Protocol Error Code 0x112f_RDP SSH

Last updated by | Kevin Gregoire | Mar 29, 2022 at 11:47 AM PDT

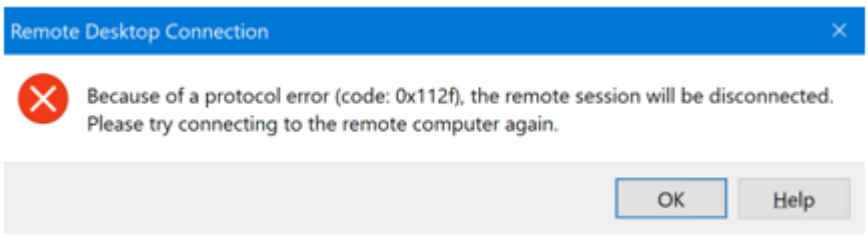
Tags

cw.TSG cw.RDP-SSH

Contents

Symptoms

1. Users experience slowness when trying to RDP and may result in the error below:

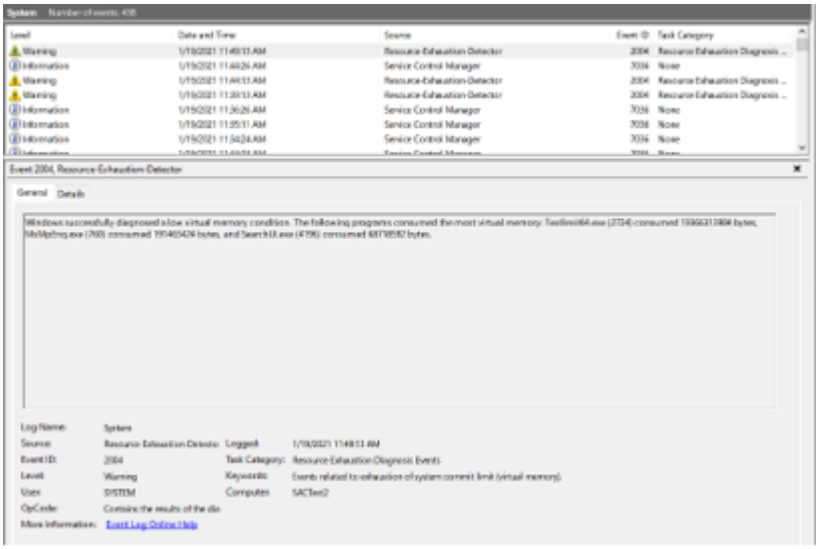


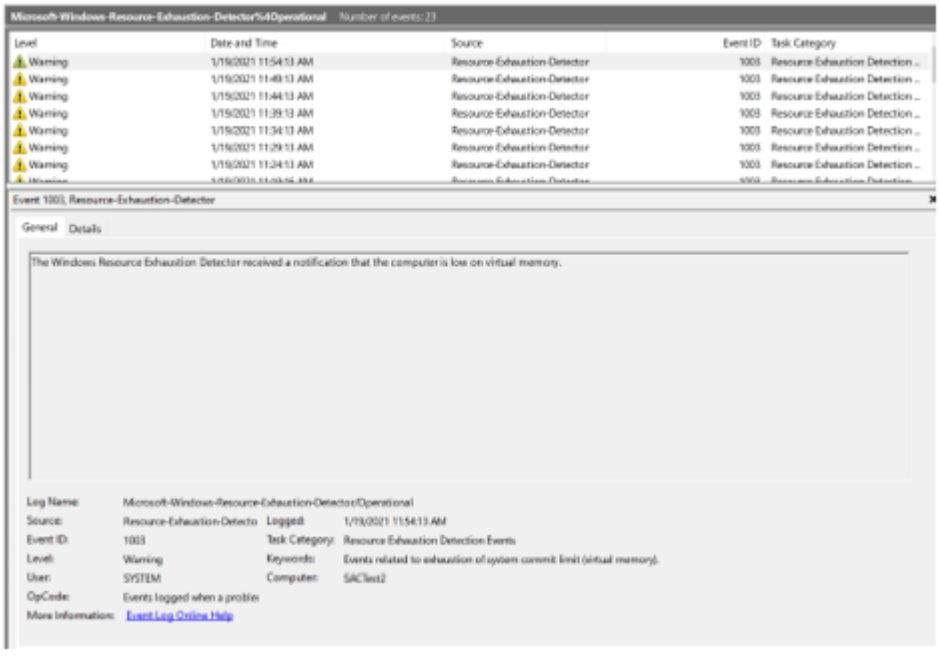
```
Remote Desktop Connection
Because of a protocol error (code: 0x112f), the remote session will be disconnected. Please try connecting to
```

2. When you RDP the server, you get prompted for the credentials and after roughly few seconds, the session closes or another RDP window opens.

3. Rebooting the VM resolves the issue temporally.

4. On the Event Logs, you'll find EventID 2004 and EventID 1003 that windows successfully diagnosed a low Virtual memory condition or computer is low on virtual memory:





Root Cause Analysis

- Those symptoms are commonly related to when the VM is running out of memory and is not able to process the RDP instruction.

- In some cases, it can be because there is a process that is consuming a lot of memory and does not have enough resources to execute the remaining processes.
- Another cause could be because the customer has changed the page file to Limit/restrict the amount of memory in the settings and it is affecting the OS performance.

References

Page file management

Intoduction to page file

How to deteremine the appropriate page file size

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*		

To know how to flag a bug on a case please refer to How to do Proper Case Coding

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

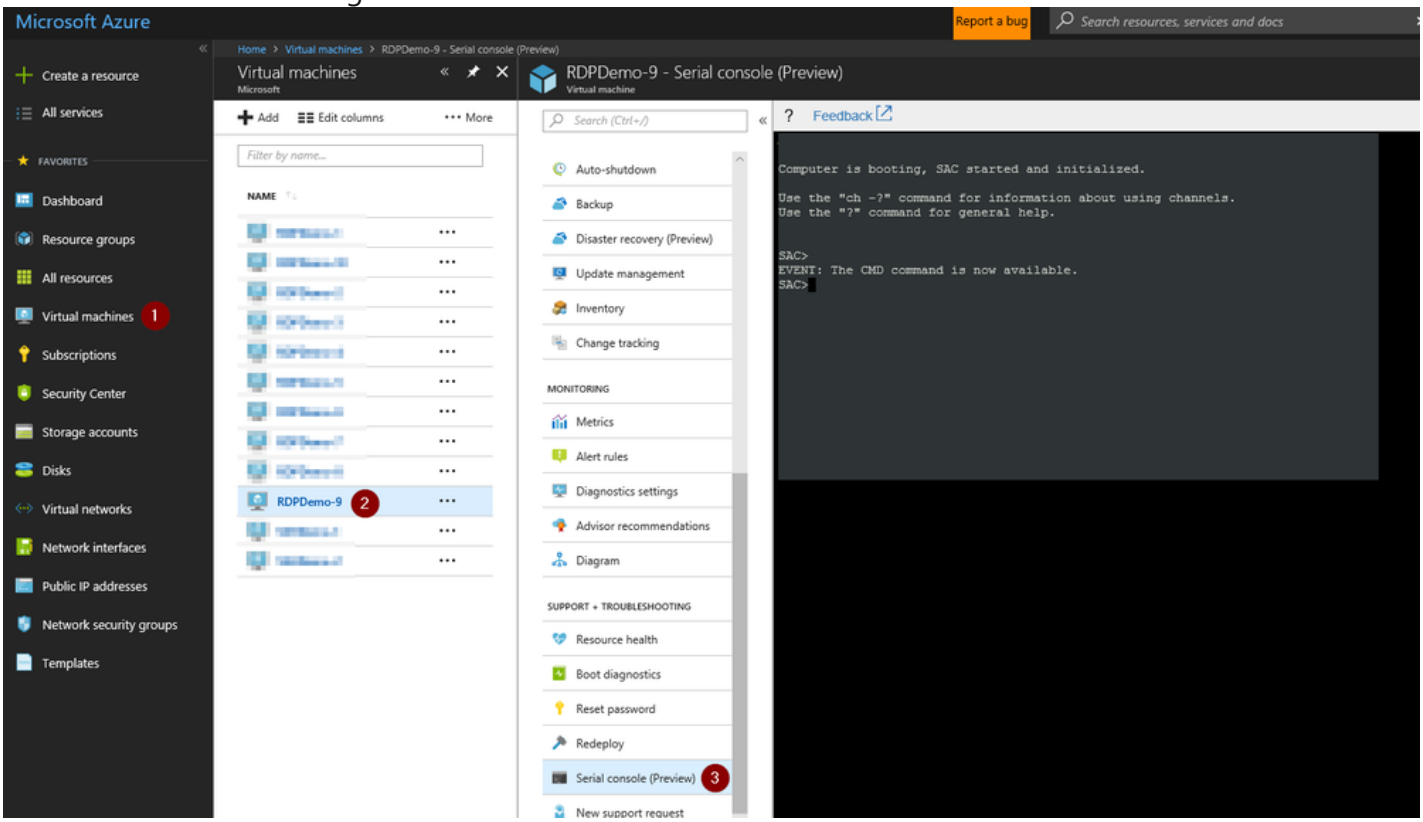
WAC is supported on ARM VMs running Windows Server 2016 or later (not Win10 or any other Windows client version, and not 2012R2/2012/2008R2 versions of Windows Server

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

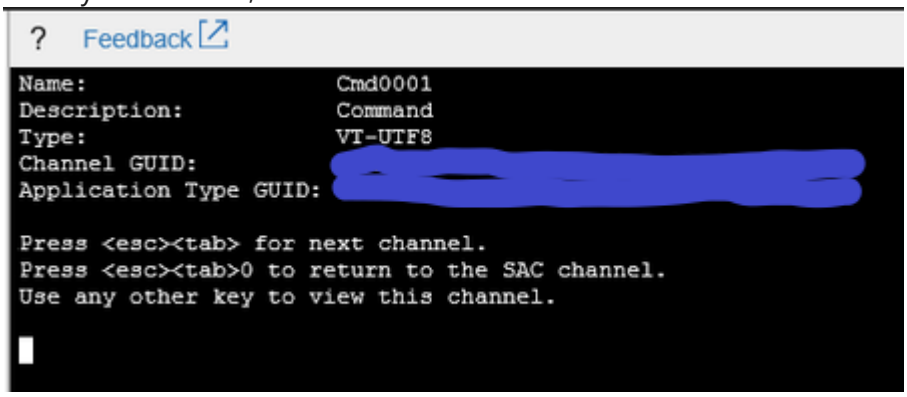
```
SAC>cmd
The Command Prompt session was successfully launched.
SAC>
EVENT:   A new channel has been created.  Use "ch -?" for channel help.
Channel: Cmd0001
SAC>
```

4. Switch to the channel running the CMD instance

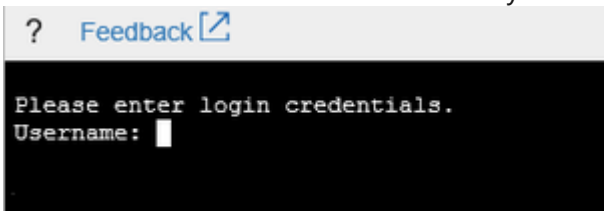
```
ch -si 1
```

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

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



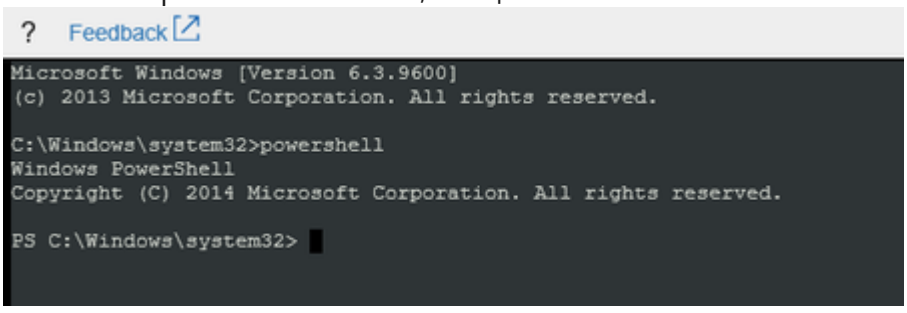
6. Hit enter a second time and it will ask you for user, domain and password:



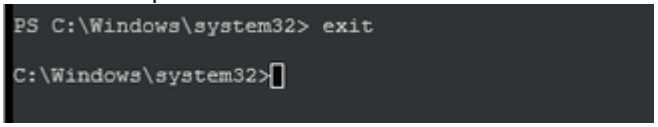
    1. If the machine has connectivity, you could use either local or domain IDs. If you want to use a local ID, for domain just add the hostname of the VM
    2. If the machine doesn't have connectivity, you could try to se domains IDs however this will work if only the credentials are cached on the VM.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

    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`



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



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. Open powershell in SAC.
    1. To check if pagefile is automatically managed or not run the command *Get-CimInstance Win32_PageFileSetting | fl **

    2. In the below images you will see two examples, image 7 is when the page file is managed by the OS and image 8 is when it was configured by the customer.

    3. This is information will be very useful if you need to provide the RCA because when the virtual memory is disabled or when it is manually configured it may limit the OS performance, for more information to engage the windows performance team and provide this information.

```
PS C:\windows\system32> Get-CimInstance Win32_PageFileSetting | fl *


Caption              : d:\ 'pagefile.sys'
Description          : 'pagefile.sys' @ d:\
SettingID            : pagefile.sys @ d:
InitialSize          : 0
MaximumSize          : 0
Name                 : d:\pagefile.sys
PSComputerName       :
CimClass             : root/cimv2:Win32_PageFileSetting
CimInstanceProperties : {Caption, Description, SettingID, InitialSize...}
CimSystemProperties  : Microsoft.Management.Infrastructure.CimSystemProperties
```

```
PS C:\windows\system32> Get-CimInstance Win32_PageFileSetting | fl *


Caption              : d:\ 'pagefile.sys'
Description          : 'pagefile.sys' @ d:\
SettingID            : pagefile.sys @ d:
InitialSize          : 6144
MaximumSize          : 6144
Name                 : d:\pagefile.sys
PSComputerName       :
CimClass             : root/cimv2:Win32_PageFileSetting
CimInstanceProperties : {Caption, Description, SettingID, InitialSize...}
CimSystemProperties  : Microsoft.Management.Infrastructure.CimSystemProperties
```

4. If the above command does not return any output is because the page file is set to *"no paging file"*.

Note: By default, the virtual memory of all the images from marketplace are managed by the OS, it is saved in the D drive (temp drive), and it usually should not be changed, unless the customer has special needs to change the values.

2. Regardless the results of the previous commands, we need to know the available memory on the VM, for that, you need to run the command below: *systeminfo |find "Available Physical Memory*"

```
PS C:\windows\system32> systeminfo |find "Available Physical Memory"
Available Physical Memory: 203 MB
PS C:\windows\system32>
```

1. From the above image, the OS only has 203 MB of memory available, usually we should see a greater number 203MB, it should show some gigabites available.

```
C:\windows\system32>systeminfo |find "Available Physical Memory"
Available Physical Memory: 14,071 MB
```

To make the VM available for RDP we need to kill the top consumer process (es), you need to run the command *tasklist /fi "MEMUSAGE gt 100000" | more*.

Please note that the number in this command can be changed depending of the scenario, in this command we are looking all the process that are consuming more than 100000 Kb (100MB)

Once you have identified the process that can be killed run the command *taskkill /f /IM ProcessName.exe*

To know if the VM has enough memory run the command *systeminfo |find "Available Physical Memory*", you should see a number greater that the one you saw previously.

Need additional help or have feedback?

To engage the Azure RDP-SSH SMEs...	*To provide feedback on this page...*	*To provide kudos on this page...*
Please reach out to the **RDP-SSH SMEs** for faster assistance. Make sure to use the **Ava process** for faster assistance.	Use the **RDP-SSH Feedback** form to submit detailed feedback on improvements or new content ideas for RDP-SSH. ***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.	Use the **RDP-SSH Kudos** form to submit kudos on the page. Kudos will help us improve our wiki content overall! ***Please note*** the link to the page is required when submitting kudos!