TABLE OF CONTENTS

Chapter 1. Creating and Using an NVIDIA Quadro Virtual Workstation Instance from the Microsoft Azure Marketplace.................................................................1
  1.1. Creating a GPU-Accelerated Virtual Workstation.....................................................1
  1.2. Starting and Connecting to a GPU-Accelerated Virtual Workstation on a Windows VM........ 6
  1.3. Trying Out your GPU-Accelerated Virtual Workstation with Ansys Discovery Live.............. 8
Appendix A. Resources........................................................................................................10
Appendix B. Benefits of NVIDIA Quadro Virtual Workstation from the Microsoft Azure Marketplace........................................................................................................11
Chapter 1.
CREATING AND USING AN NVIDIA QUADRO VIRTUAL WORKSTATION INSTANCE FROM THE MICROSOFT AZURE MARKETPLACE

NVIDIA® Quadro® Virtual Workstation on Microsoft Azure is an NVIDIA Virtual Machine Image (VMI) preconfigured with Quadro Virtual Workstation software and NVIDIA GPU hardware. The NVIDIA Quadro driver is preinstalled on the VMI and NVIDIA ensures that the image is always up to date with the latest patches, upgrades, and Quadro ISV certifications. Support and technical information are available to help you get started in community forums and additional resources.

1.1. Creating a GPU-Accelerated Virtual Workstation

Prepare for creating a GPU-accelerated virtual workstation from the Microsoft Azure marketplace as follows:

- Ensure that you have a Microsoft Azure account and an active subscription.
- Decide which size of virtual machine (VM) you want to create.
  
  For information about the VM sizes that support Quadro Virtual Workstation, see Quadro Virtual Workstation on Microsoft Azure Release Notes.
- If you are creating an Ubuntu VM and want to use SSH public key authentication for the administrator account, generate an SSH public key.

1. In a web browser, log on to Microsoft Azure portal (https://portal.azure.com).
2. Go to the NVIDIA Quadro Virtual Workstation listing for the guest OS that you want to use:
   - NVIDIA Quadro Virtual Workstation - WinServer 2016
   - NVIDIA Quadro Virtual Workstation - Ubuntu 18.04
3. Click the **Plans + Pricing** tab to view hourly pricing for the Quadro Virtual Workstation product.

   There are also additional Microsoft Azure infrastructure costs for the GPU, memory, and storage.

4. Select your closest region and set the **Publisher recommendations** option to see the VM sizes in the selected region that support Quadro Virtual Workstation.
5. If the VM size that you want to use is not listed, select a different region until you find the VM size that you want.

6. Click **GET IT NOW** in the right column to view the details of the instance.

7. Click **Continue** to be redirected to the Microsoft Azure portal.
8. Click Create to go to the Create a Virtual Machine page.

9. On the Basics tab, provide the project details and instance details.

   a) Select an existing subscription and select or create a resource group.
   b) Enter the name that you want for the VM.
   c) Select the region where you want the VM to be deployed.

   Ensure that the VM size that you want is available in the selected region. Not all VM sizes that support Quadro Virtual Workstation are available in all regions.

d) Leave the image at its preset value.

10. If you want a different image size than the default size, specify the size that you want.
    a) Follow the Change size link.
b) In the search box, start typing the VM size that you want.  
c) When you see the VM size that you want, select it and click Select.

11. Provide the credentials for the administrator account.  
This account is created for you when the VM is created.  
   a) Ubuntu VMs only: Select the authentication type.  
   b) Enter your choice of user name for the administrator account.  
   c) Provide the authentication for the user.  
       ▶ For password authentication, enter the password and confirm the password.  
       ▶ For SSH public key authentication, provide an SSH key.

12. On the Networking tab, create or select a network security group and review the default settings to see if they meet your requirements and change any settings as required.  
   For example, if you want to communicate with the VM from outside the virtual network, create or select a public IP for your VM.

13. On the remaining tabs for configuring the VM, review the default settings to see if they meet your requirements and change any settings as required.

14. On the Review + create tab, review your selections and click Create to provision the VM.
Deployment is complete in a few minutes.

Connect to your VM as explained in one of the following topics:

- Starting and Connecting to a GPU-Accelerated Virtual Workstation on a Windows VM
- Install and configure Remote Desktop to connect to a Linux VM in Azure on the Microsoft documentation site

### 1.2. Starting and Connecting to a GPU-Accelerated Virtual Workstation on a Windows VM

For instructions for an Ubuntu VM, see Install and configure Remote Desktop to connect to a Linux VM in Azure on the Microsoft documentation site.

1. From the left menu, choose **Virtual machines** and in the list that appears, click the name of your VM.
2. If necessary, start your VM from the **Virtual machine** page. Your VM might already be running because when your VM is deployed, it is started for you.

3. Click the **Connect** icon and in the **Connect to virtual machine** panel that opens, click **Download RDP File**.

4. When the download is complete, double-click the RDP file to start a Remote Desktop Connection session on the VM.

5. When you are prompted, log in to the VM with the credentials for the administrator account that you specified when you created the VM.

You are now ready to run your design and engineering software.
1.3. Trying Out your GPU-Accelerated Virtual Workstation with Ansys Discovery Live

Ansys has endorsed the use of the Ansys Discovery Live app with NVIDIA Quadro Virtual Workstation on Microsoft Azure. If you can install the Ansys Discovery Live app in your VM, you can use the app to try out your cloud-based virtual workstation.

1. Open Ansys Discovery Live.

2. Select the sample model of a truck.
3. Make some adjustments to the sample model and notice that the changes are instantaneous as adjustments are made.

4. Instantly visualize your simulation and see the effects of changed geometry in seconds, not hours.
5. View circulation zones and particle flow to achieve a higher degree of confidence.

With NVIDIA Quadro Virtual Workstation images from the Microsoft Azure marketplace powered by NVIDIA Tesla® GPUs, you can now interact in real-time with simulation results and iterate design alternatives.
Appendix A.
RESOURCES

- *Quadro Virtual Workstation on Microsoft Azure Release Notes*
- NVIDIA Quadro Virtual Workstation listings on Microsoft Azure marketplace:
  - NVIDIA Quadro Virtual Workstation - WinServer 2016
  - NVIDIA Quadro Virtual Workstation - Ubuntu 18.04
Enterprises need the power of the workstation and flexibility of the cloud. Datasets are becoming larger, workflows are increasingly compute-intensive, and AI is being enabled in enterprise applications. Coupled with the need for greater mobility, security and collaboration, enterprises have turned to virtualization powered by NVIDIA Quadro Virtual Workstation to empower their employees and stay competitive. For enterprises that need added flexibility and business agility, cloud-based workstations have also become a popular option.

Enterprises can now benefit from GPU-accelerated cloud computing with NVIDIA Quadro Virtual Workstation from the Microsoft Azure marketplace. Using the NVIDIA Virtual Machine Image (VMI) with the Quadro Virtual Workstation software preinstalled, you can create and deploy a VM in minutes.
Notice

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, “MATERIALS”) ARE BEING PROVIDED “AS IS.” NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, NVIDIA Corporation assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. No license is granted by implication of otherwise under any patent rights of NVIDIA Corporation. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all other information previously supplied. NVIDIA Corporation products are not authorized as critical components in life support devices or systems without express written approval of NVIDIA Corporation.

HDMI

HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

OpenCL

OpenCL is a trademark of Apple Inc. used under license to the Khronos Group Inc.

Trademarks

NVIDIA, the NVIDIA logo, NVIDIA GRID, vGPU, Pascal, Quadro, and Tesla are trademarks or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.

Copyright

© 2013-2019 NVIDIA Corporation. All rights reserved.