

CMD Windows Upon RDP_RDP SSH

Last updated by | Yuri Ohno | Mar 2, 2023 at 9:11 AM PST

Tags

cw.TSG

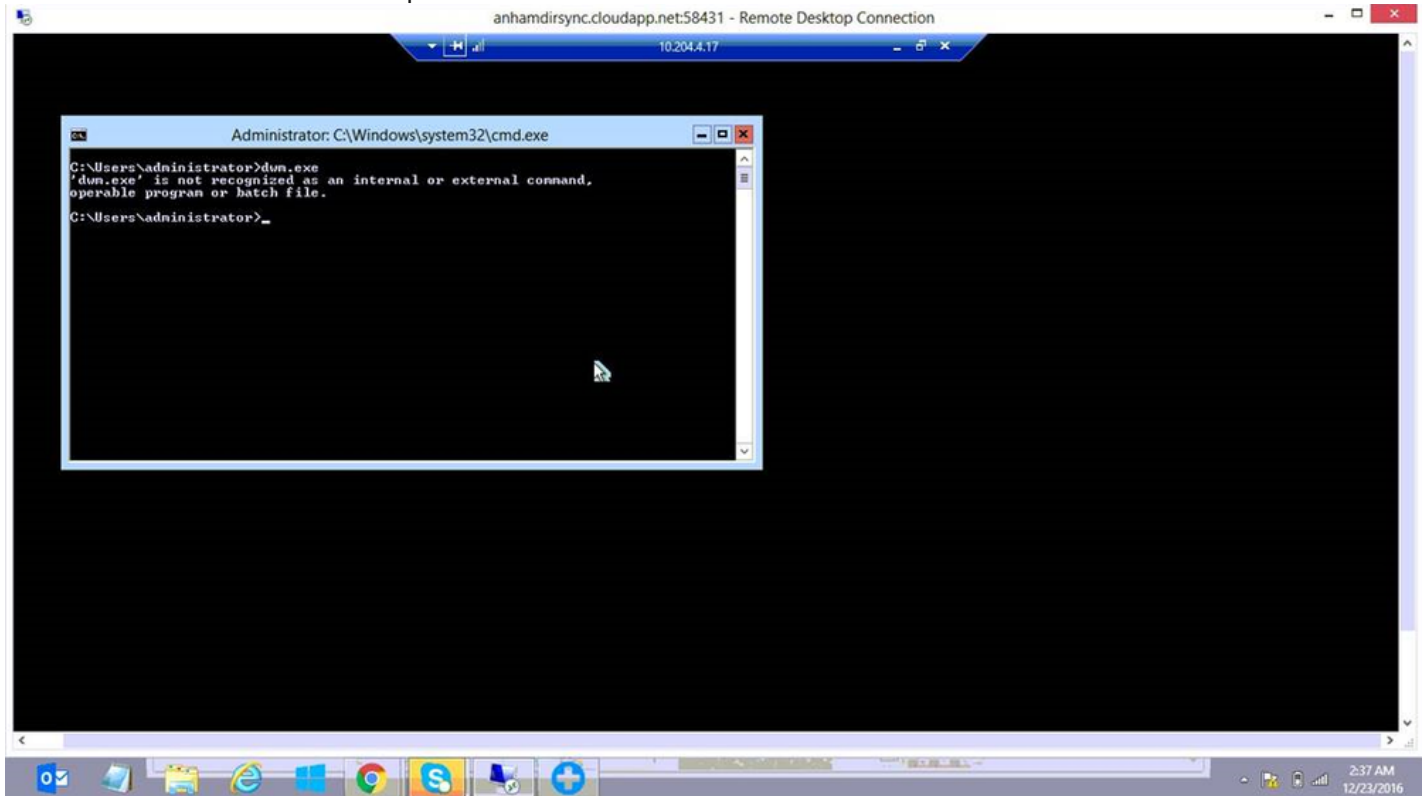
cw.RDP-SSH

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Symptoms

- Customer reports that after he's entering the credentials on RDP, the GUI is not fully loaded and he gets an administrator CMD windows open instead



- The VM has connectivity
- RDP is responding
- After you enter the credentials, the profile does not complete to load getting and you can only interact with a CMD windows
- On the CBS logs from the guest you will find something as the following

```



2016-12-24 20:33:10, Info          CBS    Progress: UI message updated. Operation type: Found
2016-12-24 20:33:10, Info          CBS    Winlogon: TiCoreOnCreateSession has been called
2016-12-24 20:33:16, Error        CSI    00000008 (F) Error: ResolvePendingTransactions call
        Status = STATUS_ACCESS_DENIED, Operation = SetFileInformation, DiagString = [1:34{17}]"??\C:\, N/A

```


Root Cause Analysis

.NET Framework was removed from the system. This usually happens if the customer query the .NET framework uninstallation from the IIS console.

References

- Public: [Removing .NET Framework 4.5/4.5.1 removes Windows 2012/2012R2 UI and other features](#) 
- Internal: [Referred VKB: 116110714899364 Unable to convert the Core Server to Gui](#) 

Tracking close code for this volume

Root Cause	Product	Support Topic	Cause Tracking code	Bug
1	Azure Virtual Machine 	Routing Azure Virtual Machine V3\Cannot Connect to my VM\My problem is not listed above	Root Cause - Windows Azure\Virtual Machine\Guest OS - Windows\VM Responding\User Profile issues	

To know how to flag a bug on a case please refer to [How to do Proper Case Coding](#)

Refresher / Training Template

- For the purpose of training or following along with this TSG, you can use the following link to deploy a VM with this scenario built-in. You will need to enable JIT for the VM. This lab is not to be shared with customers.



Customer Enablement

N/A

Mitigation

Backup OS disk

► Details

ONLINE Troubleshooting

ONLINE Approaches

Please be aware that the Serial Console Feature option will be today possible in:

1. Azure Resource Management VMs (ARM)
2. Public cloud

Whenever you are in a middle of a troubleshooting and you find the step <<<<<**INSERT MITIGATION**>>>>>, proceed to replace that steps with the mitigation section that you need referred below

[Using Windows Admin Center \(WAC\)](#)

▼ Click here to expand or collapse this section

WAC is supported on ARM VMs running Windows Server 2016 or later (not Win10 or any other Windows client version, and not 2012R2/2012/2008R2 versions of Windows Server

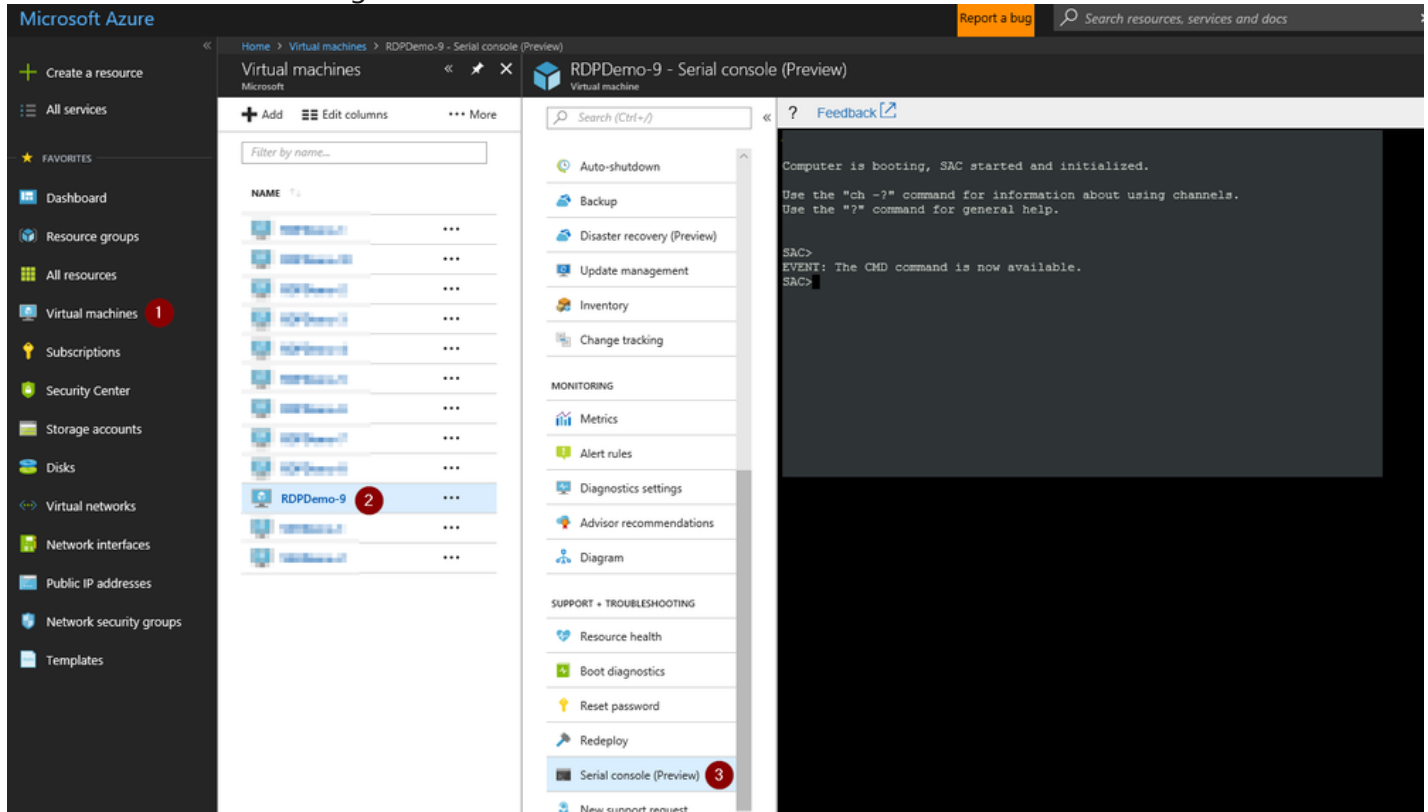
See [How To Access Thru Windows Admin Center](#)

Using [Serial Console Feature](#)

▼ Click here to expand or collapse this section

Applies only for ARM VMs

1. In the portal on the VM blade you will have an extra option called *Serial Console* click there
2. If EMS was enabled on the Guest OS, SAC will be able to connect successfully and then you will have a screenshot as the following:



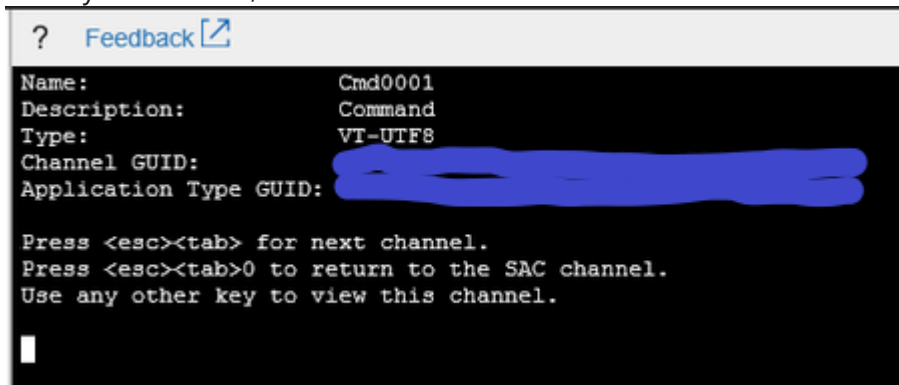
1. If EMS does not connect, it means the Guest OS was not setup to use this feature:
 1. If the issue that you have will repro on a restart and if the customer is OK to enable this feature, you enable this feature. For details refer to [Serial Console](#) on the *How to enable this feature*
 2. If on the other hand, the issue will not repro on a restart, then you will need to skip this section and go on normally with the **OFFLINE troubleshooting** section
3. Create a channel with a CMD instance. Type `cmd` to start the channel, you will get the name of the channel

```
SAC>cmd
The Command Prompt session was successfully launched.
SAC>
EVENT: A new channel has been created. Use "ch -?" for channel help.
Channel: Cmd0001
SAC>
```

4. Switch to the channel running the CMD instance

```
ch -si 1
SAC>ch -si 1
```

5. Once you hit enter, it will switch to that channel

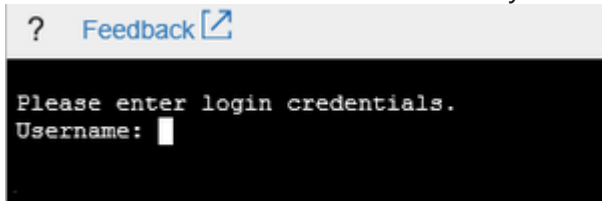


```
? Feedback [link]
Name: Cmd0001
Description: Command
Type: VT-UTF8
Channel GUID: [redacted]
Application Type GUID: [redacted]

Press <esc><tab> for next channel.
Press <esc><tab>0 to return to the SAC channel.
Use any other key to view this channel.

█
```

6. Hit enter a second time and it will ask you for user, domain and password:

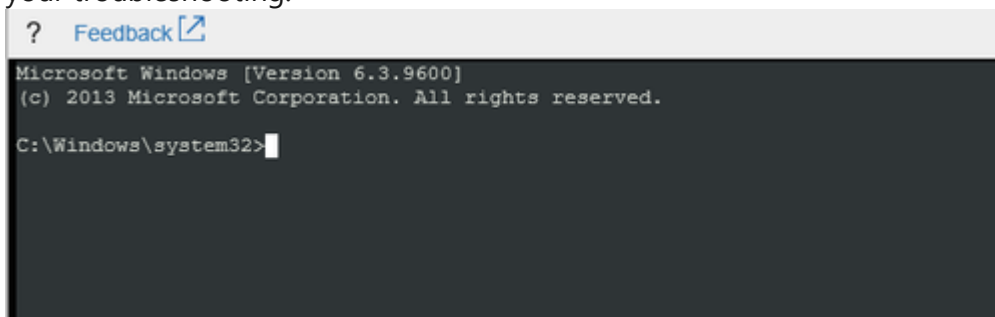


```
? Feedback [link]

Please enter login credentials.
Username: █
```

1. If the machine has connectivity, you could use either local or domain IDs. If you want to use a local ID, for domain just add the hostname of the VM
2. If the machine doesn't have connectivity, you could try to use domains IDs however this will work if only the credentials are cached on the VM. In this scenario, it is suggested to use local IDs instead.

7. Once you add valid credentials, the CMD instance will open and you will have the prompt for you to start your troubleshooting:



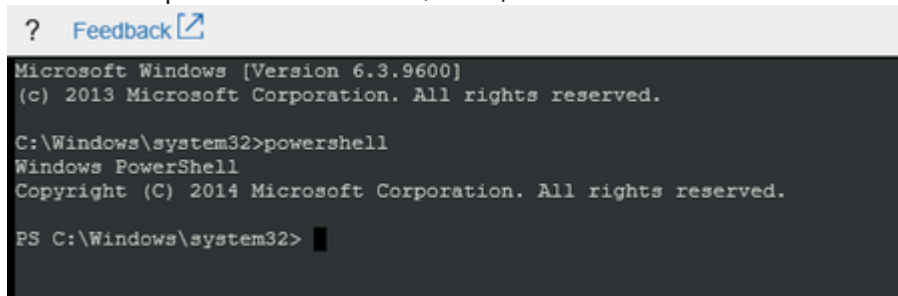
```
? Feedback [link]

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Windows\system32>█
```

1. At this point, you can do your troubleshooting in bash (CMD) or else, you could start a powershell instance:

1. To launch a powershell instance, run `powershell`



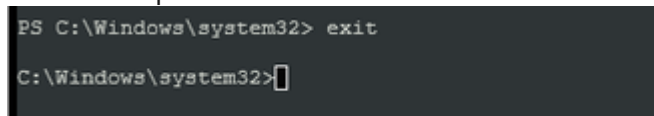
```
? Feedback [link]

Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Windows\system32>powershell
Windows PowerShell
Copyright (C) 2014 Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> █
```

2. To end the powershell instance and return to CMD, just type `exit`



```
PS C:\Windows\system32> exit

C:\Windows\system32>█
```

8. <<<<<INSERT MITIGATION>>>>>

Using [Remote Powershell](#)

► Click here to expand or collapse this section

Using [Remote CMD](#)

► Click here to expand or collapse this section

Using [Custom Script Extension](#) or [RunCommands Feature](#)

► Click here to expand or collapse this section

Using [Remote Registry](#)

► Click here to expand or collapse this section

Using [Remote Services Console](#)

► Click here to expand or collapse this section

ONLINE Mitigations

1. Check which OS is your VM, you can do this in multiple ways:
 1. On ASC\Diagnostics tab under VM properties you will have this as:
 1. If the machine was created from gallery, you will have this by looking at *Publisher Offer SKU Version*
 2. If the machine has an azure agent and this agent connected to the azure platform at least once on its lifetime, then you will have *GuestOSVersion* populated with the OS version
 2. On *WinGuestAnalyzer* at the top of the finding page
2. If the OS is *Windows Server Core* version, not having a GUI is by default so ***do not proceed with this article***. On this cases, if you RDP you will get a CMD console to interact with the OS. If the customer wants a full experience with GUI, the VM needs to be rebuild using a noncore version of the OS

Mitigation 1

▼ Click here to expand or collapse this section

1. Run the following commands on the CMD windows

```
DISM.exe /online /enable-feature /all /featurename:NetFx4
DISM.exe /online /enable-feature /all /featurename:MicrosoftWindowsPowerShell
```

Restart the VM

2. The above commands will re-install .Net 4.0 and PowerShell on the server. Once PowerShell is installed, you can add the Graphical Shell (Windows Explorer).
3. Run `Powershell` and install the GUI using the following command:

```
Install-WindowsFeature Server-Gui-Shell, Server-Gui-Mgmt-Infra
```

4. In case `Powershell` command is not working, you can still try using CMD

```
DISM.exe /online /enable-feature /all /featurename:Server-Gui-Shell
DISM.exe /online /enable-feature /all /featurename:Server-Gui-Mgmt-Infra
```

5. Once the GUI Shell is installed, you will need to restart the server with the following command:

`Restart-Computer`

Mitigation 2

▼ Click here to expand or collapse this section

1. Open an elevated Powershell instance and ensure you have the ServerManager module

```
import-module serverManager
```

2. Install all the modules needed for the GUI

```
Install-windowsfeature Server-Gui-Mgmt-Infra, Server-Gui-Shell -Restart
```

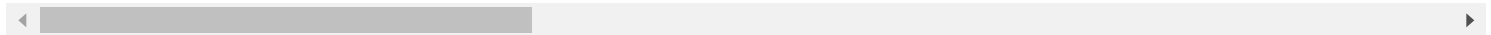
3. In case Powershell command is not working, you can still try using CMD

```
DISM.exe /online /enable-feature /all /featurename:serverManager
DISM.exe /online /enable-feature /all /featurename:Server-Gui-Shell
DISM.exe /online /enable-feature /all /featurename:Server-Gui-Mgmt-Infra
```

4. After the restart the GUI should be restored

OFFLINE Troubleshooting

For CRP machines, at any point that you follow end to end any of the OFFLINE mitigation and that doesn't work



1. Check which OS is your VM, you can do this in multiple ways:

1. On ASC\Diagnostics tab under VM properties you will have this as:

1. If the machine was created from gallery, you will have this by looking at *Publisher Offer SKU Version*

2. If the machine has an azure agent and this agent connected to the azure platform at least once on its lifetime, then you will have *GuestOSVersion* populated with the OS version

2. On *WinGuestAnalyzer* at the top of the finding page

2. If the OS is *Windows Server Core* version, not having a GUI is by default so **do not proceed with this article**. On this cases, if you RDP you will get a CMD console to interact with the OS. If the customer wants a full experience with GUI, the VM needs to be rebuild using a noncore version of the OS

OFFLINE Approaches

Whenever you are in a middle of a troubleshooting and you find the step <<<<<**INSERT MITIGATION**>>>>>, proceed to replace that steps with the mitigation section that you need referred below.

Information

For more in-depth information on these operations, please review: [Windows Partitions in Non-Boot Scenarios RDP-SSH](#).

Using [Recovery Script](#)

► Click here to expand or collapse this section

Using [OSDisk Swap API](#)

► Click here to expand or collapse this section

Using *VM Recreation scripts*

► Click here to expand or collapse this section

OFFLINE Mitigations

Mitigation 1

▼ Click here to expand or collapse this section

1. Now open an elevated CMD instance and run the following script:

```
REM Install .Net 4.0 and PowerShell features
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:NetFx4
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:MicrosoftWindowsPowerShell

REM Install the GUI modules
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:Server-Gui-Shell
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:Server-Gui-Mgmt-Infra
```

Mitigation 2

▼ Click here to expand or collapse this section

1. Now open an elevated CMD instance and run the following script:

```
REM Install Server Manager module
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:serverManager

REM Install the GUI modules
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:Server-Gui-Shell
DISM.exe /image:<OS Disk letter>:\ /enable-feature /all /featurename:Server-Gui-Mgmt-Infra
```

Escalate

1. If this doesn't work out, please reach out to the [Unable to RDP-SSH SME channel on teams](#) for advise providing the case number, issue description and your question

After work - Cleanup

If you are uncertain that we may need this snapshot by the end of this case for RCA purposes, then just leave it.

1. If the issue is already fix and no further RCA analysis is needed, then proceed to remove the OS Disk backup we created at the beginning of the case
 1. If the **disk is managed** using the portal so the snapshot section and select the snapshot you created previously as a backup.
 2. If the **disk is unmanaged** then
 1. If this is an CRP Machine - ARM, then no further action is required
 2. If this is an Classic - RDFE machine, then
 1. Check the storage account where the OS disk of this machine is hosted using [Microsoft Azure Storage Explorer](#) ☑ right click over the disk and select *Managed Snapshots*
 2. Proceed to delete the snapshot of the broken machine

Need additional help or have feedback?

<i>To engage the Azure RDP-SSH SMEs...</i>	<i>To provide feedback on this page...</i>	<i>To provide kudos on this page...</i>
<p>Please reach out to the RDP-SSH SMEs ☑ for faster assistance.</p> <p>Make sure to use the Ava process for faster assistance.</p>	<p>Use the RDP-SSH Feedback form to submit detailed feedback on improvements or new content ideas for RDP-SSH.</p> <p>Please note the link to the page is required when submitting feedback on existing pages! If it is a new content idea, please put N/A in the Wiki Page Link.</p>	<p>Use the RDP-SSH Kudos form to submit kudos on the page. Kudos will help us improve our wiki content overall!</p> <p>Please note the link to the page is required when submitting kudos!</p>