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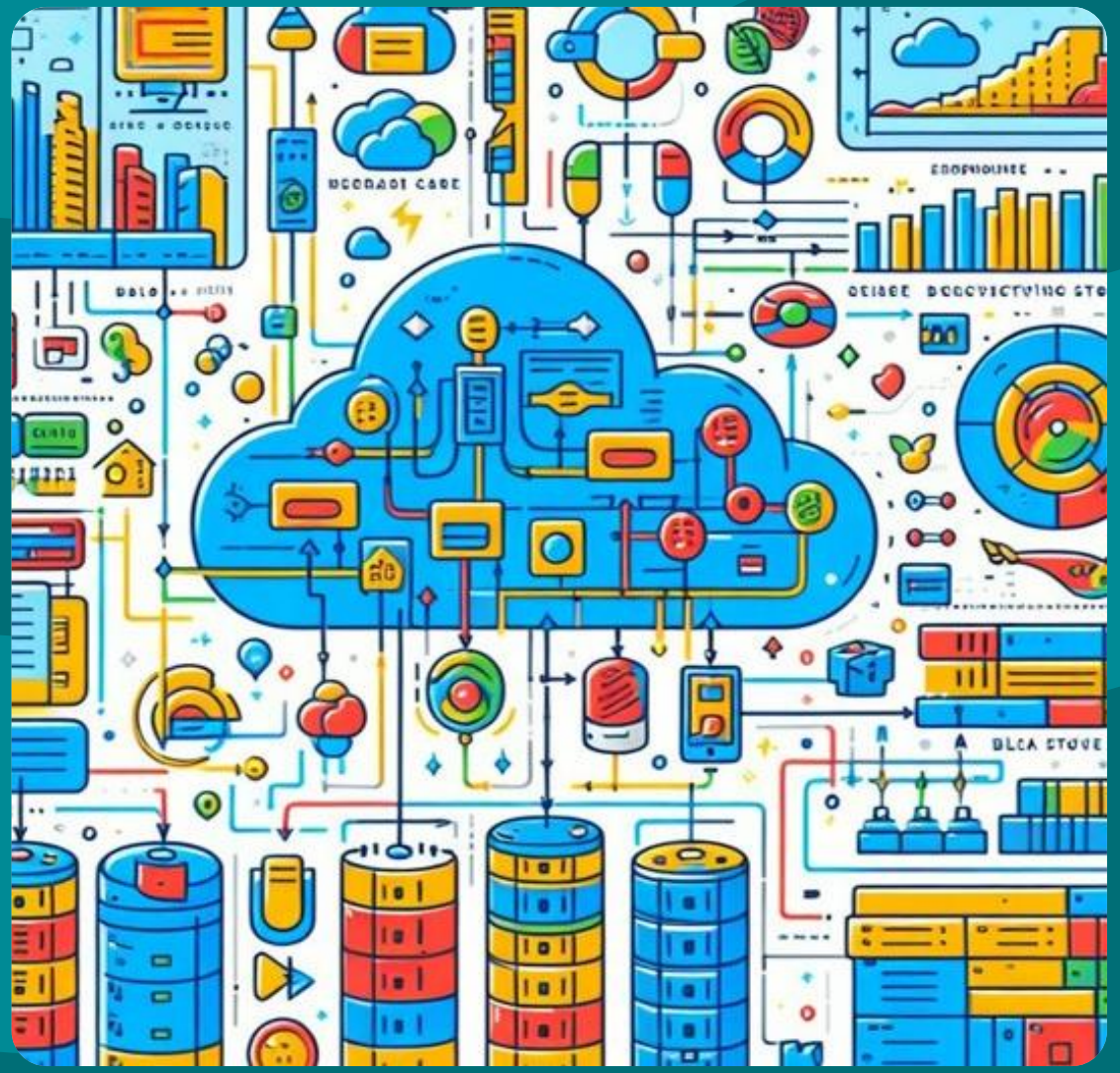
Azure Blobs made Simple: For Non-Developers



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Tine Starič

Software Architect @ Companial

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Agenda

- Where did the need for Blob Storage come from?
- Storage Considerations
- Simplify the Cost Calculator
- Model the price for different company sizes

What are Blobs

Binary **L**arge **Ob**ject

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What are Blobs

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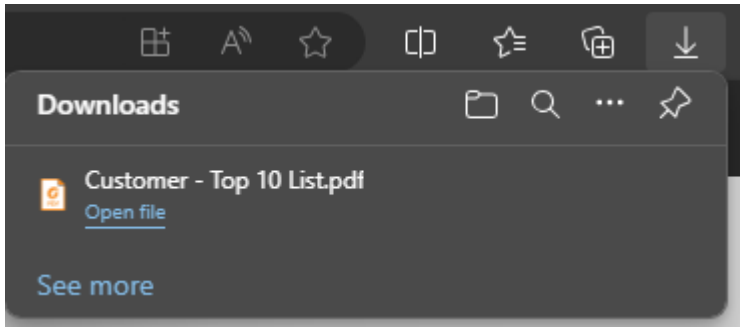

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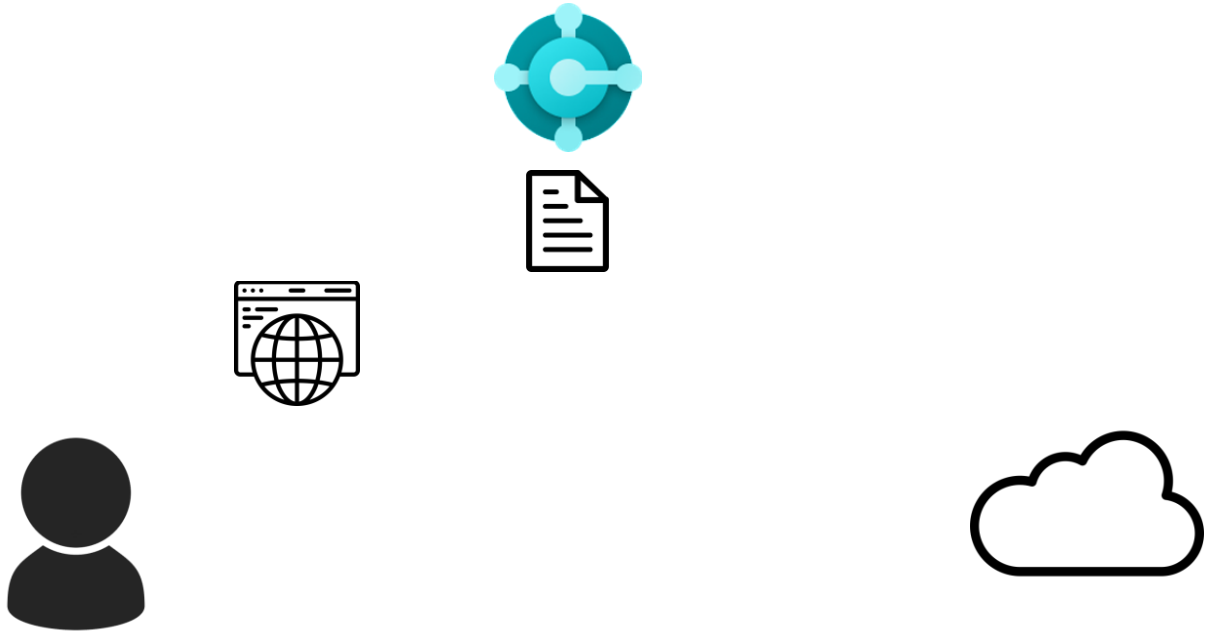

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What are Blobs

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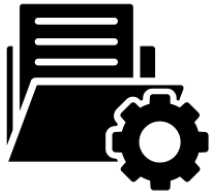
What are Blobs

Universal Code Initiative

What are Blobs

Archive



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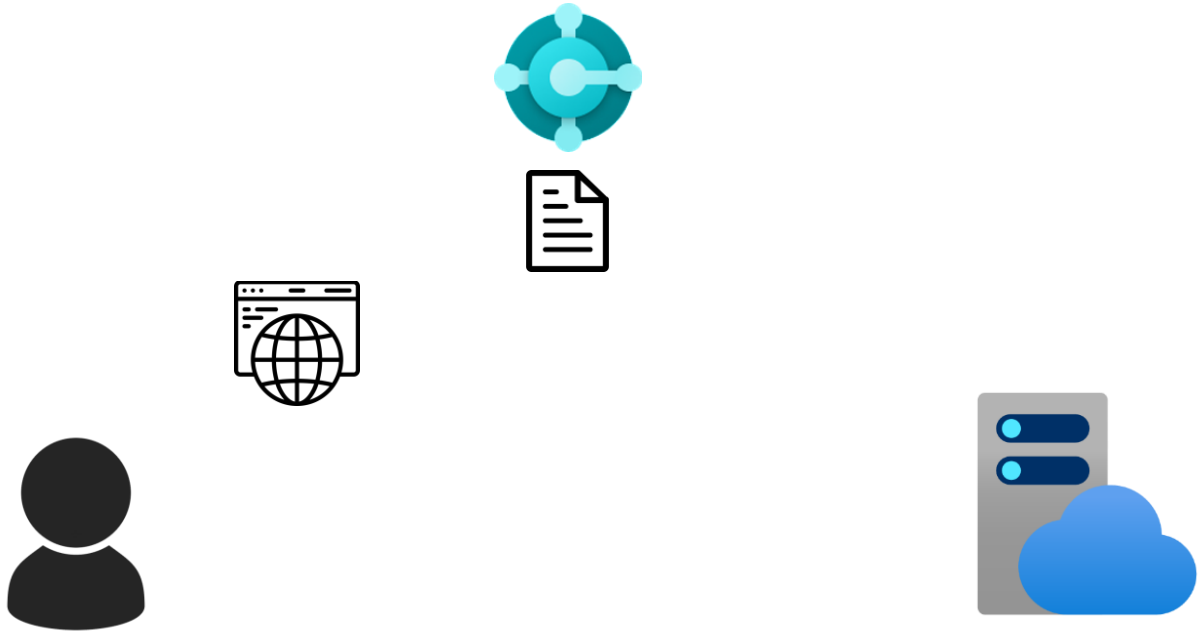
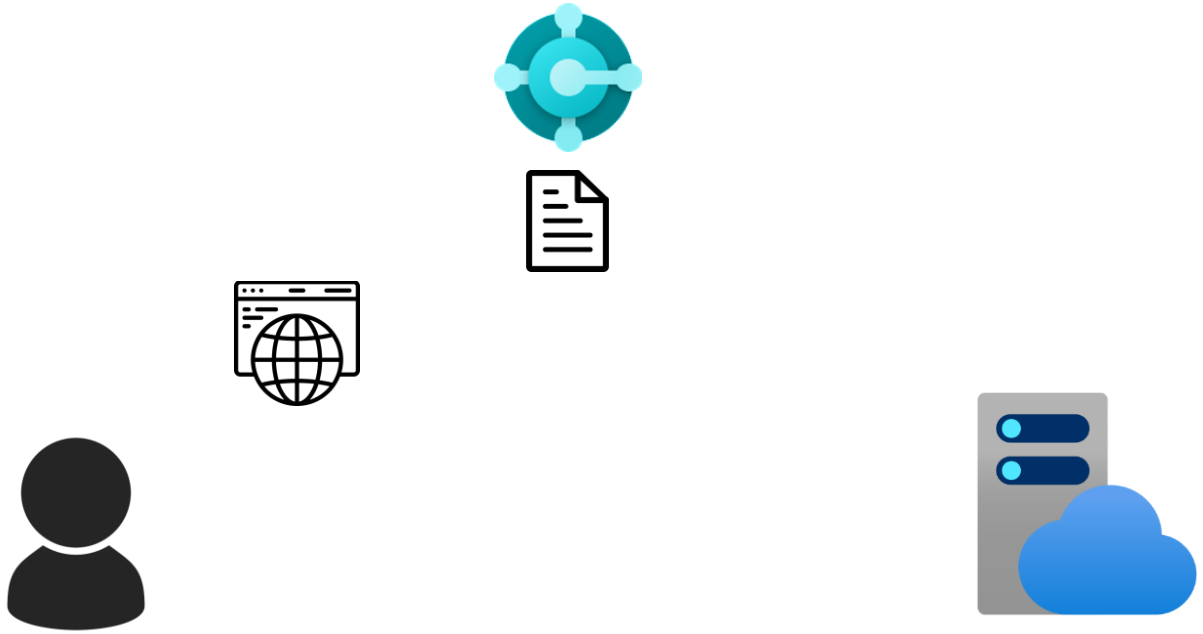


What are Blobs



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What are Blobs

https://api.contoso.com/file-storage/upload

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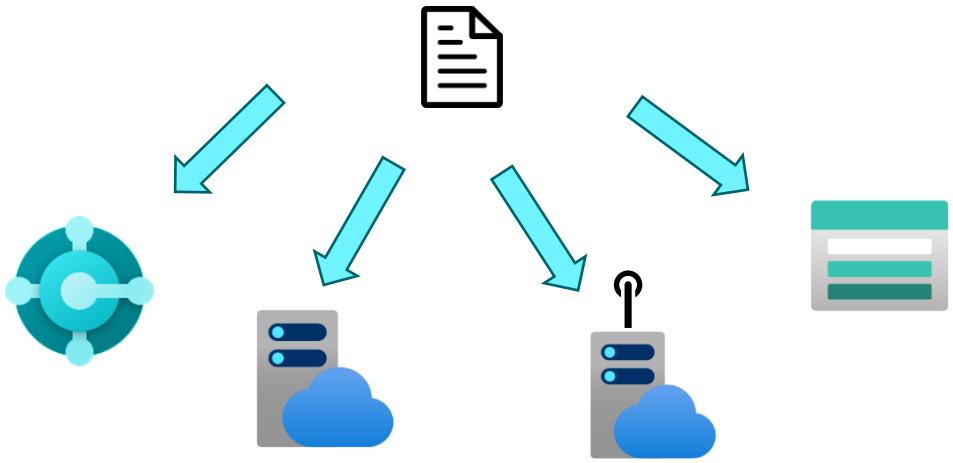
What are Blobs

https://easyblobs.blob.core.windows.net/financials/

Which way to go?

- Store files in Business Central Database
- Store files directly on the Server (Using non-UCI code)
- Expose the server and store the files through an API
- Use Azure Blob Storage



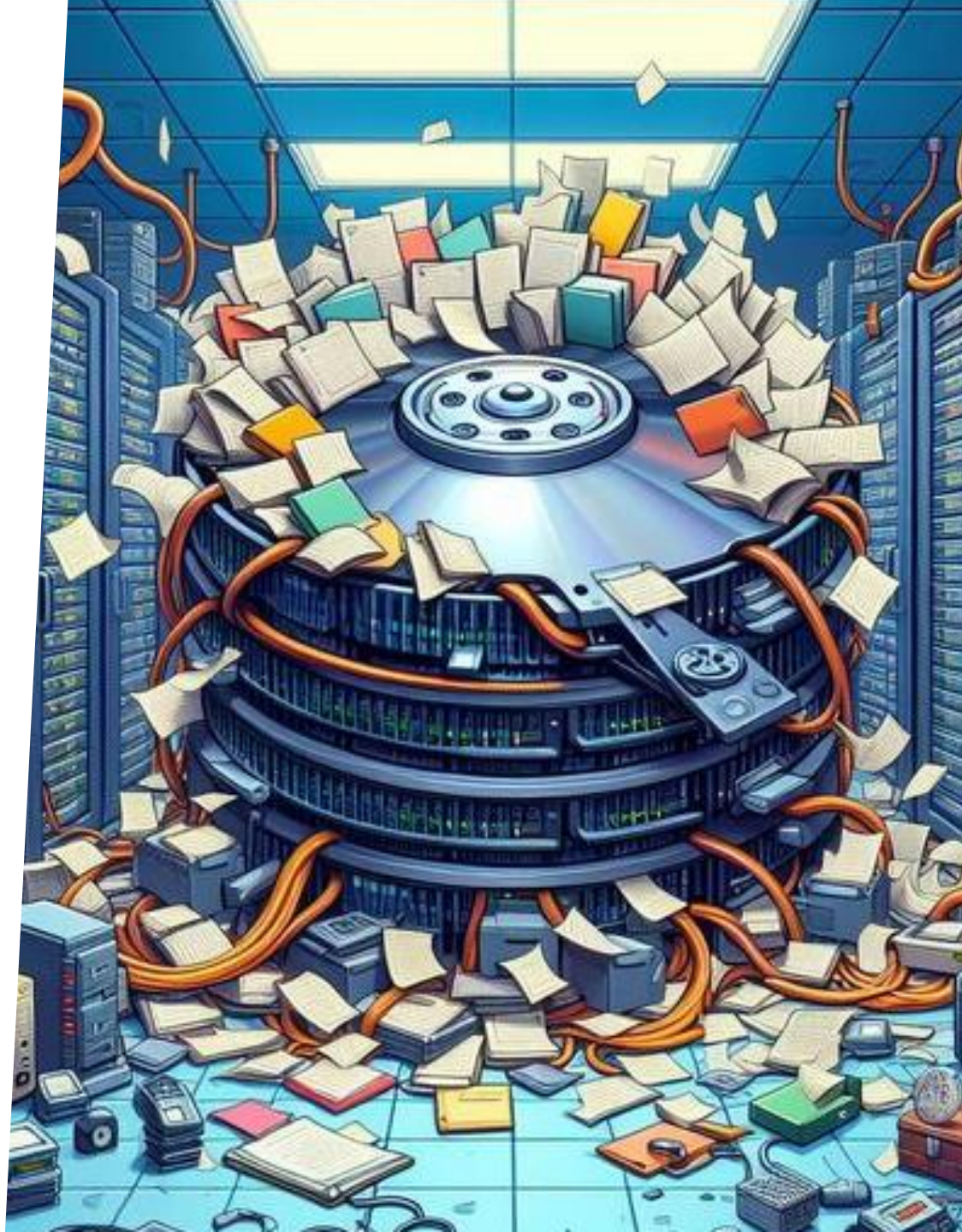
Storing files in Business Central

Pros:

- Easy to implement
- Easy to deploy
- No data security issues

Cons:

- Grows the database size
  (add. For 10$Q/GB; 500$/100GB)
- File backups are tied to DB backups



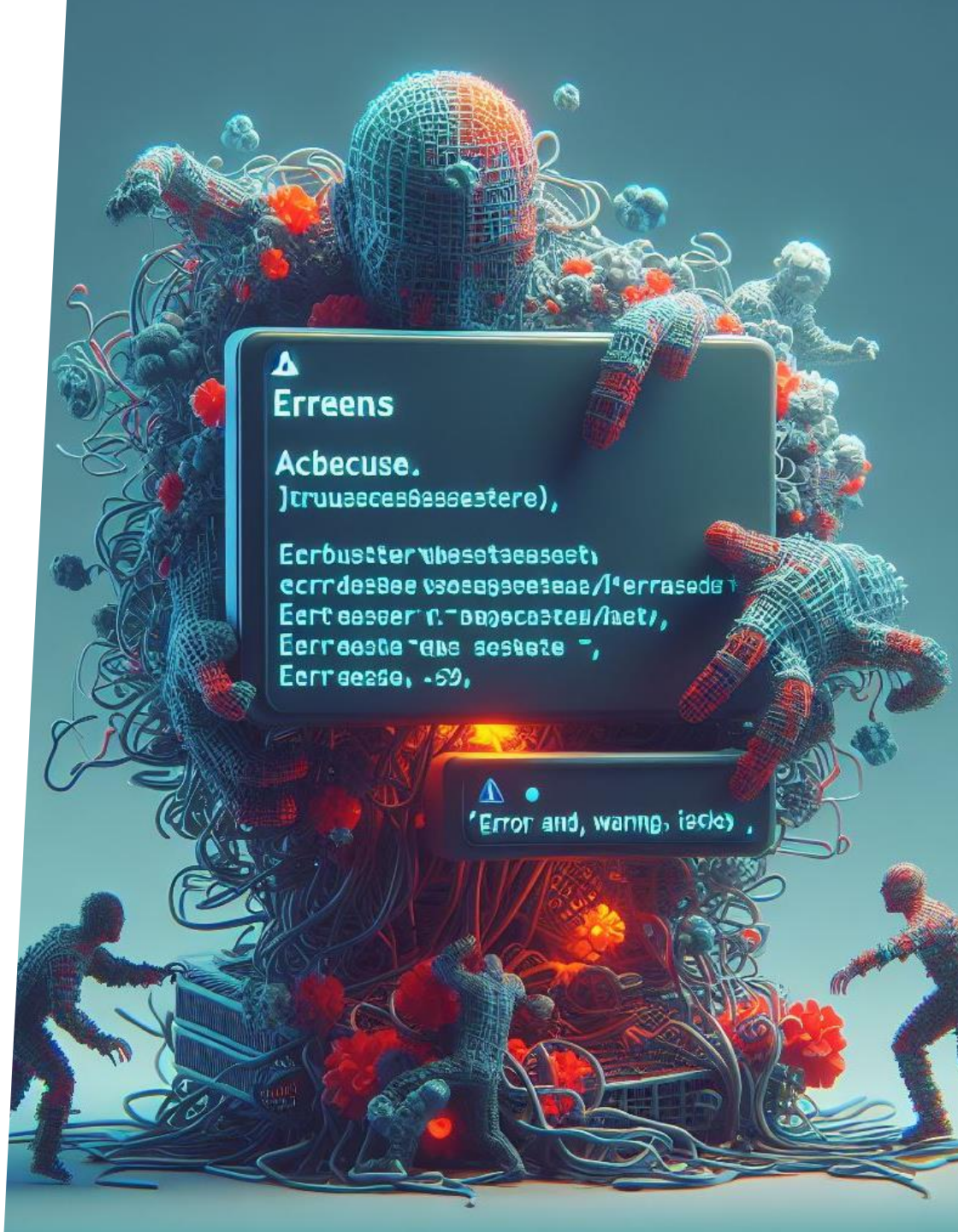
Storing files with non-UCI code

Pros:

- Easy to implement
- Easy to deploy
- No data security issues

Cons:

- Excluded from the cloud
- Much more expensive (75$/user/year -> 125$/250$)
- No backups, no audit trail, no security



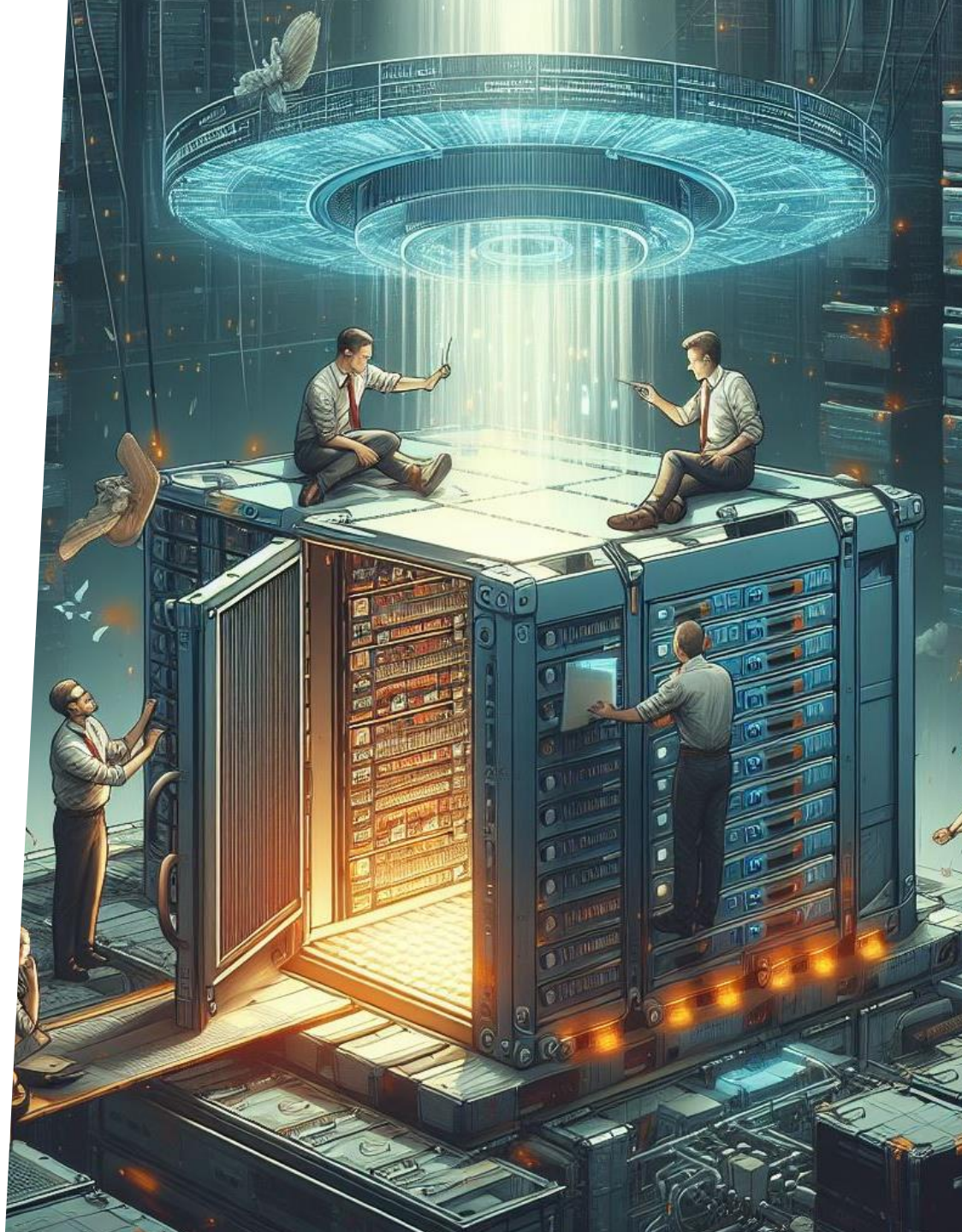
Storing files through an API

Pros:

- No additional running costs
- No data security issues

Cons:

- Difficult migration to the cloud
- Harder to deploy and maintain
- No backups, no audit trail, no security



Storing files on Azure Blob Storage

Pros:

- No infrastructure concern
- Easy migration to cloud
- Backups, soft delete, audit trails, security roles available through Azure

Cons:

- Needs Azure setup and a deployment strategy
- Data Security Concern

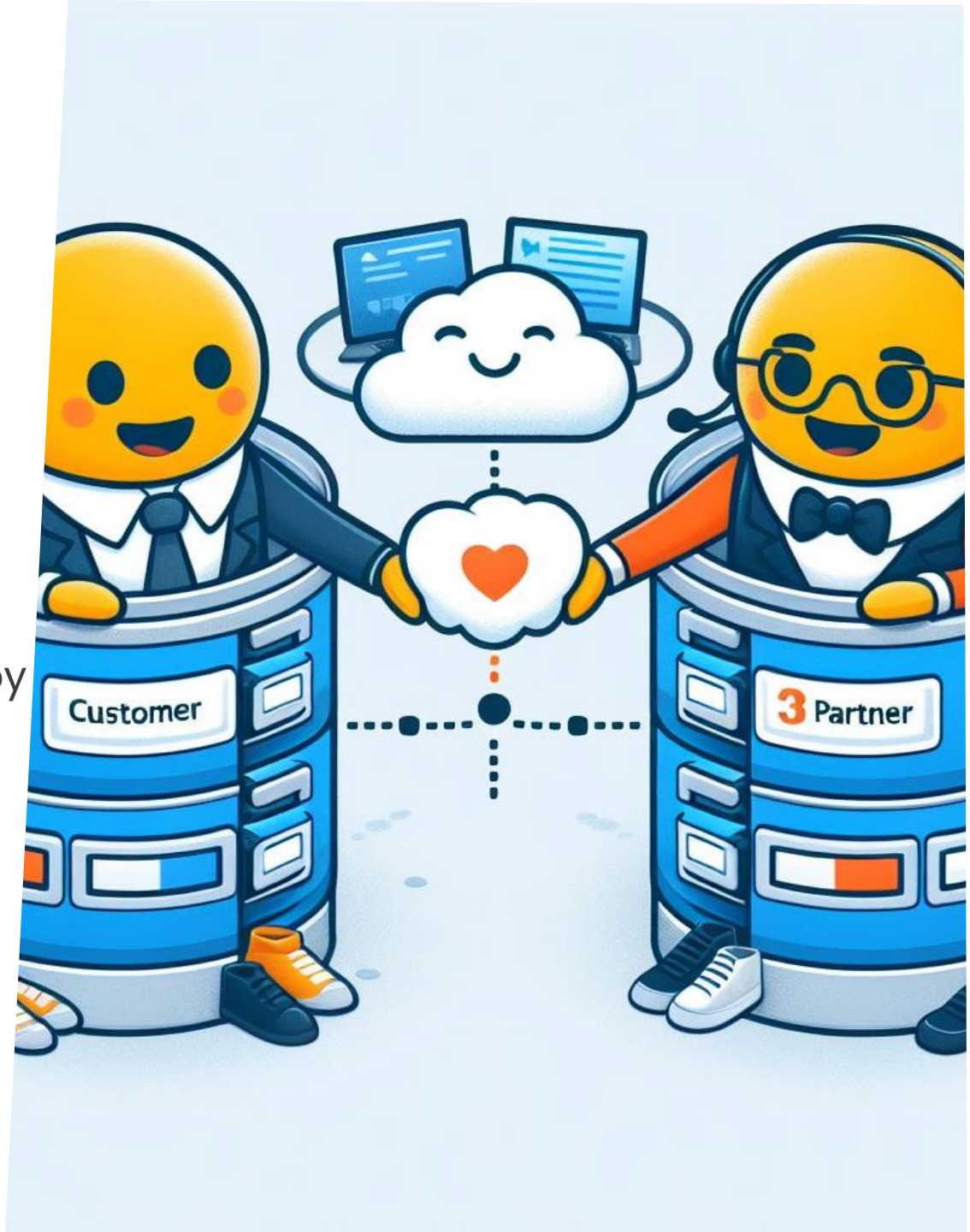
Blob Storage – Partner's vs. Customer's Tenant

Partner Tenant:

- Easily deployable, better onboarding experience
- More scalable
- Data Security Concerns

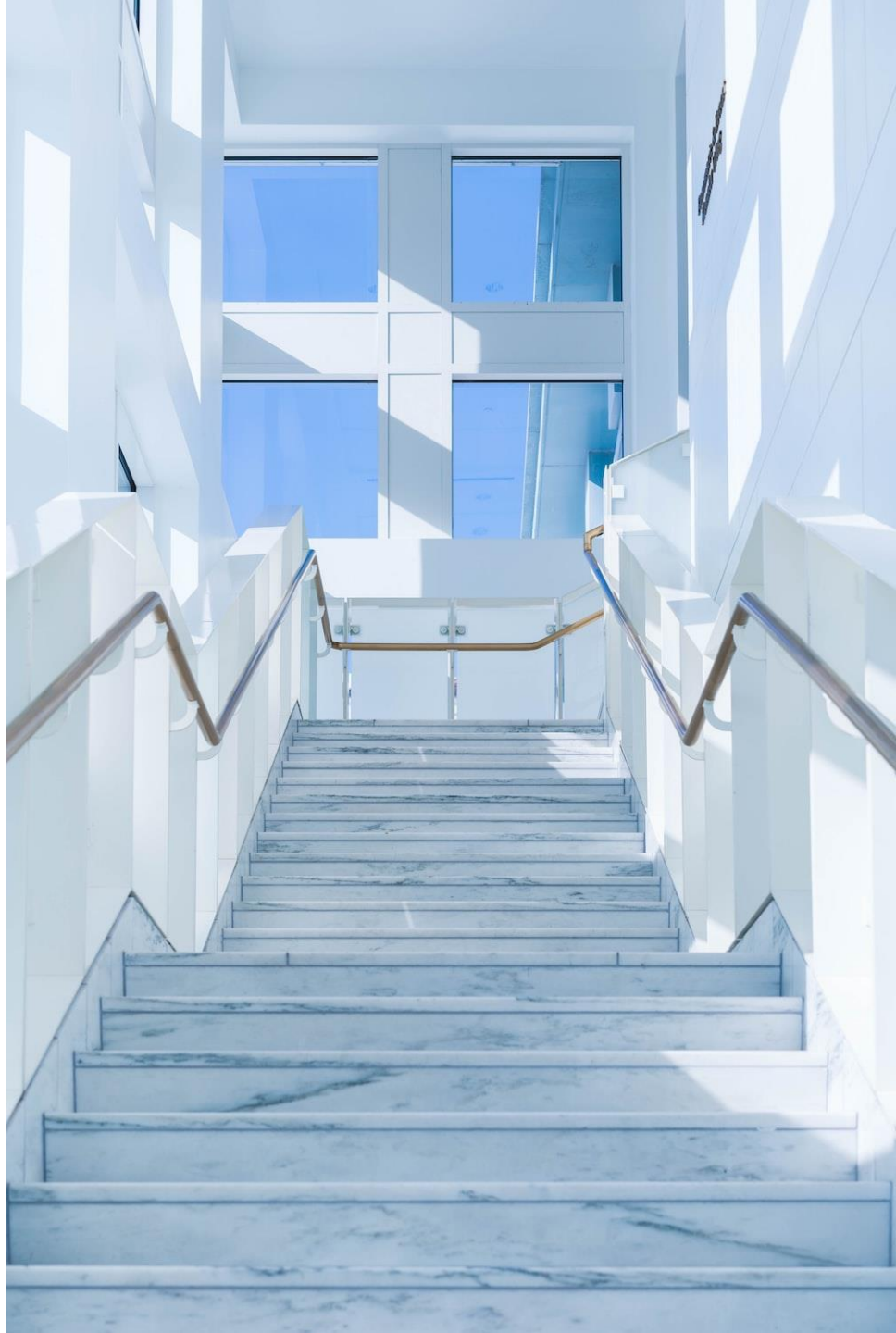
Customer Tenant:

- Customer interaction needed for a successful deploy
- Billing concerns



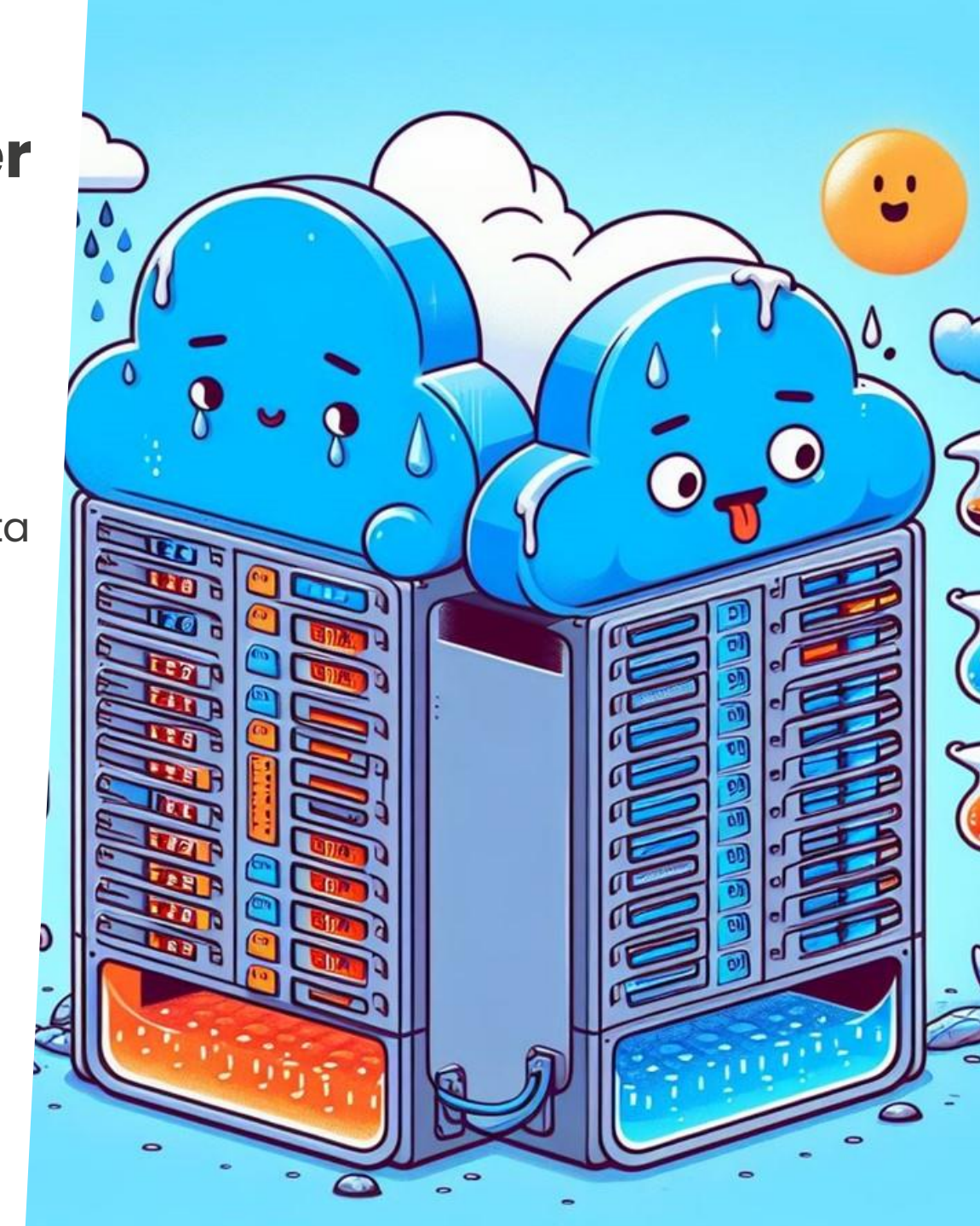
Price Considerations

- Access Tier (Hot, Cool, Cold and Archive)
- Redundancy (LRS, ZRS, GRS)
- Capacity
- Read/Write Operations



Price Considerations – Access Tier

- Hot -> Cool -> Cold -> Archive
- Cooler tiers offer cheaper storage, but more expensive read and write operations.
- Hot tier is perfect for integrations, cooler tier, for data storage.
- Start your price calculations with hot.



Price Considerations – Redundancy

- **LRS** – Locally Redundant Storage
- **ZRS** – Zone Redundant Storage
- **GRS** – Geographically Redundant Storage

- **LRS** – If **Server 1** fails, I will serve data from **Server 2** or **Server 3**
- **ZRS** – If the whole data center in **Amsterdam** fails, I will serve data from **Rotterdam**
- **GRS** – If all of **Netherlands** is unavailable, I'll switch to **Ireland**

Price Considerations – Capacity

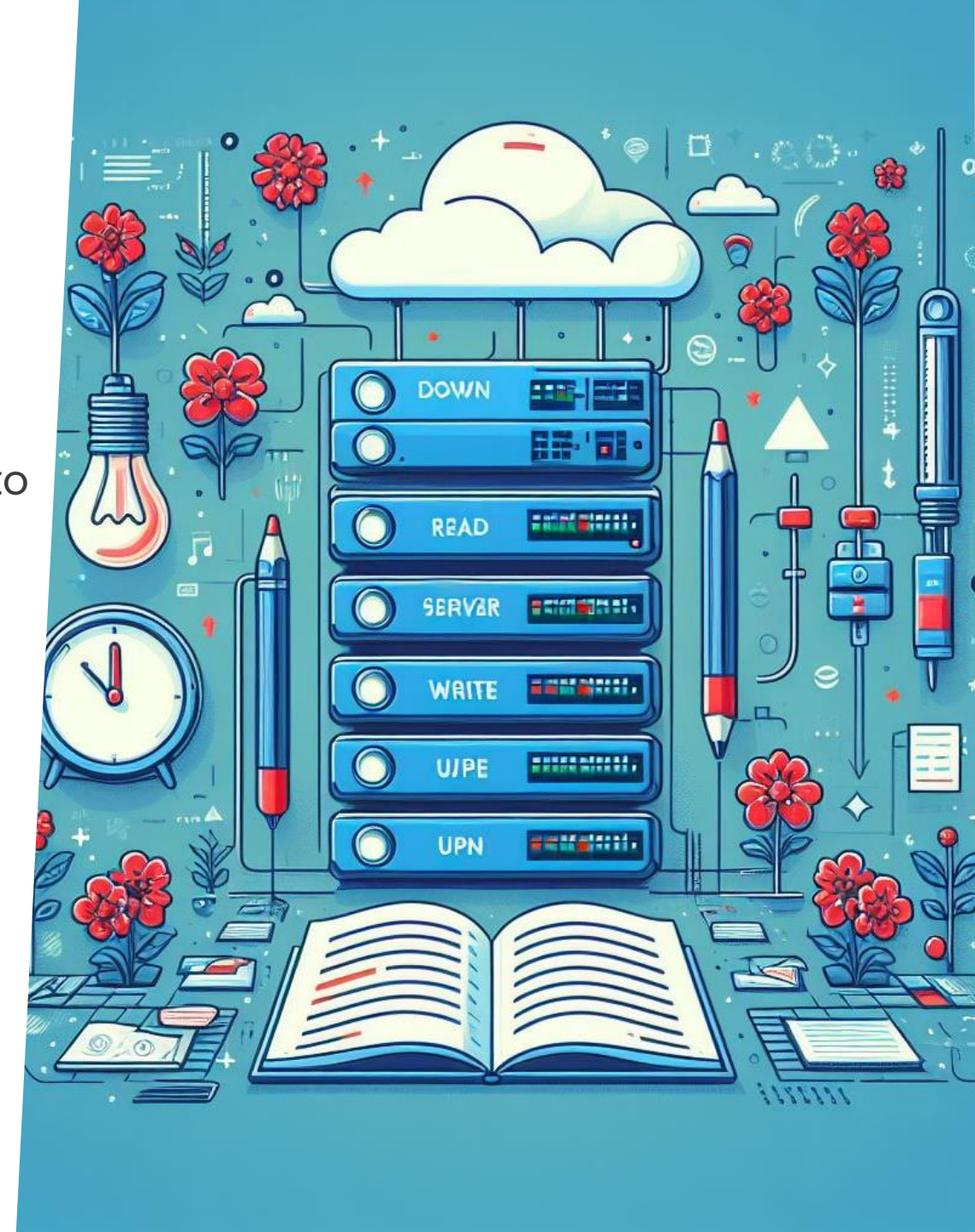
- Pay-as-you-go
- **Hot tier:**
  10 GB – 0.22$ -> 100 GB – 2.20$ -> 1 TB – 22.00$

- **Cold Tier:** 1000 GB – 3.60$
- **Archive Tier:** 1000 GB – 0.99$

Price Considerations – Read & Write Operations

- BC Workloads produce negligible number
- Get's progressively more expensive for cooler tiers.
- A balanced workload usually has an average read to write ratio of 5:1

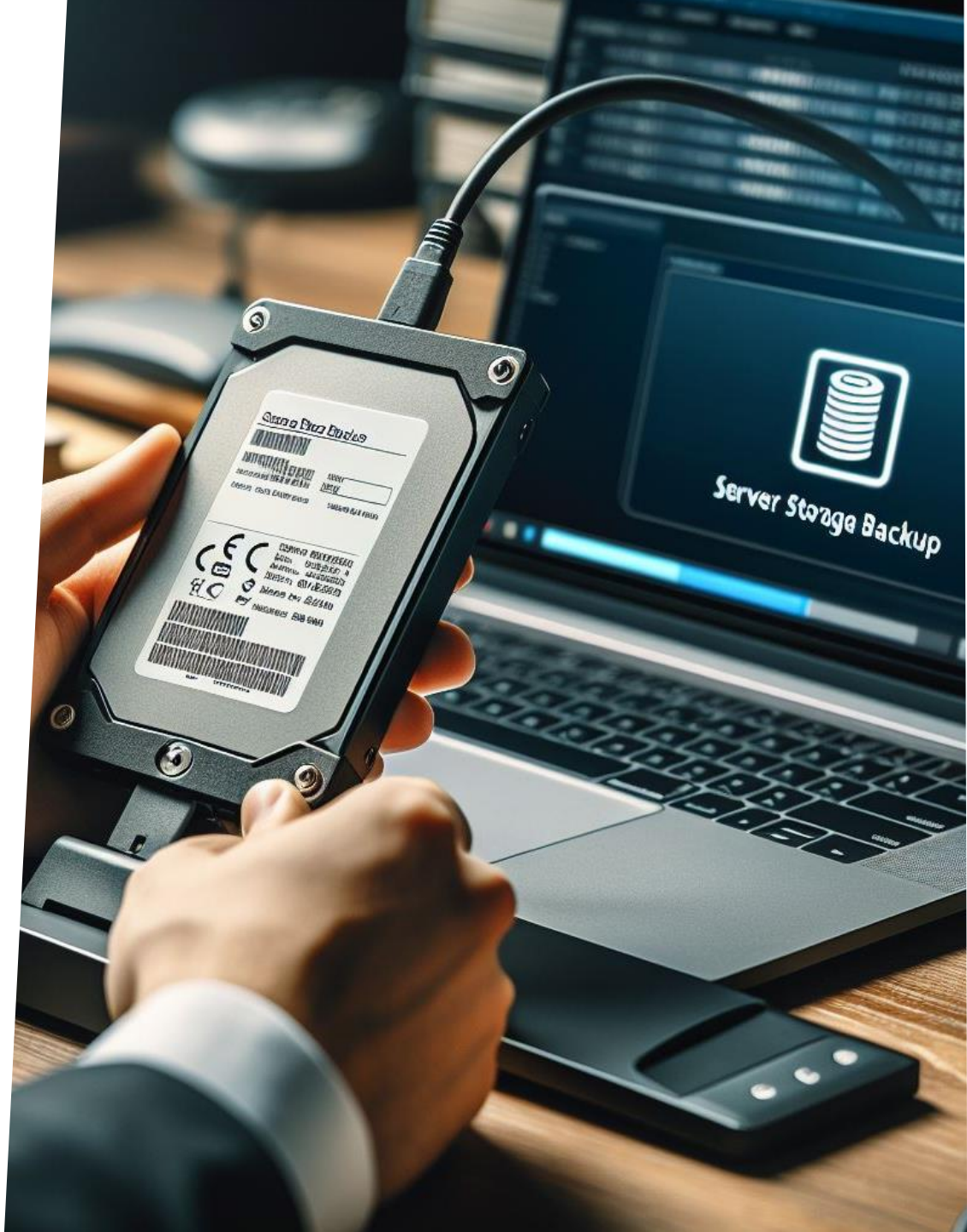
- *Write Operations - No. of Files * 2*
- *List and Create Operations – Write Operations*
- *Read Operations – Write Operations * 5*
- *All Other Operations – Write operations*
- *Data Retrieval – Doesn't matter*



Price Considerations – Backup

- Separate Azure Resource
- Roughly the same cost as blob storage
- Can be optimized for cooler tiers

- *Type – Azure Files*
- *Performance Tier – Hot (or Cool)*
- *Redundancy – Same as with Blob Storage*
- *Low risk: 14 days; 8 Weeks; 3 Months*
- *High risk: 30 days; 12 Weeks; 6 Months; 1 Year*



Pricing comparison

*Documents stored and integration operations executed are in per month values

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Small

~1000 documents

No integrations

LRS Backup

100 GB

2.06€ Storage

3.13€ Backup

5.19€ Total

Medium

~5000 documents

~10k operations

ZRS Backup

500 GB

10.03€ Storage

7.33€ Backup

17.25€ Total

Big

~25000 documents

~50k operations

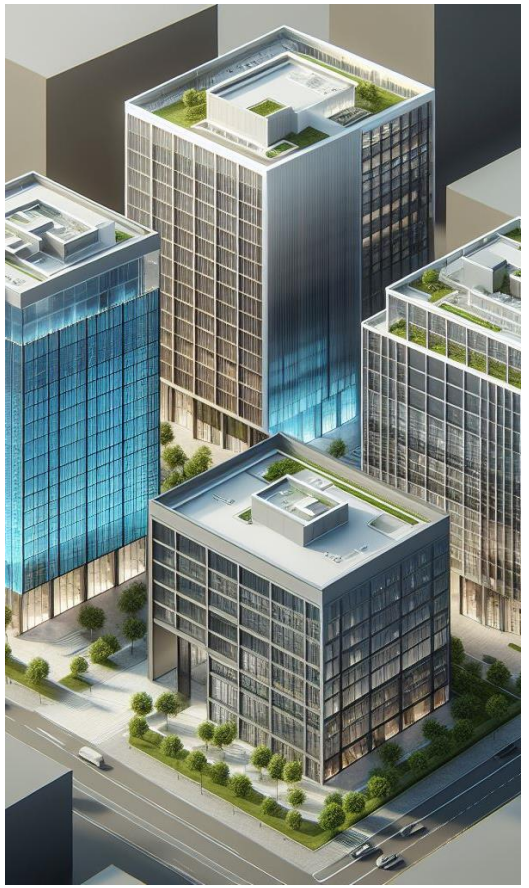
GRS backup

2.5 TB

51.01€ Storage

44.92€ Backup

95.93€ Total



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ZRS Backup

500 GB

10.03€ Storage

7.33€ Backup

17.25€ Total

Big

~25000 documents

~50k operations

GRS backup

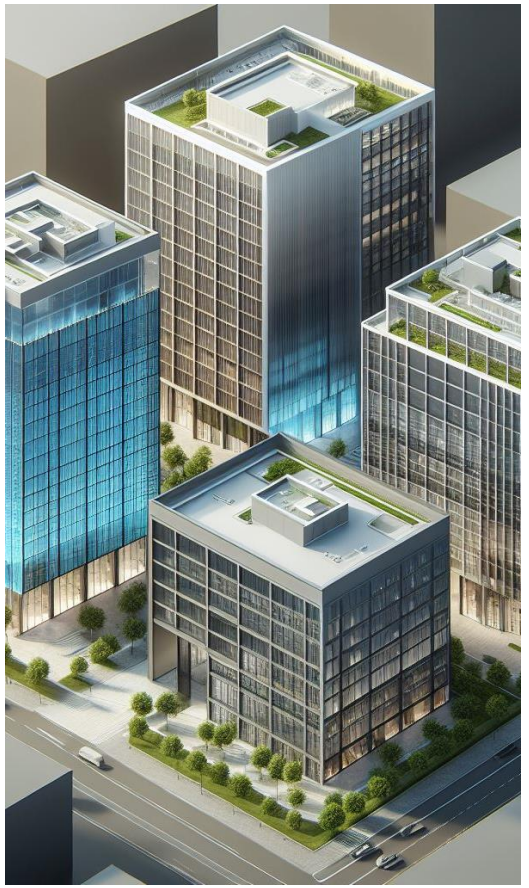
2.5 TB

*With cooler storage policies

14.13€ Storage

20.81€ Backup

34.94€ Total



Key Takeaways

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- Move away from OnPrem code
- Knowledge of Azure is a requirement that is here to stay
- There’s more to consider than just APIs and Code
- Blob Storage even at it’s priciest is still cheaper than DB addition

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Give us Feedback!

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- LinkedIn: /tinestaric
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- Email: tine.staric@companial.com

- Reach out with questions!

Thank you!