

NVIDIA AI Enterprise

Product Support Matrix

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Chapter 1. Product Support Matrix

Driver package: NVIDIA AI Enterprise 3.2

Validated partner integrations:

Run: Al: 2.5

Domino Data Lab



Note:

- The GPUs listed in the table are supported only with <u>NVIDIA AI Enterprise compatible</u> servers.
- NVIDIA AI Enterprise supports every patch release for the listed Red Hat OpenShift release provided that Red Hat also supports it. When a release or patch release is no longer supported by Red Hat, it is no longer supported by NVIDIA AI Enterprise.

GI	PU			Guest OS Support	Container Engine	Container Orchestration Platform
•	NVIDIA A800 PCIe 80GB NVIDIA A800 PCIe 80GB liquid cooled NVIDIA	VMware vSphere Hypervisor (ESXi) Enterprise Plus Edition 8.0 VMware vCenter	NVIDIA vGPUGPU pass through	➤ SUSE Linux Enterprise Server 15 SP2+ ➤ Ubuntu 22.04 LTS ➤ Ubuntu 20.04 LTS	containerd	 Upstream Kubernetes 1.21 through 1.25 VMware vSphere with Tanzu 7.0 U3c
	A800 HGX 80GB	Server 8.0 VMware			Docker	N/A
•	NVIDIA A100X NVIDIA A100 PCIe 40GB NVIDIA A100 HGX 40GB	vSphere Hypervisor (ESXi) Enterprise Plus Edition 7.0 Update 3 VMware vCenter		Red Hat OpenShift 4.9 and later using Red Hat Linux CoreOS (RHCOS)	CRI-O	Red Hat OpenShift 4.9 and later using RHCOS

		Hypervisor	ODLI	0 100	0 1 :	Container
GF	PU	or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Orchestration Platform
*	NVIDIA A100 PCIe 80GB NVIDIA A100 PCIe 80GB liquid cooled NVIDIA A100 HGX 80GB NVIDIA	Server 7.0 Update 3 VMware vSphere Hypervisor (ESXi) Enterprise Plus Edition 7.0 Update 2 VMware vCenter		 Red Hat Enterprise Linux 9.2, 9.0 Red Hat Enterprise Linux 8.8, 8.6 Red Hat Enterprise Linux 7.9 	Podman	N/A
•	A40 NVIDIA	Server 7.0 Update 2		Microsoft Windows	N/A	N/A
•	A30X NVIDIA A30			Server 2022, 2019		
•	NVIDIA A10			MicrosoftWindows		
•	NVIDIA A16			11, 10		
•	NVIDIA A2					
•	NVIDIA H800 PCIe 80GB					
•	NVIDIA H100 PCIe 80GB					
•	NVIDIA L40					
•	NVIDIA L4					
•	NVIDIA RTX 6000 Ada					
•	NVIDIA RTX A6000					
•	NVIDIA RTX A5500					
•	NVIDIA RTX A5000					

GPU	Hypervisor or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Container Orchestration Platform	
 NVIDIA RTX 6000 passive NVIDIA RTX 8000 passive NVIDIA T4 NVIDIA V100 						
 NVIDIA A800 PCIe 80GB NVIDIA A800 PCIe 80GB 	 Red Hat Enterprise Linux with KVM 9.2, 9.0 Red Hat 	NVIDIA vGPUGPU pass through	Red Hat OpenShift 4.9 and later using RHCOS	CRI-O	Red Hat OpenShift 4.9 and later using RHCOS	
liquid cooled NVIDIA A800 HGX 80GB	Enterprise Linux with KVM 8.8, 8.6		Red Hat Enterprise Linux 9.2, 9.0 Red Hat	Podman	N/A	
NVIDIA A100X NVIDIA A100 PCIe 40GB				Linux 8.8 8.6 ► Red Hat Enterpris		
NVIDIA A100 HGX 40GB NVIDIA A100 PCle			Microsoft Windows Server 2022,	N/A	N/A	
80GB NVIDIA A100 PCIe 80GB liquid cooled			2019			
NVIDIA A100 HGX 80GB						
► NVIDIA A40 ► NVIDIA						
A30X NVIDIA A30						

GP	PU	Hypervisor or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Container Orchestration Platform
GP	NVIDIA A10 NVIDIA A16 NVIDIA A2 NVIDIA H800 PCIe 80GB NVIDIA H100 PCIe 80GB NVIDIA L40 NVIDIA L4 NVIDIA L40 NVIDIA RTX 6000 Ada NVIDIA RTX A6000 NVIDIA RTX A5500 NVIDIA RTX A5000 Passive	Metal OS	Deployment	Support	Engine	Platform
>	NVIDIA T4 NVIDIA V100					
>	NVIDIA A800 PCIe 80GB NVIDIA A800 PCIe 80GB liquid cooled	Ubuntu 22.04 LTSUbuntu 20.04 LTS	▶ Bare metal	N/A	containerd	 Upstream Kubernetes 1.21 through 1.25 VMware vSphere with Tanzu 7.0 U3c

GPU		Hypervisor or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Container Orchestration Platform
A	NVIDIA A800 HGX BOGB				Docker	N/A
	AIOOX					
_	NVIDIA A 100 PCIe 40GB					
_	NVIDIA 100 HGX 10GB					
_	NVIDIA A100 PCIe BOGB					
A E li	NVIDIA A100 PCIe BOGB iquid cooled					
Α	NVIDIA A100 HGX BOGB					
	NVIDIA N40					
	ASOX					
\	AVIDIA A30					
\	NVIDIA A10					
\	NVIDIA A16					
	NVIDIA A2					
H	NVIDIA H800 PCIe BOGB					
H	NVIDIA H100 PCIe BOGB					
N	NVIDIA _40					
	NVIDIA L4					
F	NVIDIA RTX 6000 Ada					

GPU		Hypervisor or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Container Orchestration Platform
R A(IVIDIA TX 6000 IVIDIA TX 5500 IVIDIA TX 5000 IVIDIA TX 6000 assive IVIDIA TX 8000 assive IVIDIA TX 100					
A8 80 ► N'	VIDIA 800 PCIe 0GB IVIDIA 800 PCIe 0GB	SUSE Linux Enterprise Server 15 SP2+	► Bare metal	N/A	containerd	Upstream Kubernetes 1.21 through 1.25
lic cc ► N' A8	quid ooled IVIDIA 800 HGX OGB				Docker	N/A
► N	IVIDIA 100X					
► N' A	IVIDIA 100 PCIe 0GB					
А	VIDIA 100 HGX 0GB					
► N' A 80	IVIDIA 100 PCIe 0GB IVIDIA 100 PCIe 0GB quid					

0.5	N. I	Hypervisor or Bare-	GPU	Guest OS	Container	Container Orchestration
GF		Metal OS	Deployment	Support	Engine	Platform
•	NVIDIA A100 HGX 80GB					
•	NVIDIA A40					
•	NVIDIA A30X					
•	NVIDIA A30					
•	NVIDIA A10					
•	NVIDIA A16					
•	NVIDIA A2					
•	NVIDIA H800 PCIe 80GB					
•	NVIDIA H100 PCIe 80GB					
•	NVIDIA L40					
•	NVIDIA L4					
•	NVIDIA RTX 6000 Ada					
•	NVIDIA RTX A6000					
•	NVIDIA RTX A5500					
•	NVIDIA RTX A5000					
•	NVIDIA RTX 6000 passive					
•	NVIDIA RTX 8000 passive					
•	NVIDIA T4					
•	NVIDIA V100					

			pervisor	CF	N 1	Cuest OC	Contoiner		ntainer
GP	PU		Bare- etal OS	GF De	ployment	Guest OS Support	Container Engine		chestration atform
>	NVIDIA A800 PCIe 80GB NVIDIA A800 PCIe 80GB	•	Red Hat OpenShift 4.9 and later using RHCOS	•	Bare metal	N/A	CRI-O	•	Red Hat OpenShift 4.9 and later using RHCOS
	liquid cooled								
•	NVIDIA A800 HGX 80GB								
•	NVIDIA A100X								
•	NVIDIA A100 PCIe 40GB								
•	NVIDIA A100 HGX 40GB								
•	NVIDIA A100 PCle 80GB								
•	NVIDIA A100 PCIe 80GB liquid cooled								
•	NVIDIA A100 HGX 80GB								
•	NVIDIA A40								
•	NVIDIA A30X								
•	NVIDIA A30								
•	NVIDIA A10								
•	NVIDIA A16								
•	NVIDIA A2								
•	NVIDIA H800 PCIe 80GB								

GDII		Hypervisor or Bare-	GPU Deployment	Guest OS	Container	Container Orchestration
H1 800 ► NV L40 ► NV RT: Add ► NV RT: A60 ► NV RT: A50 ► NV RT: A50	IDIA O IDIA L4 IDIA L4 IDIA X 6000 a IDIA X 000 IDIA X 500 IDIA X 000 Ssive IDIA X 000 Ssive	Metal OS	Deployment	Support	Engine	Platform
NV V10	'IDIA 00					
A80 800 NV A80 800 liqu coo NV A80 800 NV A10 NV	IDIA OO PCIe GB uid oled IDIA OO HGX GB IDIA OOX IDIA OO PCIe	 Red Hat Enterprise Linux 9.2, 9.0 Red Hat Enterprise Linux 8.8, 8.6 Red Hat Enterprise Linux 7.9 	▶ Bare metal	N/A	Podman	N/A

		Hypervisor				Container
C		or Bare-	GPU	Guest OS	Container	Orchestration
GP		Metal OS	Deployment	Support	Engine	Platform
•	NVIDIA A100 HGX 40GB					
•	NVIDIA A100 PCIe 80GB					
•	NVIDIA A100 PCIe 80GB liquid cooled					
•	NVIDIA A100 HGX 80GB					
•	NVIDIA A40					
•	NVIDIA A30X					
•	NVIDIA A30					
•	NVIDIA A10					
•	NVIDIA A16					
•	NVIDIA A2					
•	NVIDIA H800 PCIe 80GB					
•	NVIDIA H100 PCIe 80GB					
•	NVIDIA L40					
•	NVIDIA L4					
•	NVIDIA RTX 6000 Ada					
•	NVIDIA RTX A6000					
•	NVIDIA RTX A5500					

GPU	Hypervisor or Bare- Metal OS	GPU Deployment	Guest OS Support	Container Engine	Container Orchestration Platform
 NVIDIA RTX A5000 NVIDIA RTX 6000 passive NVIDIA RTX 8000 passive NVIDIA T4 NVIDIA V100 					
 NVIDIA A100 NVIDIA A10G NVIDIA T4 NVIDIA V100 	Amazon Web Services (AWS) Nitro		Ubuntu 22.04 LTSUbuntu 20.04 LTS	containerd	Amazon Elastic Kubernetes Service (EKS)
NVIDIA A100NVIDIA T4NVIDIA V100	Google Cloud Platform (GCP) KVM		Ubuntu 22.04 LTSUbuntu 20.04 LTS	containerd	Google Kubernetes Engine (GKE)

Chapter 2. NVIDIA RAPIDS Accelerator for Apache Spark Support

NVIDIA RAPIDS Accelerator for Apache Spark is a software component of NVIDIA AI Enterprise. It uses NVIDIA GPUs to accelerate Spark data frame workloads transparently, that is, without code changes.

NVIDIA AI Enterprise supports RAPIDS Accelerator for Apache Spark on the following platforms:

- Google Cloud Dataproc
- ▶ <u>Databricks</u> on the following cloud services:
 - Amazon Web Services (AWS)
 - Microsoft Azure
- Amazon EMR (formerly "Amazon Elastic MapReduce")

Chapter 3. NVIDIA AI Enterprise Supported Cloud Services

NVIDIA AI Enterprise is supported on several cloud services with bring-your-own-license (BYOL) licensing. Pay-as-you-go licensing is also available with some cloud services.

- ► Amazon Web Services Elastic Compute Cloud (AWS EC2)
- Google Cloud Platform (GCP)
- Microsoft Azure
- Oracle Cloud Infrastructure



Note: Red Hat Enterprise Linux guest OS support is limited to running containers by using Docker **without** Kubernetes. NVIDIA AI Enterprise features that depend on Kubernetes, for example, the use of GPU Operator, are not supported on Red Hat Enterprise Linux.

3.1. Amazon Web Services Elastic Compute Cloud (AWS EC2)

GPU	Supported AWS EC2 Instances	Supported Guest Operating Systems
NVIDIA T4	g4dn.xlarge g4dn.2xlarge g4dn.4xlarge g4dn.8xlarge g4dn.12xlarge g4dn.16xlarge	Red Hat Enterprise Linux 8.4 Red Hat Enterprise Linux 7.9 Red Hat OpenShift 4.10 using Red Hat Linux CoreOS (RHCOS) Red Hat OpenShift 4.9 using
NVIDIA V100	P3.2xlarge P3.8xlarge P3.16xlarge	Red Hat Linux CoreOS (RHCOS) Ubuntu 22.04 Ubuntu 20.04
NVIDIA A10G	g5.xlarge	

GPU	Supported AWS EC2 Instances	Supported Guest Operating Systems
	g5.2xlarge	
	g5.4xlarge	
	g5.8xlarge	
	g5.12xlarge	
	g5.16xlarge	
	g5.24xlarge	
	g5.48xlarge	
NVIDIA A100	p4d.24xlarge	

3.2. Google Cloud Platform (GCP)

Note: Pay-as-you-go licensing is also available for all supported GCP instances.

GPU	Supported GCP Instances	Supported Guest Operating Systems
NVIDIA A 100	a2-highgpu-1g a2-highgpu-2g a2-highgpu-4g a2-highgpu-8g	
	a2-megagpu-16g	Red Hat Enterprise Linux 8.4
NVIDIA L4	g2-standard-4 g2-standard-8 g2-standard-12 g2-standard-16 g2-standard-24 g2-standard-32 g2-standard-48 g2-standard-96	Red Hat Enterprise Linux 7.9 Red Hat OpenShift 4.10 using Red Hat Linux CoreOS (RHCOS) Red Hat OpenShift 4.9 using Red Hat Linux CoreOS (RHCOS) Ubuntu 22.04 Ubuntu 20.04
NVIDIA T4	Any <u>predefined machine type</u> .	
NVIDIA V100	Any <u>custom machine type</u> that can be created in a zone.	

3.3. Microsoft Azure

GPU	Supported Azure Instances	Supported Guest Operating Systems
NVIDIA V100	NC6s_v3 NC12s_v3 NC24s_v3 NC24rs_v3 ND40rs_v2	Red Hat Enterprise Linux 8.4 Red Hat Enterprise Linux 7.9 Red Hat OpenShift 4.10 using Red Hat Linux CoreOS (RHCOS) Red Hat OpenShift 4.9 using Red Hat Linux CoreOS (RHCOS) Ubuntu 22.04 Ubuntu 20.04
NVIDIA T4	NC4asT4_v3 NC8asT4_v3 NC16asT4_v3 NC64asT4_v3	
NVIDIA A 100	NC24ads_A100_v4 NC48ads_A100_v4 NC96ads_A100_v4 ND96asr_v4 ND96amsr_A100_v4	
NVIDIA A 10	NV6ads_A10_v5 NV12ads_A10_v5 NV18ads_A10_v5 NV36ads_A10_v5 NV36adms_A10_v5 NV72ads_A10_v5	

3.4. Oracle Cloud Infrastructure

GPU	Oracle Cloud Infrastructure Shapes	Supported Guest Operating Systems
NVIDIA P100	VM.GPU2.1 BM.GPU2.2	Linux: Ubuntu 22.04
NVIDIA V100	VM.GPU3.1 VM.GPU3.2 VM.GPU3.4	► Ubuntu 20.04 Windows:

GPU	Oracle Cloud Infrastructure Shapes	Supported Guest Operating Systems
	BM.GPU3.8	Microsoft Windows Server
NVIDIA A100	BM.GPU.GM4.8 BM.GPU4.8	2022 Microsoft Windows Server 2019
NVIDIA A10	BM.GPU.GU1.4	

3.5. NVIDIA GPU Optimized VMI on CSP Marketplace

For ease of use in the cloud, NVIDIA provides compute optimized and validated base Virtual Machine Instances (VMI) through CSP marketplaces. Each VMI includes key technologies and software from NVIDIA for rapid deployment, management, and scaling of AI workloads in the modern hybrid cloud.

Each VMI has the following software pre-installed:

- Ubuntu Server 20.04
- NVIDIA driver 525 TRD 525.60.13
- Docker-ce 20.10.12
- NVIDIA Container Toolkit 1.8.1
- NVIDIA Container Runtime 3.8.1

Chapter 4. CPU Only Server Support

NVIDIA AI Enterprise supports deployments on CPU only servers that are part of the NVIDIA Certified Systems list. Customers can deploy both GPU and CPU Only systems with VMware vSphere or Red Hat Enterprise Linux.

NVIDIA AI Enterprise will support the following CPU enabled frameworks:

- TensorFlow
- PyTorch
- ▶ Triton Inference Server with FIL backend
- NVIDIA RAPIDS with XGBoost and Dask

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