



# Backup and Recovery

— *Journey into the clouds*

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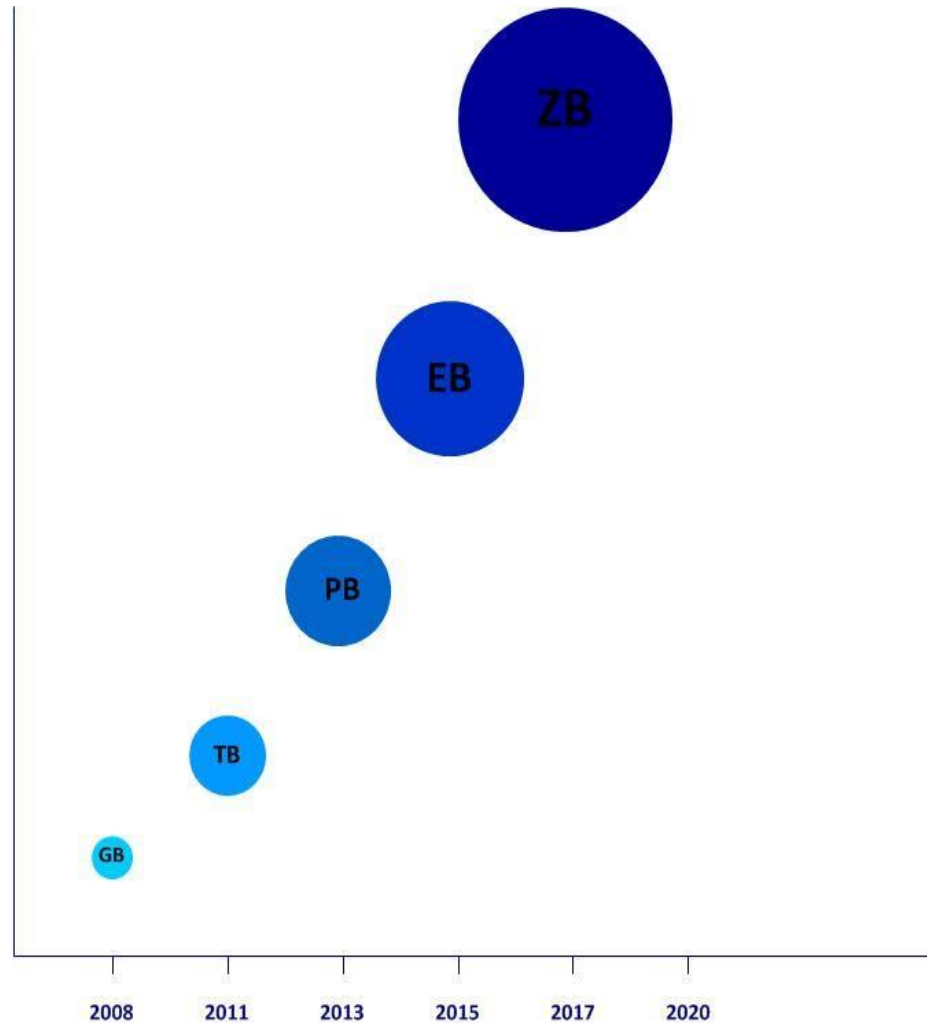
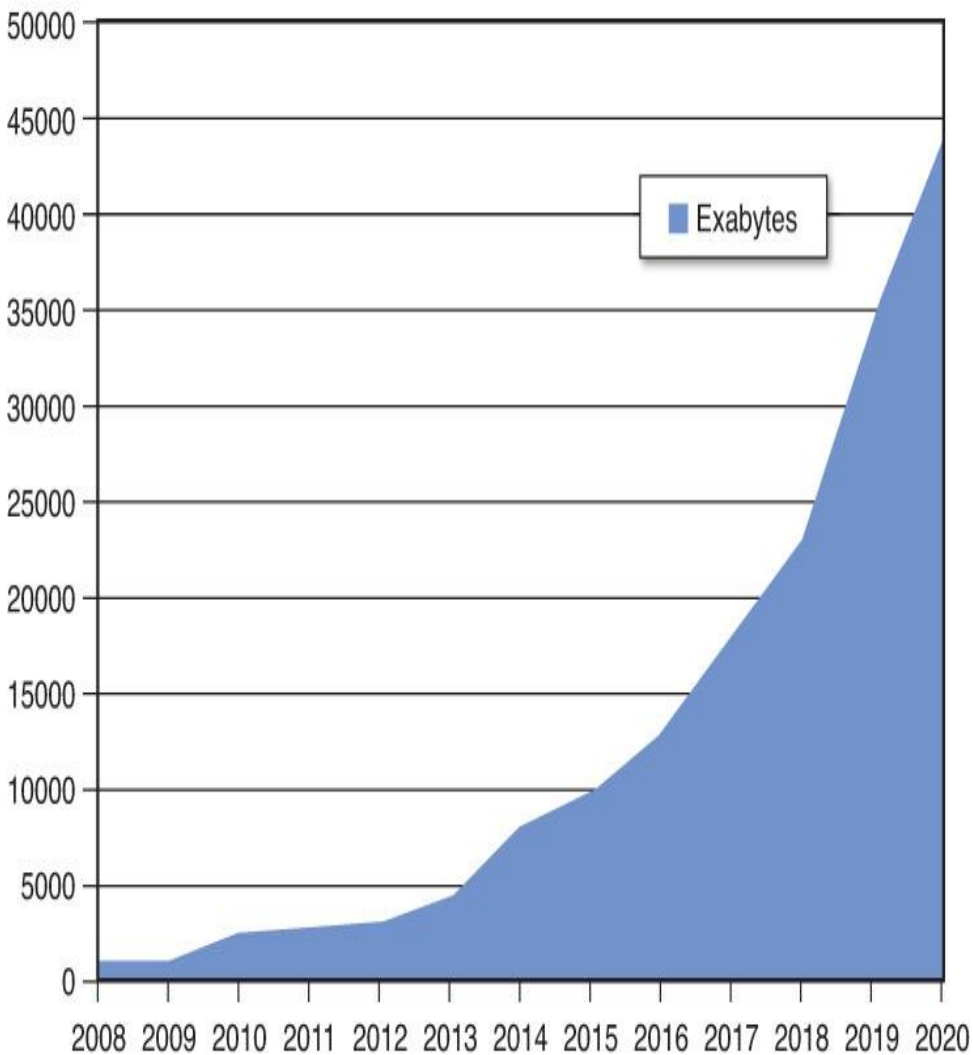
**25<sup>th</sup> May 2017**



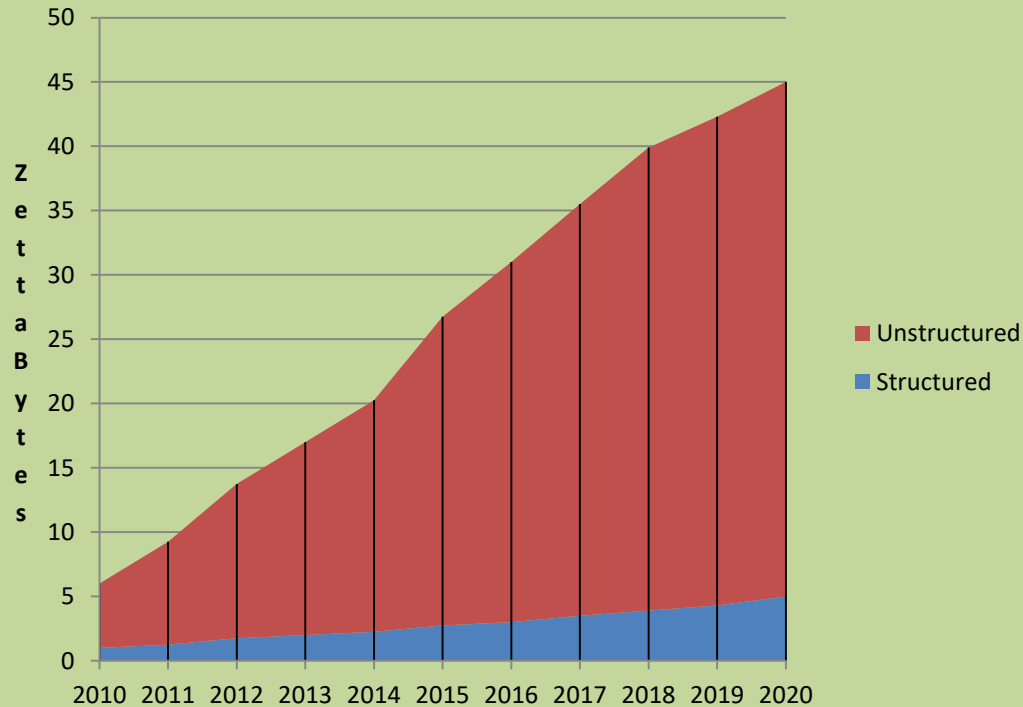
- ☐ Drivers for change
- ☐ Cloud Backup – A Birds eye view
- ☐ Data Protection in the context of cloud
- ☐ Implementation – Consideration and Challenges
- ☐ References

# Paradigm Shift

Digital Data Growth



# Growth trend of data



## Structured Data



0.103	0.176	0.387	0.300	0.379
0.333	0.384	0.564	0.587	0.857
0.421	0.309	0.654	0.729	0.228
0.266	0.750	1.056	0.936	0.911
0.225	0.326	0.643	0.337	0.721
0.187	0.586	0.529	0.340	0.829
0.153	0.485	0.560	0.428	0.628

## Unstructured Data



## Structured Data

- Information with a high degree of organization
- Readily searchable by simple, straightforward search engine algorithms or other search operations

## Unstructured Data

- It doesn't fit nicely into relational databases like SQL,
- Searching it based on the old algorithms ranges from difficult to completely impossible.
- Examples include emails, text documents (Word docs, PDFs, etc.), social media posts, videos, audio files, and images.

# Cloud Storage

- Intended as an extra storage medium
- Easier to access and edit files from different devices (PC, mobiles devices, etc.)
- Share files with others
- Files uploaded to cloud storage services are usually selected specifically by the user and make up a subset of the total collection of files on the computers and mobile devices belonging to that user
- Files may be uploaded on a one-off basis to the cloud and downloaded as needed.
- May have limits on the size of individual files or the amount of data you can transfer daily, weekly, or monthly
- Data security may not be as stringent as it is for backup providers



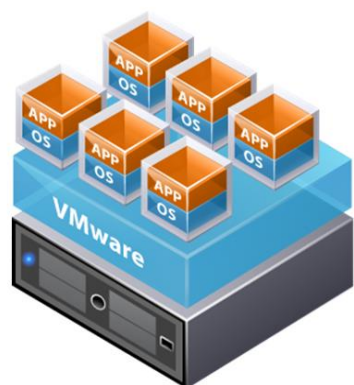
# Cloud Backup



- Also known as online backup
- involves sending a copy of the data over a proprietary or public network to an off-site server
- Designed to store a large amount of data
- Cloud backup are not intended to be accessed regularly
- Provides an easy way to restore all your files in the event of data loss or corruption

# Cloud backup - Under the hood

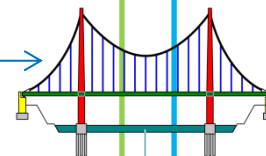
## On-Prem



Local storage



Primary  
Backup  
repository



Cloud repository

### Cloud Gateway

- on-premises device, usually a hardware or software appliance that connects local applications to cloud-based storage.

# Benefits

- **Efficiency and reliability**

- Storage efficiency technologies like Compression, Encryption, Data De-duplication, Virtualization, application-specific protection
- Certified data centers for data security
- Ease of monitoring via a single dashboard

- **Scalability**

- Organizations can leverage the unlimited scalability of a third-party cloud provider without the upfront capital expenditure
- the pay-as-you-go model significantly reduces the procurement and provisioning headaches for backup
- Allows for predictable management of capacity growth and operational costs

- **Improves recovery time**

- Secure access to data retrieval enables faster data recovery

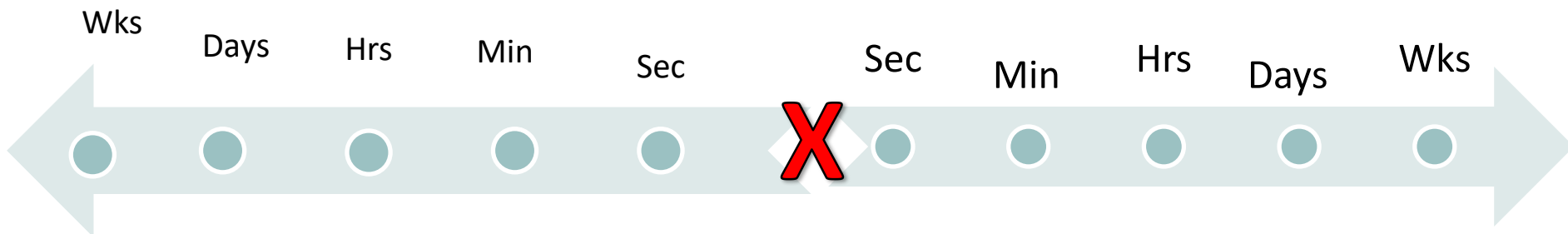
- **Accessibility**

- Any time access (over internet) from anywhere



# Cloud Backup- Considerations

- **Cloud Provider**
- **RTO and RPO requirements**
  - Slower network speeds might cause backups to come back a day or more



## Recovery Point Objective

The amount of data your organization/you are willing to lose in case of an event

## Recovery Time Objective

The amount of time an organization/you are willing to accept for system recovery

**The tighter the RPO and RTO, the more money you will spend on your infrastructure.**

# Cloud Backup - Considerations

## **What to Backup**

- Total capacity of data
- Time for first full backup/ full recovery of site data

## **Size limitations.**

- Bandwidth availability
- Reasonable capacity of data that can be transferred daily to the cloud

## **Exit Criteria**

- Termination or early-withdrawal fees, cancellation notification, and data extraction

## **Service Agreements (SLA)**

- The performance of the service and the "guarantees"

# Cloud Backup providers



*A*Drive™



**CARBONITE**™  
THE BETTER BACKUP PLAN



# References

- TechTarget
- <https://www.lifewire.com/online-backup-services-reviewed-2624712>

