

MICHIGAN STATE

U N I V E R S I T Y

Project Plan Presentation

Virtual Computer Service Enhancements

The Capstone Experience

Team Dow

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*From Students...
...to Professionals*

Functional Specifications

- Help Dow learn more about current DVC architecture
- Transition from persistent to non-persistent environment
- Automatically add user and location tag to DVC
- Migrate users from on-premises AD group to new Azure AD group
- Report on users with multiple DVCs



Design Specifications

- Help IT team
- With automatic tagging
- Location tagging for customer performance
- To find areas where less machinery is needed



Screen Mockup: Azure Active Directory Sign-In Logs

The screenshot displays the Azure Active Directory Sign-in logs interface. The page title is "Default Directory | Sign-in logs". The interface includes a navigation menu on the left with categories like "Monitoring" and "Troubleshooting + Support". The main content area shows a table of sign-in events. The table has columns for Date, Request ID, User, Application, Status, IP address, Location, and Conditional Access. The data shows three successful sign-in events for Arvid Brunzell from the Azure Portal.

Date	Request ID	User	Application	Status	IP address	Location	Conditional Acc...
8/26/2021, 10:04:17...	7479681a-c0f3-449e...	Arvid Brunzell	Azure Portal	Success	[REDACTED]	[REDACTED]	Not Applied
8/26/2021, 7:35:11 PM	1db473da-f81d-49e...	Arvid Brunzell	Azure Portal	Success	[REDACTED]	[REDACTED]	Not Applied
9/26/2021, 2:47:00 PM	76a4077d-d827-4dc...	Arvid Brunzell	Azure Portal	Success	[REDACTED]	[REDACTED]	Not Applied



Screen Mockup: Automation of Jobs

The screenshot shows the Microsoft Azure portal interface for an automation account named 'ama-testing'. The left sidebar contains navigation options such as 'Update management', 'Process Automation', 'Runbooks', 'Jobs', 'Runbooks gallery', 'Hybrid worker groups', 'Watcher tasks', 'Shared Resources', 'Schedules', 'Modules', 'Modules gallery', 'Python packages', 'Credentials', and 'Connections'. The main content area displays a table of jobs with the following data:

Runbook	Job created	Status	Ran on	Last status update
hello-world	9/26/2021, 9:30:06 PM	✓ Completed	Azure	9/26/2021, 9:30:14 PM
ama-vm	9/26/2021, 9:28:56 PM	✓ Completed	Azure	9/26/2021, 9:29:08 PM
AzureAutomationTutorialScript	9/21/2021, 2:31:23 PM	✓ Completed	Azure	9/21/2021, 2:31:45 PM



Screen Mockup: Virtual Machine Tags

The screenshot displays the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile '18brunsella@gmail.com'. The main content area is titled 'vm-test-1-0 | Tags' and shows the 'Tags' configuration page for a virtual machine. The left sidebar contains navigation options such as Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, and Settings. The main panel features a 'Delete all' button and a text box for adding tags. Below this, a table lists existing tags with columns for Name and Value. The table contains three entries: 'Example' with value 'tag-1', 'location' with value 'East Lansing, Michigan, USA', and 'user' with value 'KM12412'. At the bottom of the panel are 'Apply' and 'Discard changes' buttons.

Microsoft Azure

Search resources, services, and docs (G+)

18brunsella@gmail.com
DEFAULT DIRECTORY

Home > vm-test-1-0

vm-test-1-0 | Tags
Virtual machine

Search (Ctrl+)

Delete all

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. Tag names are case insensitive, but tag values are case sensitive. [Learn more about tags.](#)

Do not enter names or values that could make your resources less secure or that contain personal/sensitive information because tag data will be replicated globally.

Name	Value
Example	: tag-1
location	: East Lansing, Michigan, USA
user	: KM12412
	:

Apply Discard changes



Screen Mockup: User Report

The screenshot shows an Excel spreadsheet titled "Dow_User_Table - View-only". The ribbon is set to "Home". The spreadsheet contains the following data:

	A	B	C	D	E	F	G	H
1	NAME	USERID	Machine Names	Count of Machines				
2	Brunsell, Arvid	ND12347	V10TEST-6, V10TEST-9, V10TEST-11, V10ADMIN	4				
3	Kistler, Mark	ND12346	V10TEST-3, V10TEST-5, V10TEST-8	3				
4	Doyle, Patrick	ND12345	V10TEST-1, V10TEST-2	2				
5	Fu, Junnan	ND12348	V10TEST-4, V10TEST-7	2				
6								
7								

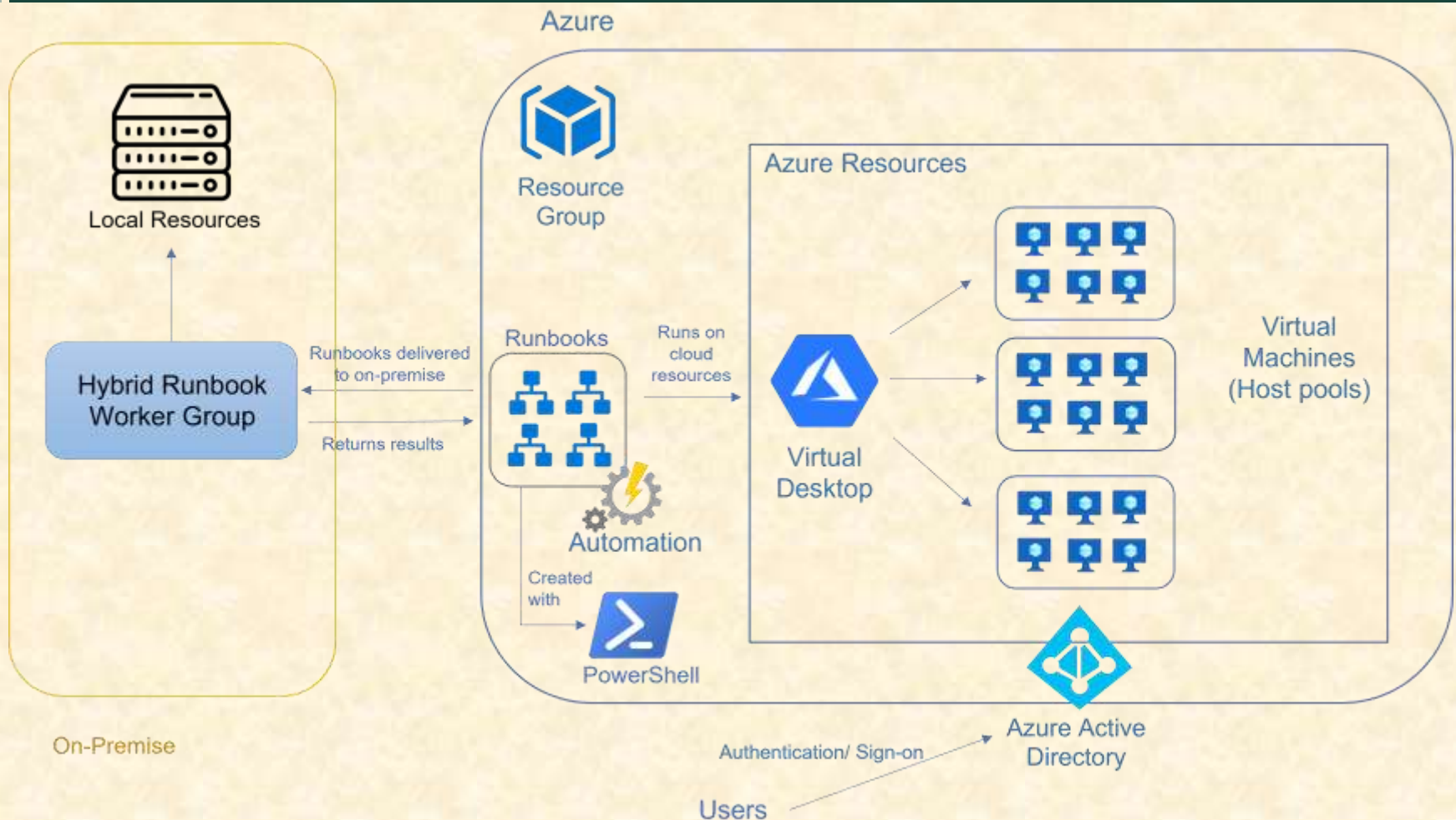


Technical Specifications

- Microsoft Azure
 - Virtual Machines
- Azure Automation
 - Runbooks
- PowerShell Command Line and Scripts



System Architecture



System Components

- Software Platforms / Technologies
 - Microsoft Azure
 - Virtual Machines
 - Resource Groups
 - Automation Accounts (Runbooks)
 - Azure Active Directory
 - Azure Virtual Desktop (Host Pools)



Risks

- Dow's Azure Architecture
 - Azure has many services that can be used to solve many problems and we need to use ones that are supported by Dow
 - Constant communication with sponsor on what services we can use for the specific task
- Moving PowerShell Code to Azure runbooks
 - After developing our local PowerShell solutions', we must transfer the code over to Azure runbooks so that the code can properly be deployed
 - Make sure to test extensively locally so that there are no last-minute issues with the PowerShell code. After testing in our local Azure environments, we can then move to Dow's resource group that is used for development purposes.
- Dow's Sign-In Logs
 - We need to use Dow's sign-in logs for producing the location of specific vms, currently the logs do not produce consistent locations of where a specific user signs in from.
 - Try to find a different way to obtain sign-in logs of users. Also currently, Dow has two active directory groups within Azure which could be causing the error with the sign-in logs



Questions?

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