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Using Azure Backup to Protect your On-Premises and Cloud Data

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Who is this guy?

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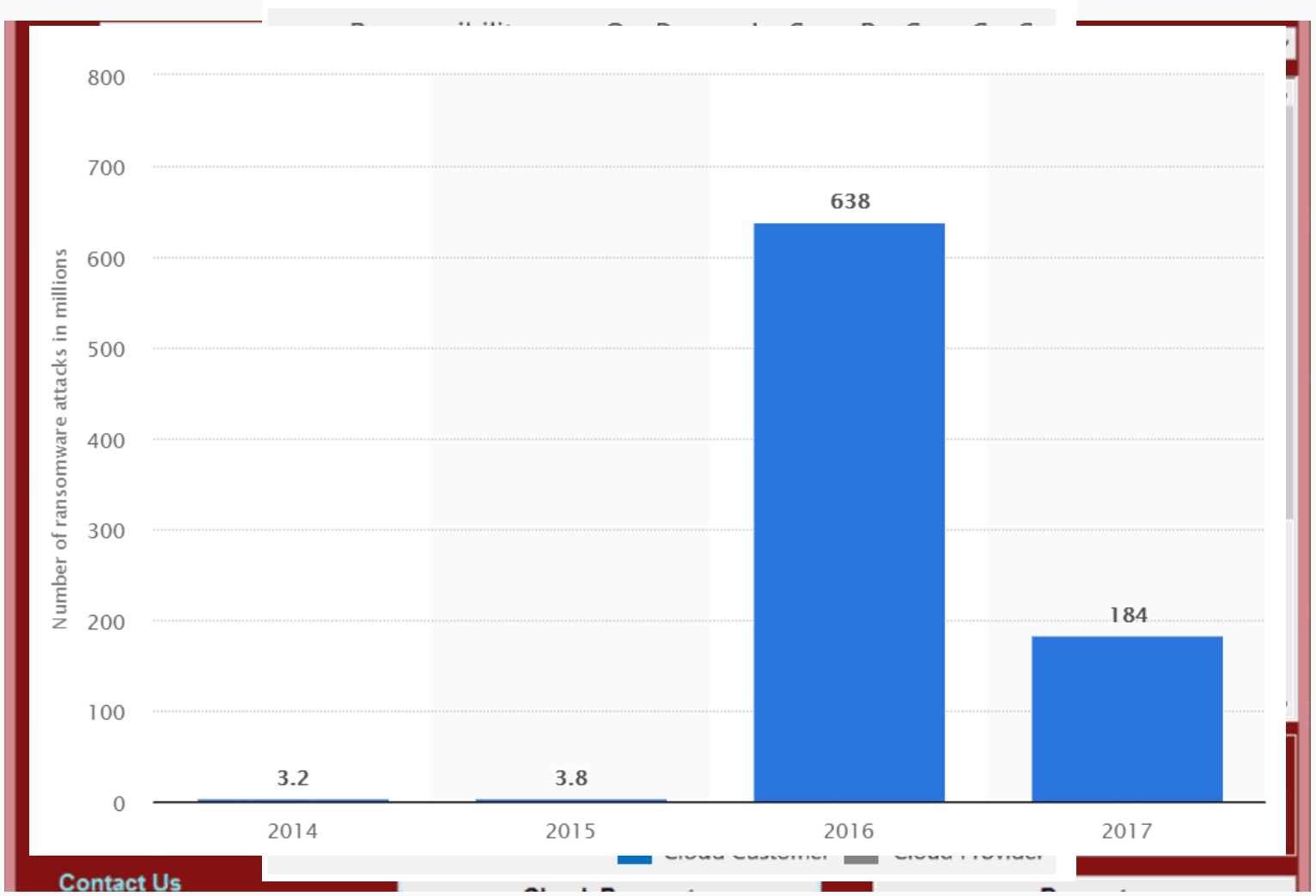
Agenda

- Why backup
- What is Azure Backup
- Azure Backup overview
- Configuring backup - *demo*
- Restores - *demo*
- Pricing
- Monitoring backups
- Staying up-to-date

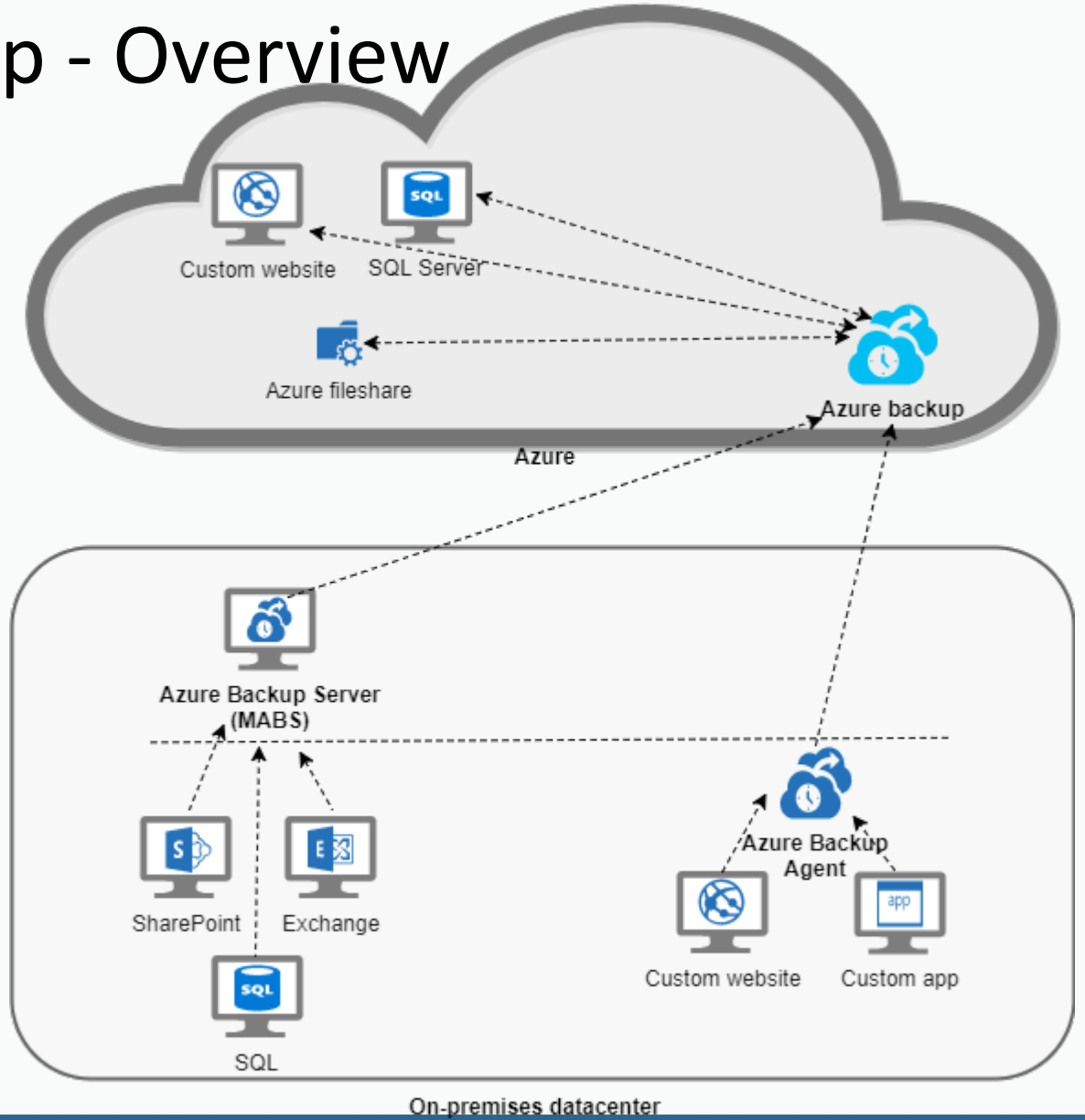
Why backup


800
700
600
500
400
300
200
100
0
Number of ransomware attacks in millions
638
184
3.2
3.8
2014
2015
2016
2017
Contact Us

Azure Backup

- **Securely** backup and restore data in Azure & on-premises
- All backup data is sent to a Recovery Services Vault (compressed and encrypted)
- NO on-premises storage needed
- Automatic scaling
- Option to store backup data using LRS or GRS
- No charges for traffic

Azure Backup - Overview



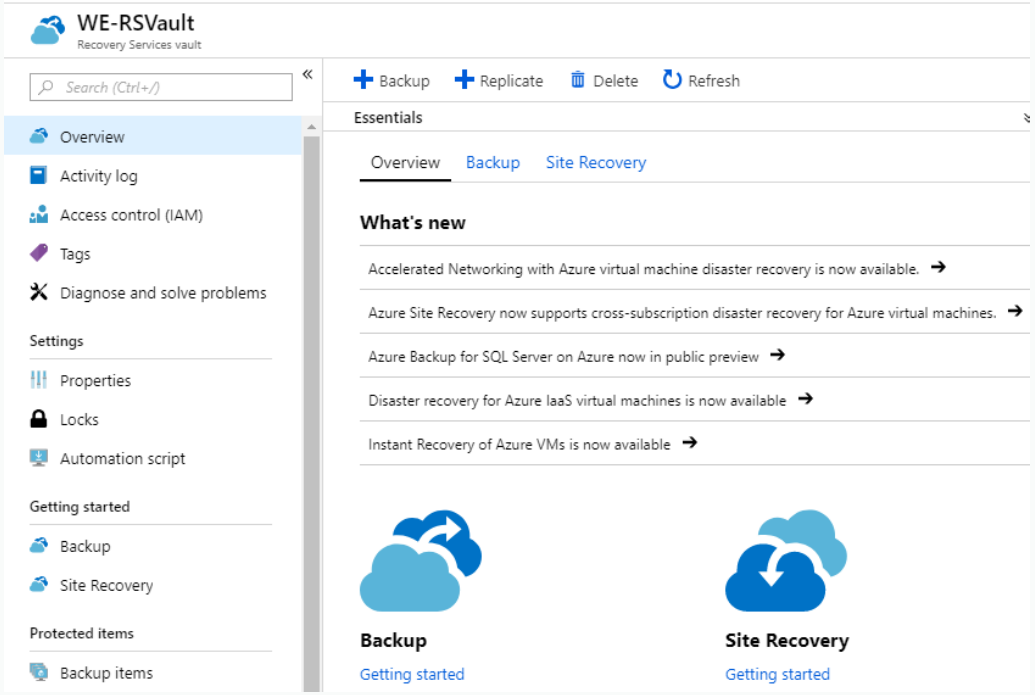
Configuring backup

- Azure Portal
- PowerShell*
- CLI*

**Only for VM backup*

- Region bound

- Before you start, check the storage replication type!



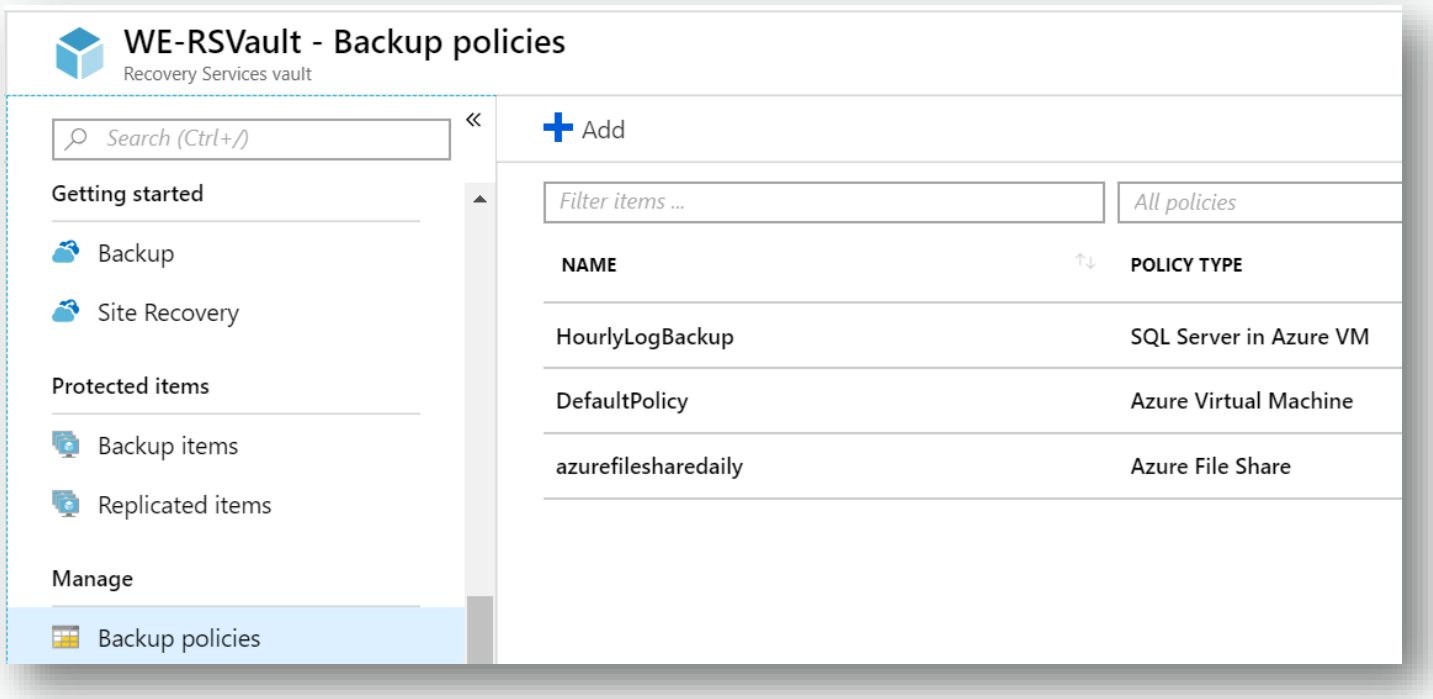
Policies

It defines:

- Backup schedule
- Backup data retention

Policy types

- Azure Virtual Machine
- Azure File Share
- SQL Server in Azure VM



Configuring backup

DEMO

Cloud Native

Azure
Virtual machines

Azure
FileShare (preview)

SQL Server in Azure
VM (preview)

Cloud Native – Azure Virtual machines

Azure
Virtual machines

- Backup agent automatically installed unless migrated from your on-premises environment
- VM must be in same region as the Recovery Services Vault
- Scheduled backups happen once a day (You can set the retention)
- You can force a backup when needed

Limitation:

- Backup limited to 16 data disks

Cloud Native – Azure Fileshare

Azure FileShare (preview)

- No need to configure anything on the Azure FileShare for this to work!
- Scheduled backups happen once a day (You can set the retention)
- You can force a backup when needed (max 4 times a day)

Limitations:

- You can't protect Azure file shares in storage accounts that have Virtual Networks or Firewall enabled.
- No automatic scan for new Azure FileShares

Cloud Native – SQL Server in Azure VM

SQL Server in Azure VM (preview)

- Backup SQL Server databases hosted in an Azure VM
- Some work might be required to get this to work: https://docs.microsoft.com/en-us/azure/backup/backup-azure-sql-database
- Daily full backup + log backup every 2 hours (can be changed to go as low as 15 minutes)
- Set compression settings

Limitations:

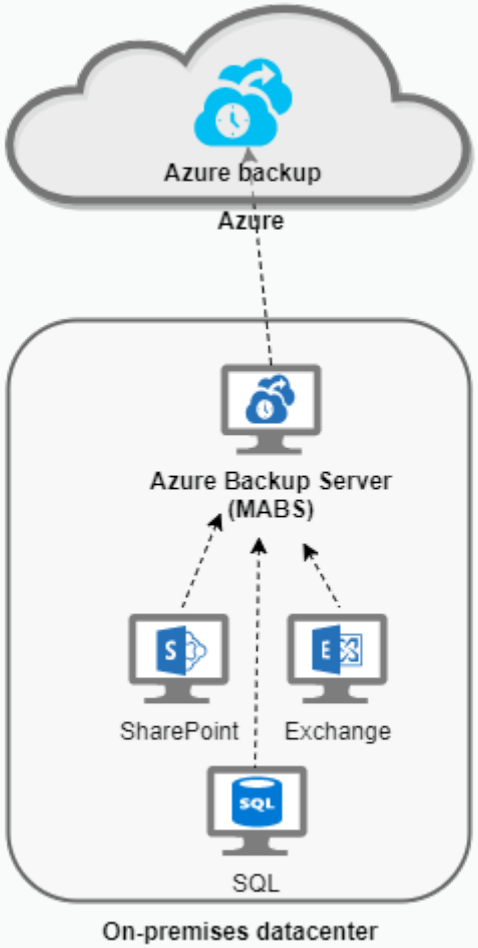
- No auto-protect YET!

Cloud native - DEMO

Azure
FileShare (preview)

SQL Server in Azure
VM (preview)

Microsoft Azure Backup Server (MABS)



- Basically DPM
- Must be domain-joined
- Requires SQL

- No option to store data locally

Microsoft Azure Backup Server

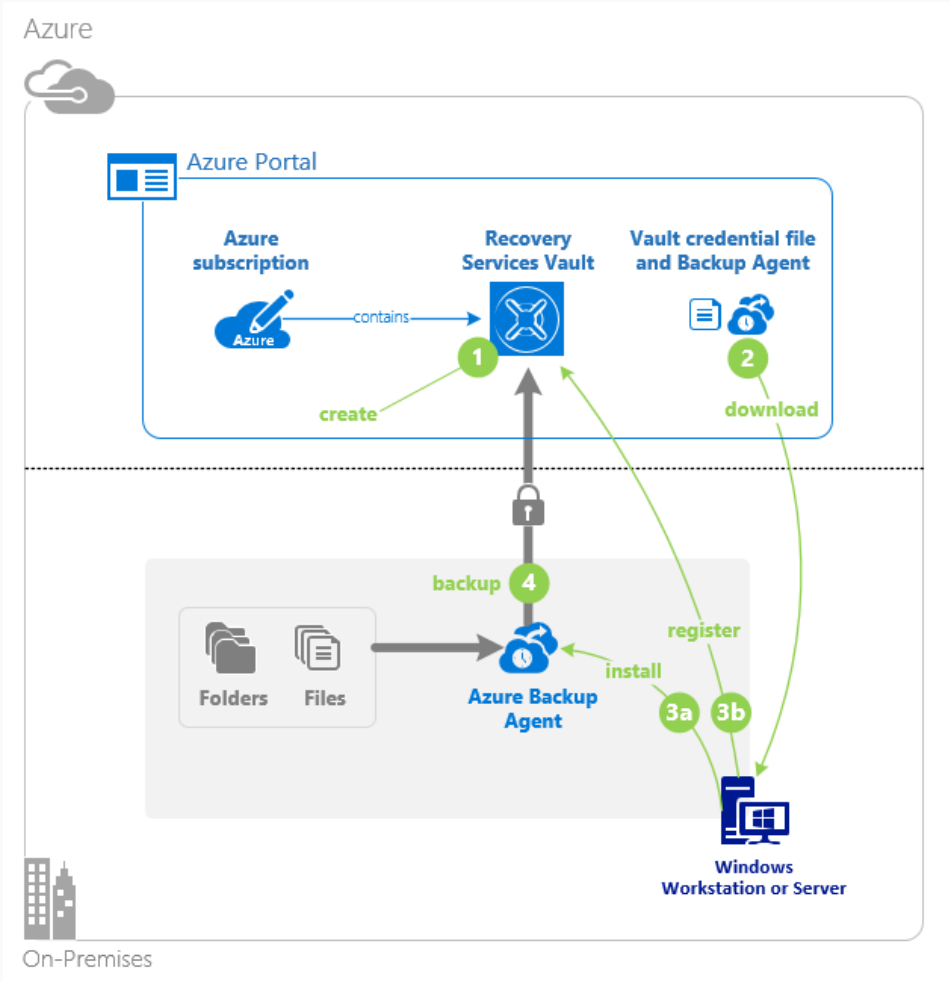
Can back up:

- Hyper-V VMs
- VMWare VMs
- Exchange
- SharePoint
- SQL Server

For a full list: https://docs.microsoft.com/en-us/azure/backup/backup-mabs-protection-matrix

- No option to store data on tape

Microsoft Azure Recovery Service (MARS)

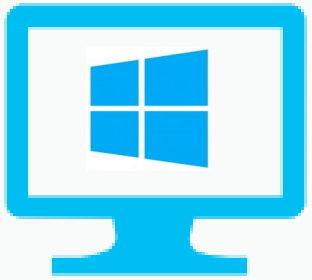


Backs up files and folders for Windows (on-premises)

- Requires MARS agent
- Register the agent

- All configuration done from the server

Microsoft Azure Recovery Service - DEMO



Windows Server on-premises

Pricing - Azure VMs and on-premises servers

SIZE OF EACH INSTANCE	AZURE BACKUP PRICE PER MONTH
Instance < or = 50 GB	$5 + storage consumed
Instance is > 50 but < or = 500 GB	$10 + storage consumed
Instance > 500 GB	$10 for each 500 GB increment + storage consumed

https://azure.microsoft.com/en-us/pricing/details/backup/

Pricing - storage

STORAGE CAPACITY	LRS	GRS
First 1 terabyte (TB) / month	$0.024 per GB	$0.048 per GB
Next 49 TB (1 to 50 TB) / month	$0.0236 per GB	$0.0472 per GB
Next 450 TB (50 to 500 TB) / month	$0.0232 per GB	$0.0464 per GB
Next 500 TB (500 to 1,000 TB) / month	$0.0228 per GB	$0.0456 per GB
Next 4,000 TB (1,000 to 5,000 TB) / month	$0.0224 per GB	$0.0448 per GB
Over 5,000 TB / Month	Contact us	Contact us

Pricing example

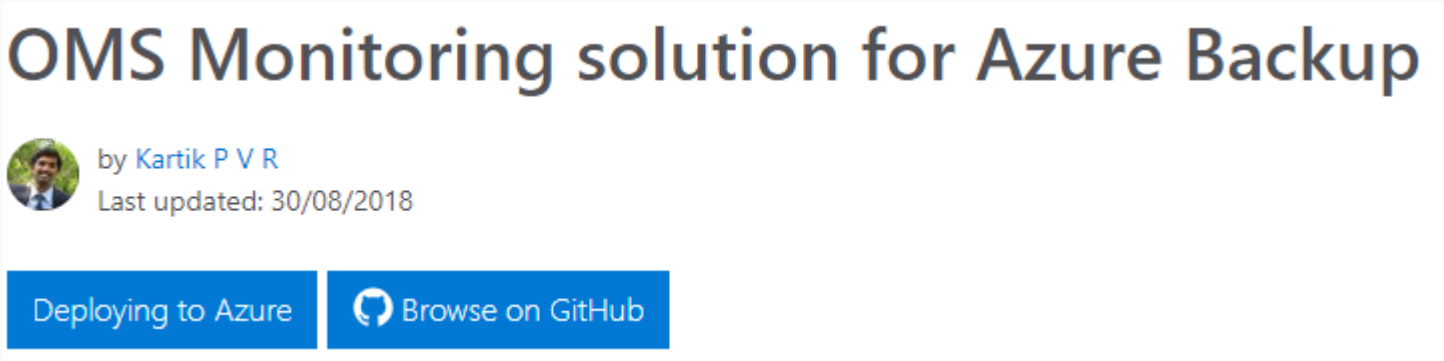
2 Virtual machines with LRS backup:

- VM 1: **40GB** data
- VM 2: **800GB** data

Total costs	VM 1	VM 2
Price per instance	$5	$20
Price per GB	$0.024	$0.024
Amount of data	40GB	800GB
Total storage costs	$0.96	$19.2
Total	**$5.96**	**$39.2**

Monitoring

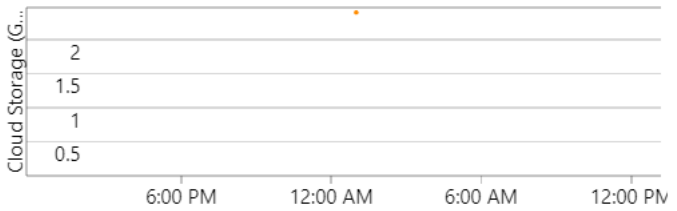
- https://azure.microsoft.com/en-gb/resources/templates/101-backup-oms-monitoring/



Azure Backup Monitoring Solution

CLOUD STORAGE IN GB

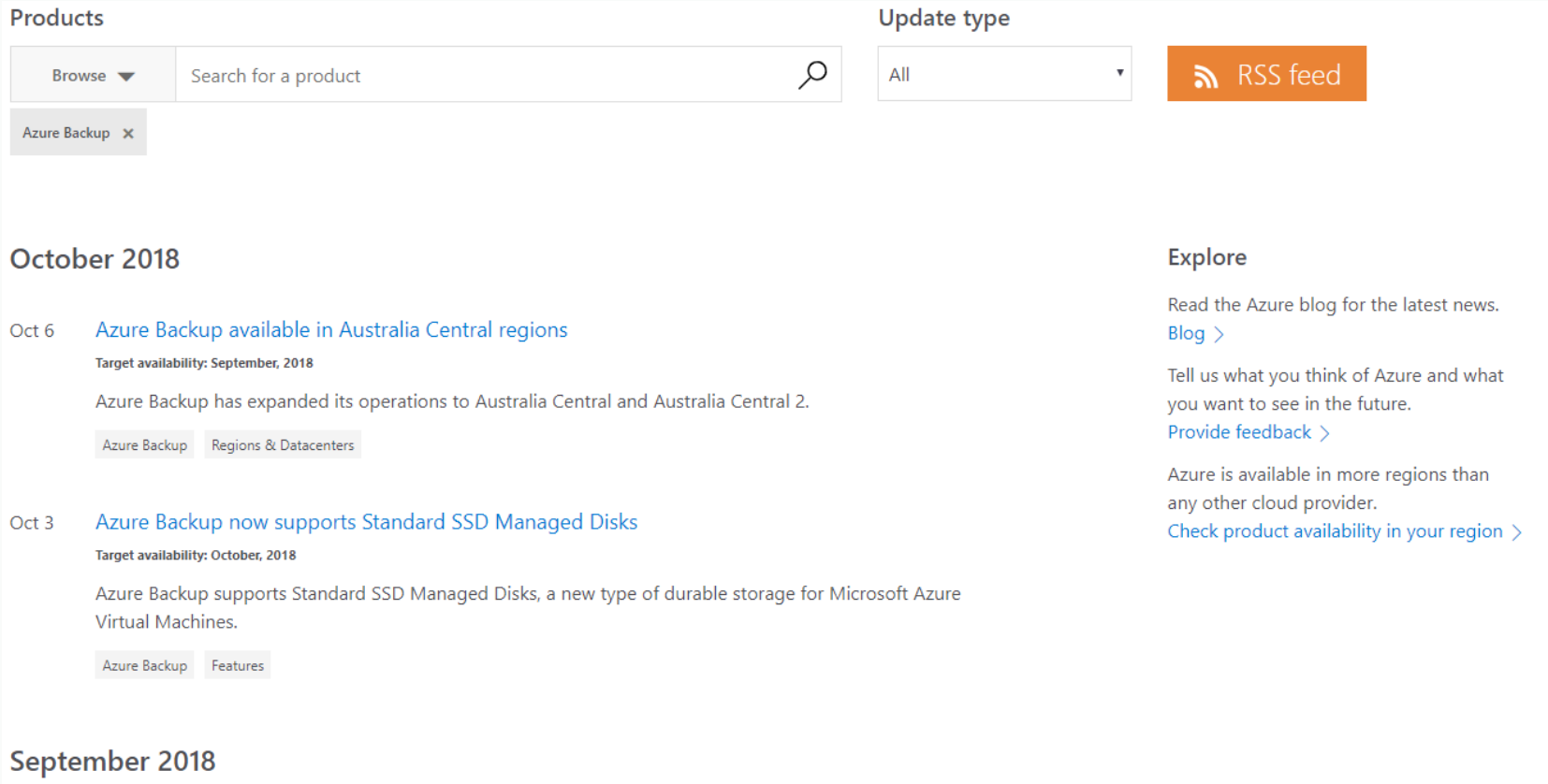
Cloud storage in GB



TOP 5 DATA SOURCES	CLOUD DATA IN GB
C:\	2.3
msdb	0
model	0
master	0
products	0

Stay up-to-date

- https://azure.microsoft.com/en-us/updates/?product=backup



Recap

- Make sure to set the storage option beforehand
- Get familiar with Cloud Native backup, MABS & MARS
- Test Azure Files
- Get insight in costs by using Azure Log Analytics Dashboard

Questions?

Rate this session: **T3**

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