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| OpenHack – Windows Virtual Desktop |

# Overview

Summary of new OpenHack topic idea

\*Please follow the 4-liner format below\*

***This OpenHack enables attendees to***publish both Virtual Applications and Virtual Desktops using the new WVD solution in Azure.

***This OpenHack simulates a real-world scenario where*** a University has a variety of application- and desktop-publishing requirements. Attendees will be required to cross-walk requirements into technical implementation details in WVD. Client requirements will include:

* Students with Mac BYOD systems who require access to specific Windows 10-centric applications, but not full desktops.
* Administrative Assistants who need to use a full Windows 10 desktop, but wish to bring their BYOD devices to work; the school does not wish to install and support Windows or the apps on their BYOD device.
* Faculty and Staff who require a mix of both full Windows 10 Desktops and individual applications.
* A variety of requirements in which session state and/or login profile follows the end-users.

***During the “hacking” attendees will focus on*** 1. Creating Azure Host Pools to publish Desktops, 2. Creating WVD Host Pools to publish Apps, 3. Leveraging FSLogix to support Profiles in the WVD environment.

***By the end of the OpenHack, attendees will have built out a technical solution*** that leverages the key aspects of WVD: Multi-user Windows 10, Application and Desktop publishing from WVD, and FSLogix for roaming profile support.

# Key Technologies

Which technologies are used/leveraged in the technical scenarios/solutions/pattern?

Azure Windows Virtual Desktop, Group Policy, FSLogix, Windows 10 multi-user, Azure Virtual Networks, Azure-based Windows File Servers, PowerShell (w/WVD extensions), and Windows management tools.

# Pre-Requisites

What are the knowledge and tooling pre-requisites necessary for an attendee to be successful in this OpenHack (list required + nice-to-haves)

Participants need to have experience working with Azure IaaS VMs, Group Policy, Azure Virtual Networking, and PowerShell.

Nice to have: Windows 10 management experience, System Imaging (Sysprep, etc.), Application or Desktop Virtualization experience.

# Challenges

Outline of OpenHack content – challenge titles, challenge tasks, and challenge progression

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| **Challenge Number & Name** | **Description / Draft of Requirements that drive design decisions** | **Overall Goals / Why train the students in this aspect?** | **Success checklist / what must be done right?** |
| 1 - Establish Host Pool Plans | * + Working w/client w/O365 already deployed - AAD in sync w/AD on-prem   + Client wishes to publish:     1. Full Desktop to Win Users w/USB headsets     2. GPU-enabled apps to Mac Users   + Client requires GPO changes to map drives to on-prem   + Client wants roaming profile support   + Client has Server and Multi-user Win10 and Win7 long-term requirements   + Client wants to leverage Best Practices for deployment, including Managed Identities   + Automate stop/start   + Provide cost estimates to support X number of users per solution   + MG - Client requires protocol encryption, does not want dependency on VPN for remote user access to VDI   + MG - VDI desktops must be attached to a customer managed private network   + MG - Client does not allow inbound FW exceptions into private network   + MG - Client owns M365 E5/A5 for employees (students if academic scenario) and wants to minimize cost wherever possible | * + Recognize/agree on using existing DC/AAD environment to meet minimums   + App publishing and desktop-publishing Host Pool planning to meet requirements   + MG - Network security planning to meet customer requirements | * + Plan multiple host pools   + Validate prerequisites   + Create Service Principal for deployment   + Cost estimates from Azure Estimator (RI's vs non-RI's) |
| 2 - Validate Pre-reqs | * + Validate what is missing and what is present in existing AAD world to deploy WVD   + Walk through checklist from reference sites and determine gaps   + Notify coach before moving forward/validate nothing is missing | * + All pre-reqs to get to Best Practices need to be validated one-by-one   + Plan should include Proximity Placement Groups | * + Create Service Principal   + Use ID with rights to join domain (domainjoiner)   + Create Tenant and assign WVD admins   + Leverage Proximity   + Set up GPOs for drive mappings, other things...? |
| 3 - Set up FSLogix to support roaming profiles | Establish a Windows Server solution for hosting VMs | * + Choose appropriate Windows Server OS w/iops considerations for disk   + Place in Proximity group to ensure best network experience | * + Roaming user support that overwrites Profiles   + Deploy GPO to push FSLogix settings |
| 4 - Build Host Pool for GPUs VM Desktop | * + Deploy a WVD solution that meets GPU desktop requirements   + Provision test environment that meets initial goals of client   + Starting with GPU-enabled environment because easier to do that now to validate performance | * + Host Pool deployments for full desktops w/USB support for Windows   + Differentiate Windows client as full-featured compared to other clients   + Validate drivers are installed properly | * + Deploy using Marketplace template   + Test Windows USB   + Test multi-user capabilities & validate |
| 5 - Build Host Pool for App Publishing | * + Deploy a WVD solution that meets app publishing requirements (non-GPU)   + Clarify why non-GPU was good choice (cost, simplicity, etc.) for this approach | * + Host Pool deployments for app publishing without USB support for non-Windows | * + Deploy using Marketplace template   + Test from variety of 3rd-party OS's   + Demonstrate differences between clients |
| 6 - Build Custom VM for use in additional Host Pools | * + Client requires specific apps in a customized version of Windows multi-user Gold Image   + Build Gold Image and repurpose for Host Pool builds | * + Recognize / address requirement to build from scratch (no upgrade option)   + Choose correct OS as starting point   + Install Office and OneDrive w/appropriate Activation method   + Install 3rd party apps (MineCraft, OpenOffice, etc.) | * + Leverage Office and OneDrive per-system activation   + Use appropriate Sysprep flags to achieve correct results |
| 7 - Move an on-prem Win Server RDS to Azure | * + Client owns a Win2K12R2 RDS system and wants to keep it for existing classes | * + Forces WVD manual client install   + Demonstrates re-use of existing assets   + Reinforces idea we support more than W10 in Azure | * + Reconfigure core system before movement to Azure   + Post-deployment to Azure, install WVD agent |
| 8 - Redeploy an on-prem Win7 to Azure | * + Client owns a Win7 system and want to take advantage of end-of-life LTS | * + Reinforces Win7 migration to mitigate support horizon ending   + Reinforces single-user of Win7 vs Win10 | * + Reconfigure core system before movement to Azure   + Post-deployment to Azure, install WVD agent |
| 9 – Enable stop/start to save $ | * + Client wishes to automate on/off to minimize costs | * + Shows we have automation in Azure   + Clients can manage endpoints to meet $ challenges | * + Research & deploy automation scripts   + Test stop/start |

# Value Proposition

Why do others need to technically upskill on this?

What is the value add to end customers from understanding and implementing the given technical scenarios/solutions into their apps/infra

* Increased revenue from WVD – clients spend large amounts of capital on other solutions; we should be supplanting this with a more technically elegant solution at much lower cost
* Increased penetration in clients who need virtualization/raising awareness & choice options that WVD brings to the table.
* Virtualization in almost EVERY client is a budgeted, supported Core IT function. We should tap into this ongoing momentum and rake in ACR accordingly.

# Technical Scenarios

What are the high-level technical scenarios/success patterns being addressed?

* WVD Planning Is Key to Success: With the challenges presented to the attendees, they will be forced to crosswalk business requirements into Technical Implementation details. Planning and coming up with a challenge/approach matrix is key to the solution and WVD deployment success.
* WVD “Flavors” of both App and Desktop Publishing are Swiss Army Knife Tools: Attendees will be steeped in both technical scenarios; they will need to tactically use facets of WVD to achieve Strategic goals of management, simplification, and overall end-user experience across a variety of delivery endpoints.
* Roaming Profiles with FSLogix is a Game-Changer: Roaming Profiles is a dirty word/phrase in many of our clients; FSLogix is our chance to change all that and to show a robust solution that sets us apart from our competition.
* Windows Server 2008 and Windows 7 EOL can Survive in WVD: It’s already too late for a lot of our clients, but offering WVD as an option to sustain OS’s out of support can garner us more ACR and open eyes on a solution that will fit a few niche requirements across our client base.

# Audience

Is this for internal or external? If internal, just CSE? Any specific roles we are targeting?

If customers too - what is the target customer profile?

Any specific vertical this may be suited for?

* Target Audience:
  + External and Internal
  + Microsoft – CSE, CSA,
  + Customer – Virtualization Support Teams, Infrastructure Managers, anyone who supports Citrix and/or VMWare for Virtualization
* Target verticals: Education, Health Care, Financial Services, any Regulated Industry
* Customer profile & examples:
  + Virtualization Utility Teams – Most Institutions have a team focused on delivering Virtualization of both Apps and Desktops to end-users. Clients who have accordingly adopted Remote Desktop Services (RDS), Citrix, VMWare remote desktop solutions, and/or built their own RDS farms on-prem using homegrown technologies will benefit from the simplicity of WVD. These admins will immediately see the benefits of WVD.
  + Regulated Industries – Any client that needs to have direct management / control of the VMs and is under regulatory pressure will see the value of WVD. For these clients, the EXTREMELY low overhead to build and deploy Managed apps and desktops will be a game-changer.

# Market Roadmap

Based on engineering recommendations, and customers, what are your suggestions for top 2 locations (by region: Americas/EMEA/APAC) that you would like your OH to land at? Why do we want to prioritize those markets?

Which of those would your team directly support?

* First deliveries: Americas – Atlanta (middle of Q3 FY20; already scheduled) and NYC (end of Q3 FY20; already scheduled)
  + High usage of WVD and demands of App and Desktop publishing in EDU in Atlanta and NYC regions
  + Team support: yes, Tech Lead is alias rmcbrine; supporting cast of 6 Azure CSA’s from EDU already confirmed
* Next round: US EDU/PubSec – Dallas, TX (Q4) and London (Q4)
  + High usage of WVD and demands of App and Desktop publishing in EDU in Dallas and UK Team desire to push this solution in same verticals
  + Team support: yes, Tech Lead is alias rmcbrine; supporting cast of 2 Azure CSA’s from EDU already confirmed & UK Team to provide 4 CSA’s

# Competitive Landscape

Is this technical scenario/solution/pattern part of a growing market of cloud products/services?

Have AWS and GCP already marketed this current technical scenario/solution at-scale?

Do non-Azure customers already have this technical scenario/solution implemented into their apps/infra?

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| *Microsoft* | *Amazon* | VMware Logo*VMWare* |
| Windows Virtual Desktop is a comprehensive desktop and app virtualization service running in the cloud. It’s the only virtual desktop infrastructure (VDI) that delivers simplified management, multi-session Windows 10, optimizations for Office 365 ProPlus, and support for Remote Desktop Services (RDS) environments. Deploy and scale your Windows desktops and apps on Azure in minutes, and get built-in security and compliance features. | Amazon WorkSpaces is a managed, secure [Desktop-as-a-Service (DaaS)](https://aws.amazon.com/products/end-user-computing/desktop-as-a-service/) solution. You can use Amazon WorkSpaces to provision either Windows or Linux desktops in just a few minutes and quickly scale to provide thousands of desktops to workers across the globe. You can pay either monthly or hourly, just for the WorkSpaces you launch, which helps you save money when compared to traditional desktops and on-premises VDI solutions. Amazon WorkSpaces helps you eliminate the complexity in managing hardware inventory, OS versions and patches, and Virtual Desktop Infrastructure (VDI), which helps simplify your desktop delivery strategy. With Amazon WorkSpaces, your users get a fast, responsive desktop of their choice that they can access anywhere, anytime, from any supported device. | The Horizon DaaS Platform gives service providers the flexibility to deploy virtual desktops and hosted apps across public, private, and hybrid cloud environments, from their own premises or remotely. Because 100% cloud is not the right solution for everyone, our platform lets service providers offer virtual desktops and hosted apps on-premises while still maintaining control. |

# FAQs

What are some common questions/answers you believe someone interested in attending your OpenHack will ask?

If I already own Citrix or VMWare solutions, should I attend this OpenHack?

+ Yes, absolutely – this is a chance to raise awareness of new integration opportunities.

Is there a suggested flow of OpenHacks which an attendee should attend first, before going to yours?

+ No