ENABLING LOCKED OR INACTIVE REMOTE WINDOWS MACHHINES

Original Software

T. DILLON

OCTOBER 2021

BERTIE 4

TABLE OF CONTENTS

Original Software

SYNOPSIS

THE ISSUE

Automated Testing solutions (like TestDrive) that take control of the User Interface of a Windows computer to perform automated, unattended functional testing require that the Windows machine being controlled is:

- Logged into a valid user account.

- Active (i.e. not suspended - a common issue for virtual machines with no remote display).

- Not password locked.

So, getting a test automation tool to "wake up" a PC or Virtual Machine at a specific time (like at night - or by some other triggering process) so that it is in a viable state for full user interface testing is the challenge. The invocation of the automated test itself is a separate topic. This article instead is related to the means to fully "wake up" a Windows Machine

### THE APPROACH

There are 2 core elements to this solution.

1. Configuring the invoking machine that will be triggering the wakeup process. This involves running the provided PowerShell GUI script (MakeRemoteActive) that is wrapped inside a .bat file.

2. Configuring the Remote machine to be awakened. This process executes the SwitchSession file which re-activates the Windows process, but then re-directs it back to the virtual "Console" in an ACTIVE state. This is using tscon.exe to do a session swap.

Original Software
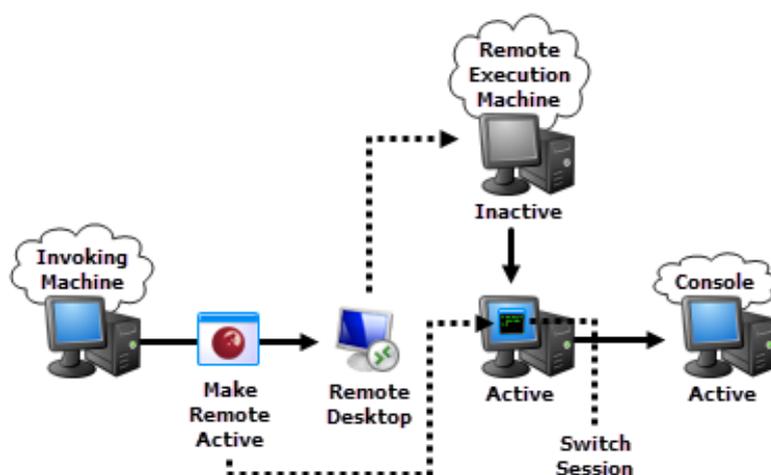
REMOTE MACHINE SETUP

REMOTE DESKTOP

It is required that you enable "Allow remote connections to this computer" on the remote machine.
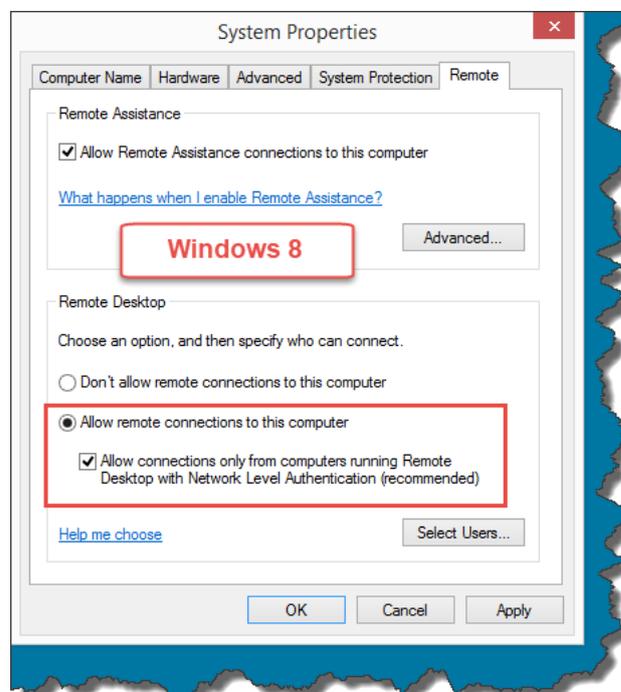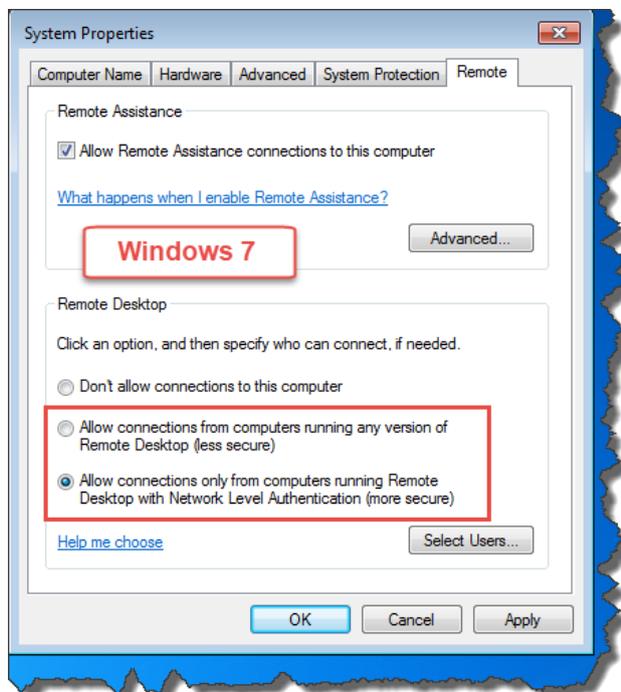
Original Software

FILE AND PRINTER SHARING

It is required that you enable "File and Printer Sharing" on the remote machine.
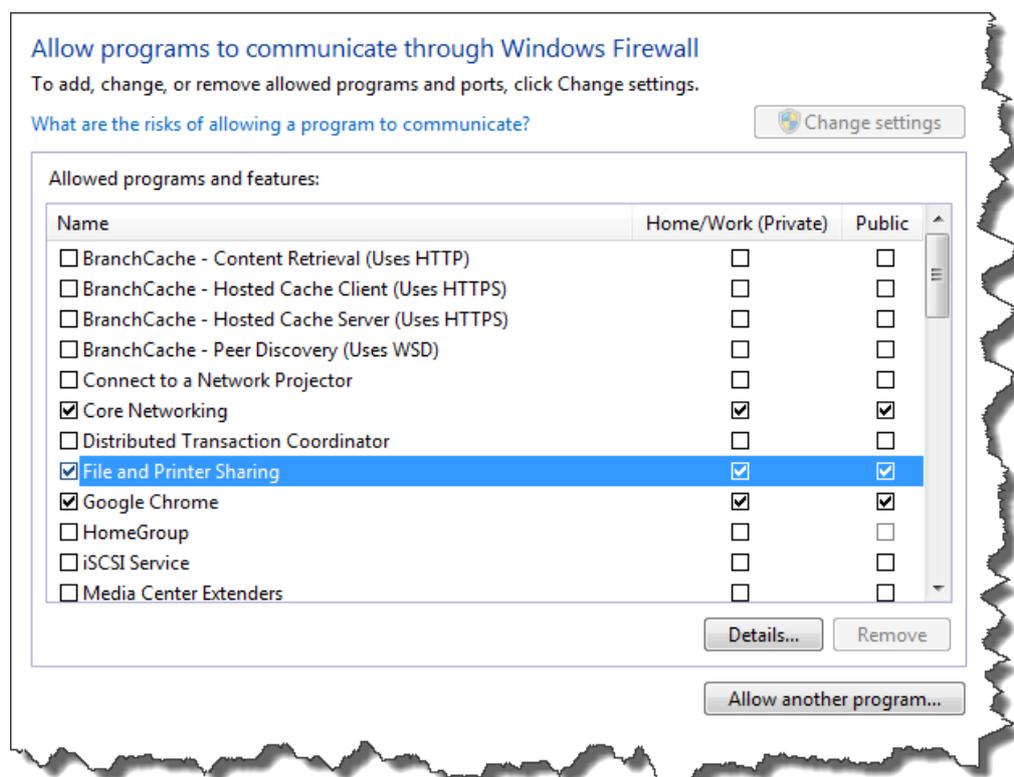
REMOTE UAC

It is required that you disable Remote UAC by making a regedit change. Navigate to "HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\system\LocalAccountTok enFilterPolicy" and change the REG_DWORD value to 1 or run the below command in a CMD (As Administrator) to add.

```
reg add HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\system /v LocalAc-
countTokenFilterPolicy /t REG_DWORD /d 1 /f
```

*Restarting the machine is required after regedit change.

Due to the SwitchSession.cmd file and Scheduled Task being created on the remote machine from the MakeRemoteActive.bat (Invoking machine); the execution of the created items on the remote machine will need to have an account with elevated admin privileges to properly execute.

INVOKING MACHINE SETUP

SCHEDULED TASK CREATION

Along with the prerequisites in place, the MakeRemoteActive.bat file provided will need to be saved to a directory on the machine. You will now create a task in the windows Task Scheduler. Schedule as follows:

- Create Task (not Basic Task) in Task Scheduler with "MakeRemoteActive' name.

- Triggers tab will be specific to your automated run. Need to set accordingly.

- Actions tab, locate MakeRemoteActive.bat in the saved directory and make the action "Start a program".

- **Depending on security policies, enabling the Task to "Run with highest privileges" may be necessary.**

Original Software
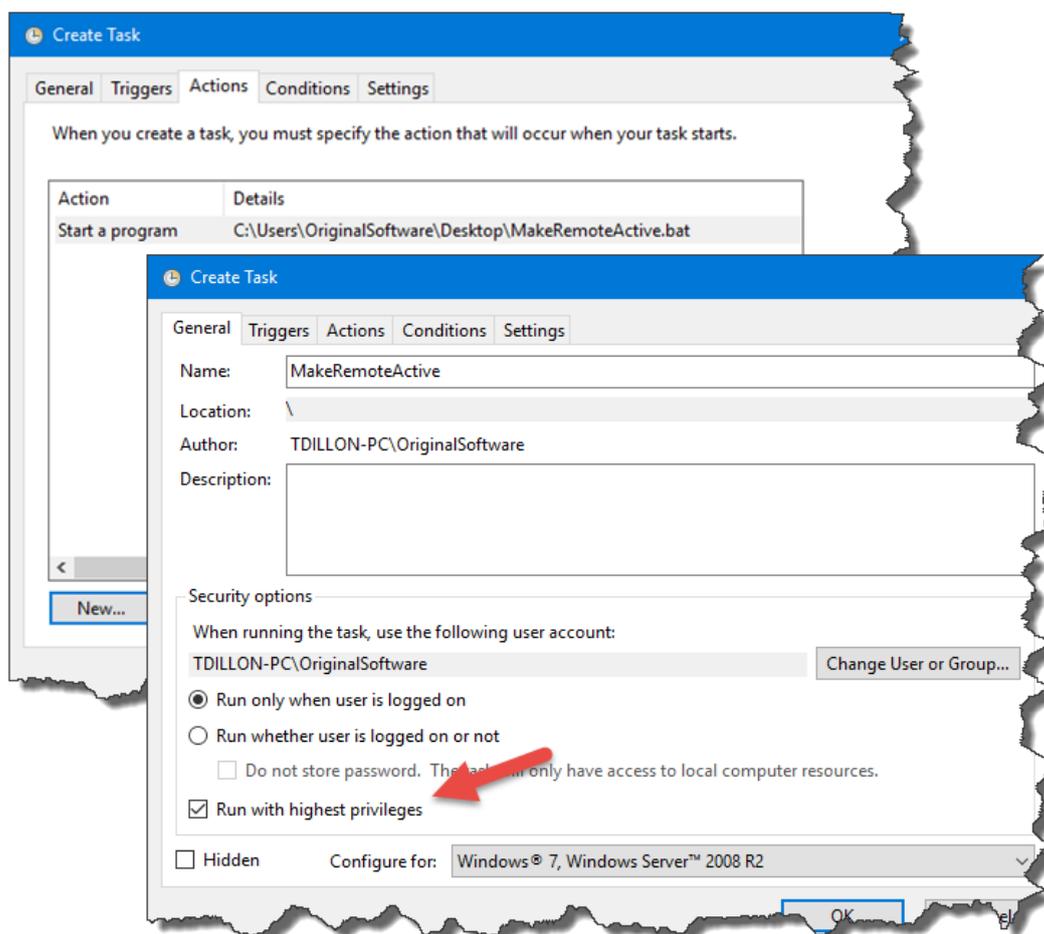
REMOTE EXECUTION

TESTING REMOTE DESKTOP CONNECTION

Before we use the Task Scheduler described above, we need to manually confirm the remote machine is configured appropriately. This is accomplished by making sure the remote desktop connection successfully connects to the remote machine without any complications. To perform these steps, please do the following:

- Login to the target remote machine.

- You may receive security windows from the remote connection. You will need check the box "Don't ask me again for connections to this computer".
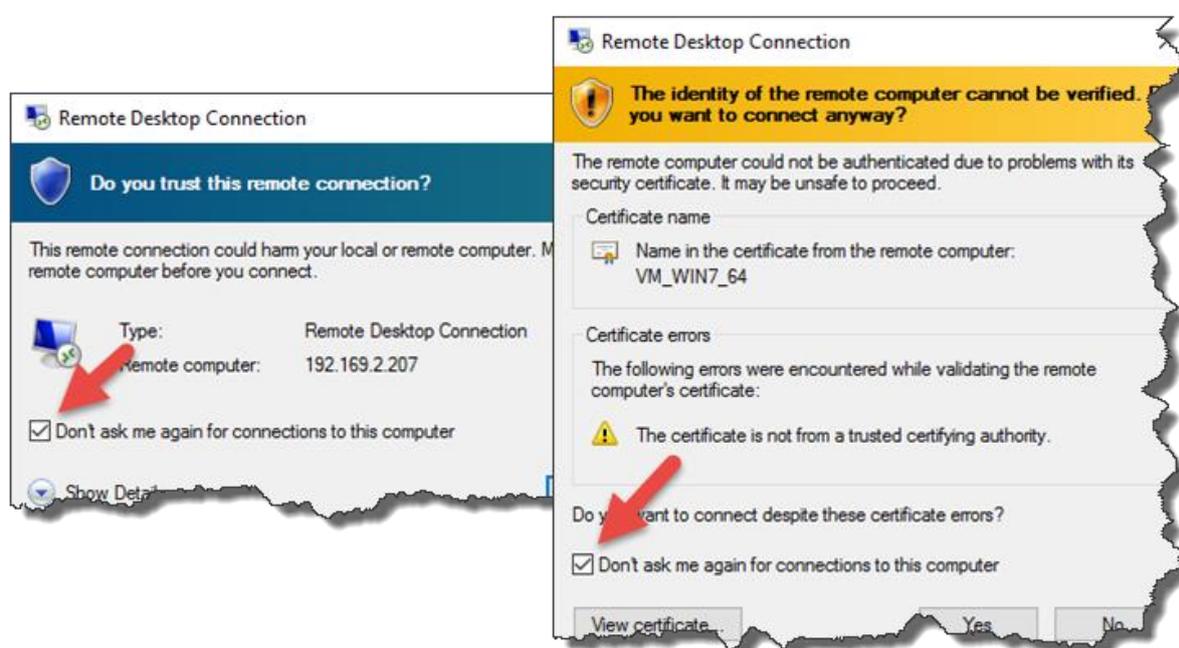

- After the Remote Desktop Connection security windows, connection to the remote machine will be successful. You will now exit out of the Remote Desktop session and are ready to schedule automated task(s).

Original Software

SCHEDULED AUTOMATED TASK

SCHEDULING TO WAKE REMOTE MACHINE

With the invoking and remote machine setup taken care of, we now need to setup the MakeRemoteActive.bat file. The process is simple and user friendly to configure. Steps are as follows:

- Double-click or right click to open the MakeRemoteActive.bat file. You will fill in the Remote Desktop credentials accordingly (Computer, Username, and Password).

- When all Remote Desktop Connection fields are populated, the "Test" button will become available and will be used to ensure the credentials provided in all fields are correct. When successfully performed, you will leave the remote machine in an ACTIVE state and receive a Remote Desktop Connection session ended window on the invoking machine (This is expected). At the end of the utility execution, it will close out all unnecessary Remote Desktop Connection session windows.
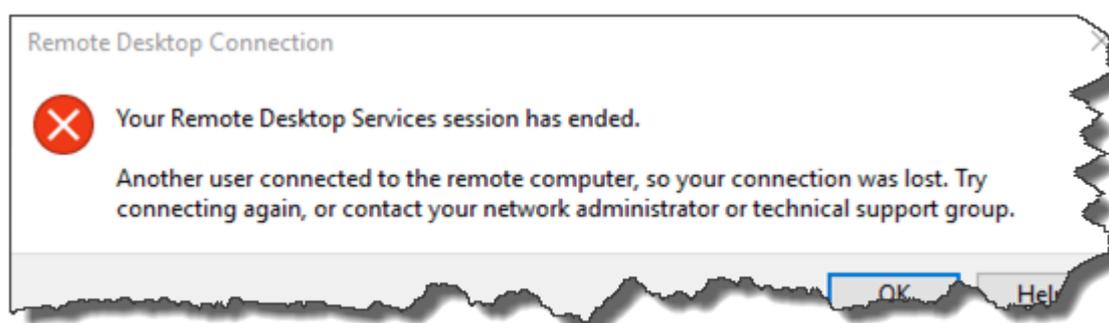
- We have now successfully invoked the remote machine from a locked, logged off or inactive state and is currently left in an active state. On MakeRemoteActive, check the box "Save credentials for scheduled task" and the "Save and Close" button will become available to close out the utility.

- We are now done! With the Task Scheduler setup specified with the correct Triggers on the Invoking machine, the entire setup is complete to run scheduled automated task(s).

Original Software

MANUAL INTERACTIVE REDIRECT

REDIRECT REMOTE MACHINE TO CONSOLE

The prerequisites 'File and Printer Sharing' and 'Remote UAC' are not required for this setup. You will need to run MakeRemoteActive.bat on the remote machine (As Administrator) and select the ⬇ button.

This will create 3 items below:

- SwitchSession.cmd file in the %LOCALAPPDATA% directory.
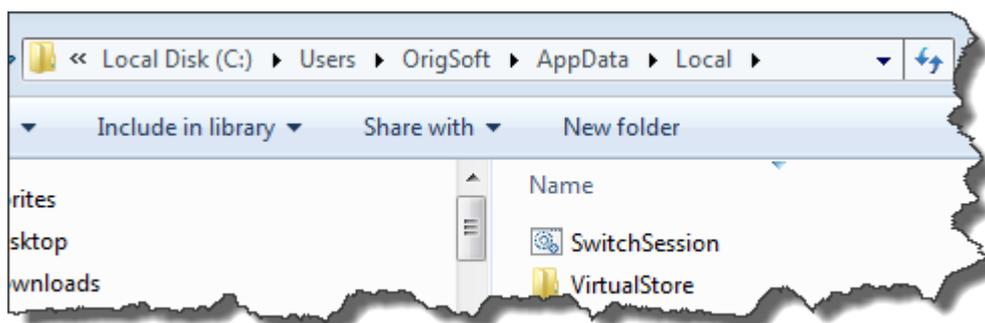
- Scheduled Task that has the full directory path to the 'SwitchSession.cmd' file.

- Desktop Shortcut called 'Close RDP' that will exit the Remote Desktop session and redirect to the console in an ACTIVE state (Invokes the Scheduled Task – Account will need elevated admin privileges to properly execute).

Original Software

USING MAKEREMOTEACTIVE.BAT

MAKEREMOTEACTIVE APPLICATION FORM

MakeRemoteActive is a simple, yet powerful PowerShell script that provides a GUI interface to provide user friendly interaction to complete the task of waking a remote machine.
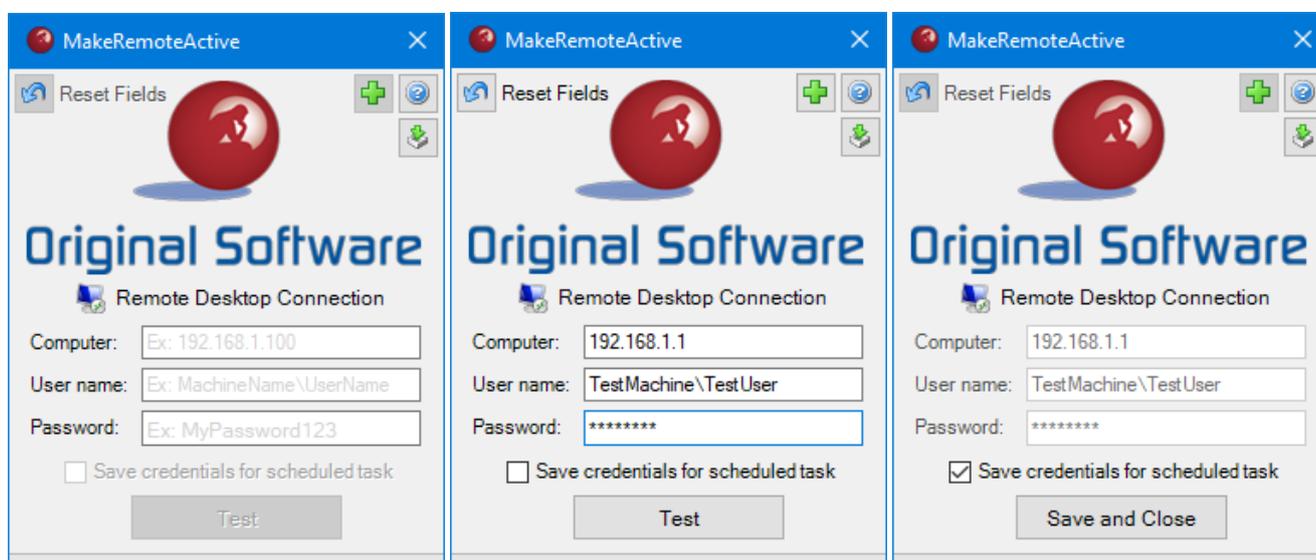

Resets all fields back to default.

Adds additional Remote Desktop Connections. This button is activated when all Remote Desktop Connection credentials are populated on the MakeRemoteActive form.

Opens this document "Enabling Locked or Inactive Remote Window Machines" for reference.

Creates the SwitchSession.cmd file, a Scheduled Task, and a Desktop Shortcut called 'Close RDP'.
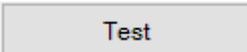
Tests the current Remote Desktop Connections credentials if "Save credentials for scheduled task" is not checked.
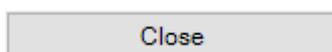
Saves credentials in all Remote Desktop Connection fields and closes down MakeRemoteActive.

Original Software

REMOTE DESKTOP CONNECTIONS FORM

The Remote Desktop Connections form gives the option to allow the process of waking multiple remote machines. This form allows 2 extra connections, which will provide a total of 3 Remote Desktop Connections at a time.

Closes out the Remote Desktop Connections form.

- To enable the extra connections, simply check the box beside the connection name. When an extra Remote Desktop Connection is enabled, it will be a part of the Test and/or Scheduled Task process that has been described above.