

Understanding and Reducing Cloud Storage Costs

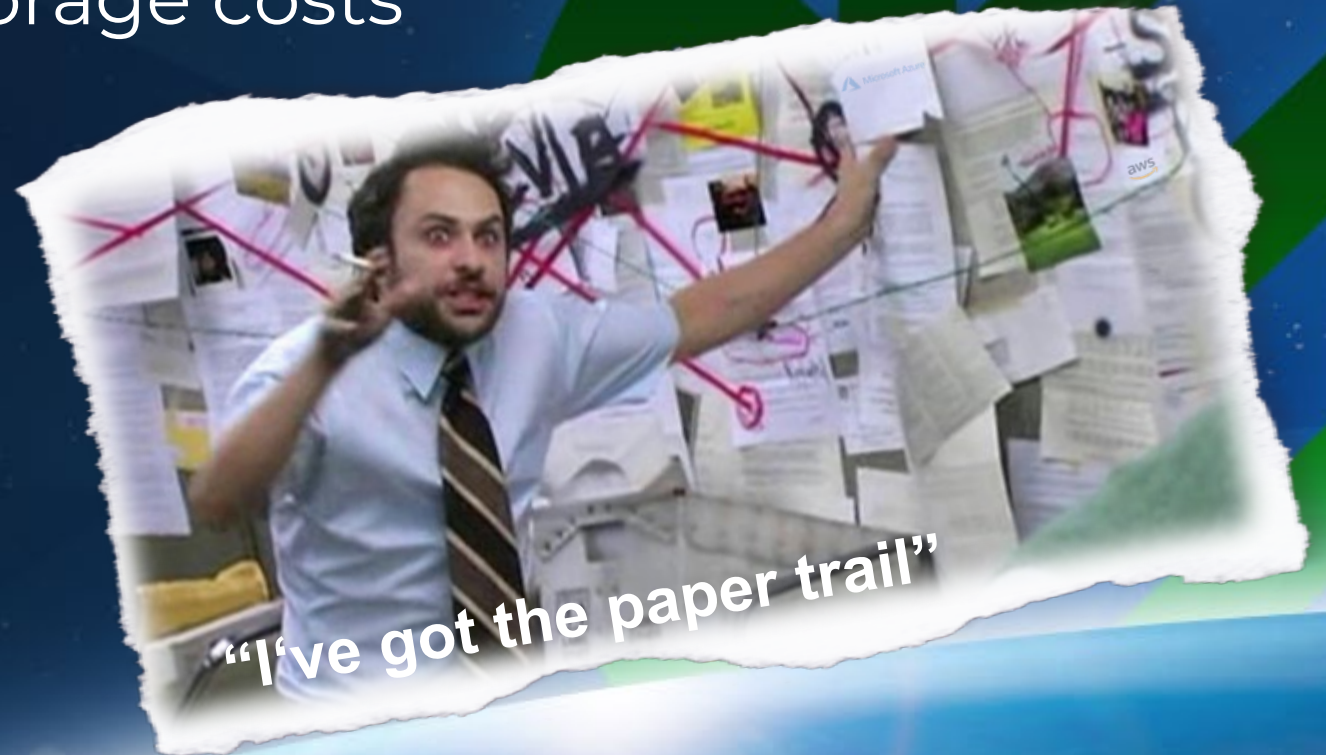
The insider's guide to deciphering the hidden mysteries of cloud storage costs



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hot cloud storage



Today we will cover.....

- The Big Picture
- The Known Knowns
 - Tiers, & Egress
- The Known Unknowns
 - API & Operation Charges, retrieval charges
- The Unknown Unknowns
 - Object overhead, minimum object size
- Wrap-up



“We’re bleeding money and I’ve got the paper trail to prove it”

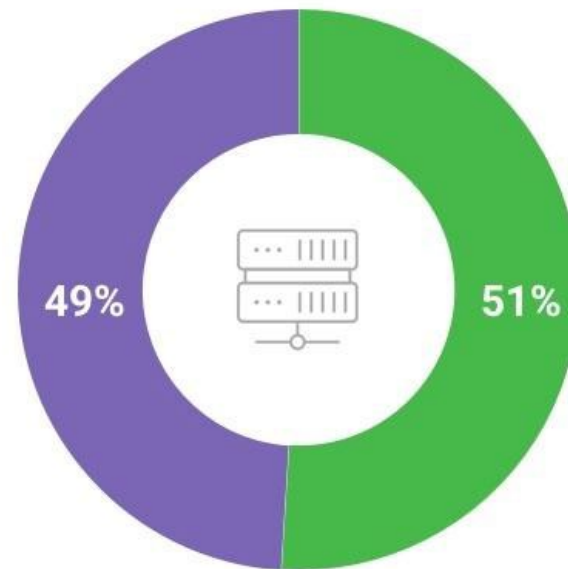
Why we are here: The Cloud Storage Market Has a Fee Problem

Organizations spend almost half their cloud storage bill on fees

33% - We incurred higher API Call Fees (puts/gets, reads/writes, restores) than expected

39% - We incurred higher data operations fees (cross-region replication, object tagging, transfer acceleration) than expected

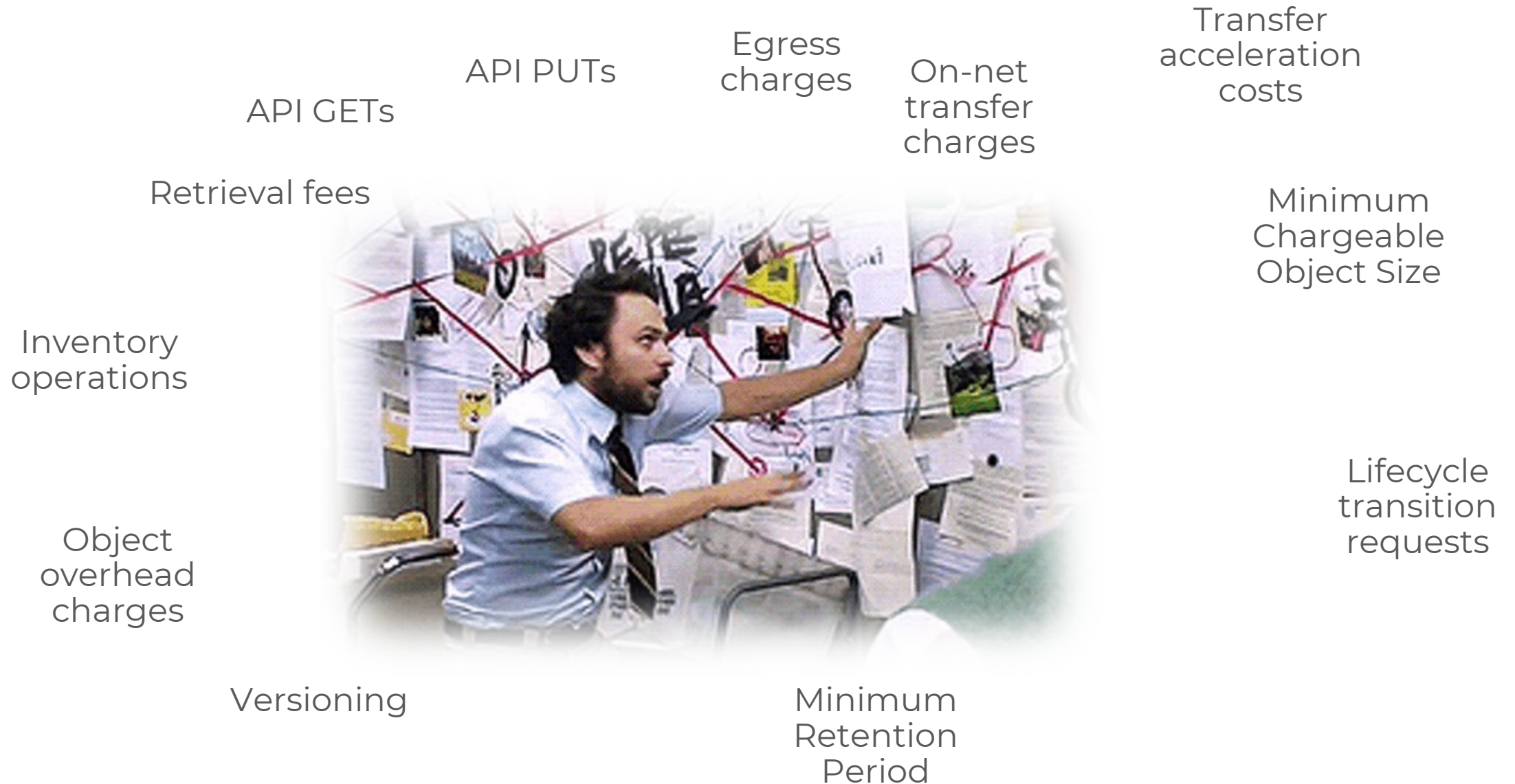
32% - We incurred higher data retrieval fees than expected



● 51% Storage **Capacity**
● 49% Storage **Fees**



The Big Picture



Known Known: Storage Tiers

aws
S3 Standard
S3 Intelligent-Tiering
S3 Standard Infrequent Access
S3 One Zone-Infrequent Access
S3 Glacier
S3 Glacier Deep Archive

Azure
Premium Storage
Hot Storage
Cool Storage
Archive Storage

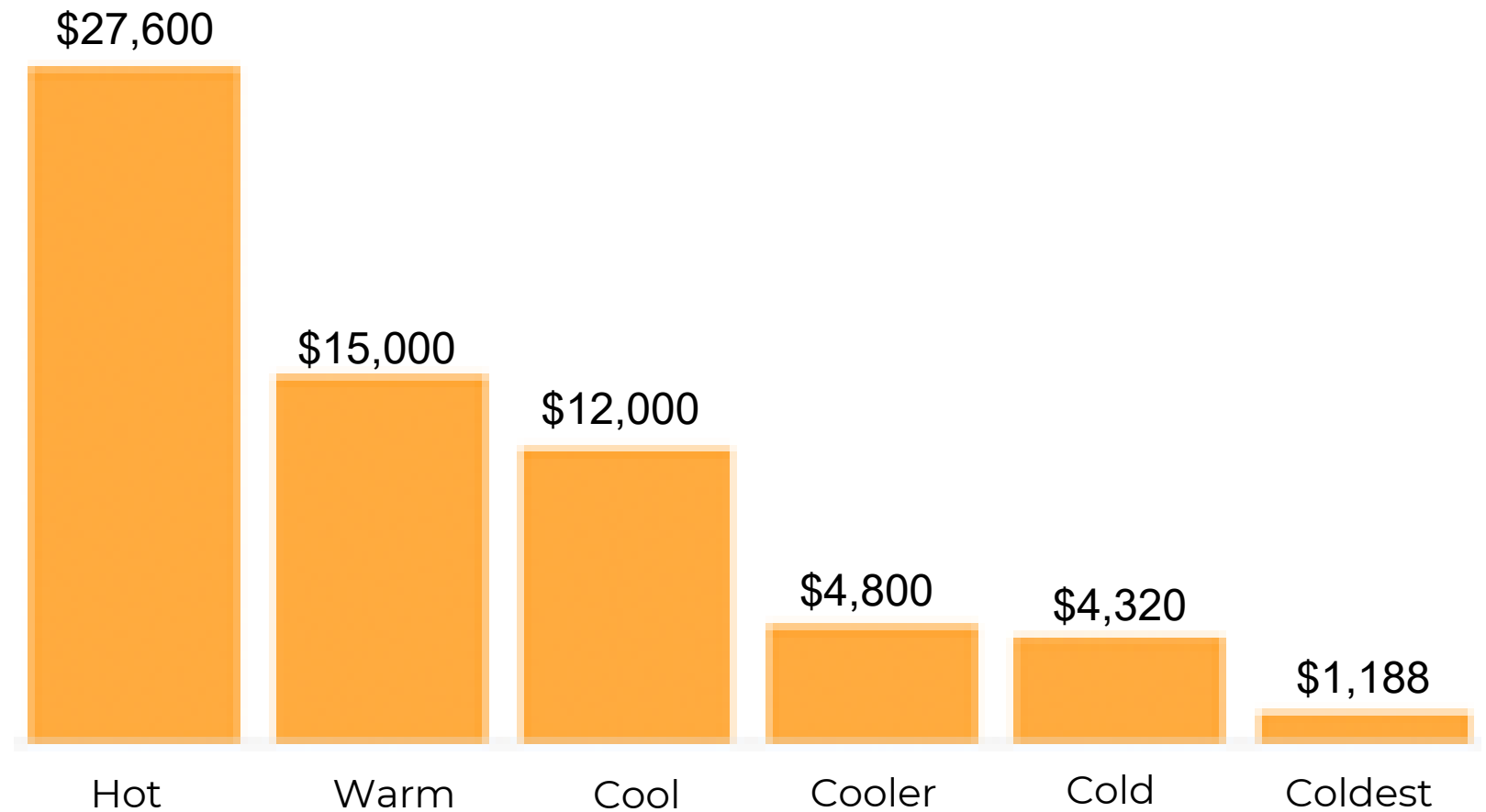
Google Cloud Platform
Regional
Multi-Regional
Nearline
Coldline



Cloud Object Storage – 1 year

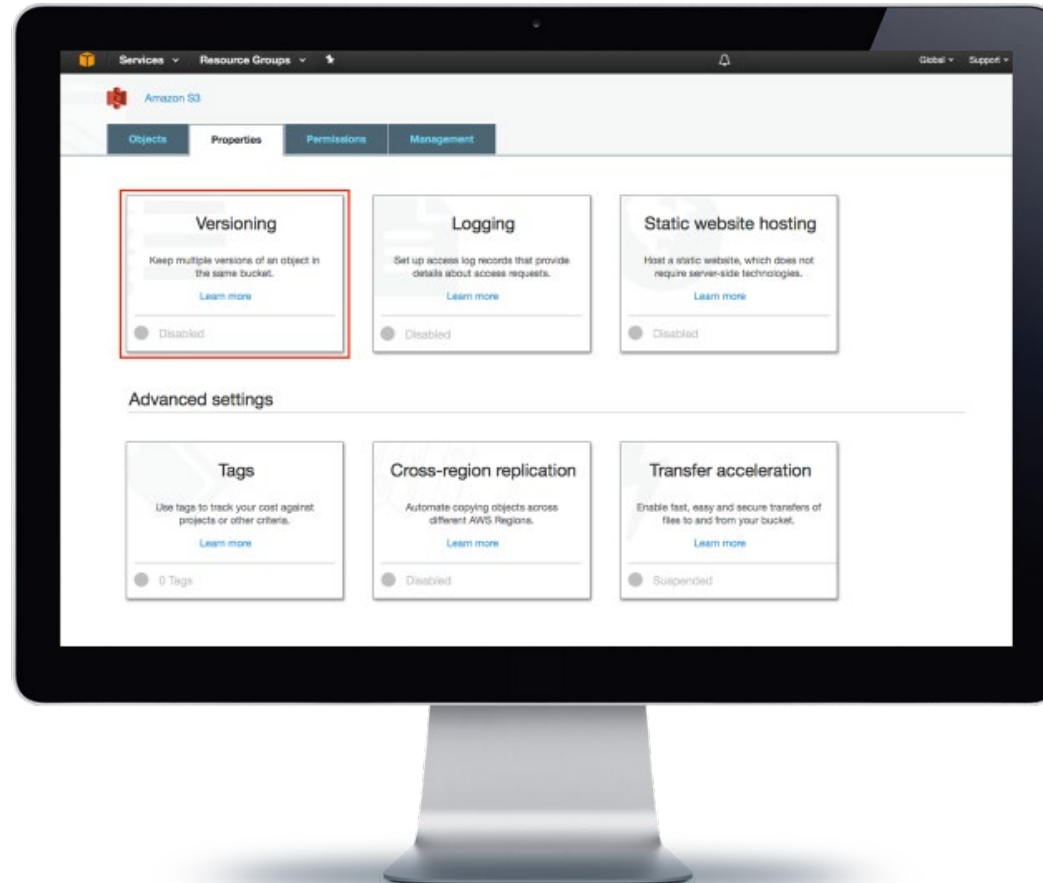
Which tier would you choose?

100
Terabytes



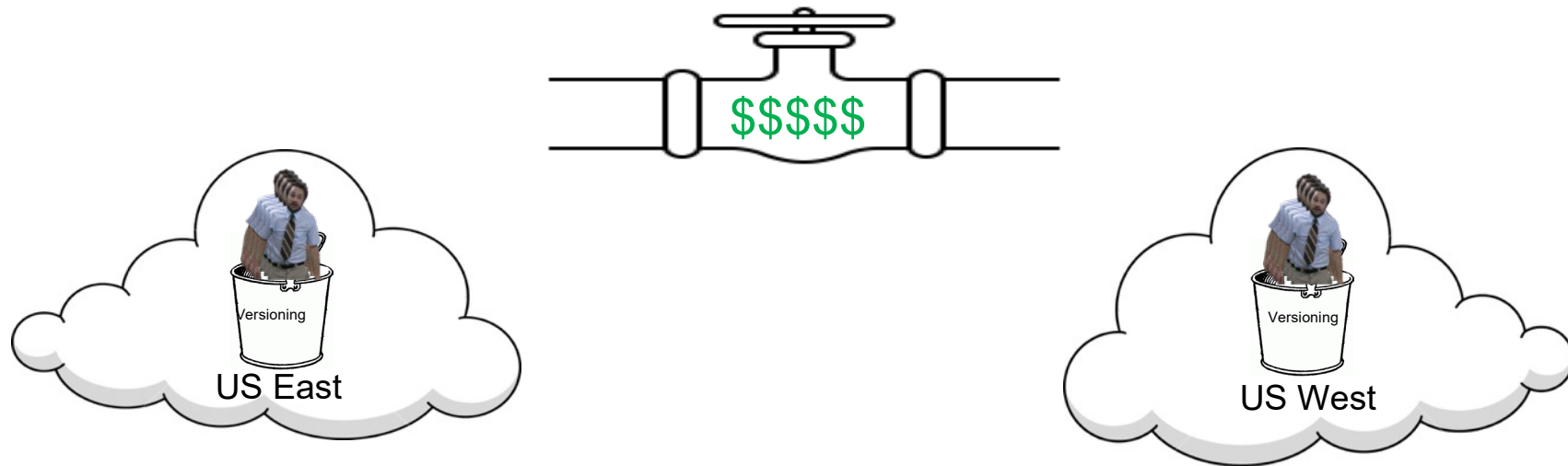
Bucket Default Set to Versioning

Do you need versions? How many?



Data Replication to Another Region?

1. Your cloud storage provider probably requires versioning
2. You're probably paying \$20 per TB for network transport
3. API PUT requests to replicated bucket



Operational Charges / API Requests

PutObject

UploadPart

GetObject

CopyObject

HeadObject

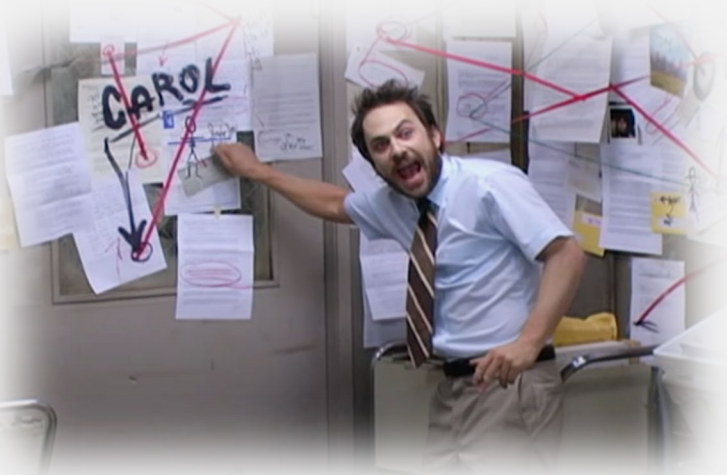
ListObject

PostObject

DeleteObject

CreateBucket

CreateMultipartUpload



PUT, COPY, POST, LIST

\$.005 per 1,000

\$.01 per 1,000

\$.02 per 1,000

\$.03 per 1,000

\$.05 per 1,000

GET, SELECT, all others

\$.0004 per 1,000

\$.001 per 1,000

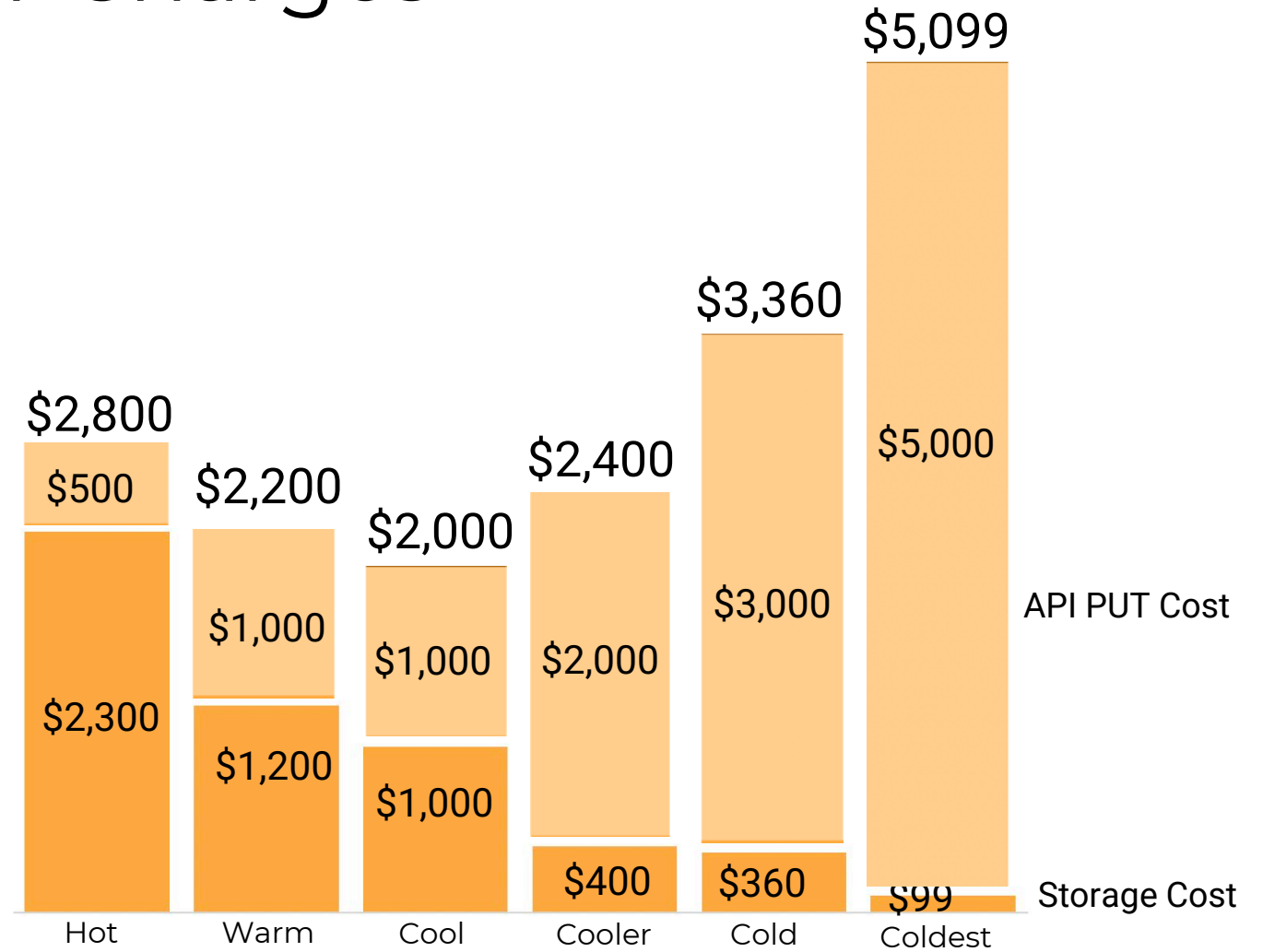
- AbortMultipartUpload
- CompleteMultipartUpload
- CopyObject
- CreateBucket
- CreateBucketMetadataTableConfiguration
- CreateMultipartUpload
- CreateSession
- DeleteBucket
- DeleteBucketAnalyticsConfiguration
- DeleteBucketCors
- DeleteBucketEncryption
- DeleteBucketIntelligentTieringConfiguration
- DeleteBucketInventoryConfiguration
- DeleteBucketLifecycle
- DeleteBucketMetadataTableConfiguration
- DeleteBucketMetricsConfiguration
- DeleteBucketOwnershipControls
- DeleteBucketPolicy
- DeleteBucketReplication
- DeleteBucketTagging
- DeleteBucketWebsite
- DeleteObject
- DeleteObjects
- DeleteObjectTagging
- DeletePublicAccessBlock
- GetBucketAccelerateConfiguration
- GetBucketAcl
- GetBucketAnalyticsConfiguration
- GetBucketCors
- GetBucketEncryption
- GetBucketIntelligentTieringConfiguration
- GetBucketInventoryConfiguration
- GetBucketLifecycle
- GetBucketLifecycleConfiguration
- GetBucketLocation
- GetBucketLogging
- GetBucketMetricsConfigurations
- ListBucketMetricsConfigurations
- ListBuckets
- ListDirectoryBuckets
- ListMultipartUploads
- ListObjects
- PutBucketReplication
- PutBucketRequestPayment
- PutBucketTagging
- PutBucketVersioning
- PutBucketWebsite
- PutObject
- PutObjectAcl
- PutObjectLegalHold
- PutObjectLockConfiguration
- PutObjectRetention
- PutObjectTagging
- PutPublicAccessBlock
- DeleteBucketPolicy
- DeleteBucketReplication
- DeleteBucketTagging
- DeleteJobTagging
- DeleteMultiRegionAccessPoint
- DeletePublicAccessBlock
- DeleteStorageLensConfiguration
- DeleteStorageLensConfigurationTag
- DeleteStorageLensGroup
- DescribeJob
- DescribeMultiRegionAccessPointConfiguration
- DissociateAccessGrantsIdentityCenter
- GetAccessGrant
- GetAccessGrantsInstance
- GetAccessGrantsInstanceForPrefix
- GetAccessGrantsInstanceResource
- GetAccessGrantsLocation
- GetAccessPoint
- GetAccessPointConfigurationForObjectLambda
- GetAccessPointForObjectLambda
- GetAccessPointPolicy
- GetAccessPointPolicyForObjectLambda
- GetAccessPointPolicyStatus
- GetAccessPointPolicyStatusForObjectLambda
- GetBucket
- GetBucketLifecycleConfiguration
- GetBucketPolicy
- GetBucketReplication
- GetBucketTagging
- GetBucketVersioning
- GetDataAccess

The impact of API PUT Charges

Comparison: 100 TB storage

100 Million PUT Requests

- S3 \$.005 per 1,000 = \$500
- IA \$.01 per 1,000 = \$1,000
- IA 1Z \$.01 per 1,000 = \$1,000
- GIR \$.02 per 1,000 = \$2,000
- GFR \$.03 per 1,000 = \$3,000
- DA \$.05 per 1,000 = \$5,000

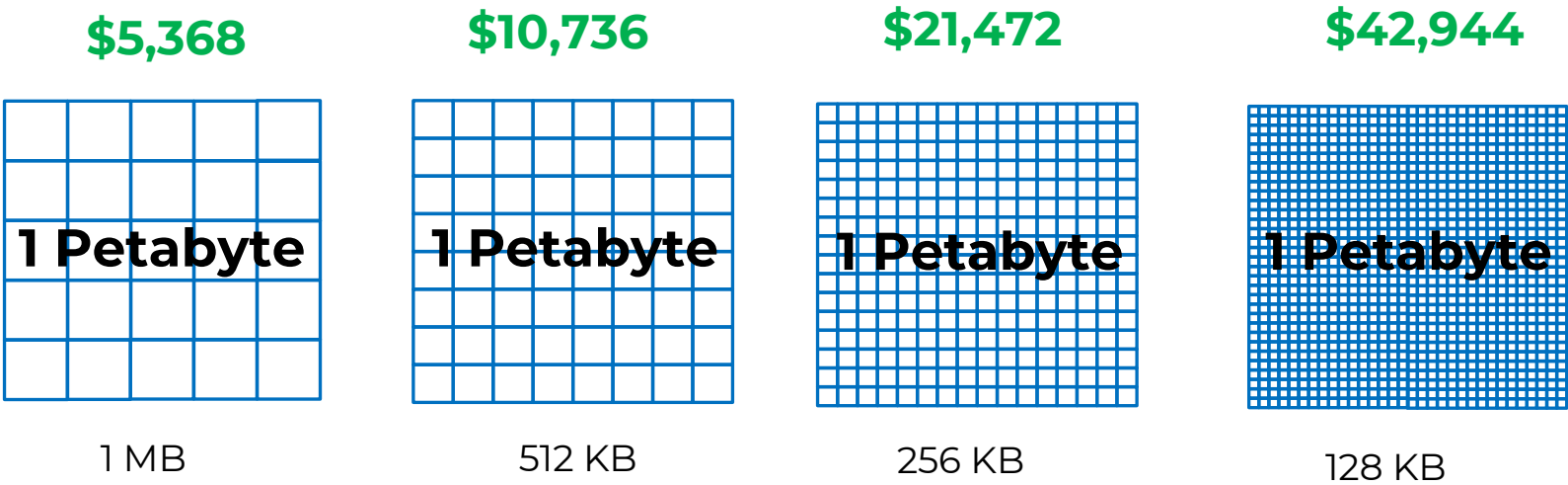


Based on 1MB object size

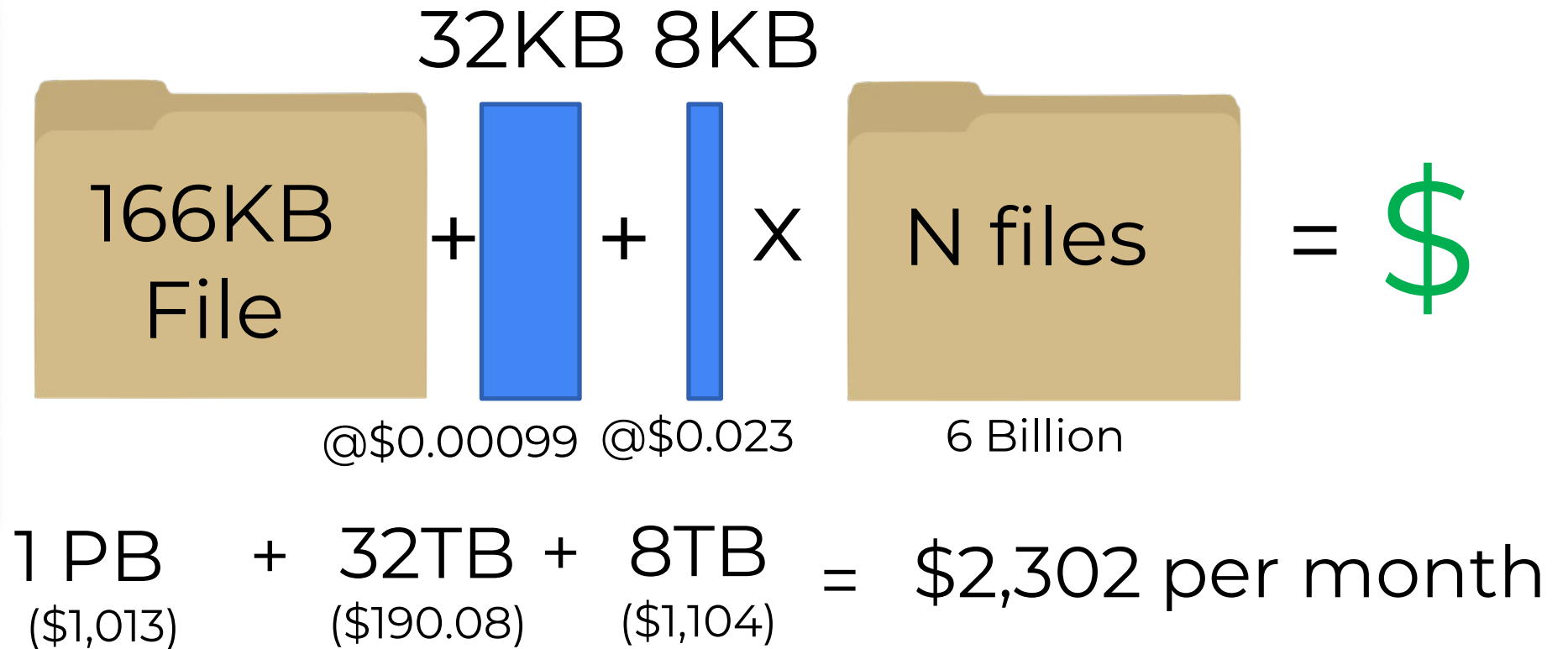
Object Size Matters

What's your object count? Size?

PUT costs



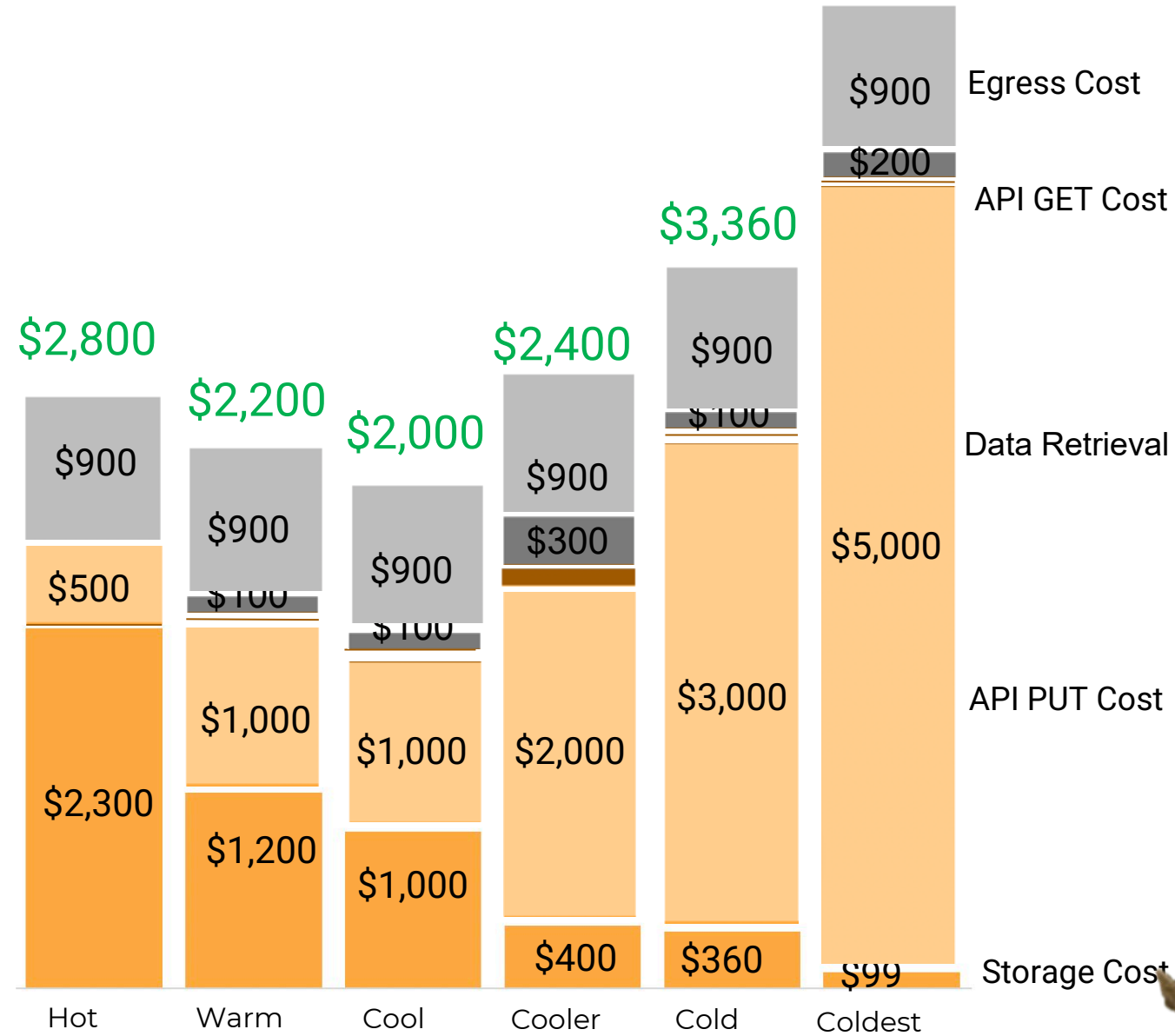
1PB in archive tier = \$1,013 per month... but



Remember this slide?



The Charges can Drive You Crazy!! \$5,099



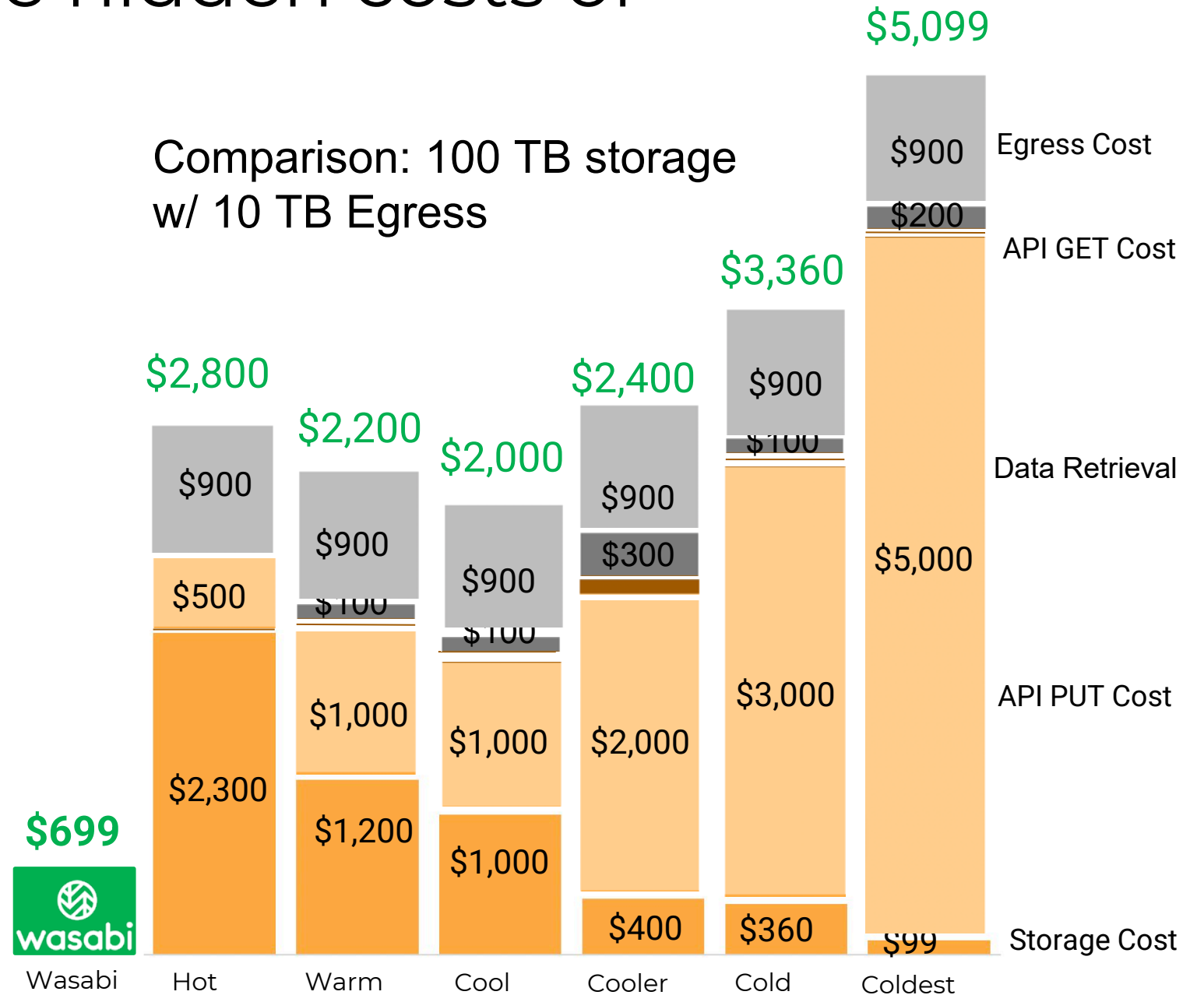
Shining light on the hidden costs of cloud storage

Don't pay for:

- Egress
- API Requests
- Data Retrieval
- Transport
- Object Overhead



Comparison: 100 TB storage
w/ 10 TB Egress



Thank you



For more information, please visit wasabi.com or

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