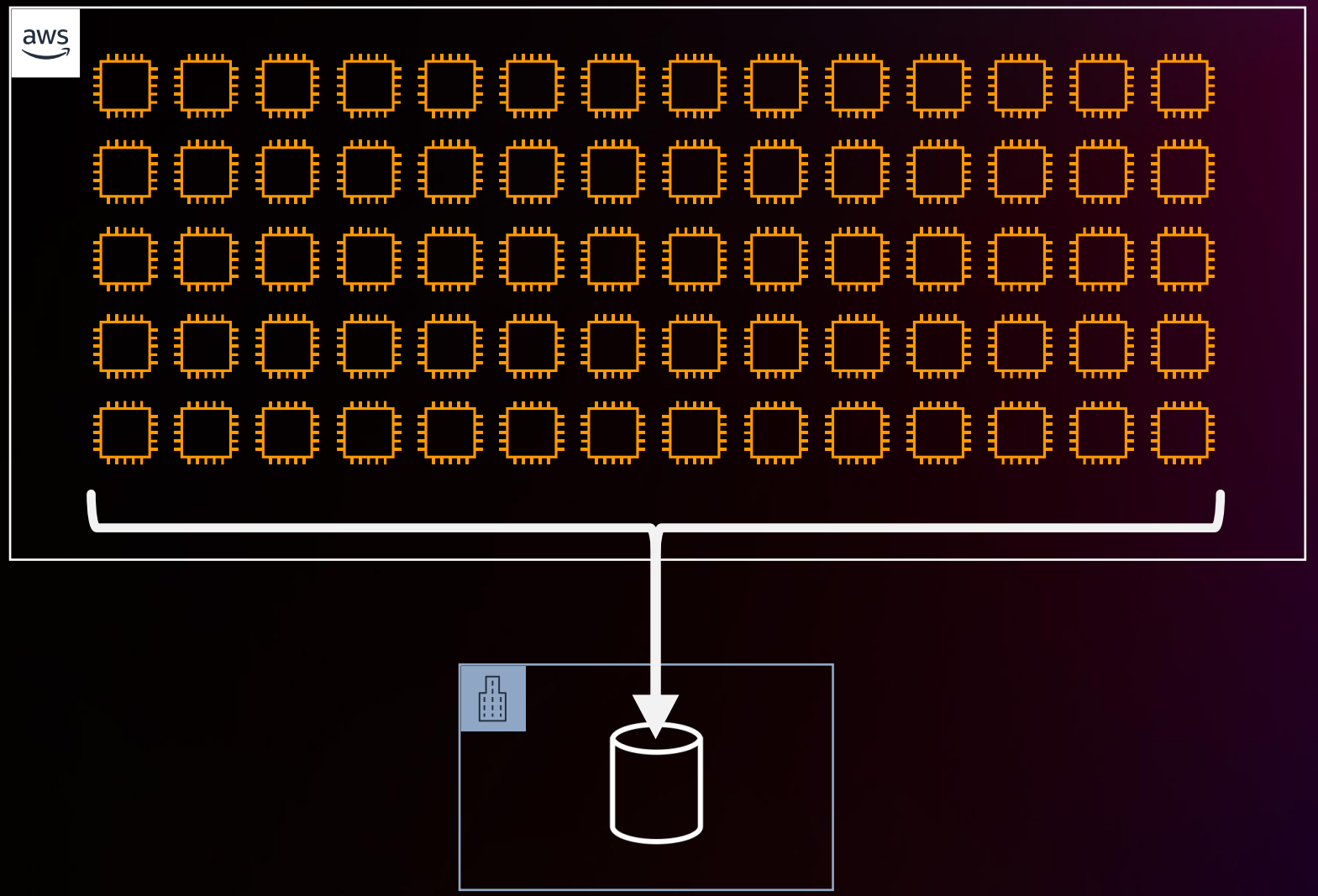


"Picchu" by Fuzzy Pixel Studios



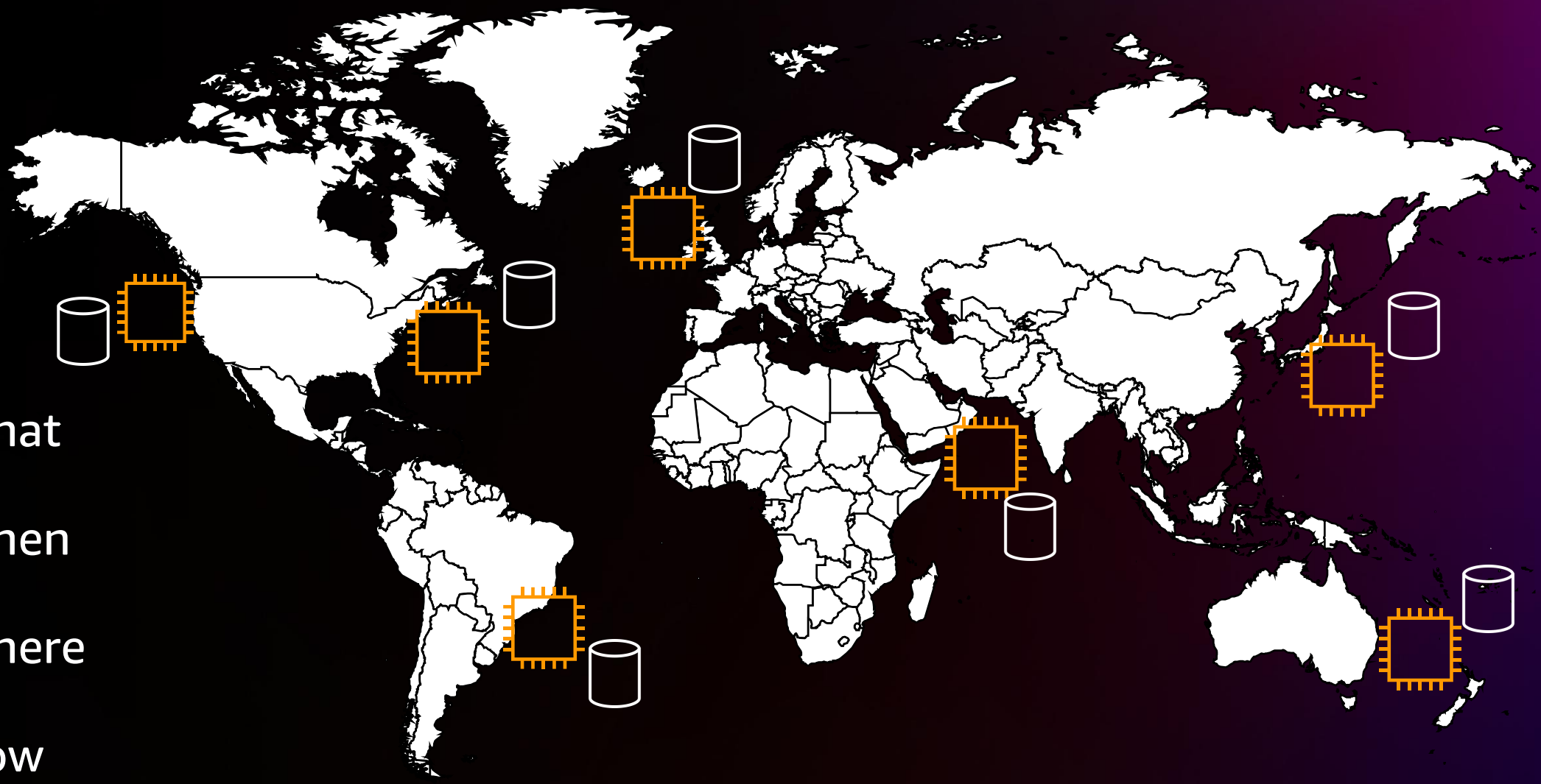
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VFX rendering



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VFX rendering

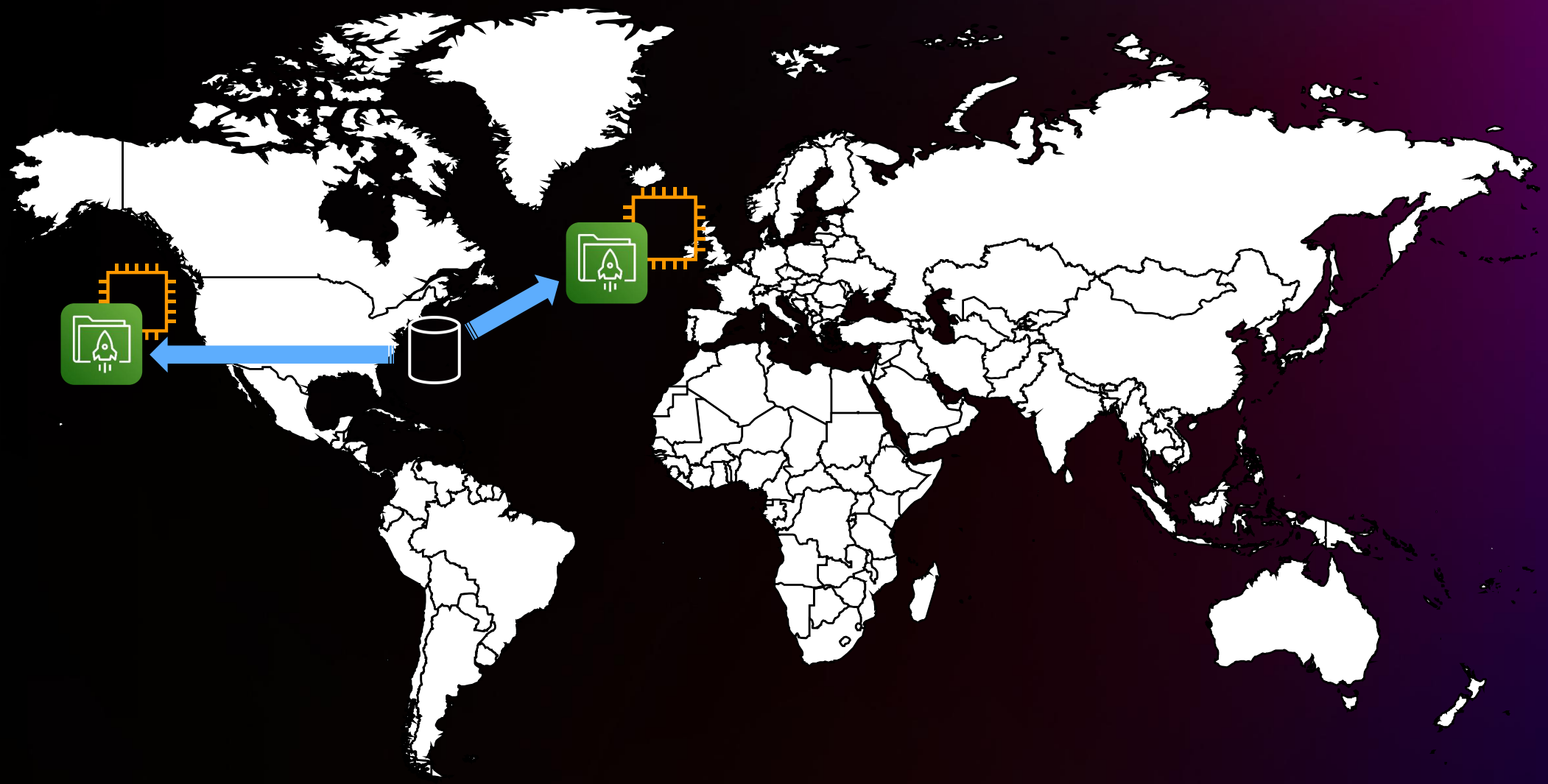


- What
- When
- Where
- How

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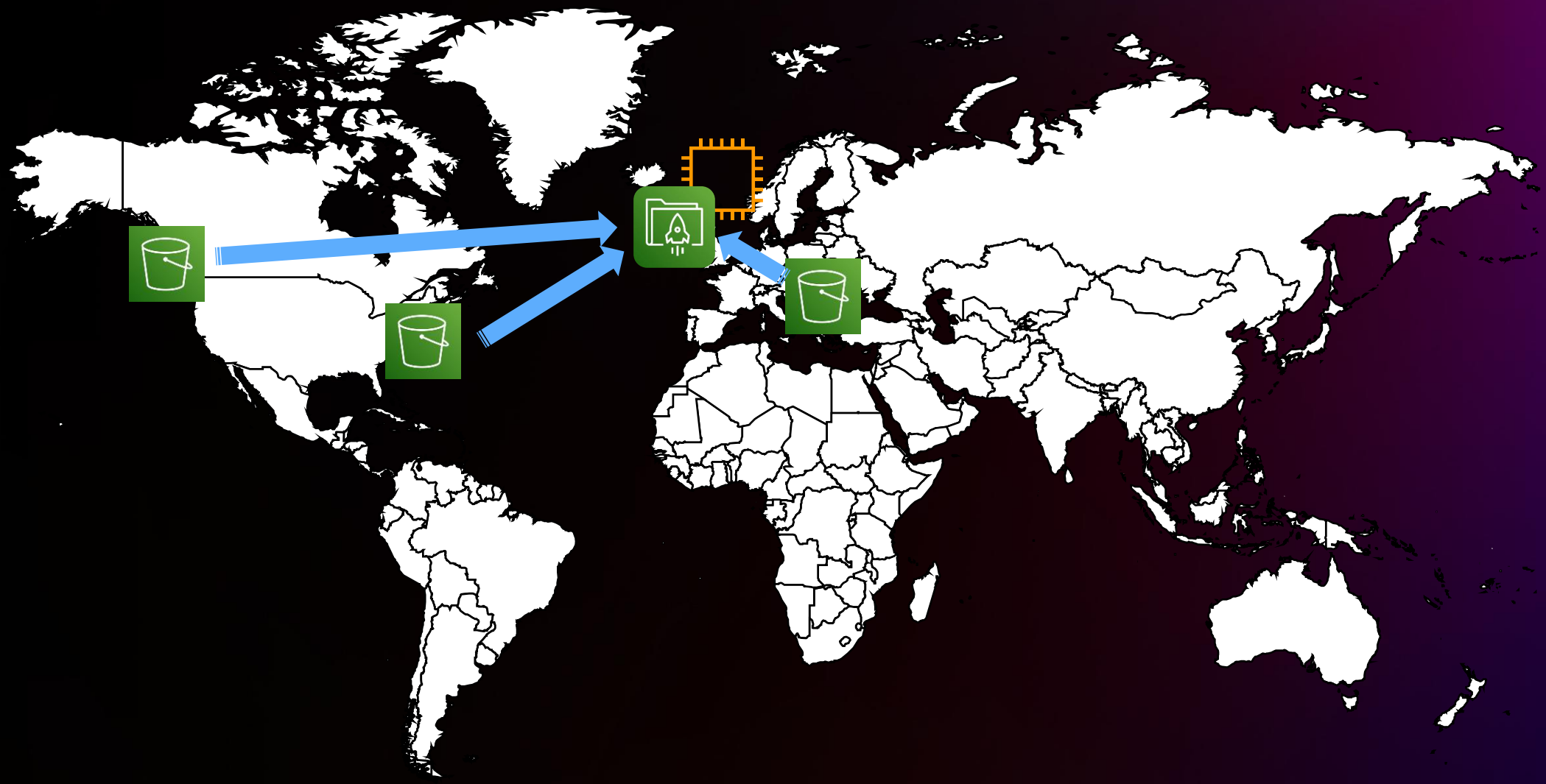
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VFX rendering



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VFX rendering



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File Cache for media & entertainment

- Enable more agile distributed rendering workloads
- Transcode video from global deliveries
- Accelerate production results
- Reduce overhead costs

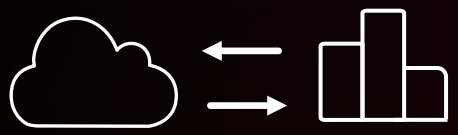


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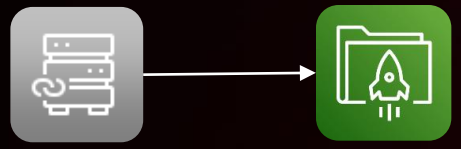


Fast

100s of GB/s of throughput



Simple





Cost effective

$1.82 per TB-hour

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Related re:Invent sessions



STG344 – Accelerate high performance workloads with AWS



STG343 – Deep dive on accelerating HPC and ML with Amazon FSx



STG401 – Optimize analytics workloads with AWS file solutions

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