NVIDIA RTX™ SERVER FOR BARE METAL RENDERING WITH AUTODESK ARNOLD 5.3.0.0 ON INSPUR NF5468M5 SERVER DESIGN GUIDE

VERSION: 1.0

TABLE OF CONTENTS

Chapter 1. SOLUTION OVERVIEW 1
1.1 NVIDIA RTX Server Overview 1
Chapter 2. SOLUTION DETAILS 2
2.1 Solution Configuration 3

Chapter 1.
SOLUTION OVERVIEW

Designed and tested through multi-vendor cooperation between NVIDIA and its system and ISV partners, NVIDIA RTX™ Server provides a trusted environment for artists and designers to create professional, photorealistic images for the Media & Entertainment; Architecture, Engineering & Construction; and Manufacturing & Design industries.

1.1 NVIDIA RTX SERVER OVERVIEW

Introduction:
Content production is undergoing a massive surge as render complexity and quality increases. Designers and artists across industries continually strive to produce more visually rich content faster than ever before, yet find their creativity and productivity bound by inefficient CPU-based render solutions. NVIDIA RTX™ Server is a validated solution that brings GPU-accelerated power and performance to deliver the most efficient end-to-end rendering solution, from interactive sessions in the desktop to final batch rendering in the data center.

Audience:
The audience for this document include, but not limited to: Sales Engineers, Field Consultants, Professional Services, Partner Engineers, IT Managers and Customers who wish to take advantage of an appliance that is built and optimized to deliver on batch rendering workflows.

Chapter 2.
SOLUTION DETAILS

NVIDIA RTX™ Server for Bare Metal Rendering with Autodesk Arnold 5.3.0.0 on Inspur NF5468M5 Server is a reference design comprised of (a) NVIDIA Quadro RTX 8000 graphics cards; (b) Autodesk Arnold 5.3.0.0 rendering software; on a (c) Inspur NF5468M5 Server system. Combined, this validated solution provides unprecedented rendering and compute performance at a fraction of the cost, space, and power consumption of traditional CPU-based render nodes.

NVIDIA Quadro RTX 8000, powered by the NVIDIA Turing™ architecture and the NVIDIA RTX platform, brings the most significant advancement in computer graphics in over a decade to professional workflows. Designers and artists can now wield the power of hardware-accelerated ray tracing, deep learning, and advanced shading to dramatically boost productivity and create amazing content faster than ever before.

Autodesk Arnold software is an advanced Monte Carlo raytracing renderer. It's designed for artists and for the demands of modern animation and visual effects (VFX) production. Originally co-developed with Sony Pictures Imageworks and now their main renderer, Arnold is used at over 300 studios worldwide including ILM, Framestore, MPC, The Mill and Digic Pictures. Arnold was the primary renderer on dozens of films from Monster House and Cloudy with a Chance of Meatballs to Pacific Rim and Gravity. It is available as a standalone renderer on Linux, Windows and Mac OS X, with supported plug-ins for Maya, 3dsMax, Houdini, Cinema 4D, and Katana. It is the built-in interactive renderer for Maya and 3dsMax.

Inspur NF5468M5 is designed for large-scale deployment in data center and optimization of edge computing. Equipped with the advanced Intel Xeon Skylake processor, it supports 8x NVDIA 8000 GPUs in a compact 4U chassis, making it an ideal choice for Al Cloud, security, finance, communication, healthcare and other scenarios.

2.1 SOLUTION CONFIGURATION

Table 1 outlines the system configuration utilized to complete the rigorous NVIDIA NVQual verification as well as the NVIDIA RTX Server validation process.

Table 1: Solution components

Component	Vendor & Model	Details
System	Inspur NF5468M5	• 2 Intel Xeon Skylake Gold/Platinum processors • 1.5TB DDR4 ECC Memory
Graphics	8x Quadro RTX 8000 4x Quadro RTX NVLink HB bridge 2-slot Quadro Driver Release 430 U2 (430.64)	• GPU memory: 48GB • CUDA cores: 4,608 • Tensor cores: 576 • RT cores: 72
Application	Autodesk Arnold 5.3.0.0	

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.

Trademarks

NVIDIA, the NVIDIA logo, and DGX 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

© 2019 NVIDIA Corporation. All rights reserved.