Hewlett Packard Enterprise

# HPE GreenLake Flex Solution for Digital Twin
# The core engine for metaverse application

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NVIDIA

# Digital twins: The foundation of the metaverse

Digital twins are the engine for the industrial and enterprise metaverses. A digital twin is a digital representation of a physical object, person, or process, contextualized in a digital version of its environment.

The use of digital twins allows organizations to:

- Digitize their industrial datasets, processes, and systems
- Simulate real situations and their outcomes, ultimately allowing it to make better decisions
- De-risk business operations and gain faster time to value through active experimentation and “what if” scenario planning

# Digital twins accelerate innovation across industries

## Architecture, Engineering & Construction

## Financial Services

## Healthcare and Life Sciences

## Manufacturing

## Media and Entertainment

## Public Sector

## Retail

## Telecommunications

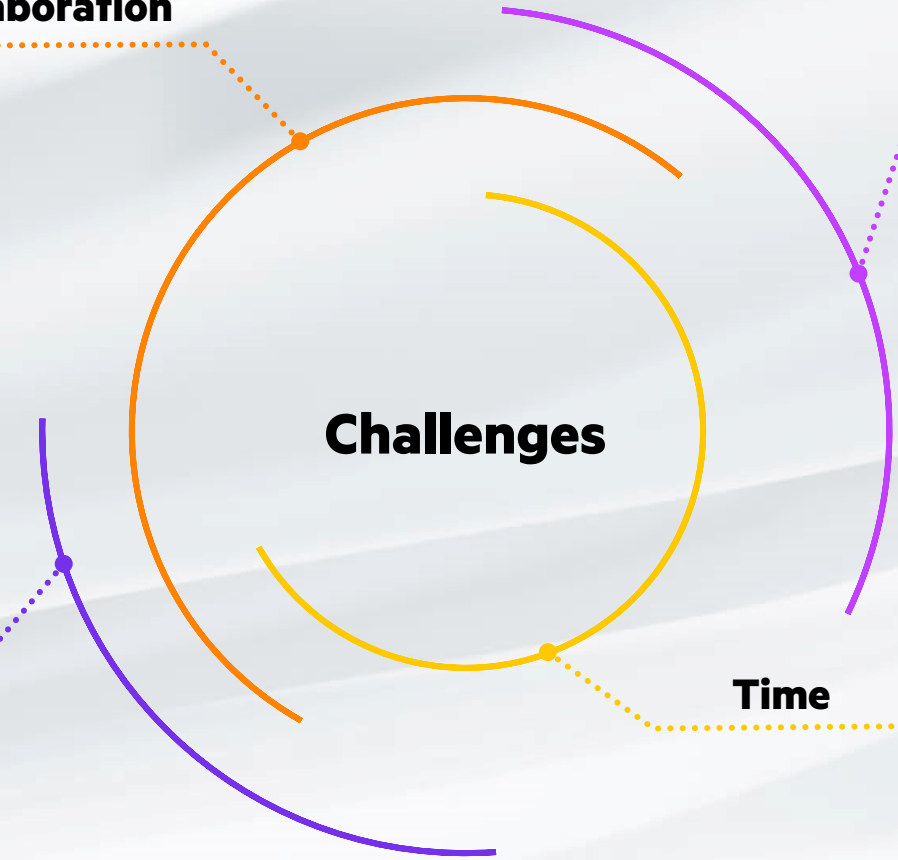
# Unique challenges for deploying 3D workflows

**Collaboration**

- Large teams with diverse skills spread around the world
- Disconnected teams
- Lack of trust across the ecosystem (virtual teams, suppliers, and customers)

**Data**

- 3D datasets are extremely large and boundless in growth
- New data types and formats
- Siloed data
- Data protection and regulatory compliance
- Secure data exchange (cybersecurity)




**Technology**

- Many vendors, many tools (connectors and applications)
- Complexity driving demand for compute-heavy technologies
- Mature collaboration platform
- Legacy technology

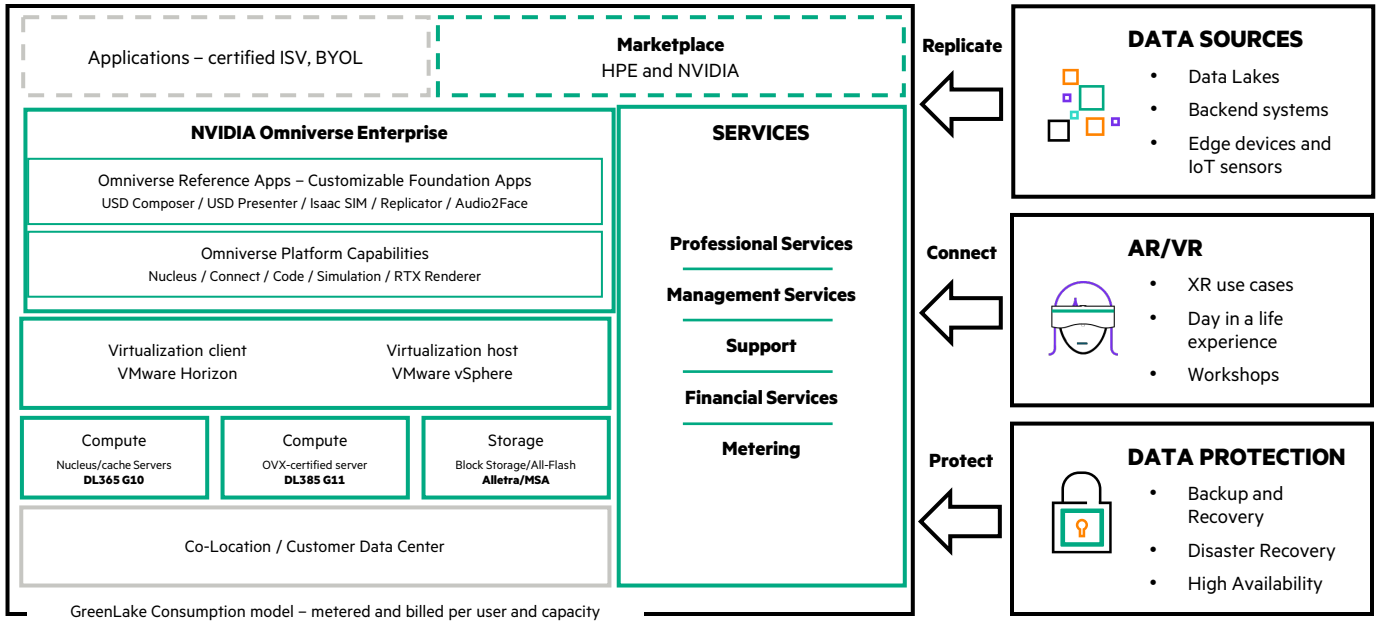
**Time**

- Incompatibility drives inefficiencies, mistakes, time lost, and model decimation
- Expectation for accurate simulation, from design to rendering

# HPE GreenLake Flex Solutions Digital Twin

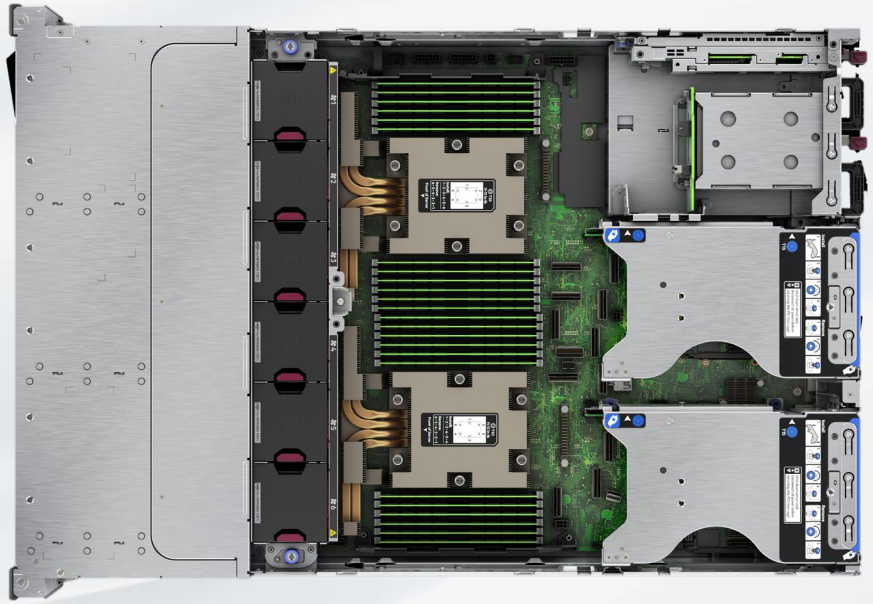
- A fully managed infrastructure, software, and services solution that enables the design, simulation and optimization of virtual assets and processes in the metaverse.
- A real time multi-GPU framework featuring AI-accelerated infrastructure and the NVIDIA Omniverse™ platform.
- Safely and confidently running on NVIDIA OVX™ certified compute.

## Development Reference Framework




**HPE GreenLake Flex Solutions built for Digital Twin empowers industrial digitization allowing organizations to connect, replicate, and protect data from numerous sources.**

# HPE ProLiant DL385 Gen11 Technical Advantages



**#1 in 2P performance**

- Highest CPU core count (less relevant to DT)
- World Record Holder for server performance
  - #1 2Node 2P VMmark 3.1 Virtualization Performance
  - #1 2U 2P server at SPECpower_ssj 2008 Power Saving
  - #1 2P server TPCx-AI AI/ML Performance & Price-perf

**Distributed Power – 2 Power Domains**

- Localizes power to components
- Reduces power wastage and power consumption overall
- Increases reliability and resilience
- Improves serviceability – more efficient warranty/support costs

**Key Features for aaS and SPs:** extra reliability and ease of support/maintenance features.

All consumers will appreciate the extra performance and flexibility.

# HPE ProLiant DL385 Gen11 Digital Twin Compute Node

## Key Technical Features

HPE ProLiant DL385 Gen11 GPU CTO-5

- (2) 4th Gen AMD EPYC 9354
  32C CPUs; 3.25GHz (280W TDP)
- (4) NVIDIA L40 (L40s) GPUs 300W (350W)
- (2) NVIDIA CX-7s 200GbE 2p NIC
- (16) HPE 64GB (1x64GB) Dual Rank x4 DDR5-4800 CAS-42-42-42 EC8. Registered Smart Memory Kit
- (4) HPE 1.92TB NVMe RI SFF BC U.3ST MV SSD
- (1) B3220 BlueField-3: DPU 170W
- iLOg
- COM

# HPE Services expertise at every stage of the journey

## Immersion Workshop

Two-step independent workshops

Explore

- Consolidate an XR digital initiative inspiration
- Evaluate top XR use cases
- Explore application of technologies to overall edge-to-cloud data digital architecture
- Identify related ecosystem

Scope

- Scope initial XR use cases to focus on
- Create future XR use case day in a life experience
- Identify key building blocks components to execute
- Outline initial digital architecture realization actions

## Service Offerings Deployment

PoC or enterprise deployment

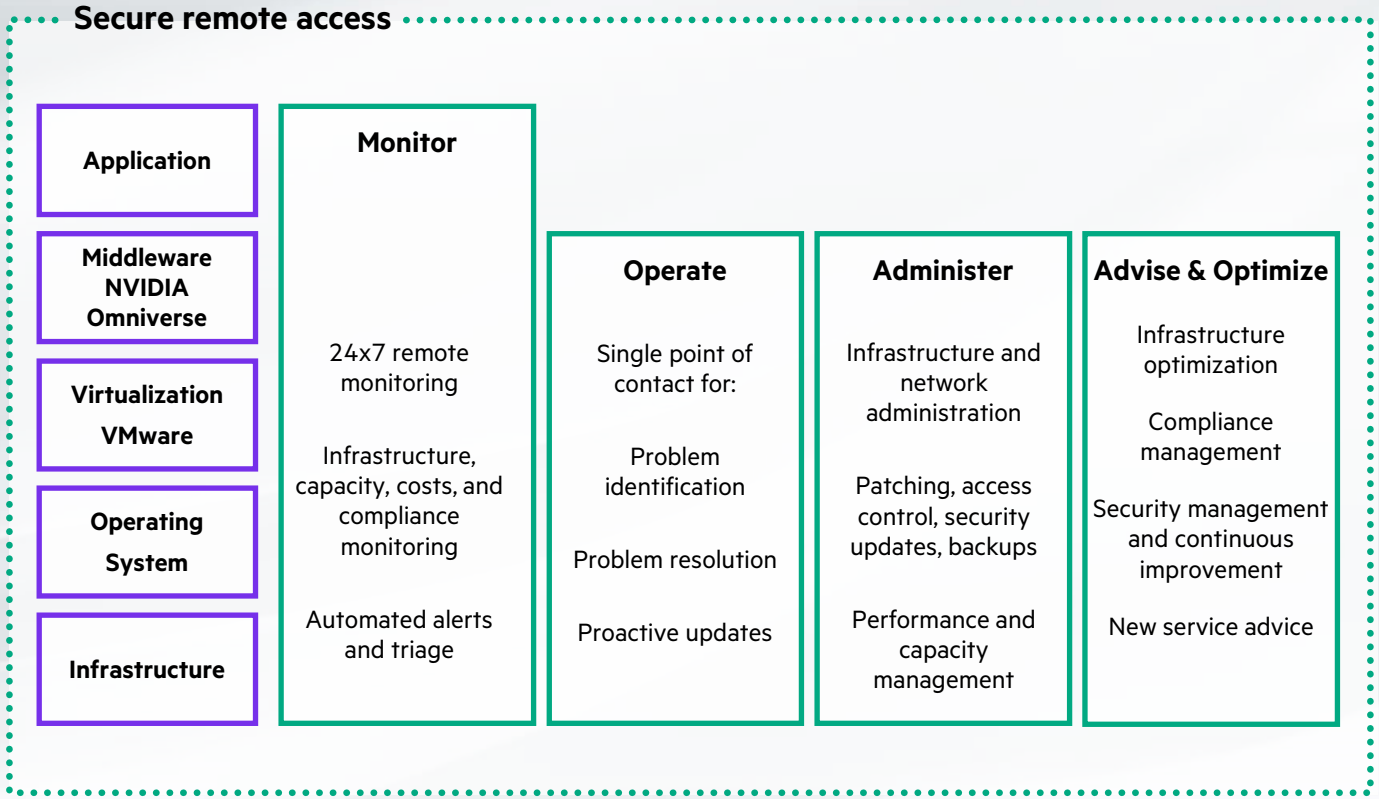
- Work packages for use cases
- Conceptualization
- Assessment
- Server hardware
- Server software ordering
- Client enrollment
- Platform enablement
- Development
- User onboarding

Optional:

- End user device purchase
- Mobile device management

# End-to-end Management

- HPE management services oversee the solution on your behalf reducing overall cost and improving performance
- From infrastructure and operating systems through the application layer, our experts remotely monitor the entire solution an provide recommendations on how to optimize results.
- We offer sophisticated governance and continuous monitoring of IT controls across the major regulatory frameworks, helping organizations spot and fix any issues to pass audits and protect their business.



# Resilient edge-to-cloud platform

The HPE and NVIDIA hybrid approach delivers a cloud experience on-premises combining NVIDIA-Certified high-performance infrastructure, massive GPU acceleration, and AI to secure private data and provide on-demand access to data sources.

| | |
|---|---|
| **Hybrid Cloud Experience** | **HPE GreenLake** provides flexible and secure hybrid cloud services, delivering resources across disparate locations with public cloud integration when needed. Offered as a consumption-based model that allows organizations to pay as they go. |
| **Next Gen Compute** | **HPE ProLiant Gen11 servers** with the latest NVIDIA GPUs are optimized for AI and GPU-enabled applications in the data center and at the edge. These servers deliver the best of on-premises and cloud computing with up to 33% more GPU density to run the most data-intensive workloads. |
| **Metaverse Application Software** | **NVIDIA Omniverse** creates and connects virtual worlds to accelerate complex design workflows of any scale. With real time interoperability across applications, NVIDA Omniverse is an ideal foundation for bundling and operating metaverse applications. |

# Make your AI Mission Possible

- Get your AI initiatives off the ground with a fast on-ramp to AI.
- HPE and NVIDIA deliver turnkey, co-engineered solutions for Generative AI that span from Enterprise computing to Supercomputing scale.
- Delivering industry-leading AI software that simplifies model development alongside flexible deployment options for your hybrid AI needs.

**HPE and NVIDIA can speed time to value no matter where you are in your AI journey.**

Hewlett Packard Enterprise | NVIDIA

# Thank you

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