PowerShell Conference Europe 2019

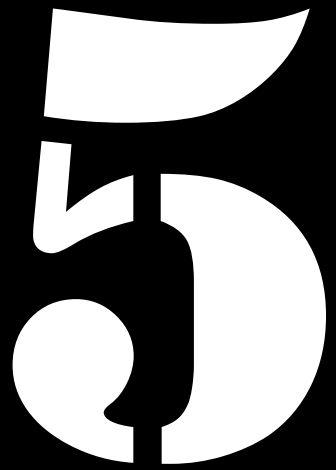
Hannover, Germany

June 4-7, 2019

Cloudify your Windows File Server

JAN EGIL RING

Platinum Sponsor



Video operator, did you start the recording?

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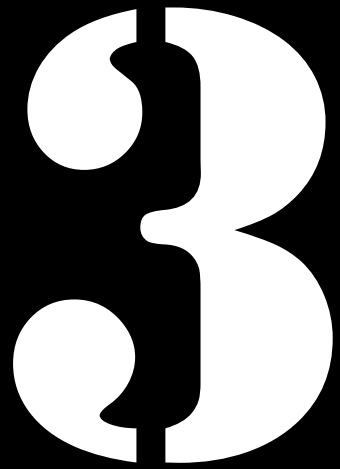

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PowerShell Conference Europe 2019

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Automate hybrid and cloud environments using Azure Automation

JAN EGIL RING

Platinum Sponsor

This Session

- Understand how to configure hybrid file servers based on Azure File Sync
- Learn how to leverage PowerShell DSC and Azure Automation State Configuration to fully automate Azure File Sync installation and configuation

JanEgilRing

Agenda

- Introduction – what is the goal?
- Deployment
- Monitoring
- Backup
- Demos
  - Install and configure Azure File Sync
  - Fully automated installation on Server Core

Why move your on premises file servers to the cloud?

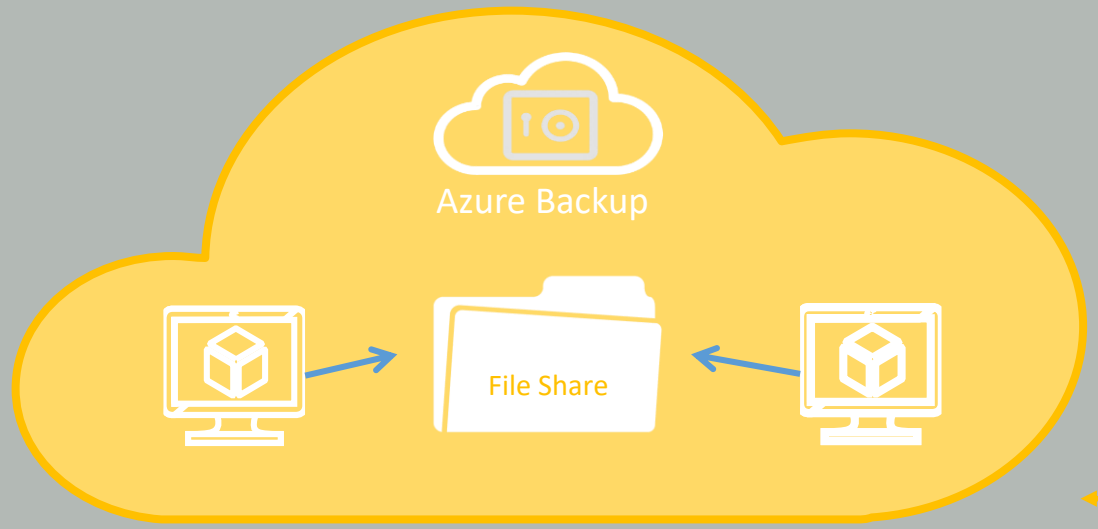
Reduce on premises storage footprint

Centralize data

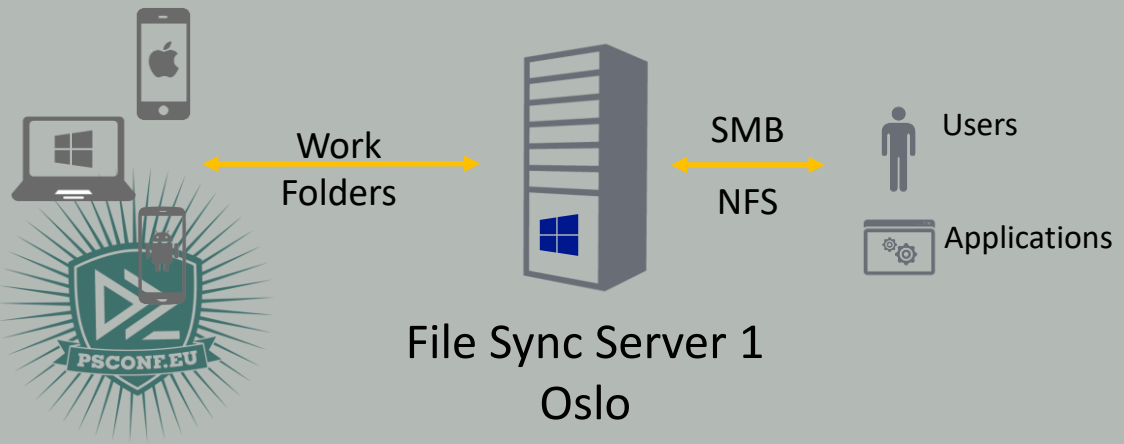
Reduce management overhead

Save $$$

Advantages of Azure File Sync



- Cloud Tiering
- Cloud Access
- Multi-site Sync
- Cloud Backup
- Rapid File Server DR



Deploy Azure File Sync in a few easy steps

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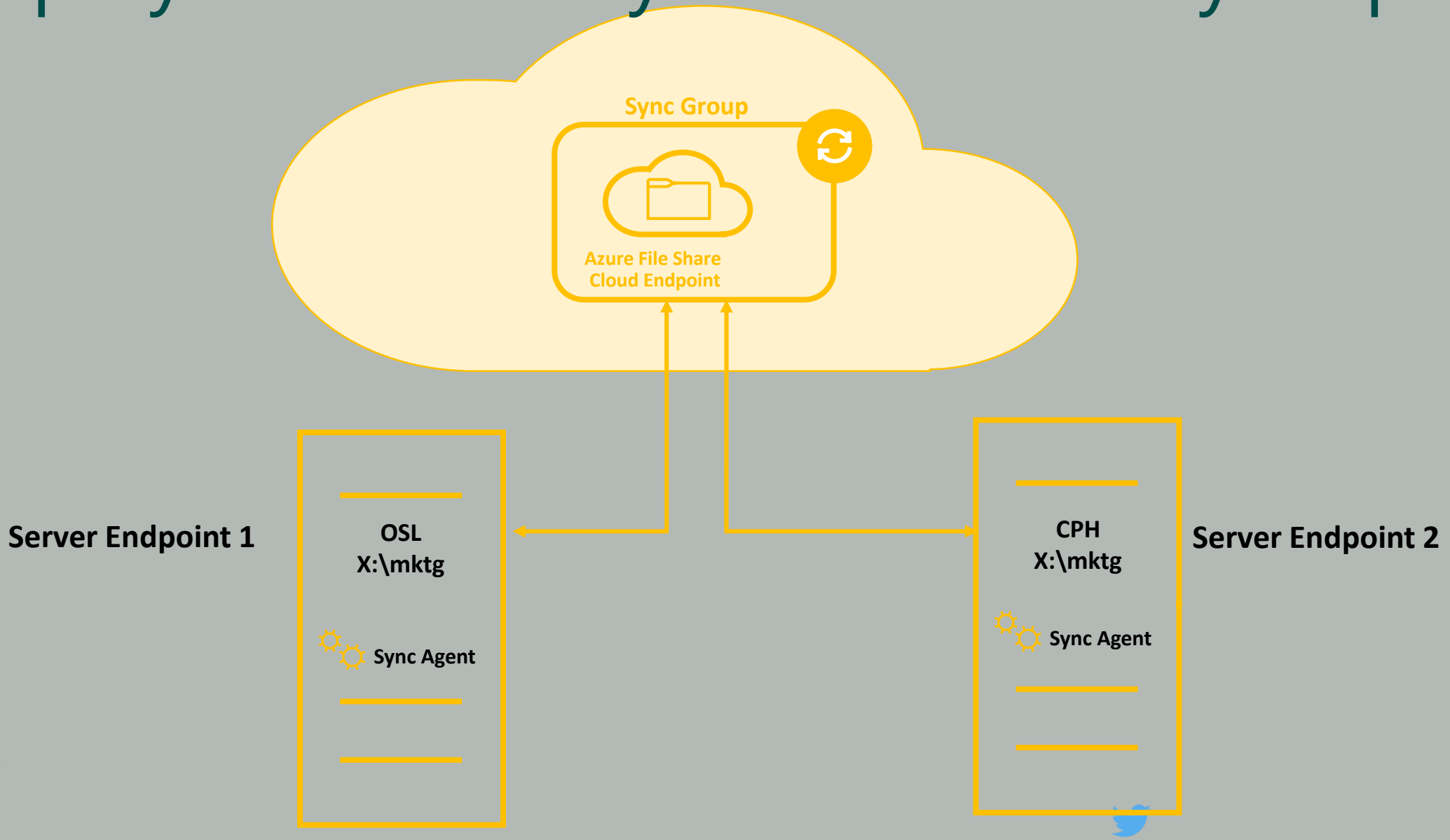
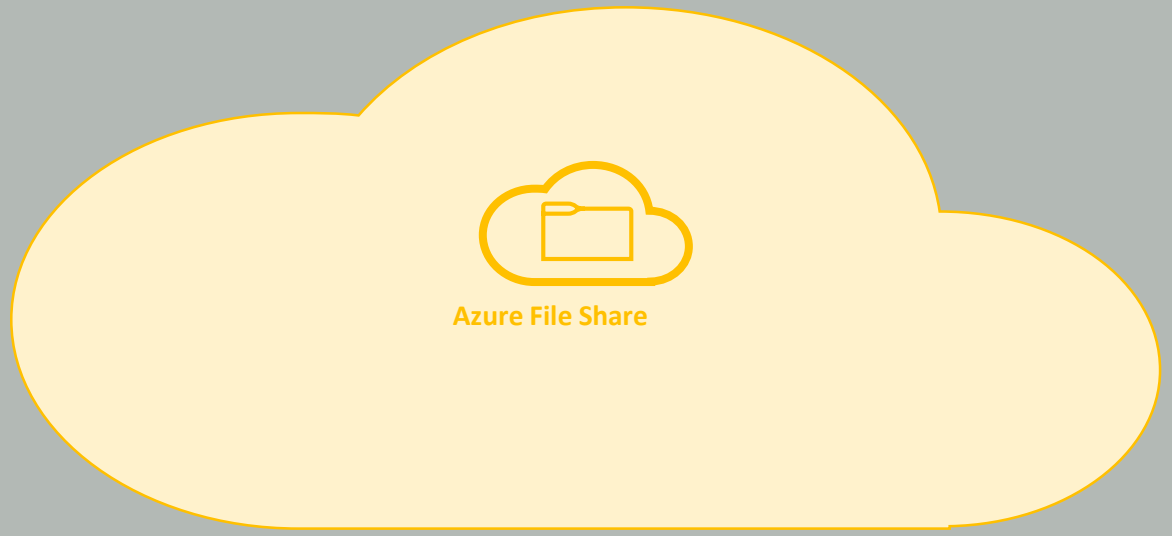
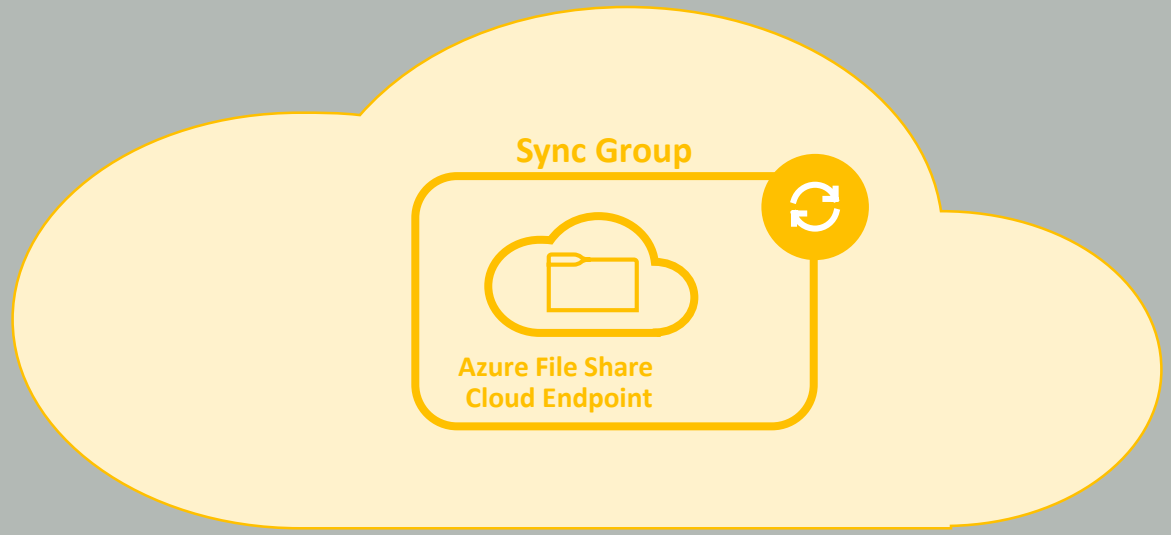


Step 1 - Create Azure Storage Account and file share

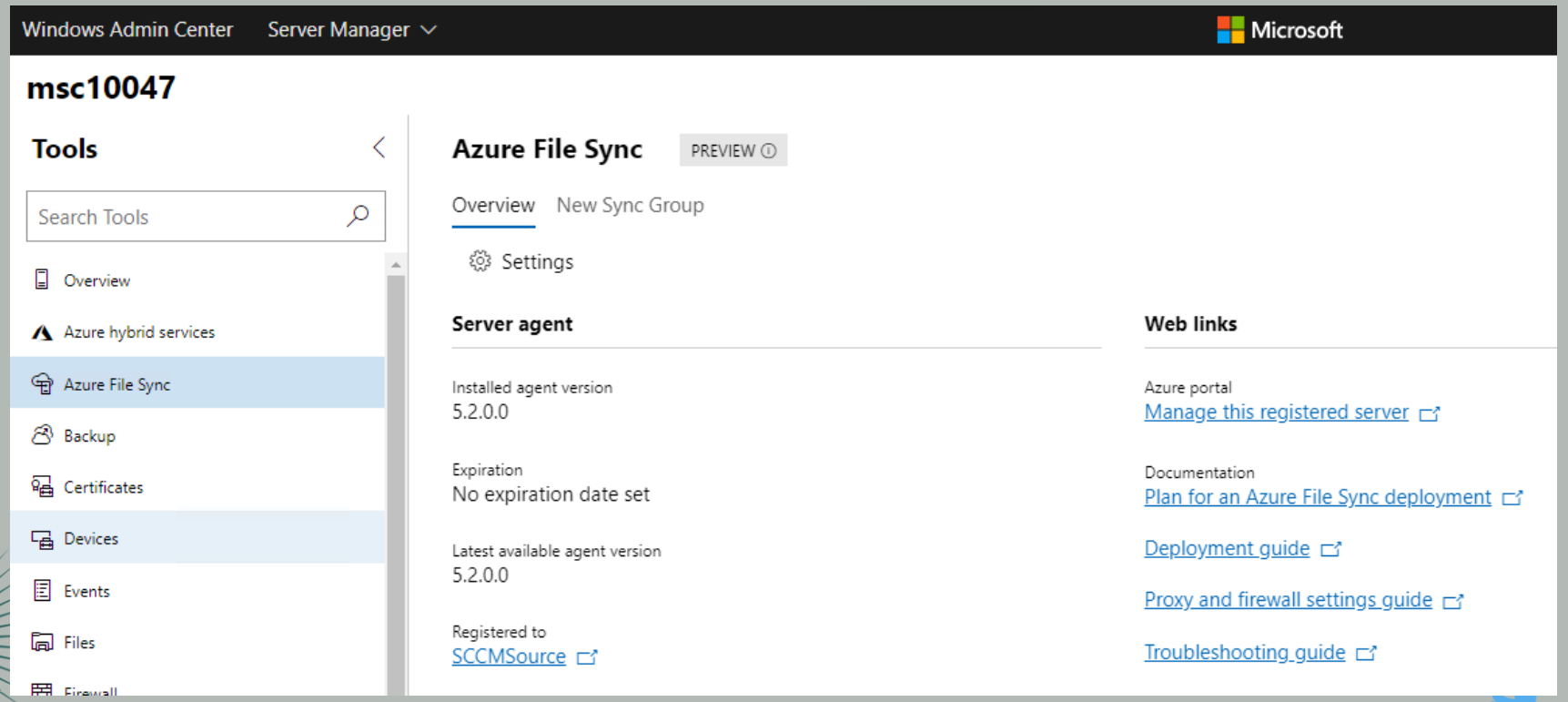


Step 2 – Create Sync Group and connect it to Azure File Share



Windows Admin Center integration

- Windows Admin Center 1904
  - Added support for Azure File Sync and several other Azure hybrid services



Azure File Sync Agent Version 6

- Released April 22, 2019 (KB4489736)

Improvements and issues that are fixed

- **Agent auto-update support**
  - We have heard your feedback and added an auto-update feature into the Azure File Sync server agent. For more information, see Azure File Sync agent update policy.
- **Support for Azure file share ACLs**
  - Azure File Sync has always supported syncing ACLs between server endpoints but the ACLs were not synced to the cloud endpoint (Azure file share). This release adds support for syncing ACLs between server and cloud endpoints.
- **Parallel upload and download sync sessions for a server endpoint**
  - Server endpoints now support uploading and downloading files at the same time. No more waiting for a download to complete so files can be uploaded to the Azure file share.
- **New Cloud Tiering cmdlets to get volume and tiering status**
  - Two new, server-local PowerShell cmdlets can now be used to obtain cloud tiering and file recall information. They make logging information from two event channels on the server available:
    - Get-StorageSyncFileTieringResult will list all files and their paths that haven't tiered and reports on the reason why.
    - Get-StorageSyncFileRecallResult reports all file recall events. It lists every file recalled and its path as well as success or error for that recall.
  - By default, both event channels can store up to 1MB each – you can increase the amount of files reported by increasing the event channel size.
- **Support for FIPS mode**
  - Azure File Sync now supports enabling FIPS mode on servers which have the Azure File Sync agent installed.
    - Prior to enabling FIPS mode on your server, install the Azure File Sync agent and PackageManagement module on your server. If FIPS is already enabled on the server, manually download the PackageManagement module to your server.
- **Miscellaneous reliability improvements for cloud tiering and sync**

Support for Az PowerShell module

```
Install-Module -Name Az
```

DEMO

Install and configure Azure File Sync

Monitoring

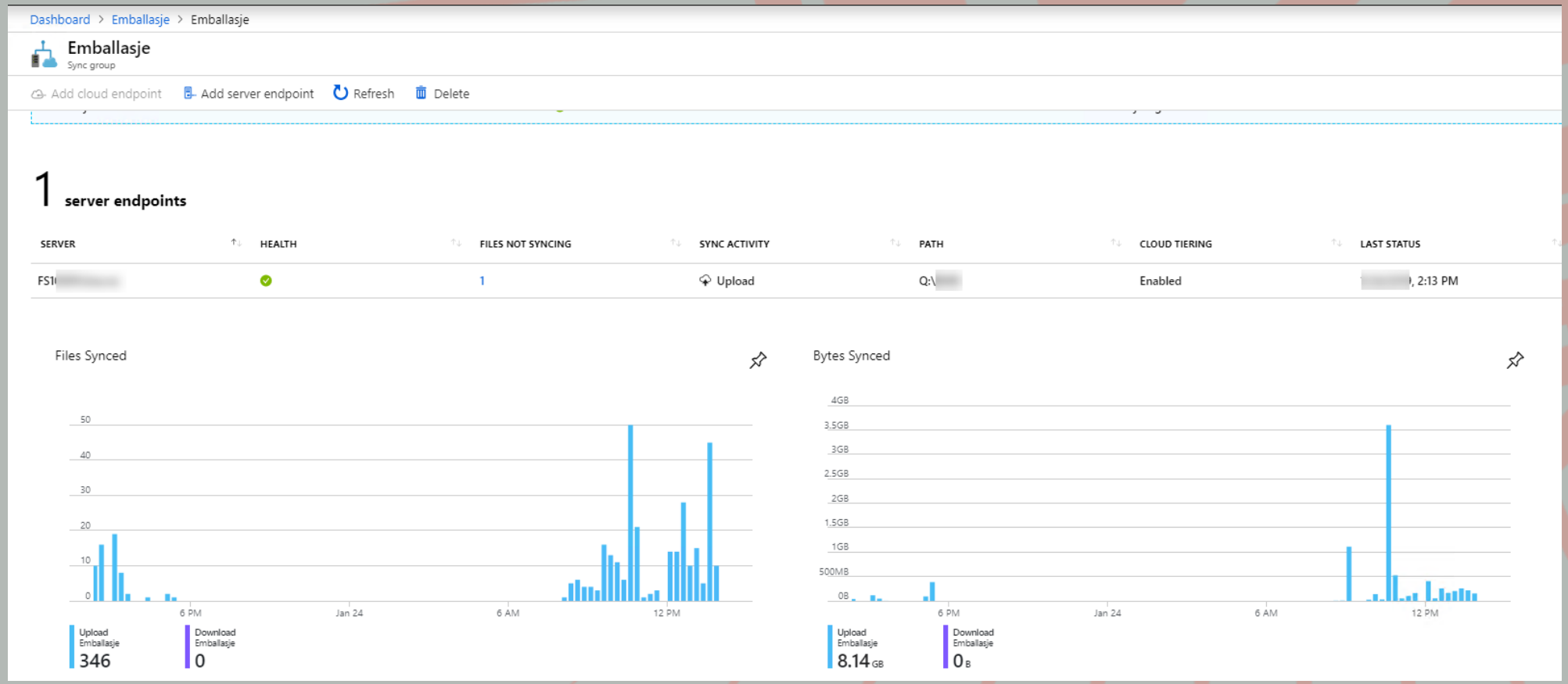
Portal
Azure Monitor
Event logs and performance counters on the servers
Coming: E-mail alerts and logging

https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-monitoring (article published January 2019)

Azure File Sync - monitoring

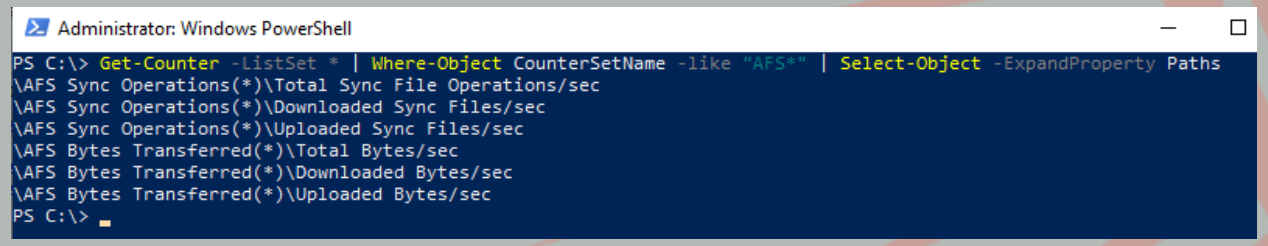
Azure Portal

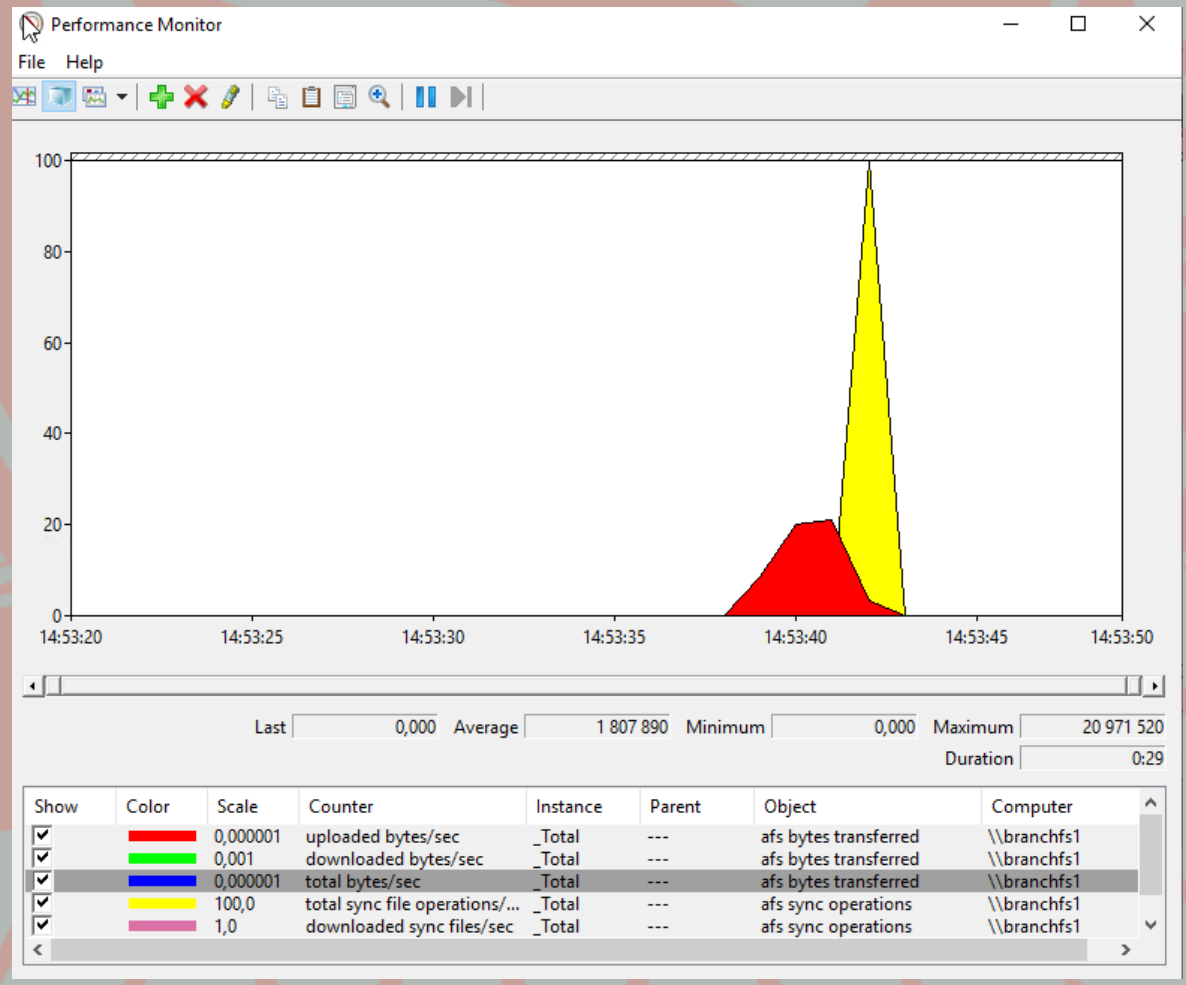
https://portal.azure.com



Azure File Sync - monitoring

Performance Counters

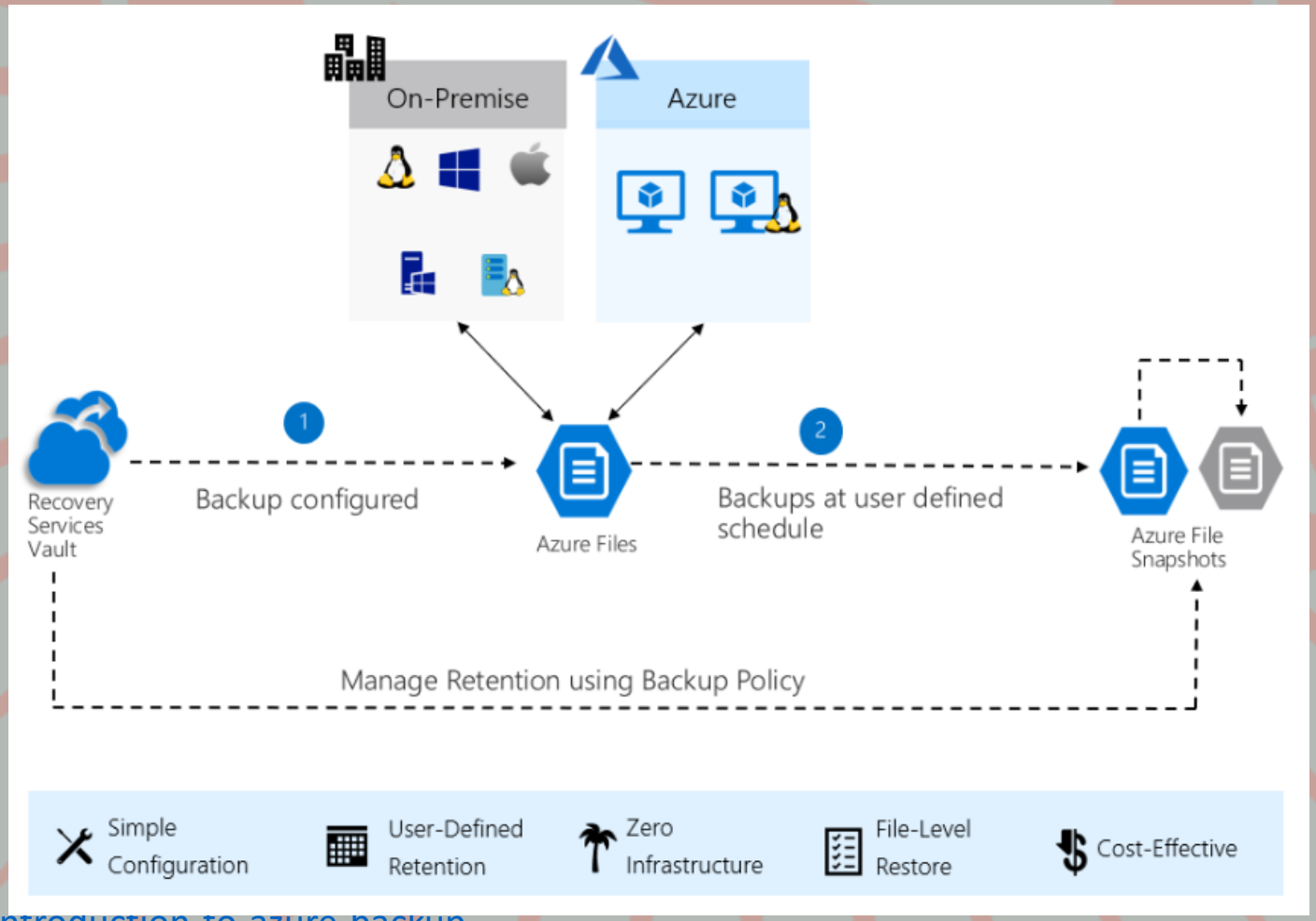




Backup

Azure Backup

- Azure Backup agent (MARS)
- System Center DPM
- Azure Backup Server
- Azure IaaS VM Backup
- Azure File Shares (preview)



https://docs.microsoft.com/en-us/azure/backup/backup-introduction-to-azure-backup

https://docs.microsoft.com/en-us/azure/backup/backup-azure-files

https://azure.microsoft.com/en-us/blog/introducing-backup-for-azure-file-shares/

Azure Backup now supports PowerShell and ACLs for Azure Files

Publisert på 22 januar, 2019

Vishnu Charan TJ, Program Manager II, Azure Backup

We are excited to reveal a set of new features for backing up Microsoft Azure file shares natively using Azure Backup. All backup-related features have also been released to support file shares connected to Azure File Sync.

Azure files with NTFS ACLs

Azure Backup now supports preserving and restoring new technology file system (NTFS) access control lists (ACL) for Azure files in preview. Starting in 2019, Azure Backup automatically started capturing your file ACLs when backing up file shares. When you need to go back in time, the file ACLs are also restored along with the files and folders.

Use Azure Backup with PowerShell

You can now script your backups for Azure File Shares using PowerShell. Make use of the PowerShell commands to configure backups, take on-demand backups, or even restore files from your file shares protected by Azure Backup.

We have enabled on-demand backups that can retain your snapshots for 10 years using PowerShell. Schedulers can be used to run on-demand PowerShell scripts with chosen retention and thus take snapshots at regular intervals every week, month, or year. Please refer to the limitations of on-demand backups using Azure backup.

If you are looking for sample scripts, please write to AskAzureBackupTeam@microsoft.com. We have created a sample script using Azure Automation runbook that enables you to schedule backups on a periodic basis and retain them even up to 10 years.

https://azure.microsoft.com/nb-no/blog/azure-backup-now-supports-powershell-and-acls-for-azure-files/

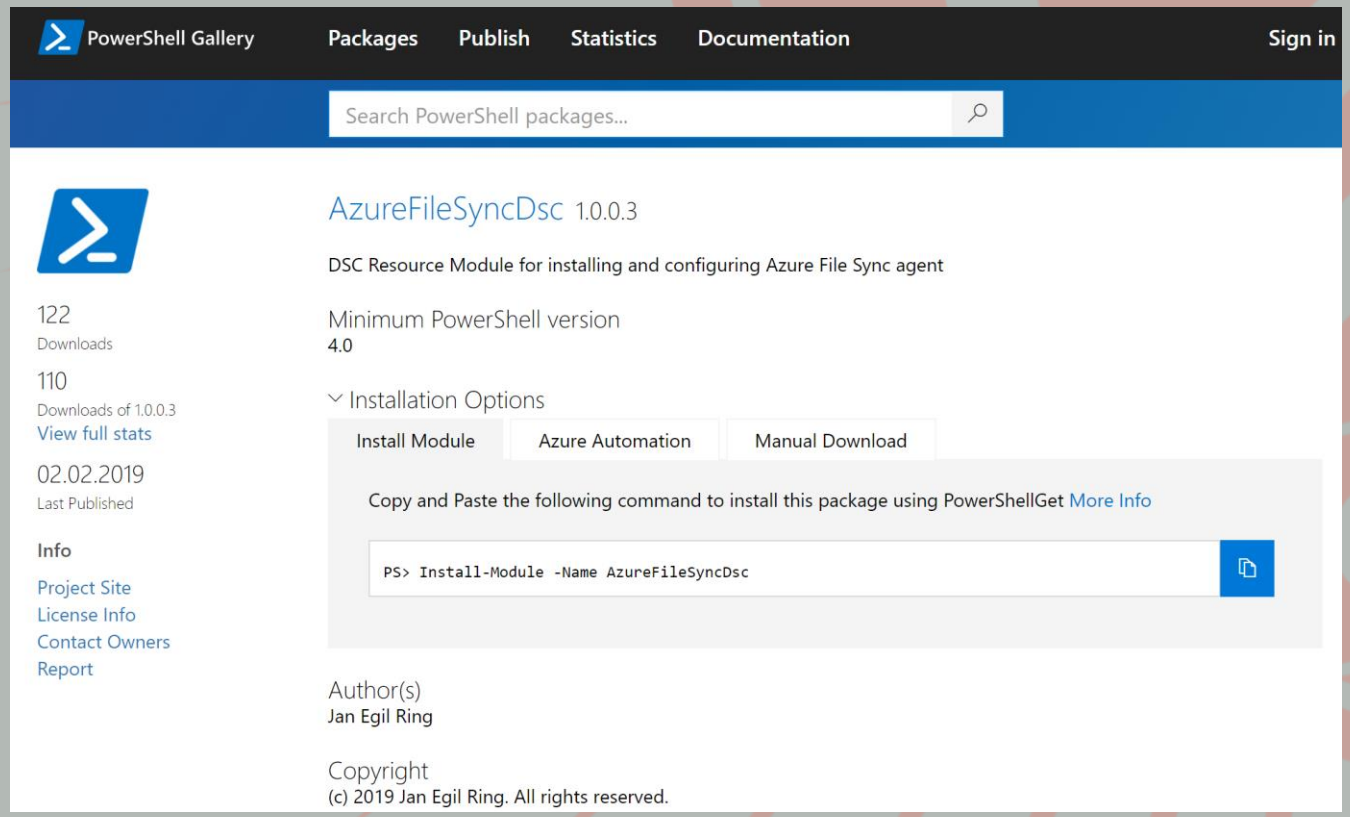
More details about Azure File Sync features

- Cloud Tiering
- Multi-site sync
- Rapid file server DR
- Direct cloud access
- Integrated cloud backup

2018 Ignite sessions

- THR2253 - Azure Files and Azure File Sync technical foundation
- THR2254 - Deploying Azure File Sync

Azure File Sync – automated provisioning



https://github.com/janegilring/AzureFileSyncDsc

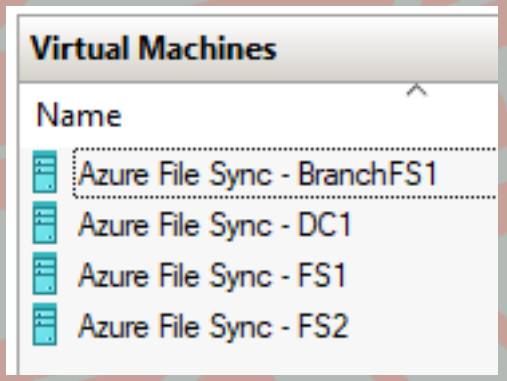
Azure File Sync – lab environment

- Lability – test lab deployment and configuration PowerShell module
- Easily deploy (and re-deploy) full lab environments on Hyper-V in Windows 10 fully automated
- Leverages PowerShell Desired State Configuration under-the-hood

Detailed introduction:
http://www.powershell.no/hyper-v,/powershell/dsc/2017/07/19/lability.html

Configuration script for Azure File Sync lab used in this presentation is available in GitHub:
https://github.com/janegilring/Presentations/2019 - PSConfEU

Links will be posted on Twitter after the session – follow @JanEgilRing



Demo

Automated
provisioning

Summary

- Azure Automation
  - Update Management
  - Configuration Management
  - Process Automation

- Use new services (Functions, Event Grid, etc) for domain specific scenarios, and Azure Automation for other automation scenarios

Key takeaways

1. Take advantage of cloud storage by not compromising on prem experience.

2. Reclaim your on premises storage space for other purpose

3. Easy to get started
   - Provision Sync Service and storage account in Azure
   - Install and configure agent
   - Use configuration management to automate setup and configuration

Slides and demo code

```
Start-Process -FilePath https://github.com/psconfeu/2019
```

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Resources

Azure File Sync documentation

https://docs.microsoft.com/en-us/azure/storage/files/storage-files-planning
https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-planning
https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide

Slides and demos from this presentation

https://github.com/janegilring/Presentations

Lability – build an automated Azure File Sync lab environment

http://www.powershell.no/hyper-v,/powershell/dsc/2017/07/19/lability.html
https://github.com/janegilring/PSCommunity/tree/master/Lability

Questions?

Use the conference app to vote for this session:
https://my.eventraft.com/psconfeu

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about_Speaker

pwsh

```
PS Git:\ 12ms> Get-ContactInfo

Name    :  Jan Egil Ring
E-mail  :  jan.egil.ring@crayon.com
Twitter :  @JanEgilRing
Website : {www.crayon.no, www.powershell.no,  www.powershellmagazine.com}



PS Git:\ 10ms>
```

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