Azure Files in Azure File Sync
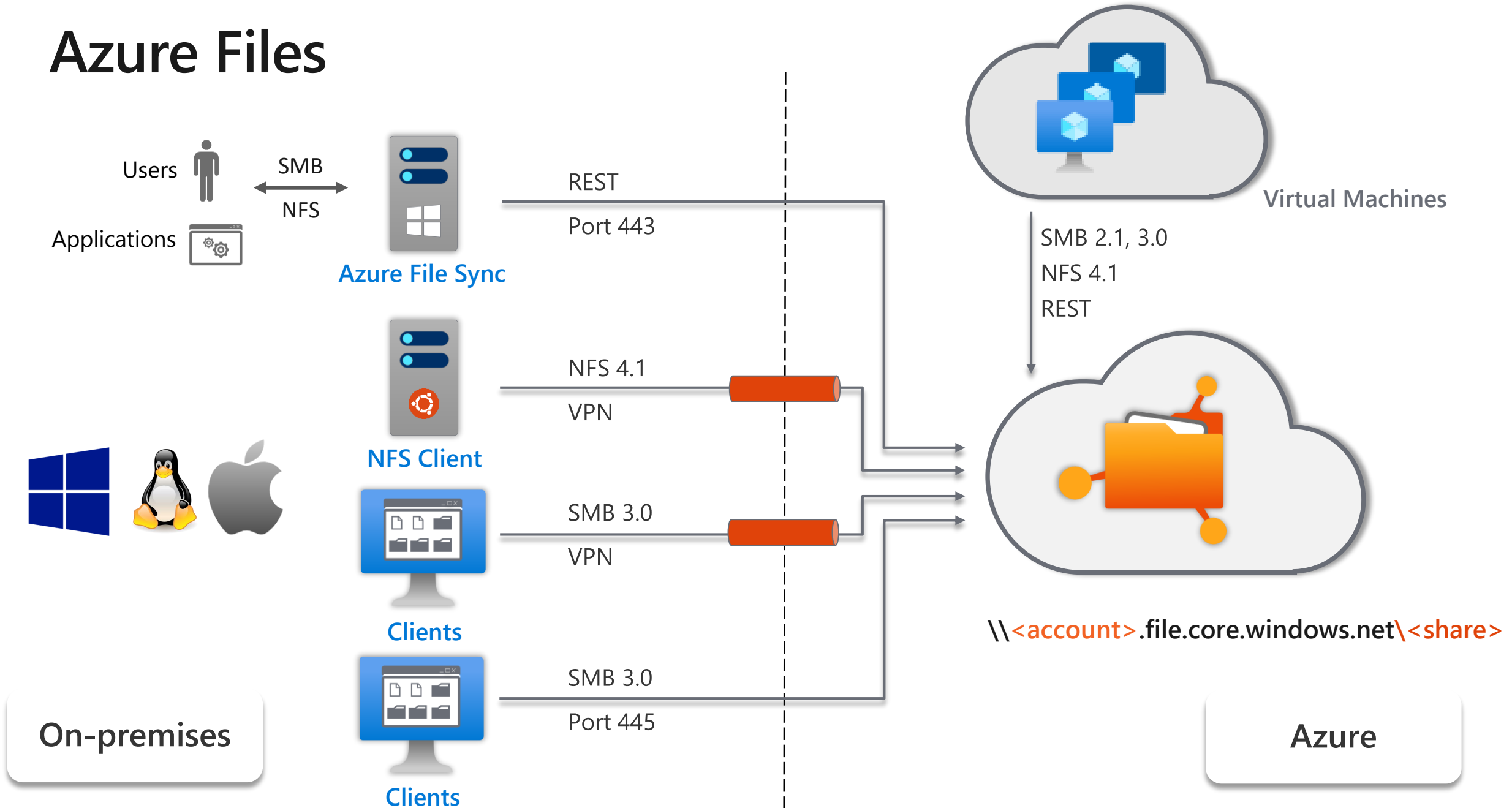
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MCT in prijazen fant

Agenda

→ Azure Storage Services

→ Azure Files - SMB file shares in the cloud

→ Azure Files Sync to sync data with the cloud

→ Protect Azure Files with Azure Backup

→ Questions & Answers

Azure Files

Users — SMB / NFS — Azure File Sync
Applications

REST
Port 443

NFS Client
NFS 4.1
VPN

Clients
SMB 3.0
VPN

Clients
SMB 3.0
Port 445

Virtual Machines

SMB 2.1, 3.0
NFS 4.1
REST

\\<account>.file.core.windows.net\<share>

On-premises
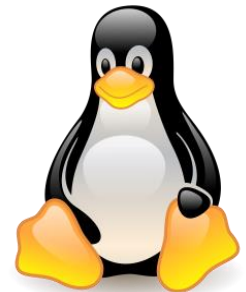
Azure

Why Azure Files?

- Azure Files benefits:
  - Serverless deployment
  - Almost unlimited storage
  - Data redundancy
  - Data encryption
  - Access from anywhere
  - Use of standard protocols

  - Integration into existing environment
  - Granular file permissions
  - Pay-as-you-go pricing model
  - Previous versions and backup
  - (Optional) Integration with on-premises file servers

- Common uses of Azure Files
  - Replace or supplement on-premises file servers
  - Lift and shift
  - Backup and disaster recovery

Accessing Azure Files

net use Z:
\\sk180227storage.file.core.windows.net\share01 /u:AZURE\sk1
80227storage
F6IpH/DHTolSorTU7kS2h4vMxHIhVfr6PT0vN3iNmYg4ynp4j6c2j
GWP7MLppYvZ/nwo6egThtsqpKgE0YG7SA==

sudo mount -t
cifs //sk180227storage.file.core.windows.net/share01 [mount
point] -o
vers=3.0,username=sk180227storage,password=F6IpH/DHTolS
orTU7kS2h4vMxHIhVfr6PT0vN3iNmYg4ynp4j6c2jGWP7MLppYv
Z/nwo6egThtsqpKgE0YG7SA==,dir_mode=0777,file_mode=077
7,sec=ntlmssp

Azure Files Authentication

Active Directory
Domain Services

OR
(mutually
exclusive)

Azure Active Directory
Domain Services

Azure Files authentication support:

- Access key
- Shared access signature
- **Identity-based authentication over SMB**

Clients

Storage File Data SMB Share Contributor ⓘ

Storage File Data SMB Share Elevated Contributor ⓘ

Storage File Data SMB Share Reader ⓘ

Azure file share

Azure Files Snapshots

- Azure file share snapshots enable you to revert to previous file versions
- Created per Azure file share
  - Azure Backup creates snapshot when backing up Azure file share
  - Share can have up to 200 snapshots
- Access file share snapshots in Azure portal or by using Previous Versions tab in File Explorer

Simple configuration
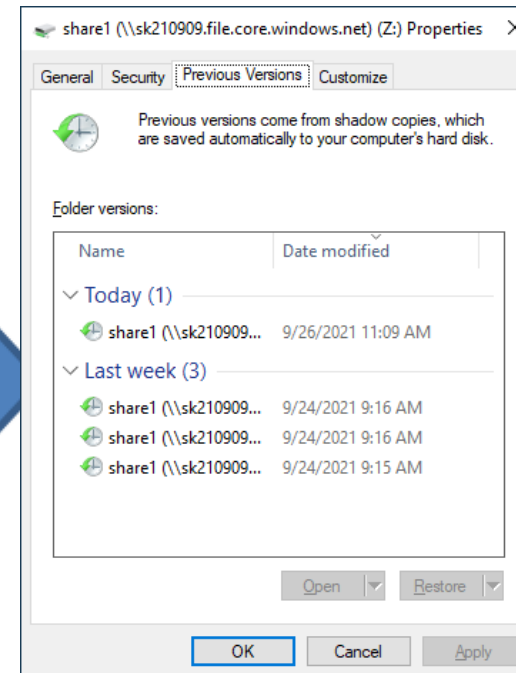
User defined retention

Point in time restore
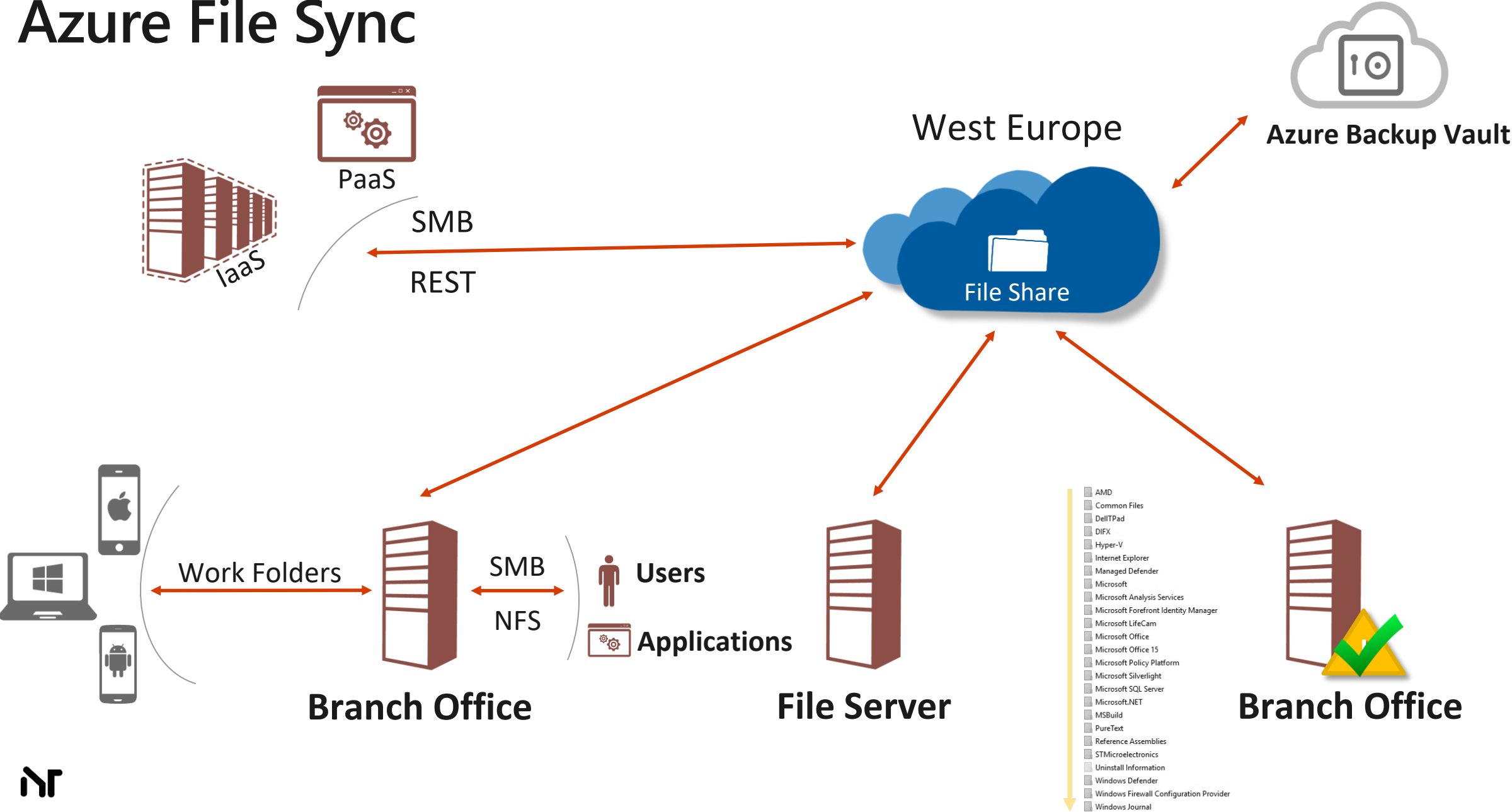
Incremental

Programmable

VSS like experience

Demo: Configuring Azure Files

- Creating storage account, file share and uploading a file
- Using Azure file share snapshots
- Configuring Azure file share authentication

Azure File Sync

Demo: Implementing Azure File Sync

- Registering Azure Storage Sync agent
- Adding Storage Sync server endpoint
- Testing Azure File Sync

File Sync cloud tiering

- Cloud tiering is Azure File Sync optional feature that ensures that:
    - File server has always sufficient free space available
    - Frequently accessed files are cached locally on a file server
    - End user has transparent experience as all the files would be stored locally on file server
- Cloud tiering enabled by a file system filter driver
    - Builds a "heatmap" based on:
        - Last-accessed-time
        - Frequency of access
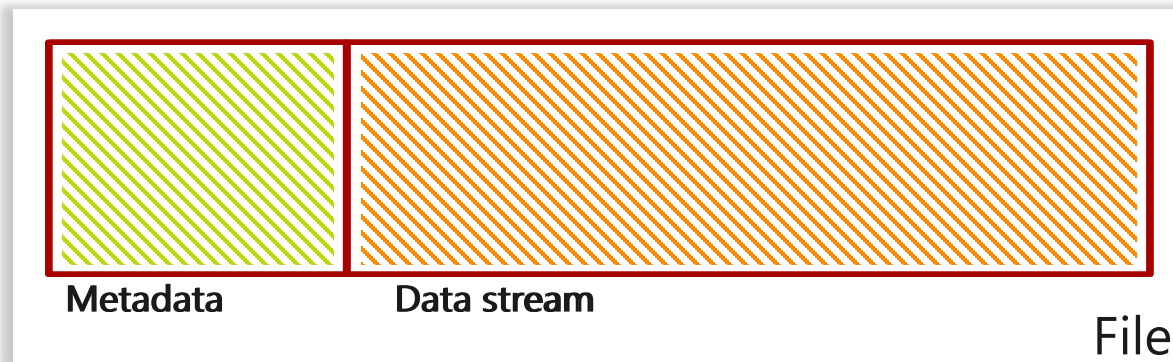- Cloud tiering is compatible with data deduplication

Cloud Tiering   Enabled Disabled

Always preserve the specified percentage of free space on the volume: ⓘ
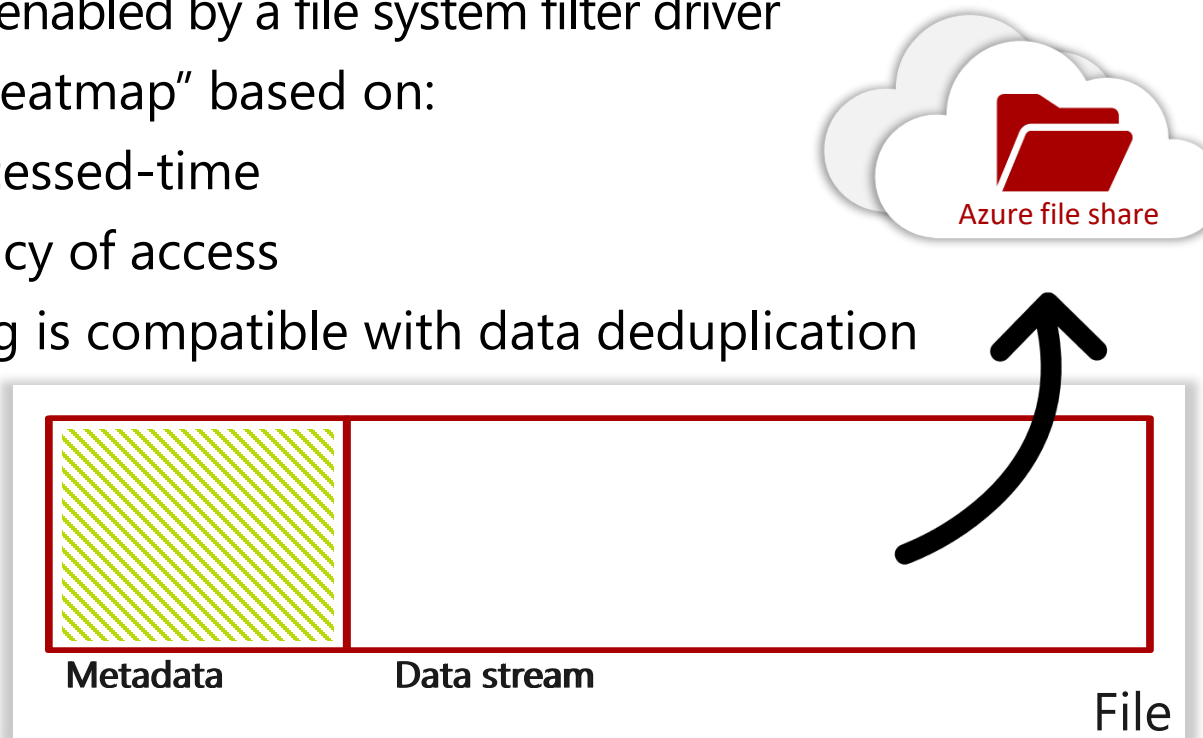
95

☑ Only cache files that were accessed or modified within the specified number of days: ⓘ

5

rs ⓘ   0

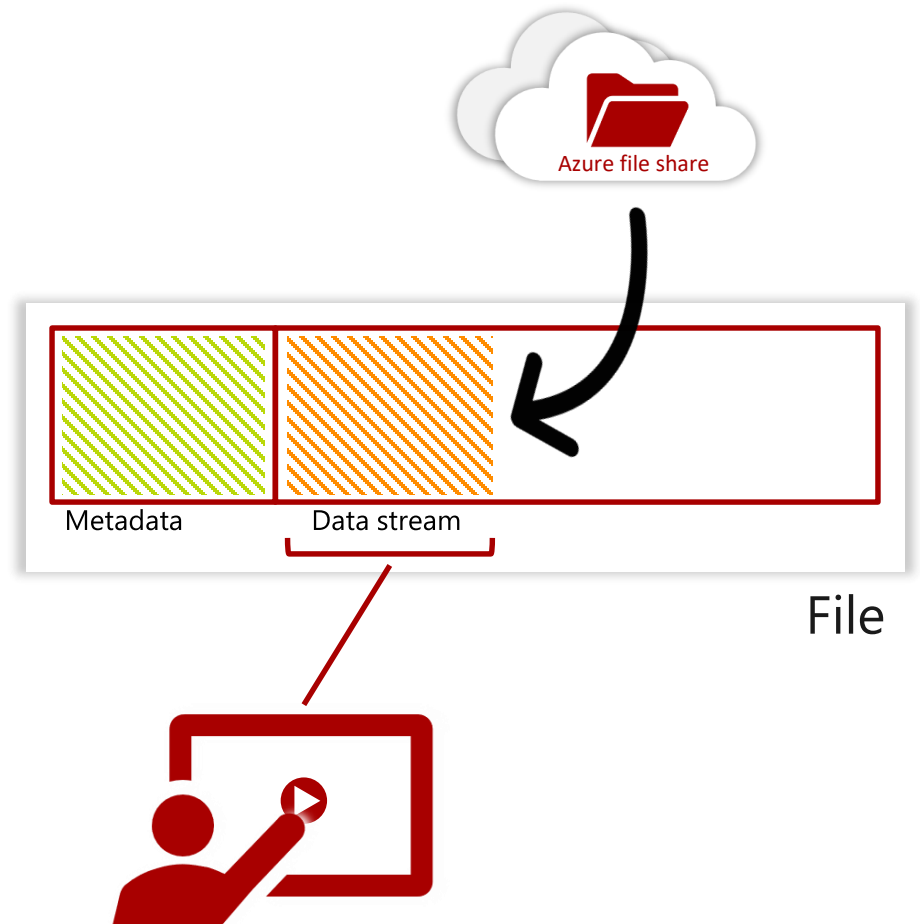**Metadata**   **Data stream**

File

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Azure file share

Metadata   Data stream

File

Partial File Recall

- Files can be:
  - Cached locally
  - Tired in Azure file share
  - Partially tiered
- Only some file formats support partially tired state
  - Media files, .zip archives
- File recall is transparent for users
- You can recognize tiered files by viewing:
  - File size on disk
  - File attributes

Azure file share

Metadata   Data stream

File

Azure File Sync Scenarios

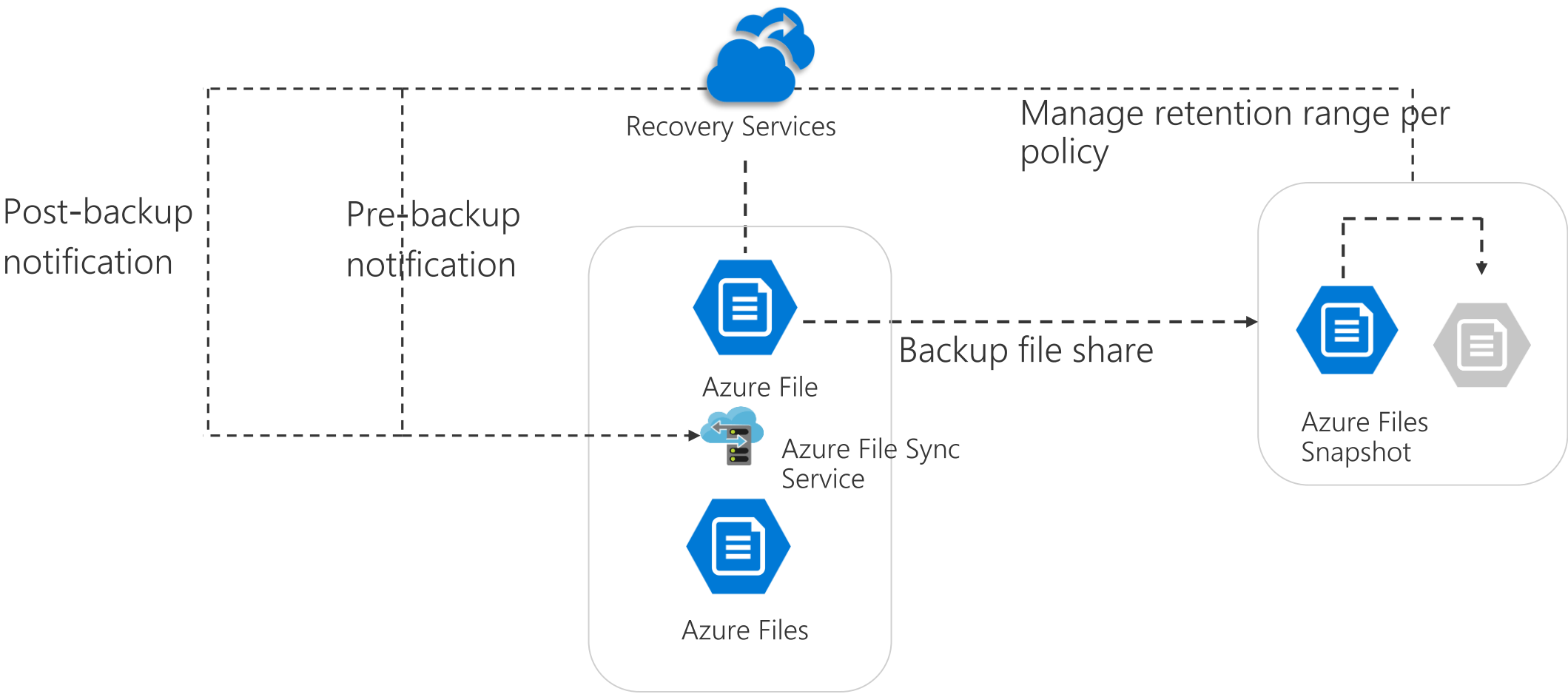|	
Multi-site sync	Keep a data set in sync across multiple locations
Cloud tiering	Turn a server into a lightweight, performance cache for Azure Files
Direct cloud access	Native file format with SMB or REST access
Integrated cloud backup	Point-in-time recovery and retention policies without redundant data transfer
Rapid file server DR	Fast namespace sync with no need to wait for data restore

Sync-aware Azure Files backup

Recovery Services

Manage retention range per policy

Post-backup notification

Pre-backup notification

Azure File

Azure File Sync Service

Azure Files

Backup file share

Azure Files Snapshot

No additional infra

Sync-aware backup

Item level restore

Summary

Azure Files can replace file servers

    Clients can access them as on-premises file servers

    Internet connectivity and TCP port 445 (outbound)

    Identity-based authentication with on-premises Active Directory

    Provides data backup and DR

    Pay-what-you-use approach

Azure File Sync synchronizes data with the cloud

    Cloud tiring

    Synchronizes data and permissions

    Can replace DFS-R

Additional Information

What is Azure Files?
https://docs.microsoft.com/en-us/azure/storage/files/storage-files-introduction

Planning for an Azure File Sync deployment
https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-planning

AD DS authentication for Azure file shares
https://docs.microsoft.com/en-us/azure/storage/files/storage-files-identity-auth-active-directory-enable

Azure Files Pricing
https://azure.microsoft.com/en-us/pricing/details/storage/files/

Vprašanja?

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Hvala za udeležbo na predavanju!

nt konferenca
2021