

# No RD License Servers Available\_RDP SSH

Last updated by | Kalyn George | Jun 21, 2022 at 9:02 AM PDT

Tags

cw.TSG

cw.RDP-SSH

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## Symptoms

- OFFLINE Mitigations

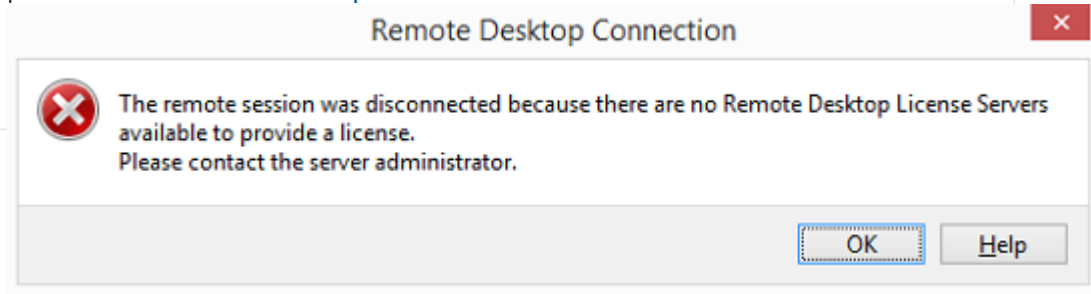
- Mitigation 1

- Mitigation 2

- Escalate

1. The VM screenshot shows the OS fully loaded and waiting for the credentials
2. If you try to RDP the VM either internally or externally, you'll get the message:

?The remote session was disconnected because there are no remote desktop license servers available to provide a license - Cleanup



3. If use an administrative session, you are able to logging normally:

```
mstsc /v:<SERVER>:<PORT> /admin
```

4. From the event logs from the Guest OS, you could get the following:

1. Under *System*, you could find the event 1130 pointing out that the RDLICENSE server is not setup on the Guest OS:

```
Time:      7/1/2019 11:05:55 AM
ID:        1130
Level:     Warning
Source:    Microsoft-Windows-TerminalServices-RemoteConnectionManager
Machine:   contoso.local.com
Message:   The Remote Desktop Session Host server does not have a Remote Desktop license server si
```

2. Under *System* related to the RDLICENSE server is that is not activated:

```
Time:      4/2/2018 2:11:10 PM
ID:        18
Level:     Warning
Source:    Microsoft-Windows-TerminalServices-Licensing
Machine:   MYVM.CONTOSO.COM
Message:   The Remote Desktop license server "MYLICENSESERVER" has not been activated and therefoi
```

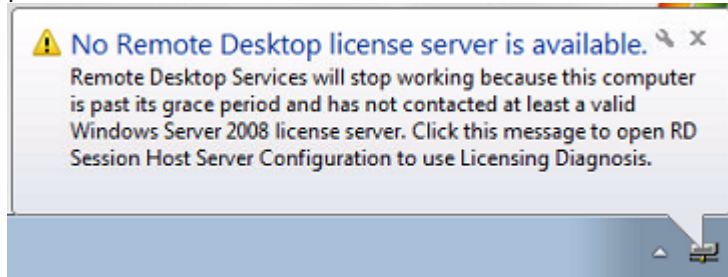
## Root Cause Analysis

### Root Cause Analysis 1

This applies to **non** Citrix Xenapp servers

1. The Remote Desktop License server is unreachable to provide any license to start a session. This could happened in different scenarios:
  1. The Cx has setup RDSession Host role on the machine, never deployed an RDLICENSE role on the environment and the grace period (180 days) is over.
  2. The Cx has setup RDSession Host role on the machine, installed an RDLICENSE on the environment but never activated

3. The Cx has setup RDSession Host role on the machine, and the RDLICENSE on the environment doesn't have CALs injected to setup the connection
  4. The Cx has setup RDSession Host role on the machine, the RDLICENSE was installed on the environment, there are available CALs to give away but the Cx has never setup the awareness to the environment where to look for those CALS
  5. The Cx has setup RDSession Host role on the machine, and the RDLICENSE has CALs but and was activated but there's some other issue on the RDLICENSE server that is preventing to issue licenses on the environment
2. In any case before this happened, the server was showing there was no Remote Desktop Server License reachable to get the CALs and was showing a timer with the time left to fix this issue before the grace period is over and the access locked out.



## Root Cause Analysis 2

This applies to *Citrix Xenapp servers*

Windows Remote Desktop Service allows two concurrent remote administrative connections through the Windows built-in RDP which do not consume RD licenses. However any connection through third party RDS protocol (for example, Citrix XenApp RDP proxy protocol extension) consumes a RD license, even if the connection is made using `mstsc /admin`.

This is by design with Citrix XenApp using their own RDS protocol called ICA.

## References

- [RD Licensing Configuration on Windows Server 2012](#)
- [Install the Remote Desktop Licensing Role Service](#)
- [Activate a Remote Desktop License Server](#)
- [Install Remote Desktop Services Client Access Licenses](#)
- [Step 3: Installing Remote Desktop Services Client Access Licenses \(RDS CALs\) on the Remote Desktop License Server](#)
- [Remote Administrative Connections \(`mstsc /admin`\) to the XenApp Server Consumes a Terminal Service License](#)



Tracking close code for this volume

Root Cause	Product	Support Topic	Cause Tracking code	Bug
1	Azure Virtual Machine – Windows	Routing Azure Virtual Machine V3\Cannot Connect to my VM\Failure to connect using RDP or SSH port	Root Cause - Azure\Virtual Machine running Windows\Issue with Remote Desktop Service (RDS) on Azure	

Root Cause	Product	Support Topic	Cause Tracking code	Bug
1	Azure Virtual Machine – Windows	Routing Azure Virtual Machine V3\Cannot Connect to my VM\Failure to connect using RDP or SSH port	*Root Cause - Windows Azure\Root Cause Not Determined	Applicable\_Unsupported Scenario*

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

## Customer Enablement

- [Remote Desktop license server is not available when you connect to Azure VM](#) 
- [Cannot connect to RDS because no RD Licensing servers are available](#) 

## 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

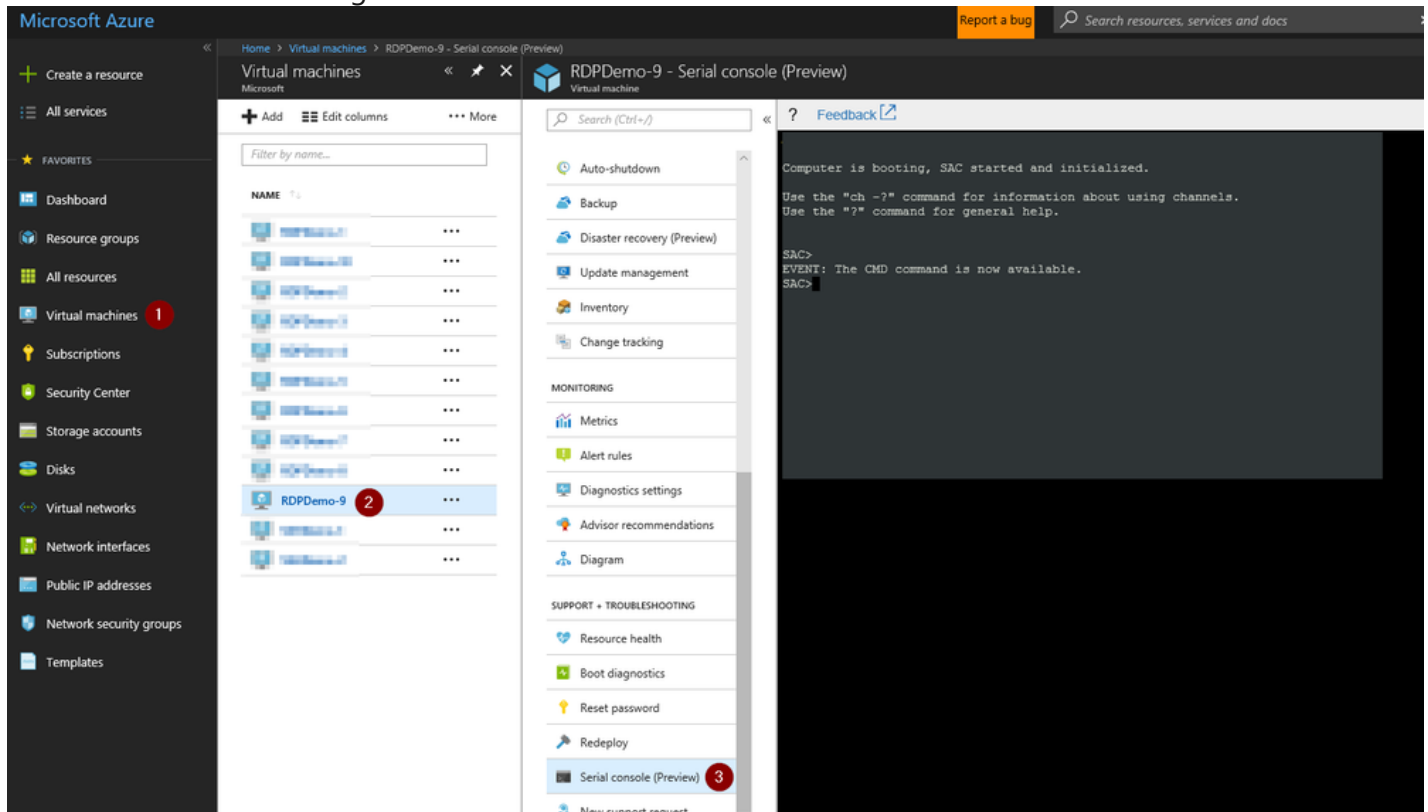
See [How To Access Thru Windows Admin Center](#)

### 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:



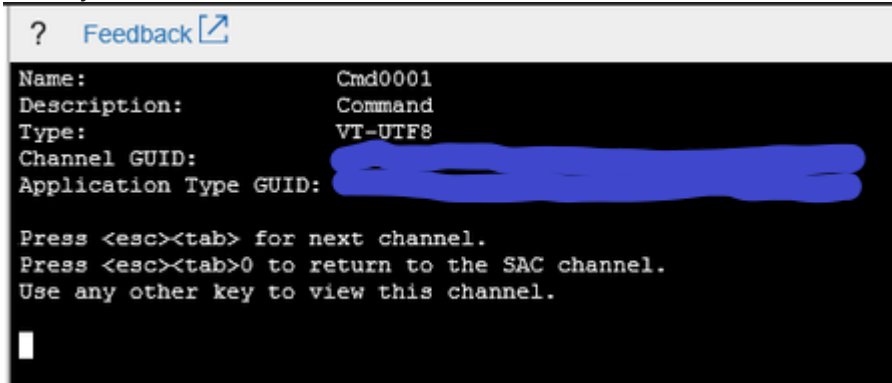
1. If EMS does not connect, it means the Guest OS was not setup to use this feature:
  1. If the issue that you have will repro on a restart and if the customer is OK to enable this feature, you enable this feature. For details refer to [Serial Console](#) on the *How to enable this feature*
  2. If 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
SAC>
```

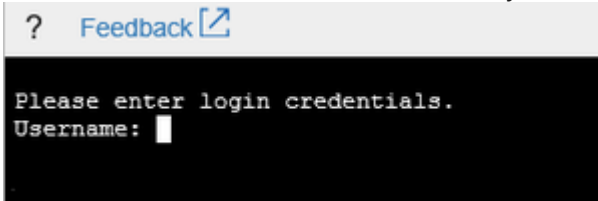
5. Once you hit enter, it will switch to that channel



```
? 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:

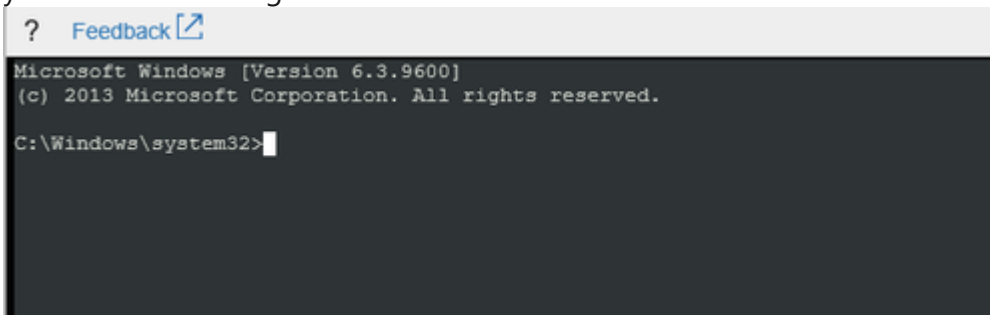


```
? Feedback [link]

Please enter login credentials.
Username: [redacted]
```

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:



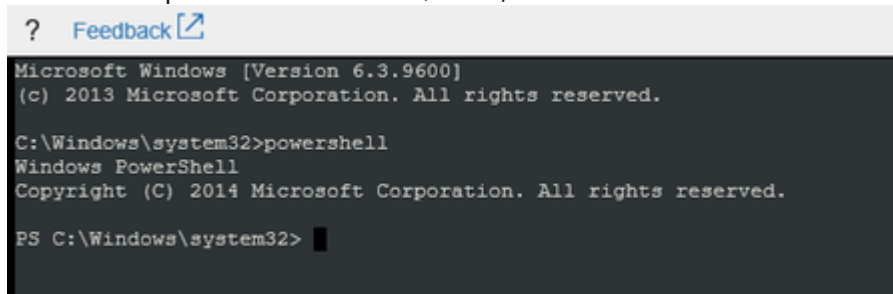
```
? Feedback [link]

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`



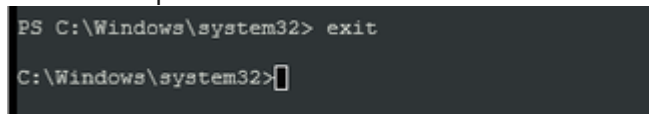
```
? Feedback [link]

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

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► 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

### Mitigation 1

▼ Click here to expand or collapse this section

*This applies to **non** Citrix Xenapp servers*

1. In any case, the customer should be able to bypass the license check by using an RDP administrative session. Please ask the customer run the following from his own machine to use the **/admin** parameter:

```
mstsc /admin /v: <<DIP>>:<<RDP Port>>
```

If the port is not specified, the default port 3389 will be used



2. If the machine has the *RDSession Host Role* enabled, ensure the RDLICENSE information is setup on the machine/environment. On an administrative CMD instance on the server run the following:

1. To know if the *RDSession Host Role is enabled*,

1. Get the current status of this role:

```
reg query "HKLM\SOFTWARE\Microsoft\ServerManager\ServicingStorage\ServerComponentCache\RDS-F
```



2. If this key comes up with value *0*, it means the role is disabled so you can skip this step and proceed with the next one.

2. For domain joined machines, this could be pushed to the domain via policy. The following policy needs to be setup


Computer Configuration\Policies\Administrative Template Policy definition\Windows Component\Remote Desktop Services\Remote Desktop Session Host\Licensing

- Use the specified Remote Desktop License Servers ==> In here assign the RDLICENSE Server FQDN or DIP
- Set the Remote Desktop Licensing mode ==> In here you select the type of CAL to use either Per User or Per Device

1. Ensure that this server is in the OU with the RDLICENSE policy


3. For standalone machines, or member servers where the customer doesn't want to use the GPO approach, you could set this up on the local policy as the following:

```
reg query "HKLM\SYSTEM\CurrentControlSet\Control\Terminal Server\RCM\Licensing Core" /v Licensing
reg query "HKLM\SYSTEM\CurrentControlSet\Services\TermService\Parameters" /v SpecifiedLicenseS
```



1. If the *LicensingMode* is set to any other value than 4 (Per User) then change this up as the following:

```
reg add "HKLM\SYSTEM\CurrentControlSet\Control\Terminal Server\RCM\Licensing Core" /v License
```



2. If the *SpecifiedLicenseServers* doesn't exist or if it does but has the wrong license server information, then change it as the following:

```
reg add "HKLM\SYSTEM\CurrentControlSet\Services\TermService\Parameters" /v SpecifiedLicenseS
```



4. If you need to do any change on the registry, you will need to restart the machine so the changes can take effect

5. If the customer doesn't want/have the RDLicense information (CALs) that he needs to purchase to Microsoft for concurrent RDP connections, then RDSession role needs to be removed so RDP is set back to normal which is allow only upto 2 concurrent RDP connections:

```
dism /ONLINE /Disable-feature /FeatureName:Remote-Desktop-Services
```

1. If on top of that, the machine also has the RDLicense role and is not using it, you can remove this role

```
dism /ONLINE /Disable-feature /FeatureName:Licensing
```

6. If after this you still have issues, then check if the machine can reach the license server and that the license server is healthy to even be able to RDP into it

1. If you cannot reach the license server on port 135 from your VM then

1. Ensure that you don't have any NSG that is blocking the access to that port on the license server

2. If you don't find anything abnormal, engage *Azure Networking*

- Product: **Azure Virtual Networks**
- Support Topic: **Routing Azure Virtual Networks V3\Connectivity\Network connectivity problems**

2. If on the other hand the License server is not healthy to allow even RDP connection, you could try to restart the License server and if still that doesn't work, you could engage the RDS team for assistance:

- Product: **Azure Virtual Machine - Windows**
- Support Topic: **Routing Azure Virtual Machine V3\Management\Manage or use RDS in Azure**

3. If the machine doesn't have the *RDSession Host Role* enabled nothing on this article helped out, then engage the RDS team for assistance:

- Product: **Azure Virtual Machine - Windows**
- Support Topic: **Routing Azure Virtual Machine V3\Management\Manage or use RDS in Azure**

## Mitigation 2

▼ Click here to expand or collapse this section

*This applies to Citrix Xenapp servers*

1. Refer to *Mitigation 2* on [Fail RDP connection on a Citrix VM](#)

## OFFLINE Troubleshooting

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

## 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

### 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

*This applies to **non** Citrix Xenapp servers*

1. In any case, you should be able to bypass the license check by using an RDP administrative session which you get when you use the /admin:

```
mstsc /admin /v: <<DIP>>:<<RDP Port>> If the port is not specified, the default port 3389 will be used
```

2. If the machine has the *RDSession Host Role* enabled, ensure the RDLICENSE information is setup on the machine/environment

1. See if the role is enabled and the role is not enable, skip all this step and go to the next step

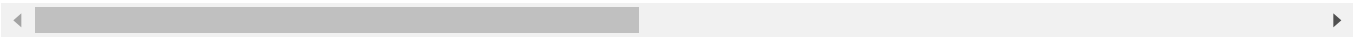
```
dism /ONLINE /get-features
```

2. For domain joined machines, this could be pushed to the domain via policy. The following policy needs to be setup

```
Computer Configuration\Policies\Administrative Template Policy definition\Windows Component\Remote Desktop Services\Remote Desktop Session Host\Licensing
```

- Use the specified Remote Desktop License Servers ==> In here assign the RDLICENSE Server FQDN or DIP
  - Set the Remote Desktop Licensing mode ==> In here you select the type of CAL to use either Per User or Per Device
1. Ensure that this server is in the OU with the RDLICENSE policy
3. For standalone machines, or member servers where the customer doesn't want to use the GPO approach, you could set this up on the local policy as the following:

```
HKLM\SYSTEM\CurrentControlSet\Control\Terminal Server\RCM\Licensing Core\LicensingMode
HKLM\SYSTEM\CurrentControlSet\Services\TermService\Parameters\SpecifiedLicenseServers
```



1. If you need to do this path, after the change the machine needs to be restarted
4. If the customer doesn't want/have the RDLICENSE information (CALs) that he needs to purchase to Microsoft for concurrent RDP connections, then RDSession role needs to be removed so RDP is set back to normal which is allow only upto 2 concurrent RDP connections:

```
dism /ONLINE /Disable-feature /FeatureName:Remote-Desktop-Services
```

1. If on top of that, the machine also has the RDLICENSE role and is not using it, you can remove this role

```
dism /ONLINE /Disable-feature /FeatureName:Licensing
```

5. If after this you still have issues, then check if the machine can reach the license server and that the license server is healthy to even be able to RDP into it

1. If you cannot reach the license server from your VM then engage *Azure Networking*
  - Product: **Azure Virtual Networks**
  - Support Topic: **Routing Azure Virtual Networks V3\Connectivity\Network connectivity problems**
2. If on the other hand the License server is not healthy to allow even RDP connection, you could try to restart the License server and if still that doesn't work, you could engage the RDS team for assistance:
  - Product: **Azure Virtual Machine - Windows**
  - Support Topic: **Routing Azure Virtual Machine V3\Management\Manage or use RDS in Azure**

3. If the machine doesn't have the *RDSession Host Role* enabled nothing on this article helped out, then engage the RDS team for assistance:
  - Product: **Azure Virtual Machine - Windows**
  - Support Topic: **Routing Azure Virtual Machine V3\Management\Manage or use RDS in Azure**

## Mitigation 2

▼ Click here to expand or collapse this section  
*This applies to Citrix Xenapp servers"*

1. Refer to *Mitigation 2* on [Fail RDP connection on a Citrix VM](#)

## Escalate

Template:Azure-Virtual-Machine-RDPSSH-WindowsRespondingEscalation-Template (edit)

## 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 - RDPFE 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 <b>RDP-SSH SMEs</b> ☑ for faster assistance.</p> <p>Make sure to use the <a href="#">Ava process</a> for faster assistance.</p>	<p>Use the <b>RDP-SSH Feedback</b> form to submit detailed feedback on improvements or new content ideas for RDP-SSH.</p> <p><b>Please note</b> 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 <b>RDP-SSH Kudos</b> form to submit kudos on the page. Kudos will help us improve our wiki content overall!</p> <p><b>Please note</b> the link to the page is required when submitting kudos!</p>