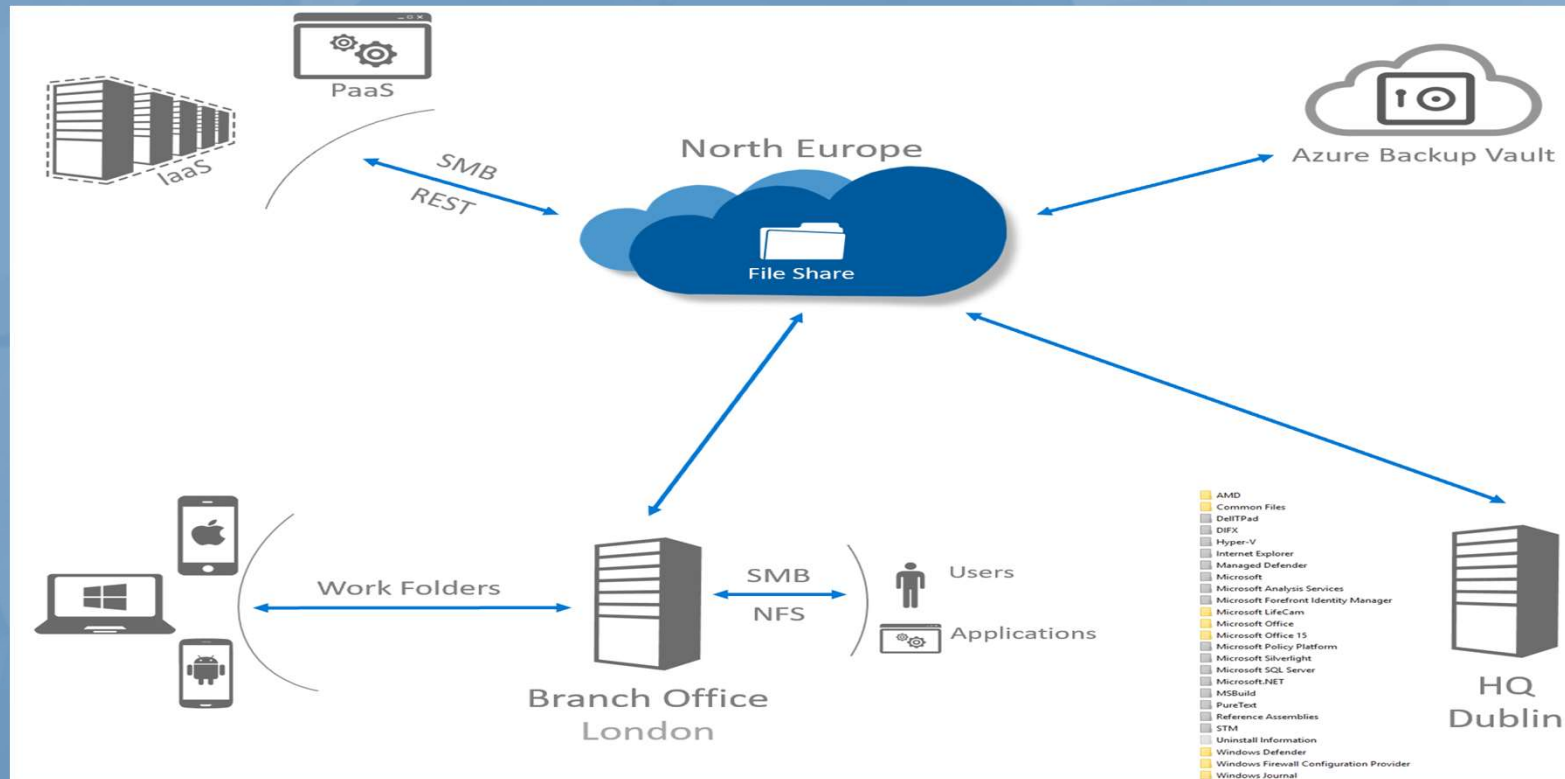# Azure File Sync

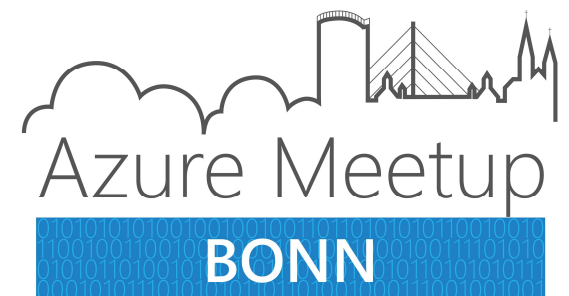## Your Cloud Fileserver

About me:

Gregor Reimling

IT Consultant @sepago GmbH Cologne

Microsoft MVP for Azure ☺

Orga AzureBonn Meetup (Next: Azure Governance 19.02.19)
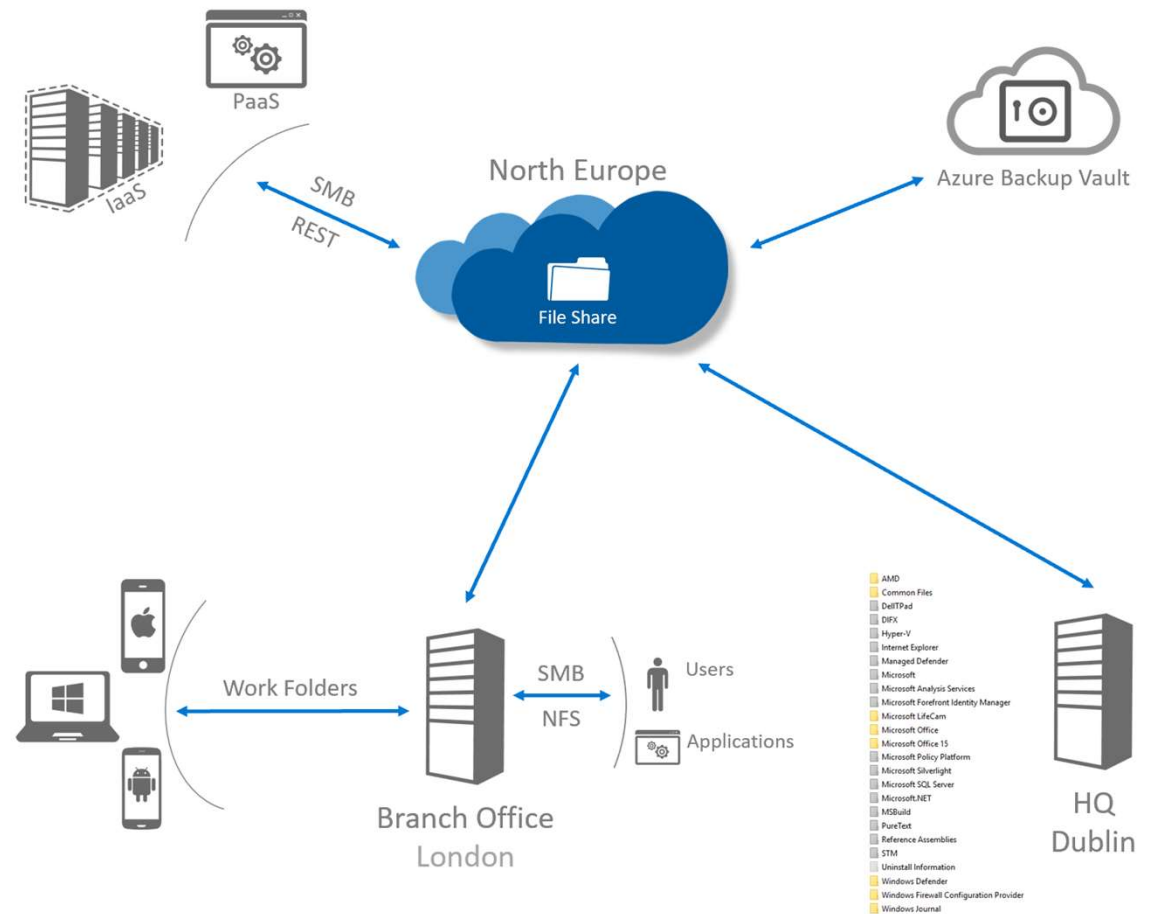
@GregorReimling | @AzureBonn

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Azure File Sync – Agenda

- General
- Functions
- Demo & Configuration
- Migration & Backup
- Conclusion
- Links

AFS - General

- AzureFileSync = AFS

- Synchronize Fileserver between Company Boundaries

- General Availability since July 2018

- Fileserver need Agent for syncing
  - Agent registered Fileserver in Azure
  - Monitoring and Syncing
  - Transparent for User

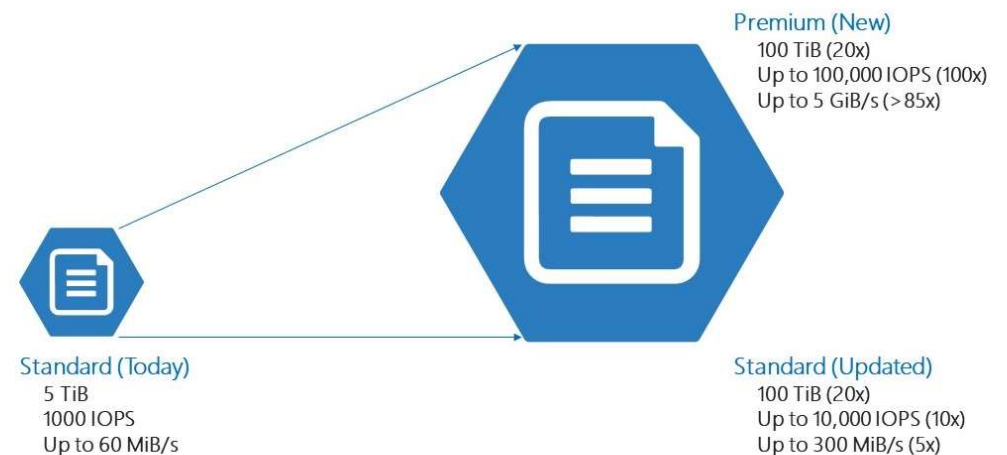- Files will be synced to an Azure Fileshare

Azure Files

First some basically Introduction into Azure Files

Azure Files

- Hosted SMB 3.1 Share for you on Azure

- PaaS solution

- You don´t need to spin up and manage VM´s

- No Volume layout

- Unique namespace, based on Azure Storage
  - azuresaturday.blob.core.windows.net -> Storageaccount Name
  - azuresaturday.file.core.windows.net -> Fileshare Name
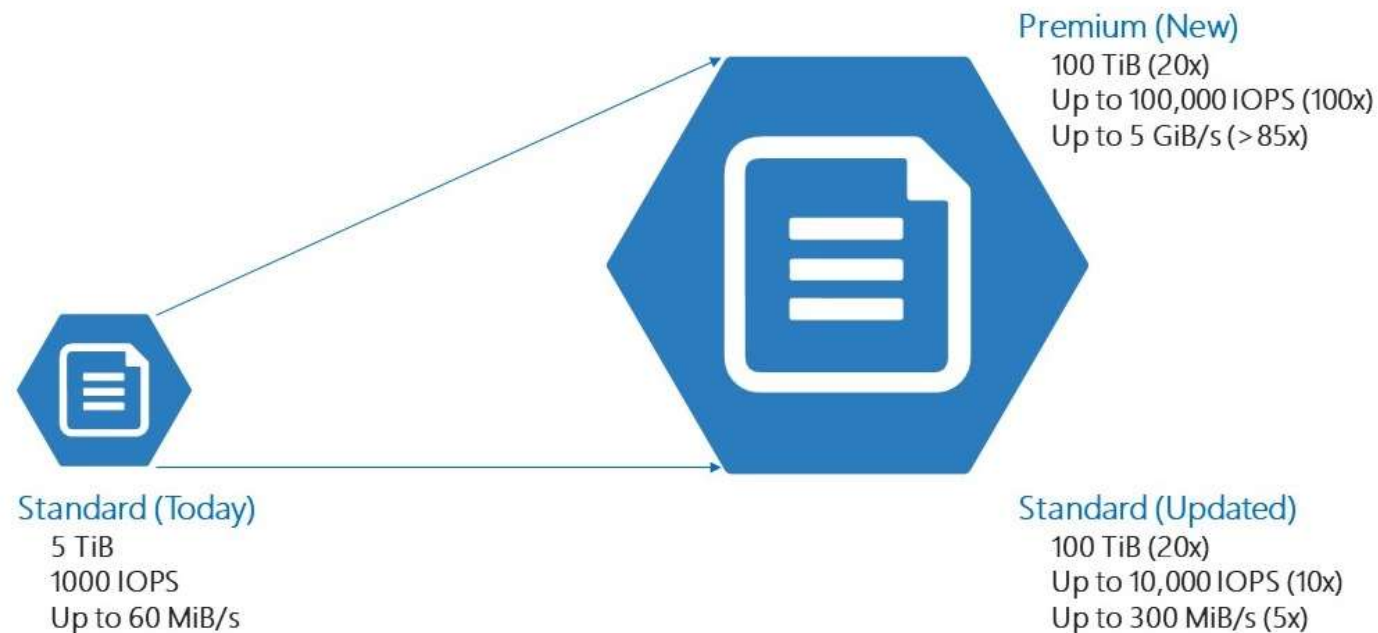
Azure Files – MSIgnite Announcements

- Standard
    - ~~5TB~~ -> 100TB Fileshare
        - Planed for Q3/2019
    - ~~1000~~ -> up to 10000 IOPS
    - ~~60MB/sec~~ -> up to 300MB/sec
- Premium (new model)
    - Up to 100.000 IOPS*
    - Up to 5GB/sec*
    - Based on the fileshare size

Premium (New)
100 TiB (20x)
Up to 100,000 IOPS (100x)
Up to 5 GiB/s (>85x)

Standard (Today)
5 TiB
1000 IOPS
Up to 60 MiB/s

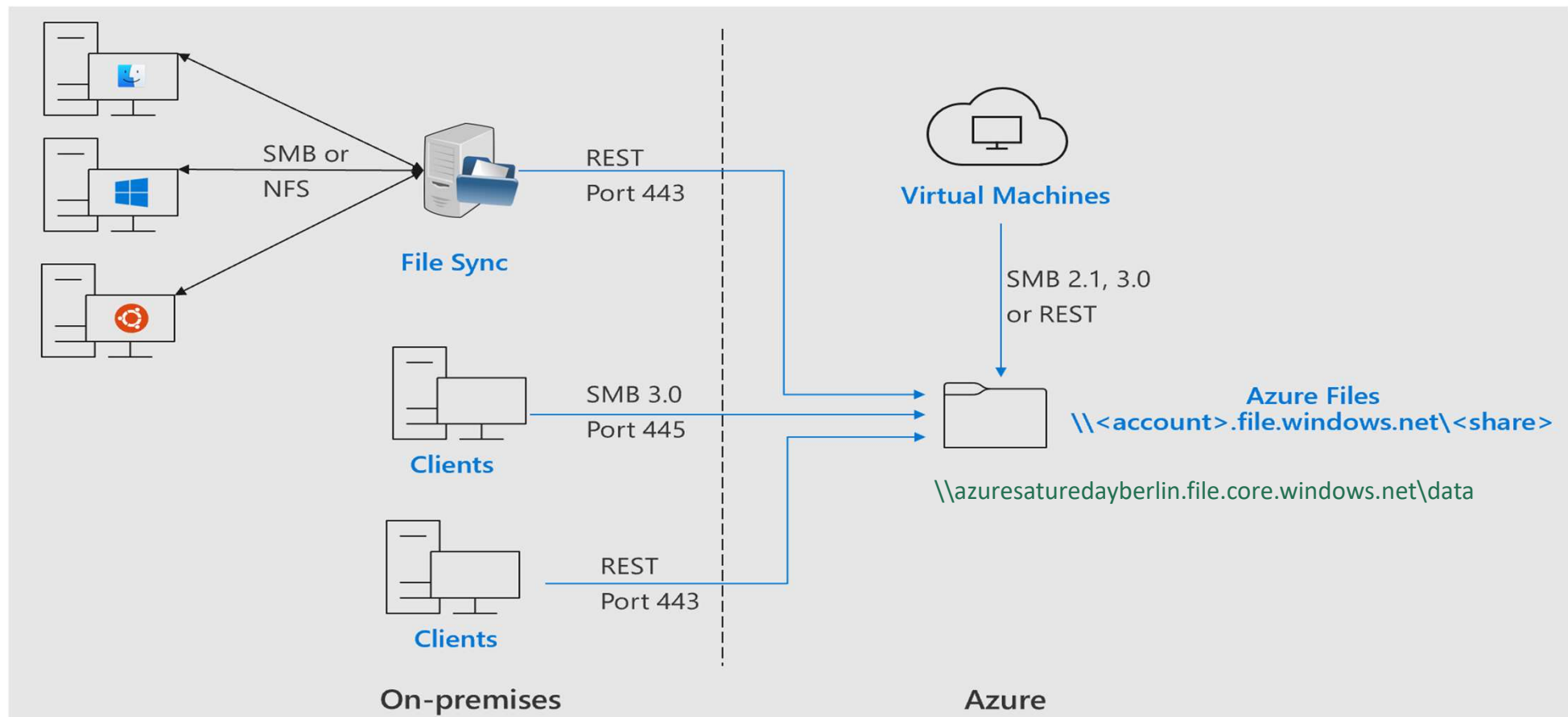**Standard (Updated)**
100 TiB (20x)
Up to 10,000 IOPS (10x)
Up to 300 MiB/s (5x)

https://azure.microsoft.com/en-us/blog/a-new-era-for-azure-files-bigger-faster-better/

Azure Files – MSIgnite Announcements

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https://azure.microsoft.com/en-us/blog/a-new-era-for-azure-files-bigger-faster-better/

Azure Files – How it works

SMB or NFS

REST Port 443

File Sync

SMB 3.0 Port 445

Clients

REST Port 443

Clients

Virtual Machines

SMB 2.1, 3.0 or REST

Azure Files
\\<account>.file.windows.net\<share>

\\azuresaturedayberlin.file.core.windows.net\data

On-premises

Azure

https://www.youtube.com/watch?v=GMzh2M66E9o

Pre-requisites are missing

Retry server registration after performing the following actions:

Install the latest AzureRM PowerShell module by following the documentation: https://go.microsoft.com/fwlink/?linkid=856959.

- WS2012R2 GUI + PowerShell 5.1
- WS2016 GUI
- WS2019 GUI
- Internet Connection (HTTPS)
- Dedicated Storage account (Recommended)
- Azure Fileshare
- Fileserver needed Powershell Module AzureRM
- Agent Installation
- Availability regions

AFS - Requirements

AFS – Components

- Storage Sync Service

- Sync Group

- Registered Server
  - Associate with Sync Group (1:1)

- Cloud Endpoint
  - Azure Fileshare

Update Rollup for Azure File Sync Agent (General Availability) – September 2018 (KB4457484)

Update Rollup for Azure File Sync Agent (General Availability) – September 2018 (KB4457484)

- Server Endpoint
  - Serverpath

- Azure File Sync Service Agent

AFS – Cloud Tiering

- Bring your Fileserver in caching mode
- Sync agent build a heatmap of local files
- Hottest data will be stored locally
- Cold data only available in the Cloud
- Transparent for the User
- Local file have an pointer to the cloud file

AFS - Limitations

- Max. Size of Azure Fileshare 5TB (100TB coming Q3/19)
  - Using more than one Fileshare possible (max. 500TB)
- Servers can only registered in one AFS group
- Filesystem only NTFS – No ReFS is supported
- Data duplication possible -> without Cloud Tiering

Location

West Europe

Australia East

Australia Southeast

Canada Central

Canada East

Central India

Central US

East Asia

East US

East US 2

North Europe

South India

Southeast Asia

UK South

UK West

West Europe

West US
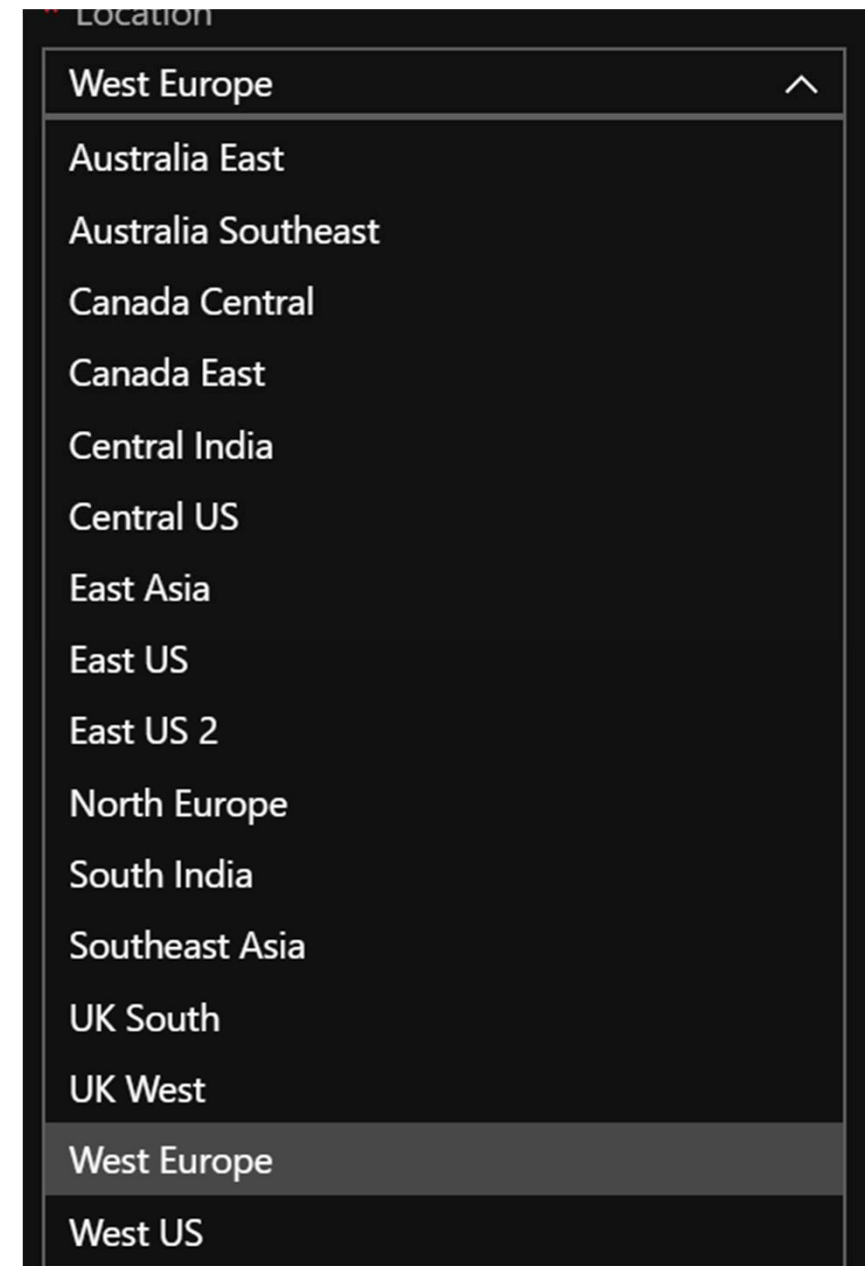
AFS – Preparation steps

Create Storageaccount & Fileshare

Creating Storage Sync Service (Azure File Sync)

Creating Syncgroup
(will also create an Cloud Endpoint)

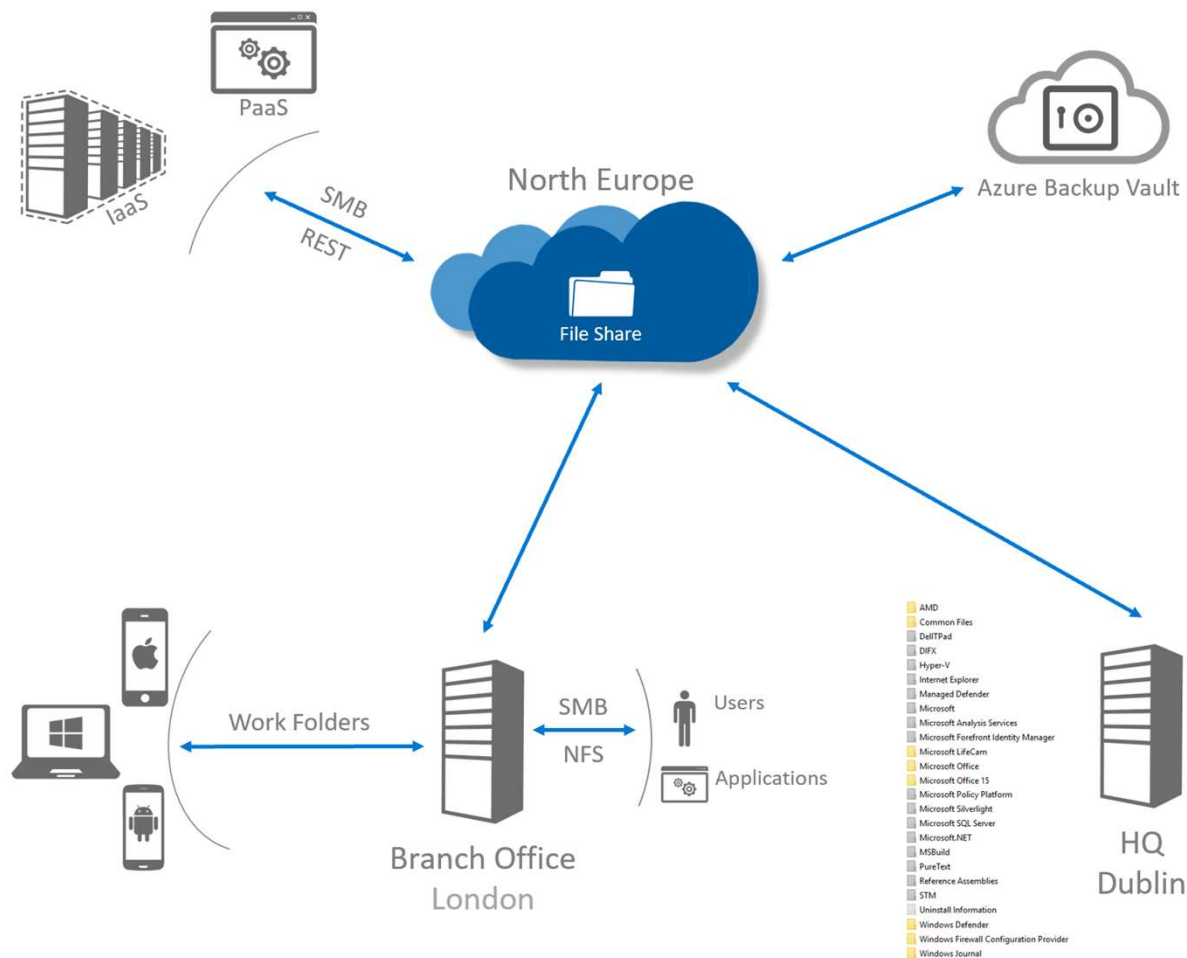Install-Module AzureRM
On the Fileserver

Installing Azure File Sync Agent

Registering Server on Cloudendpoint

Create Serverendpoint
(Select Path for syncing)

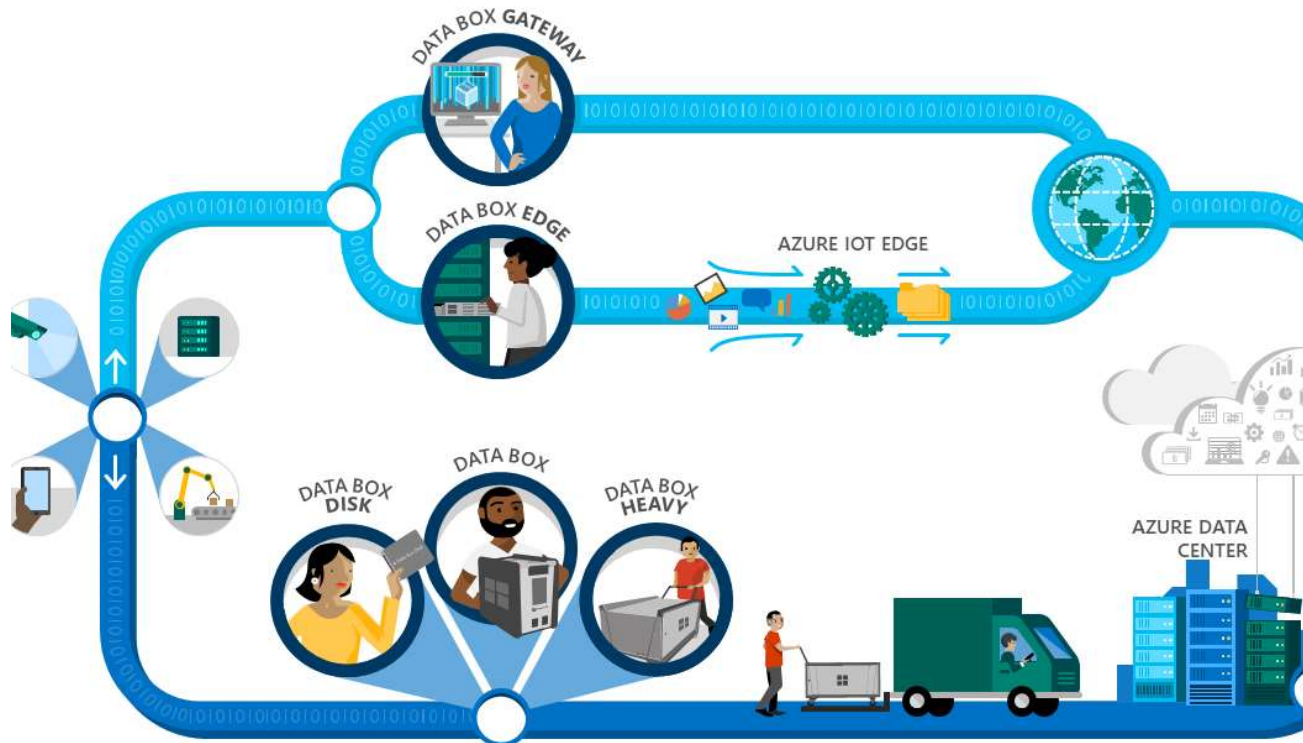After finishing register additional servers

Done! ☺

DEMO Time

Azure File Sync

Azure File Sync - Migrate

Migrate big Content to Azure

https://azure.microsoft.com/en-us/blog/expanding-the-azure-data-box-family/

Azure Data Box

- GA since MS Ignite 2018
- For offline data transfer
- Different sizes available
  - 40TB, 100TB, 1PB

Azure File Sync – Backup

How can we Backup the Content

AFS – Backup

- Simple, central backup
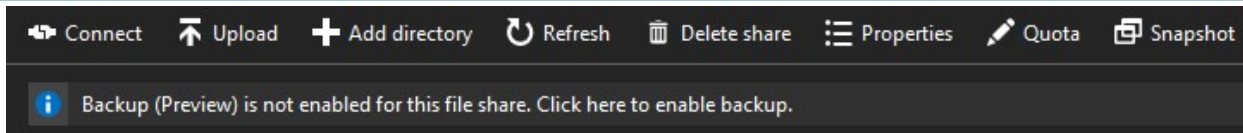- Shift On-Prem Backup to Cloud
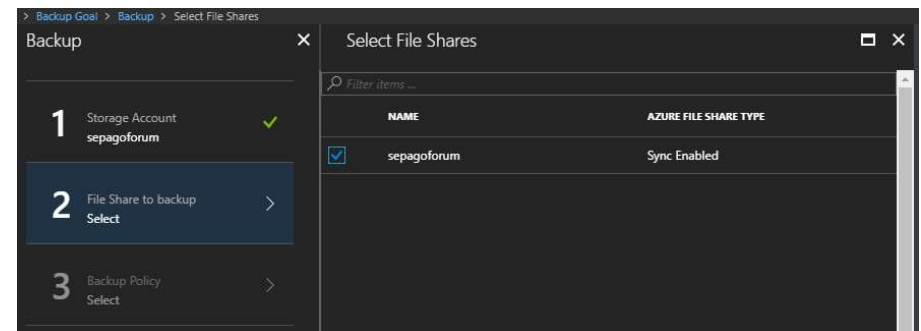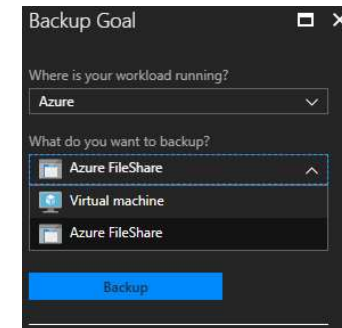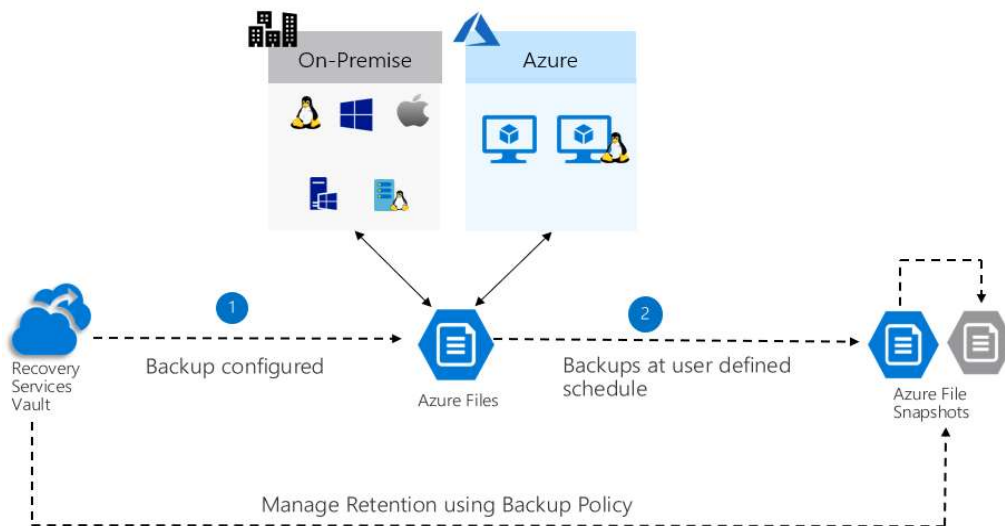- Backup via Azure Fileshare (Preview)
- Don´t use VSS when Cloudtiering is enabled

AFS – Backup

AFS – AzureAD Integration (Preview)

⚠️ Today only for AzureAD Domain Services (AAD DS)

☁️ Enables SMB access to Azure Fileshare using AAD credentials

Support share level permission using RBAC

📁 Enforce NTFS folder and file permission

▶️ [Get started](#)

AFS – Need to know

- File collision
  - MS working on it
  - Today -> saving two files with same name, the 2nd file get the servername appended

- Troubleshooting
  - Don´t remove Server Endpoint and add them a new – can cause data lost
  - Did you enable Cloudtiering, then disable it first via Powershell

- Bandwith
  - It depends on fileshare size
  - Possible to set bandwidth limits
    - Import-Module "C:\Program Files\Azure\StorageSyncAgent\StorageSync.Management.ServerCmdlets.dll"
    - New-StorageSyncNetworkLimit -Day Monday, Wednesday, Friday -StartHour 9 - EndHour 17 -LimitKbps 10000

AFS – On-Prem Hardware Config

- DataOn Kepler 47

- 2 Node Storage Spaces Direct Cluster

- Built for Branch-offices

- Will be pre-configured with Azure File Sync

- More coming soon

* Image by DataOn

AFS – Conclusion

- Fast installing and stable syncronizing ☺
- Costs: 1 Server Free, 5$ each additional server ☺
- DRaaS for Fileservers ☺
- Supporting for DFS-R and SOFS ☺
- Easily migrate Backup ☺
- Fileshare Limit ~~100TB~~ 5TB since MSIgnite ☺
- Can not change sync frequency 😐
- No support for ACLs in Azure Files (will be coming) 😐
- 1:1 binding between Server and Sync Group ☹

AFS - Links

- Planning for an Azure File Sync deployment
- Manage registered servers with Azure File Sync
- Release notes for the Azure File Sync agent
- Introducing backup for Azure file shares
- Feedback for AzureFiles Product Group
- MS Ignite 2018 – A new era for Azure Files: Bigger, faster, better!
- MS Ignite 2018 – Azure Files in 2018: Bigger faster better! - BRK2379
- MS Ignite 2018 – Azure Files & Azure File Sync technical foundation THR2253
- Azure File Sync DSC from Jan Egil Ring
- Azure File Sync Blog entries on Reimling.eu (German)
- Azure Pricing Calculator

Thank you!

Q&A