

You, Infrastructure ALMIGHTY

신현석
대리
Microsoft

Public Cloud

Microsoft Azure



Pooled Resources



Self-Service



Elastic



Usage Based

Economics ▪ Agility ▪ Focus

Microsoft Azure

Services

RemoteApp							
ExpressRoute	Event Hubs	Machine Learning					
Virtual Networks	Notification Hubs	Document DB	Site Recovery				Resource Manager
Cloud Services	API Management	Redis Cache	Backup				Visual Studio Online
Traffic Manager	Mobile Services	HDInsight	Import/Export Service	CDN	Service Bus	Multi-Factor Auth	Azure Automation
Virtual Machines	Websites	SQL Database	Storage	Media Services	BizTalk Services	Active Directory	Scheduler
Compute & Networking	Web & Mobile	Data & Analytics	Storage & Backup	Media & CDN	Hybrid Integration	Identity & Access Mgmt.	App Services

Microsoft Azure

Services



IaaS

Infrastructure-as-a-Service

호스팅(host)



PaaS

Platform-as-a-Service

개발(build)



SaaS

Software-as-a-Service

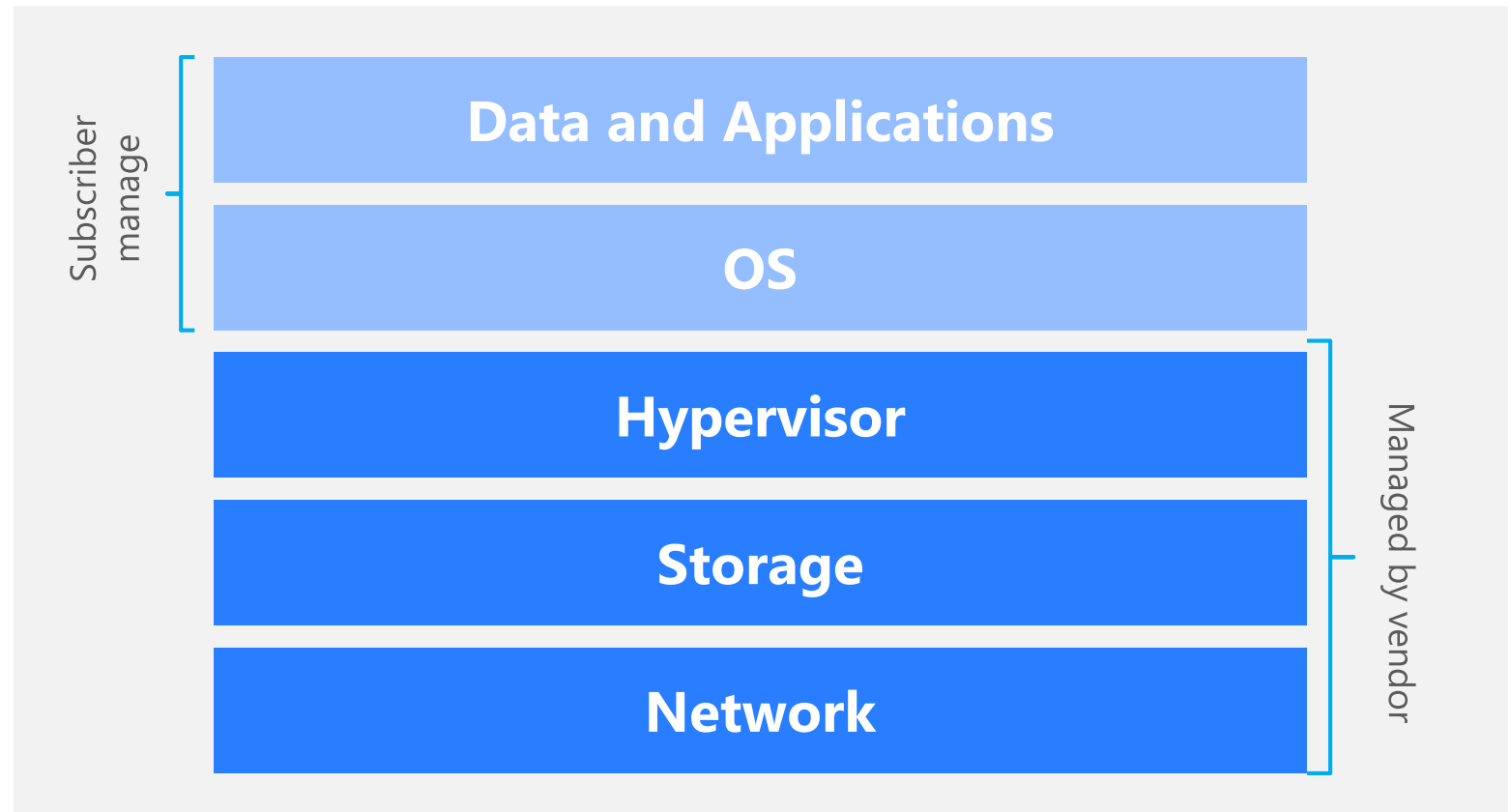
소비(consume)

Microsoft Azure Services



IaaS
Infrastructure-as-a-Service

호스팅(host)



IaaS (Infrastructure as a Service)

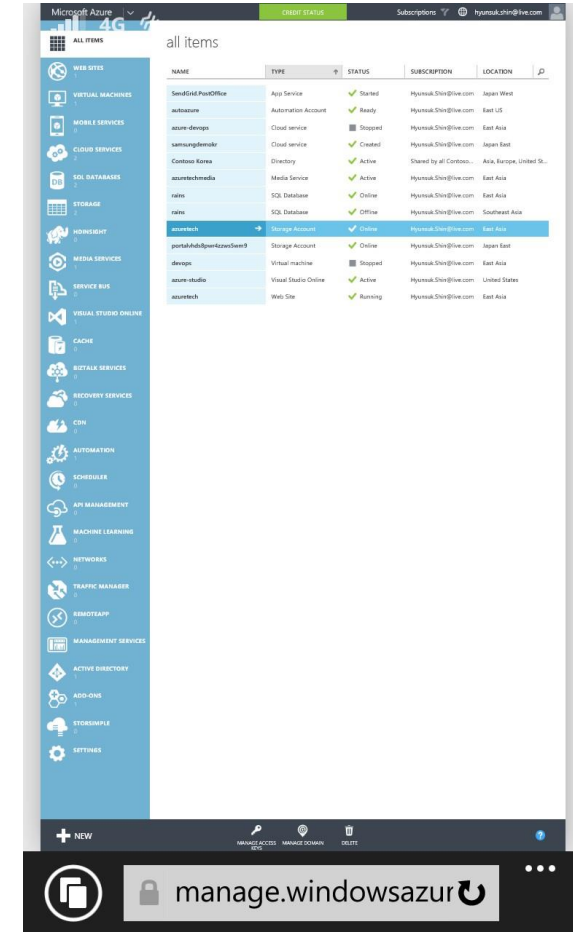
언제 어디서나

- Azure Management Portal (Web Browser)

Platform에 상관없이

- Azure CLI (Windows, Linux, OS X)
- Azure PowerShell (Windows)

인프라 관리 가능

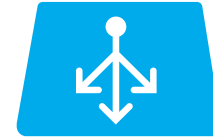
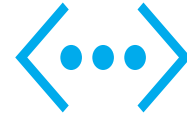


구술이 서말이라도 꺾어야 보배...

tech·days
Korea 2014
개발자 컨퍼런스

구성

- 가상 컴퓨터, 네트워크, LB 등



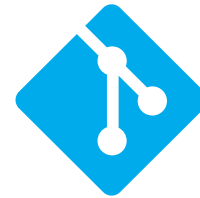
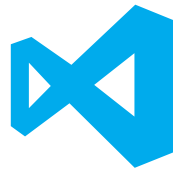
설치

- 프레임워크 및 어플리케이션



배포

- 소스 코드 배포



Create VM on Azure

Azure CLI로 VM 생성

하지만 여전히.....

구성

- 가상 컴퓨터, 네트워크, LB 등



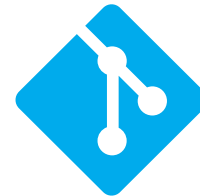
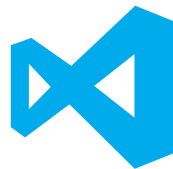
설치

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배포

- 소스 코드 배포



하지만 여전히.....

구성 + 설치

- 프레임워크 및 어플리케이션



구성 과제



youalmighty.cloudapp.net

	Load Balancer	HTTP (TCP 80)
	Application	IIS
	Virtual Machine	Windows Server 2012 R2
	Storage (Disks)	127GB HDD
	Virtual Network	10.1.1.x

서비스 구성 / 설치 자동화

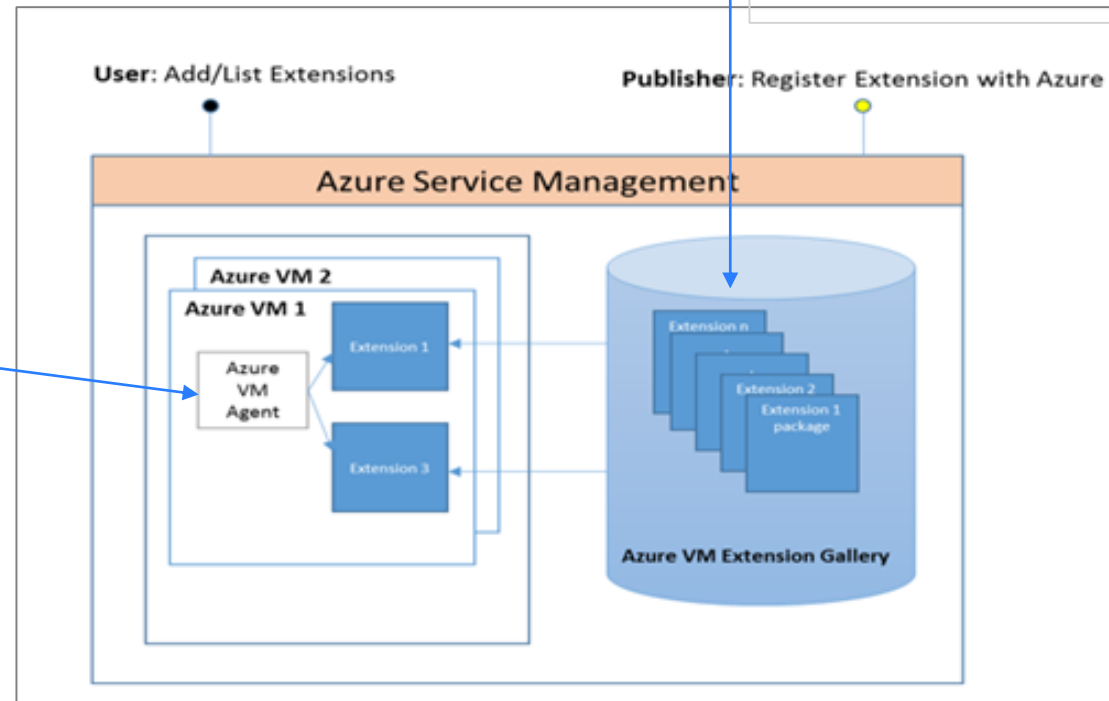
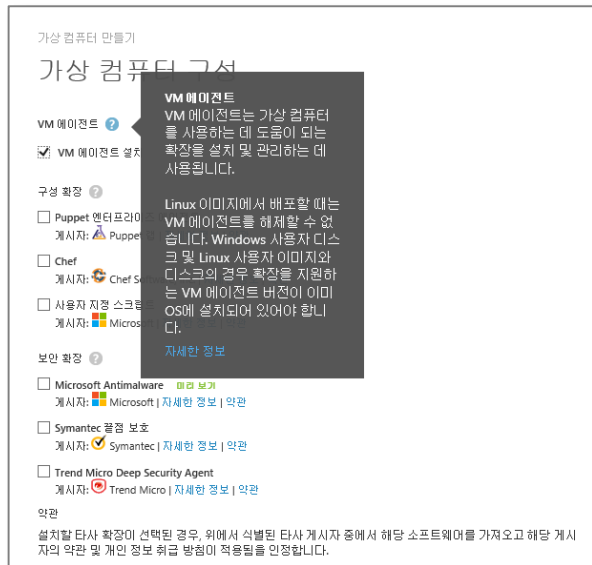
Azure PowerShell

VM Agent and Extension

- VM 원격 관리
- 부팅 시, 추가 서비스 설치 및 구성 자동화를 지원

Extensions

- CustomScriptForLinux
- VMAccessForLinux
- IaaS.Diagnostics
- CustomScriptExtension
- VMAccessAgent
- PuppetEnterpriseAgent



Create VM on Azure

DSC Extension

DSC(Desired State Configuration) Extension

Build Configuration

- Windows Features and Services 정의

Configuration Publish

- Configuration을 압축 후 Azure Blob에 저장

VM Provisioning | UpdateVM

- DSC Extension 설치
- Configuration을 바탕으로 프레임워크 등 설치 시작



```
configuration IISInstall
{
    # Install the IIS role
    WindowsFeature IIS
    {
        Ensure      = "Present"
        Name         = "Web-Server"
    }

    # Install the ASP .NET 4.5 role
    WindowsFeature AspNet45
    {
        Ensure      = "Present"
        Name         = "Web-Asp-Net45"
    }
}
```



DSC(Desired State Configuration) Extension

DSC 활용 방안

- Enabling or disabling server roles and features
- Managing registry settings
- Managing files and directories
- Starting, stopping, and managing processes and services
- Managing groups and user accounts
- Deploying new software
- Managing environment variables
- Running Windows PowerShell scripts
- Fixing a configuration that has drifted away from the desired state
- Discovering the actual configuration state on a given node

DSC 와 Azure 조합을 통한 설치 자동화

DSC (Desired State Configuration)

tech·days
Korea 2014
개발자 컨퍼런스

DSC Resources Kit wave 6

xDHCPServer	xDatabase	xDscResource Designer	xNetworking
xAzure	xSqlPs	xFailOverCluster	xPHP
xChrome	xDNSServer	xFirefox	xSafeHarbor
xComputerManagement	xDscDiagnostics	xJEA	xWinEventLog
xWordPress	xWindowsupdate	xSmbShare	xPSDesiredStateConfiguration

하지만 여전히.....

구성

- 가상 컴퓨터, 네트워크, LB 등



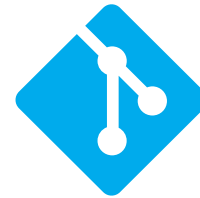
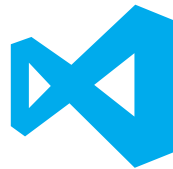
설치

- 프레임워크 및 어플리케이션



배포

- 소스 코드 배포



Custom Script Extension



Windows PowerShell

- 저장소로부터 앱 소스 다운로드(복사)
- 서비스 폴더에 앱 소스 및 관련 파일 복사

```
$BlobUri =  
"http://techdays2k14blob.blob.core.windows.net/resources"  
$LocalFolderPath = 'C:\inetpub\wwwroot'  
  
#Remove defaults samples  
Remove-Item -Path ${LocalFolderPath}\* -Recurse -Force  
  
#Copy from Blob to wwwroot  
$Uri = "${BlobUri}/?comp=list&restype=container"  
  
$WebClient = New-Object System.Net.WebClient  
  
[xml]$xml = $WebClient.DownloadString($Uri)  
  
foreach ($blob in  
$xml.EnumerationResults.Blobs.Blob)  
{  
    $filename = ${LocalFolderPath}+'\'+'$blob.Name  
    $WebClient.DownloadFile($blob.Url, $filename)  
    Write-Host $filename  
}
```



Deploy App

Custom Script Extension

Inside VM

Extension Logs

Linux 지원

- Puppet



- Chef



- CustomScript(Linux)



```
#Identify the VM
$vm = Get-AzureVM -ServiceName 'MyServiceName' -
Name 'MyVMName'
#Specify the Location of the script and the command
to execute
$PublicConfiguration =
'{"fileUri":["https://github.com/MyProject/Archive
/MyPythonScript.py"], "commandToExecute": "python
MyPythonScript.py" }'

#Deploy the extension to the VM, pick up the latest
version of the extension
$ExtensionName = 'CustomScriptForLinux'
$Publisher = 'Microsoft.OSTCExtensions'
$Version = '1.1'
Set-AzureVMExtension -ExtensionName $ExtensionName
-VM $vm -Publisher $Publisher -Version $Version -
PublicConfiguration $PublicConfiguration | Update-
AzureVM
```

You Infrastructure Almighty

정확한 환경 구성

- 인프라, 운영체제, 프레임워크 등 동일 환경 구성 가능

연속적이고 반복적인 배포

- Azure CLI와 PowerShell 스크립트를 이용한 손쉬운 인프라 구성

표준화된 관리 요소

- 언어(Language)를 이용한 선언을 사용
- 자동화되고 반복적인 배포와 구성을 체계화

```
[09/24/2014 02:56:53] 3.1 Azure DSC Demo
OperationDescription                               OperationId
-----
Set-AzureVNetConfig                                d79d95bc-17c4-1d00-99e3-c8c3acd07934
New-AzureService                                   40346d9c-eac7-12a6-82a8-6e503ad2176d
New-AzureVM                                         5693b754-5193-15fc-89be-4f9771b9b604
New-AzureVM                                         0bed6d59-8134-1472-8695-21d105a8cd87
New-AzureVM                                         6a0187f6-d690-1a21-8e20-1f248e0ebd53
[09/24/2014 03:01:06] Azure Infrastructure Service Automation is done
It took 00:04:12.5493978 sec.
[09/24/2014 03:01:06] 3.2 DSC (Desired State Configuration) Extension Demo
Update-AzureVM                                     1fe26432-e866-1998-9b3e-ddb49d665e1c
Update-AzureVM                                     cfa95b89-bbb8-1a26-9c9e-2272c48e15e1
Update-AzureVM                                     8a1378f6-17c2-1232-9e75-e019e3e4b364
[09/24/2014 03:04:38] IIS install start so please wait for 150 sec
[09/24/2014 03:07:08] Azure Infrastructure Service Automation is done
It took 00:06:02.0713045 sec.
[09/24/2014 03:07:08] 4. CustomScript extension Demo
Update-AzureVM                                     fa54ad48-971c-1b1c-a83a-b949bcf073db
Update-AzureVM                                     936d2909-ee77-1c09-b88c-0548742a9cef
Update-AzureVM                                     74e7274d-2145-1992-9f3f-40c7f4710f0f
Update-AzureVM                                     1e35c66f-ea32-1a9a-bdeb-775bef648948
Update-AzureVM                                     d25a1dd8-1a8d-1ef0-9844-4930432b886a
Update-AzureVM                                     b3a1c284-51c3-13e6-b87e-4fe266ca6a5b
[09/24/2014 03:14:18] CustomScript extension Demo is done
It took 00:07:09.4350658 sec for copy. And it totally took 00:13:11.5063703
```



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ALL UP Demo 실행 결과

[09/24/2014 00:07:32] 3.1 Azure DSC Demo

OperationDescription	OperationId	OperationStatus
Set-AzureVNetConfig	ba97e60d-b875-1f84-acc0-6a6981325629	Succeeded
New-AzureService	d9193d38-ec68-1734-b47e-336f66c8cb65	Succeeded
New-AzureVM	17307d90-7d28-1991-9597-daa7bb31a14a	Succeeded
New-AzureVM	512b00b9-1813-176d-843c-dfb16d673529	Succeeded

[09/24/2014 00:10:35] Azure Infrastructure Service Automation is done

It took 00:03:02.2505180 sec.

[09/24/2014 00:10:35] 3.2 DSC (Desired State Configuration) Extension Demo

Update-AzureVM	8cfc24a-1c11-1f5f-ab4d-8269e7684de8	Succeeded
Update-AzureVM	bb027370-4373-137e-a782-c3b59cadc939	Succeeded

[09/24/2014 00:12:57] IIS install start so please wait for 100 sec

[09/24/2014 00:14:37] Azure Infrastructure Service Automation is done

It took 00:04:01.8548993 sec.

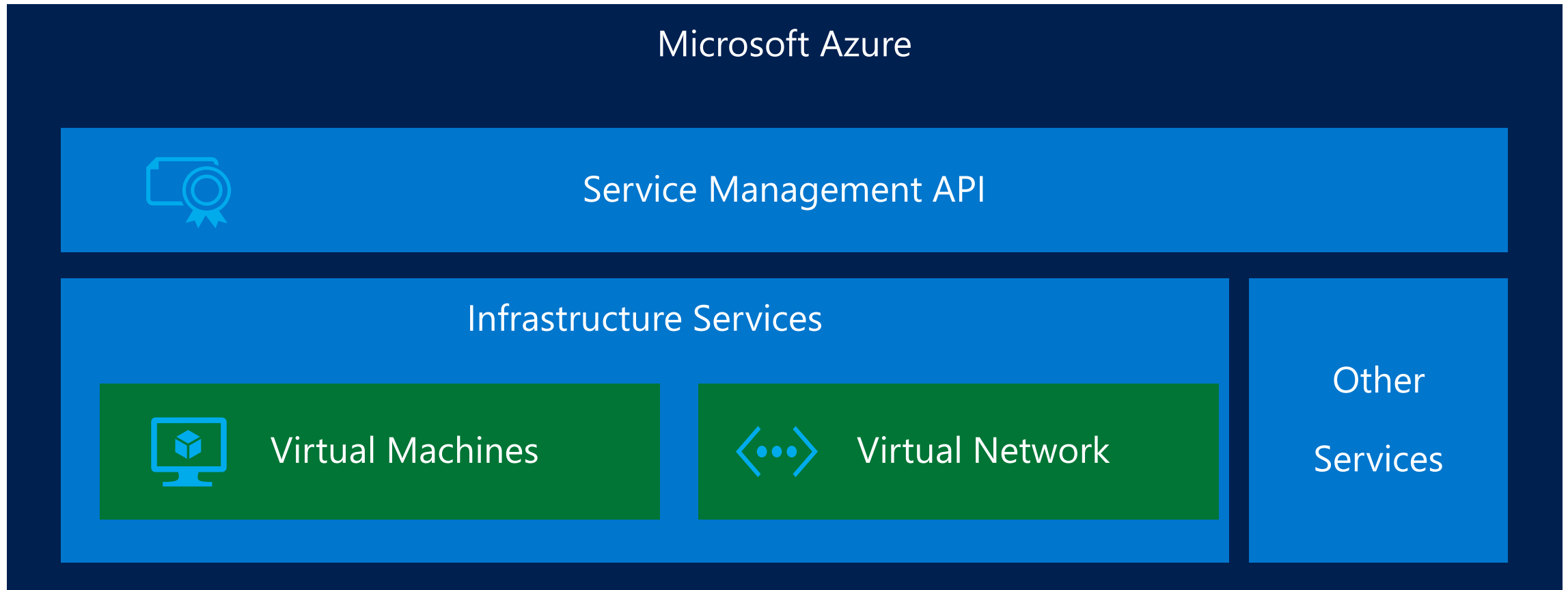
[09/24/2014 00:14:37] 4. CustomScript extension Demo

Update-AzureVM	94d245a2-6e20-1bbb-98fc-1e6308b2021b	Succeeded
Update-AzureVM	d675b446-847c-1a6c-b8ac-89cb96c01ca5	Succeeded

[09/24/2014 00:17:09] CustomScript extension Demo is done

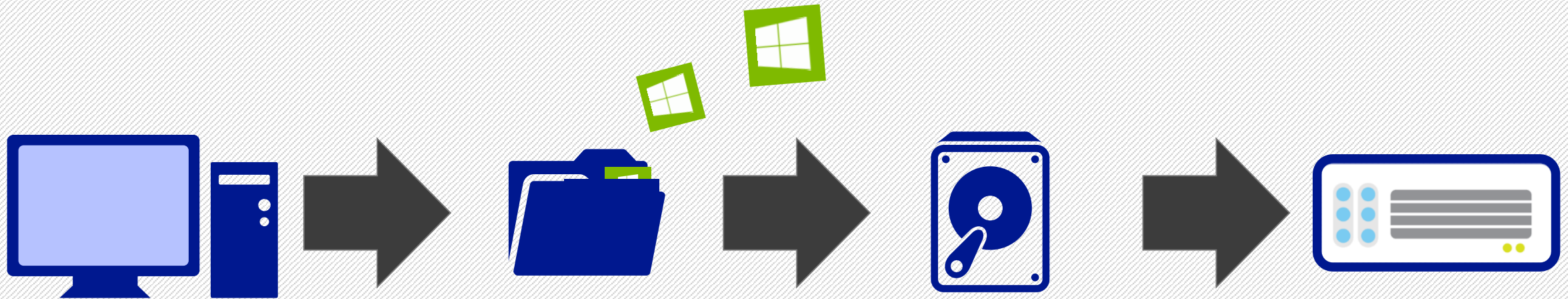
It took 00:02:32.7952143 sec for copy. And it totally took 00:06:34.6501136

Azure Service Layers



가상 컴퓨터 생성 과정

이미지 갤러리에서 선택 옵션



관리자 포털에 접속

이미지 갤러리에서
새로운 가상 컴퓨터 생성

이미지가
저장소 계정으로 복사 됨

가상 컴퓨터 부팅 후
모든 데이터는
저장소에 저장