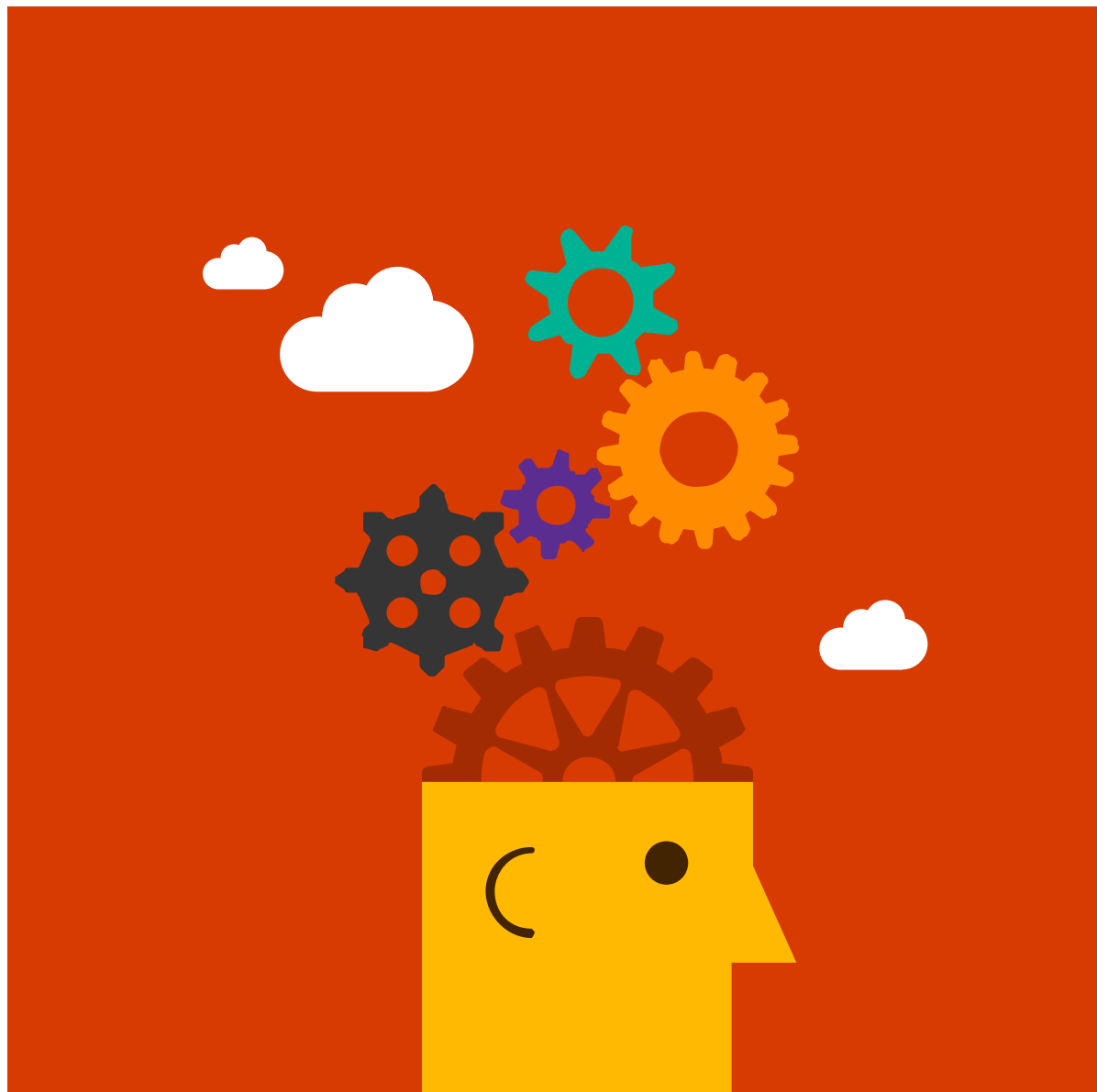
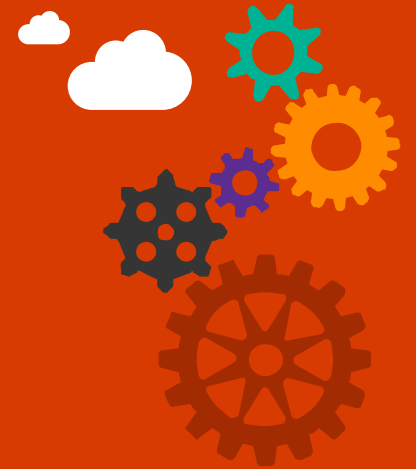




Image Management Solution



Overview



What is Azure Image Management Solution

- Azure Image Management Solution is a an Azure Automation solution that allows customers to build OS Golden Images and distribute it amongst several Subscriptions and Regions
- It automates this process end to end, with an Azure Managed OS Image available at all subscriptions and regions allowing VM deployments from these images

Business Challenges and Impact

Business Challenges

- Due to several reasons customers have multiple subscriptions and more often needs to reach out to multiple different Azure regions.
- Enterprise IT departments frequently have their own custom 'Golden' image (Windows and Linux) that refreshes periodically.
- Focus on what brings more value to customer in regards resource management (people's time) instead of how to manage to distribute golden images throughout several different subscriptions and regions manually

Impact

- Customers now can safely deploy multiple images (Windows and Linux) using a single script and single point of entrance.
- Throughout usage of several technologies Azure will be in charge of distributing it automatically throughout several subscriptions and multiple locations.
- To put in perspective, with simple math, let's say you have 2 Golden Images (Windows and Linux) and uses 50 subscriptions with at least 3 different regions each, this will lead to equals to 1,800 distribution operations plus 1,800 managed images to be created, leading to 3,600 operations at minimum. With this solution, all is done automatically and as parallel as possible saving lots of overhead hours to manually manage an error prone process, freeing up important resources for work what brings more value to customer.
- Solution is error prone since the process is fully automated and tools like [Packer](#) can be used to even automate the golden image build

Three simple steps

1. Setup the solution (one time)
2. Build your custom image on-premises (many times)
3. Use provided script to upload custom images (.vhd) (many times)

Requirements

- Setup Computer
 - PowerShell 5.0
 - Azure AD module (2.0+)
 - AzureAD
 - Azure PowerShell modules (4.0+)
 - AzureRM.Profile
 - AzureRM.Storage
 - AzureRM.Resources
 - AzureRM.Compute
 - Azure.Storage
 - Latest versions of the following custom modules
 - AzureRmStorageTable
 - AzureRmStorageQueue

Note – all of these modules can be installed from <http://PowerShellGallery.com>

Requirements

- Subscription Requirements
 - User account in Azure AD that has owner RBAC assignment at Subscription Level in all involved subscriptions

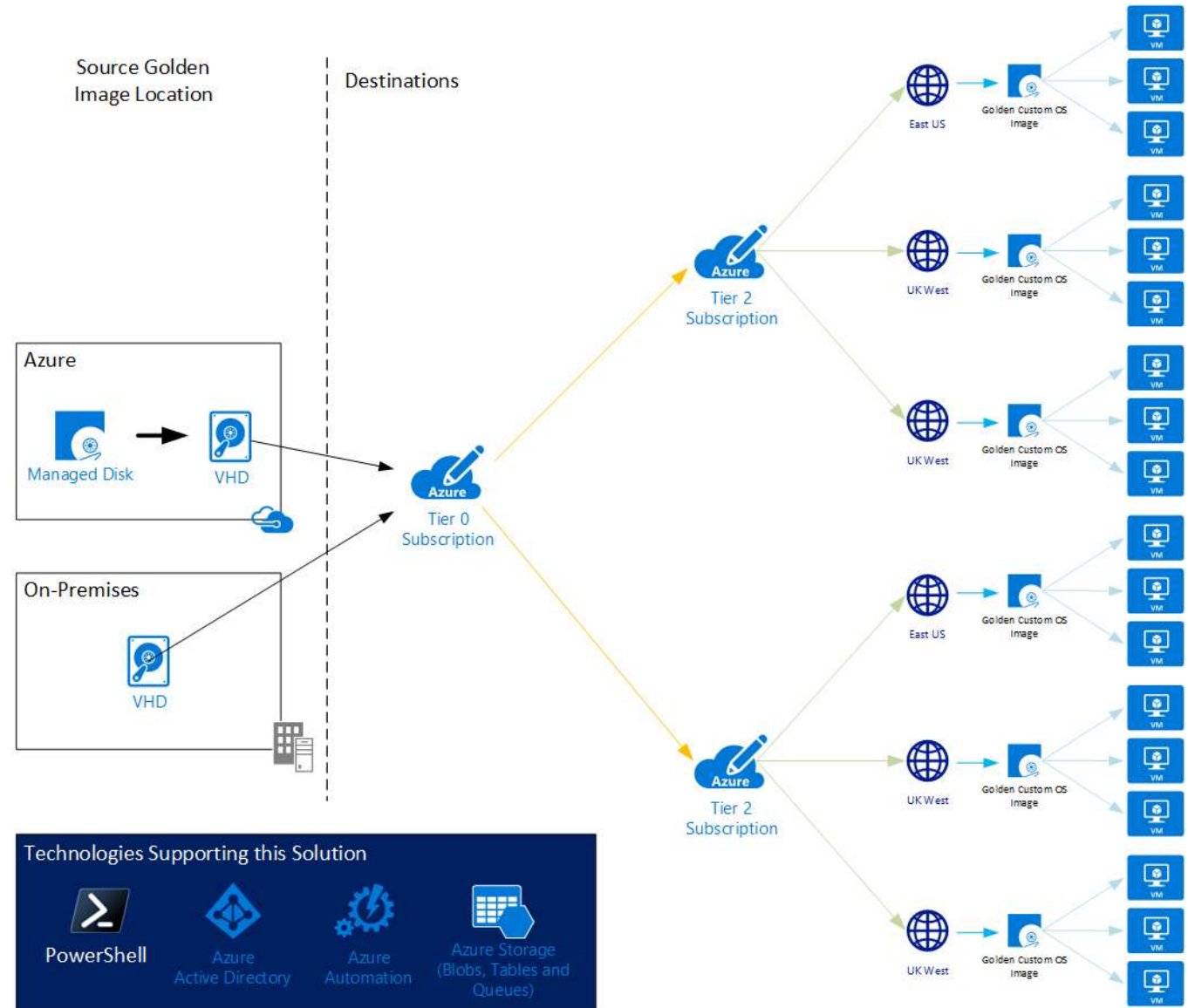
Support and Maintenance

- Support and Maintenance for this solution is entirely responsibility of the customer using it on their own subscriptions/environments
- This solution is provided AS-IS and there is no official Microsoft support available
- For license information, please check the MIT license on its GitHub repository [here](#).

How it works



Overview



Behind the scenes

Components of this solution

imageprocess-rg
Resource group

Search (Ctrl+/)

Overview
Activity log
Access control (IAM)
Tags

SETTINGS

- Quickstart
- Resource costs
- Deployments
- Policies
- Properties
- Locks
- Automation script

MONITORING

- Metrics
- Alert rules
- Diagnostics logs
- Application insights
- Log analytics (OMS)
- Log search
- Advisor recommendations

SUPPORT + TROUBLESHOOTING

- New support request

Essentials

Subscription name (change) Deployments
Subscription ID No deployments

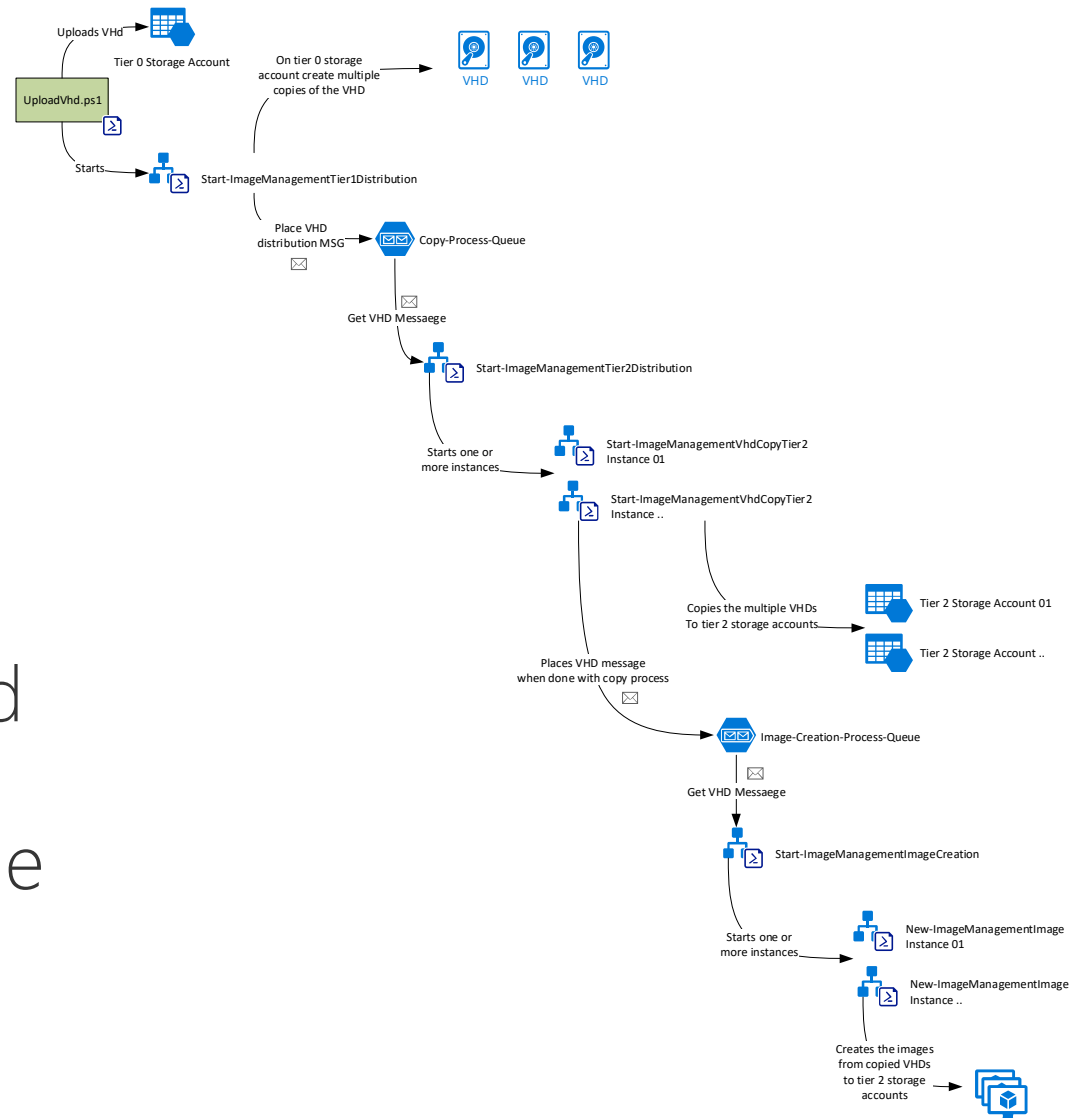
Filter by name... All types All locations No grouping

20 items

NAME	TYPE	LOCATION
ImageManagementAutomation	Automation Accou...	South Central US
ImageManagementAutomation-Copy001	Automation Accou...	South Central US
ImageManagementAutomation-Copy002	Automation Accou...	South Central US
ImageManagementAutomation-Img001	Automation Accou...	South Central US
ImageManagementAutomation-Img002	Automation Accou...	South Central US
Start-ImageManagementImageCreation	Runbook	South Central US
Start-ImageManagementTier1Distribution	Runbook	South Central US
Start-ImageManagementTier2Distribution	Runbook	South Central US
Update-ModulesInAutomationToLatestVer...	Runbook	South Central US
Start-ImageManagementVhdCopyTier2	Runbook	South Central US
Update-ModulesInAutomationToLatestVer...	Runbook	South Central US
Start-ImageManagementVhdCopyTier2	Runbook	South Central US
Update-ModulesInAutomationToLatestVer...	Runbook	South Central US
New-ImageManagementImage	Runbook	South Central US
Update-ModulesInAutomationToLatestVer...	Runbook	South Central US
New-ImageManagementImage	Runbook	South Central US
Update-ModulesInAutomationToLatestVer...	Runbook	South Central US
pmcstorage07tier0	Storage account	West US 2
pmcstorage77sub1tier2	Storage account	West US 2
pmcstorage77tier0	Storage account	West US 2

Behind the scenes Process

This solution was designed to scale through usage of Azure Automation, Storage Tables and Queues



Uploading a VHD

```
$tier0SubscriptionId = "1a1810a5-737e-4182-aa17-15788d0723d6"
$configStorageAccountResourceGroupName = "myresourcegroup"
$configStorageAccountName = "mytier0storageaccount"
$imageName = "WindowsServer2016-20170813"
$imageResourceGroupName = "Images-RG"
$vhdFullPath = "c:\temp\WindowsServer2016-GoldenImage-20170813.vhd"
```

```
.\UploadVHD.ps1 -Tier0SubscriptionId $Tier0SubscriptionId `
    -ConfigStorageAccountResourceGroupName $ConfigStorageAccountResourceGroupName `
    -ConfigStorageAccountName $ConfigStorageAccountName `
    -ImageName $imageName `
    -VhdFullPath $vhdFullPath `
    -OsType "Windows" `
    -ImageResourceGroupName $imageResourceGroupName
```

End result

Subscription 1

The screenshot shows the Azure portal interface for a resource group named 'Images-RG01'. The left sidebar contains navigation links: Overview (selected), Activity log, Access control (IAM), Tags, SETTINGS, Quickstart, and Resource costs. The main pane displays the 'Essentials' section for a subscription. It shows the subscription name (redacted), subscription ID (4c8...39), and a status of 'No deployments'. Below this, there are filters for 'Filter by name...', 'All types', 'All locations', and 'No grouping'. A table lists 1 item: 'NewWindows2016Image-20170802' of type 'Image' located in 'West US 2'.

NAME	TYPE	LOCATION
NewWindows2016Image-20170802	Image	West US 2

Subscription 2

The screenshot shows the Azure portal interface for a resource group named 'Images-RG01'. The left sidebar contains navigation links: Overview (selected), Activity log, Access control (IAM), Tags, SETTINGS, Quickstart, and Resource costs. The main pane displays the 'Essentials' section for a subscription. It shows the subscription name (redacted), subscription ID (4a4...21e), and a status of '1 Succeeded'. Below this, there are filters for 'Filter by name...', 'All types', 'All locations', and 'No grouping'. A table lists 1 item: 'NewWindows2016Image-20170802' of type 'Image' located in 'West US 2'.

NAME	TYPE	LOCATION
NewWindows2016Image-20170802	Image	West US 2

Demo

Components quick walk through



References



References

Documentation

<https://blogs.technet.microsoft.com/paulomarques/2017/08/13/new-azure-automation-solution-azure-image-management-automation/>

Source Code

<https://github.com/paulomarquesc/AzureImageManagementAutomation>

