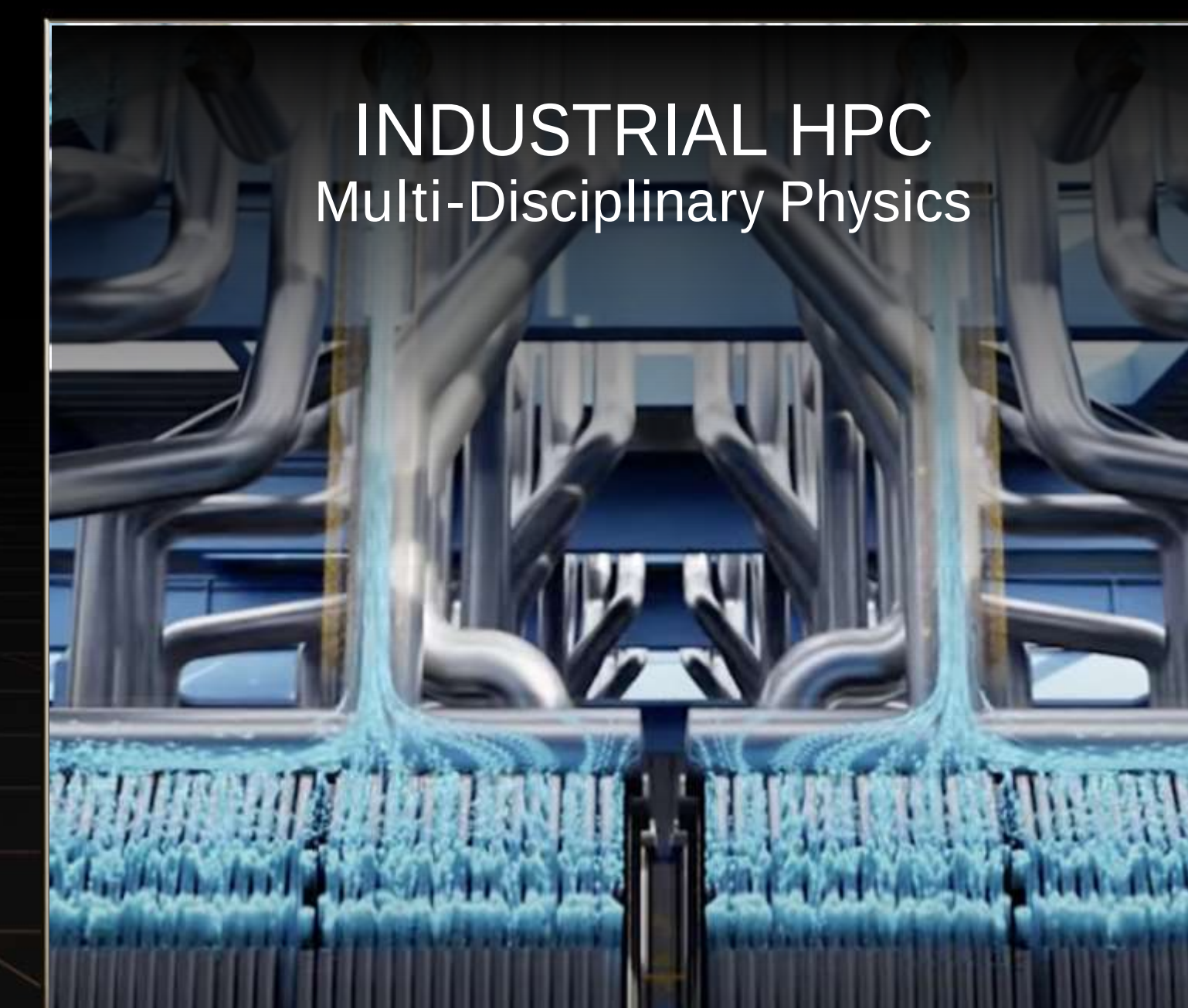
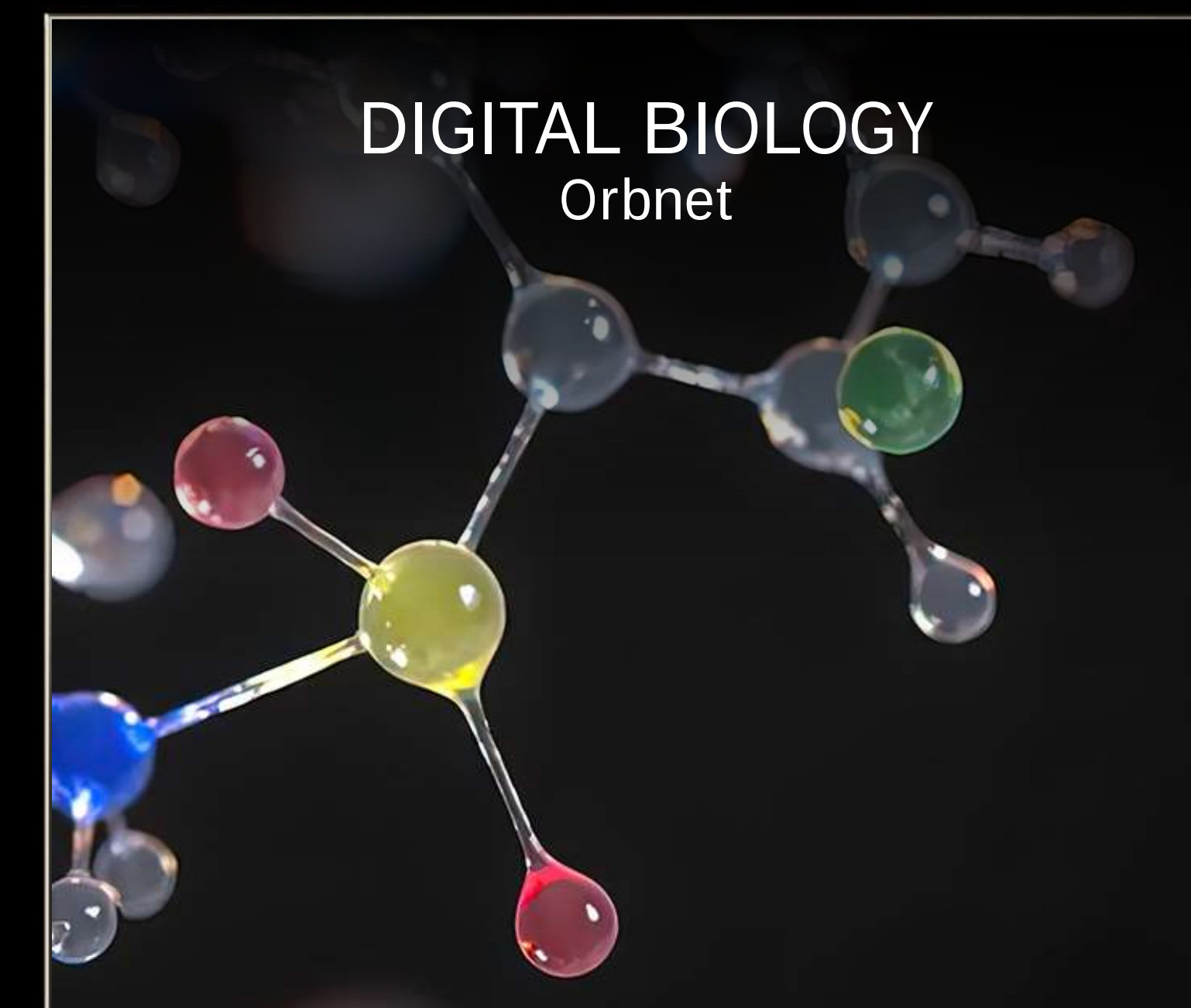
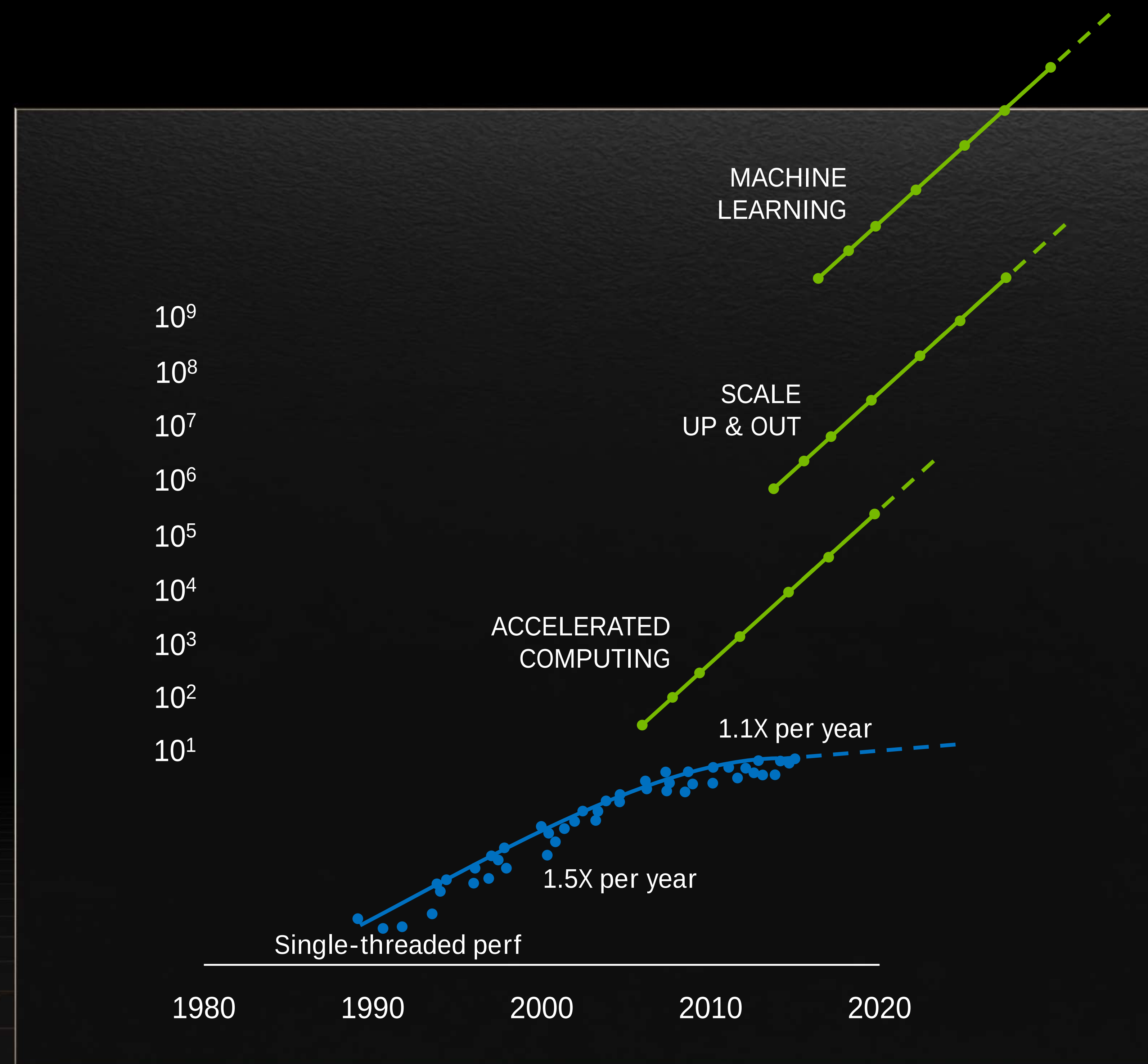




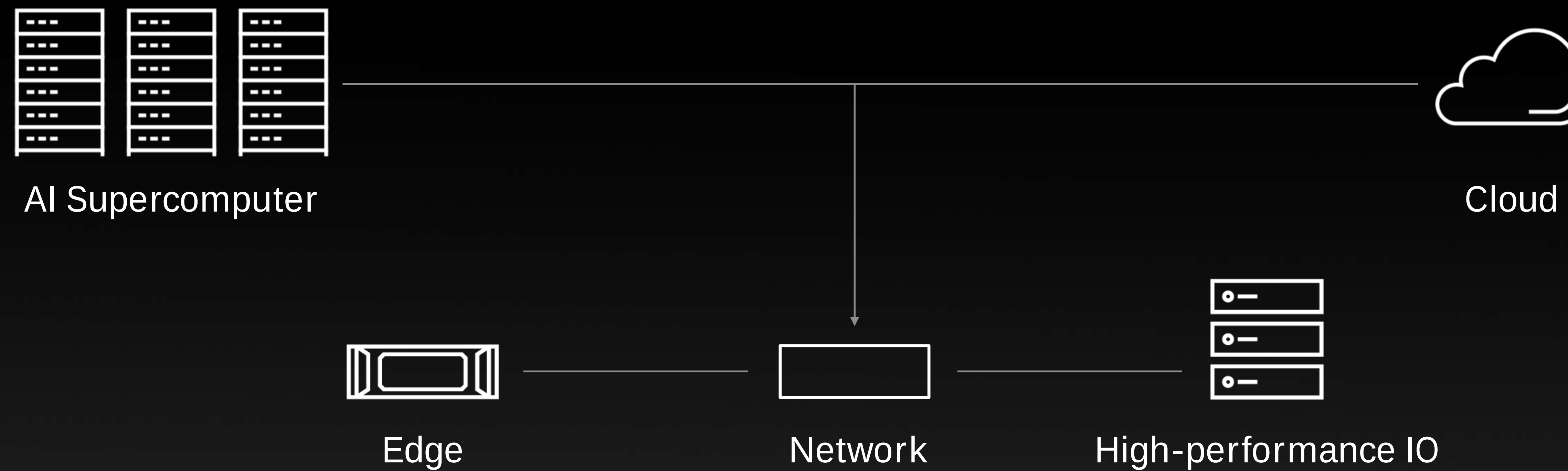
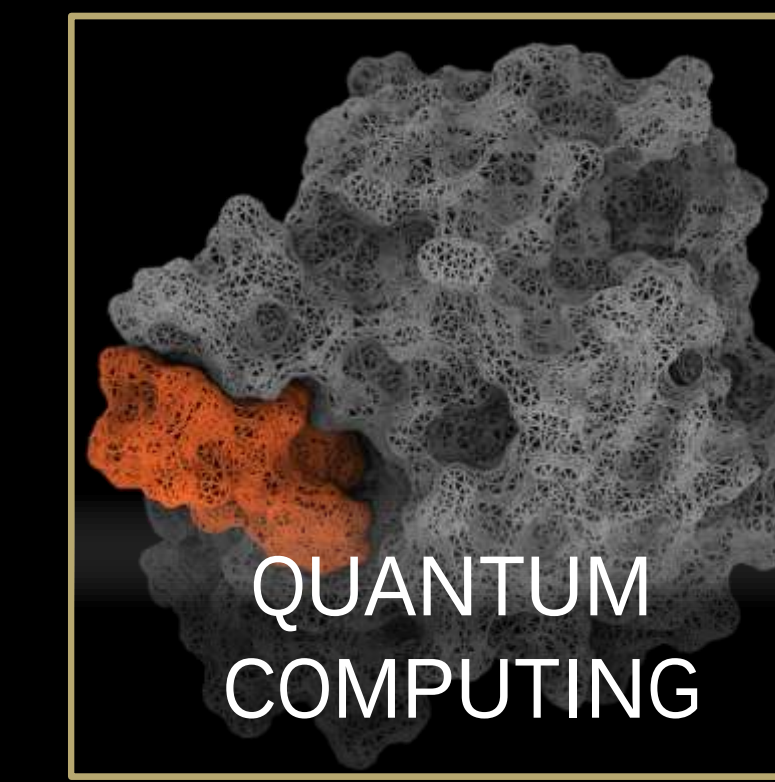
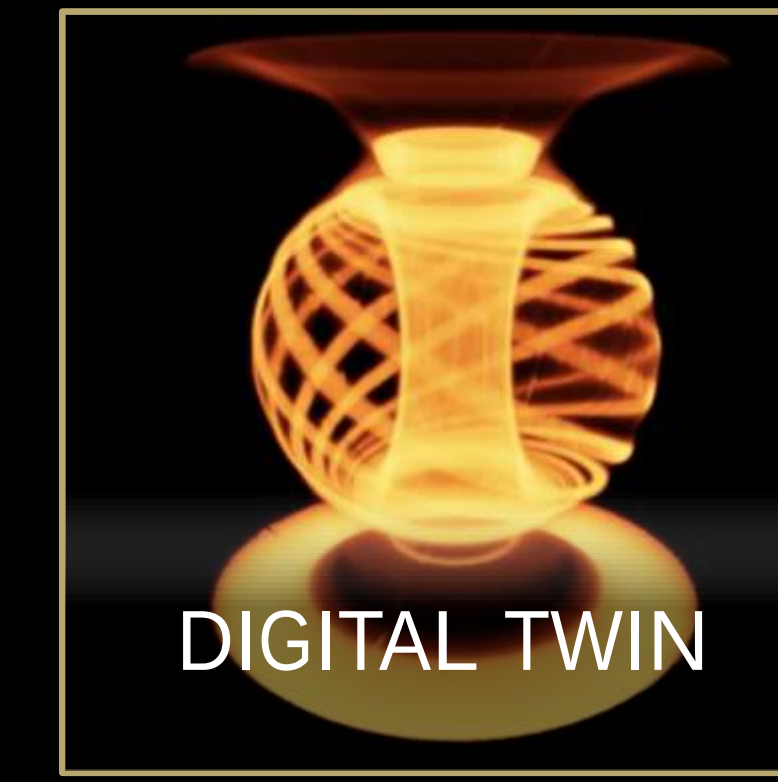
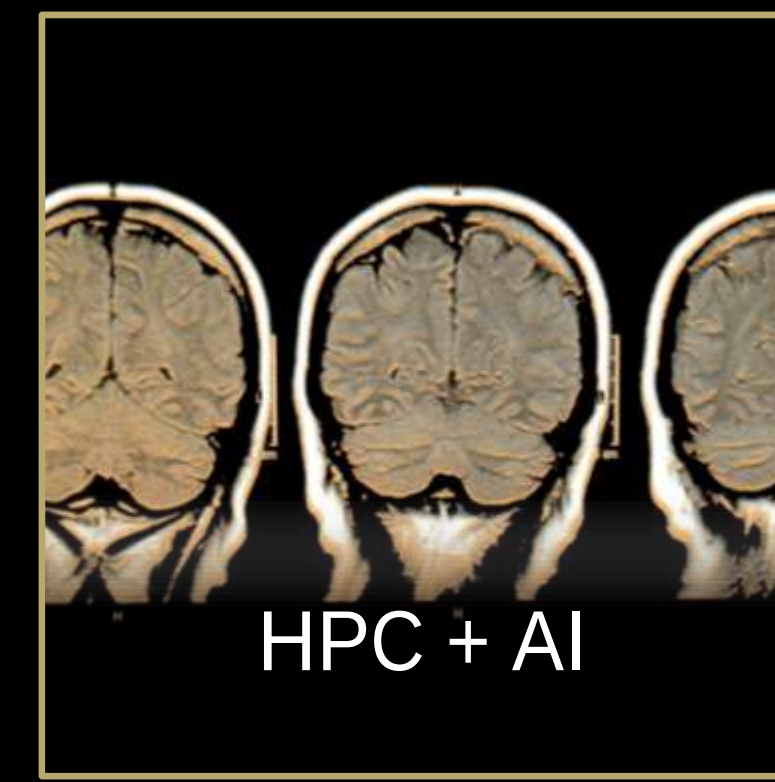
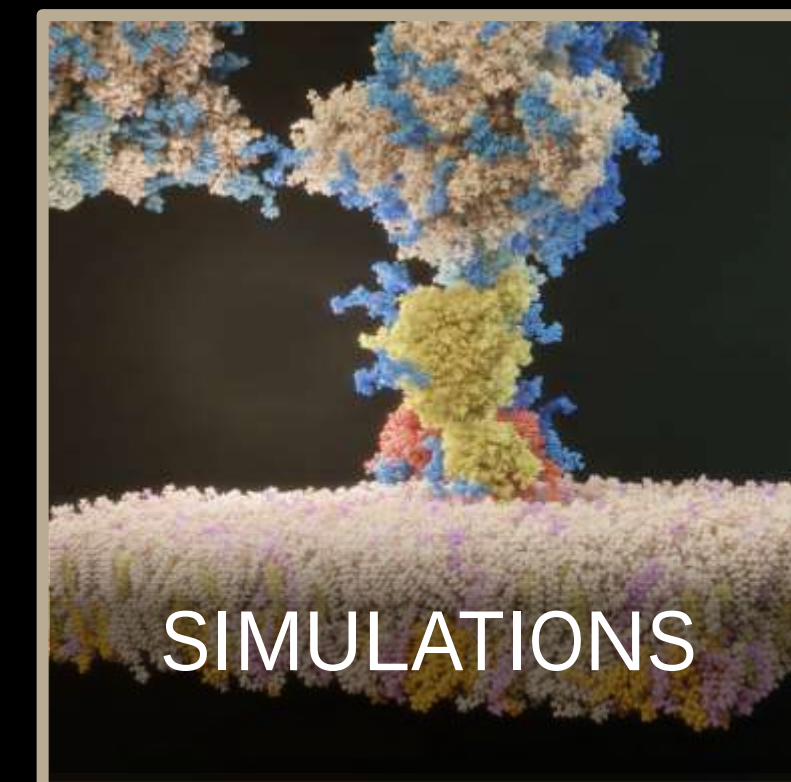
NVIDIA QUANTUM-2 INFINIBAND HPC PLATFORM

MUG, AUGUST 2022

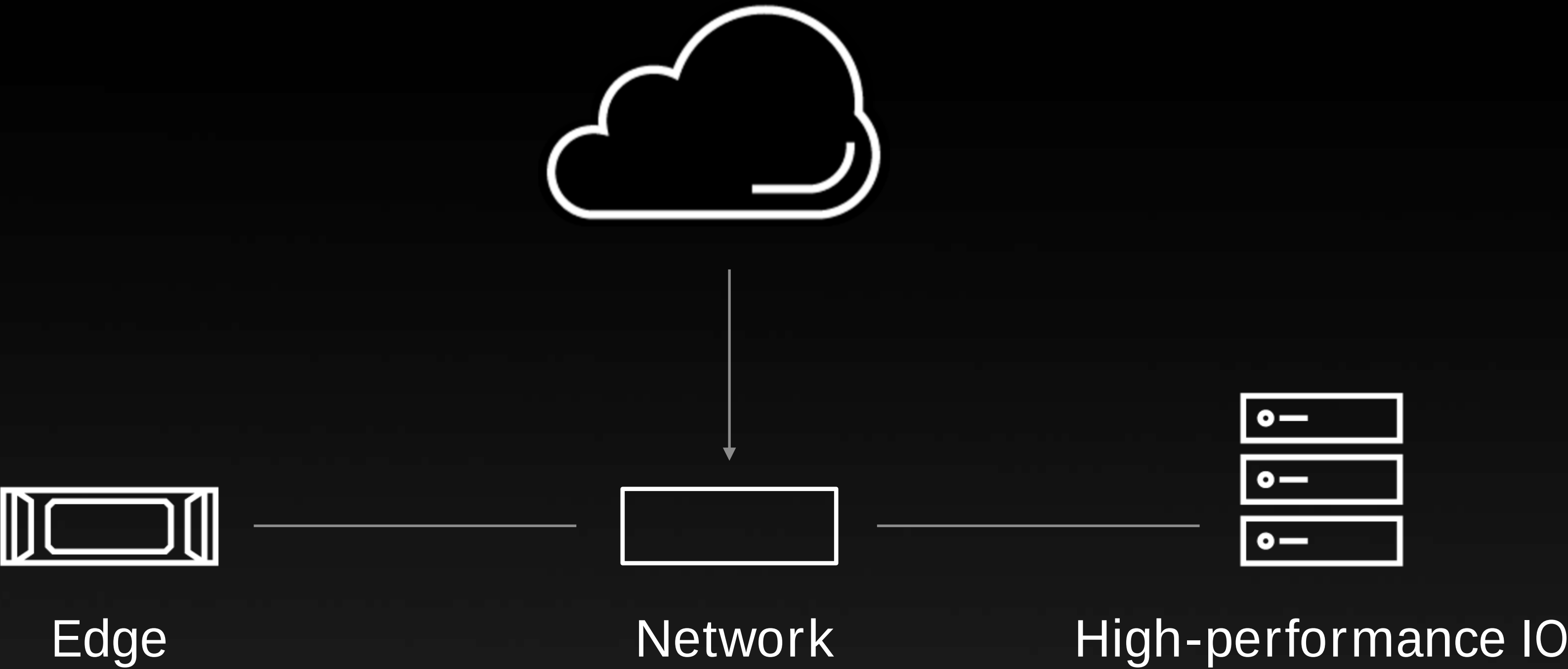
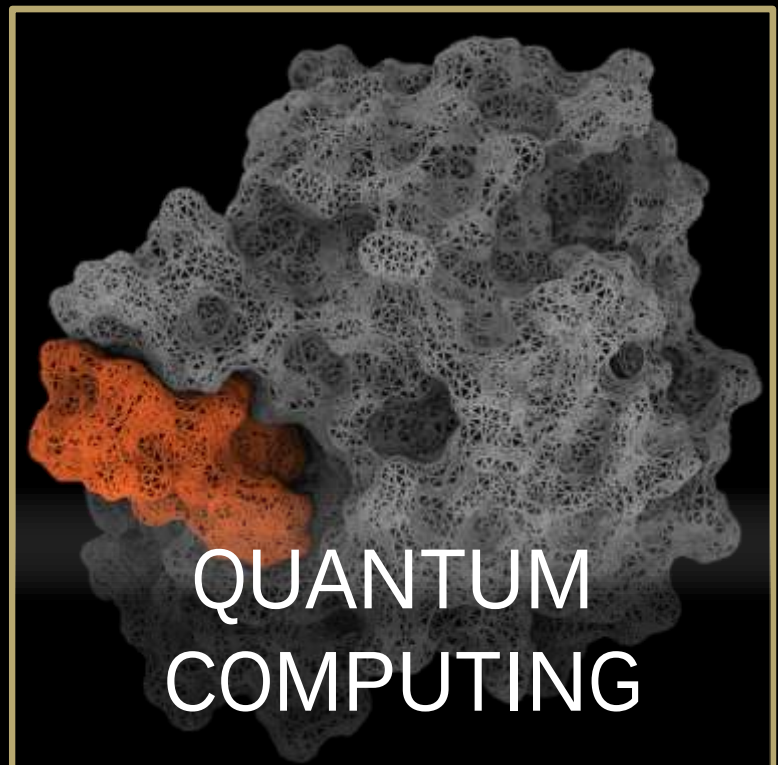
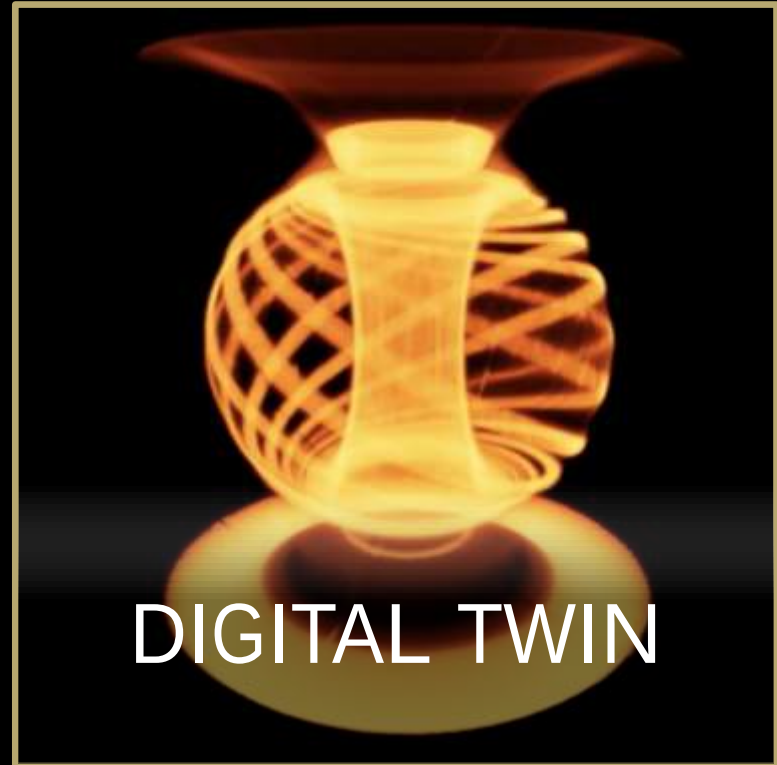
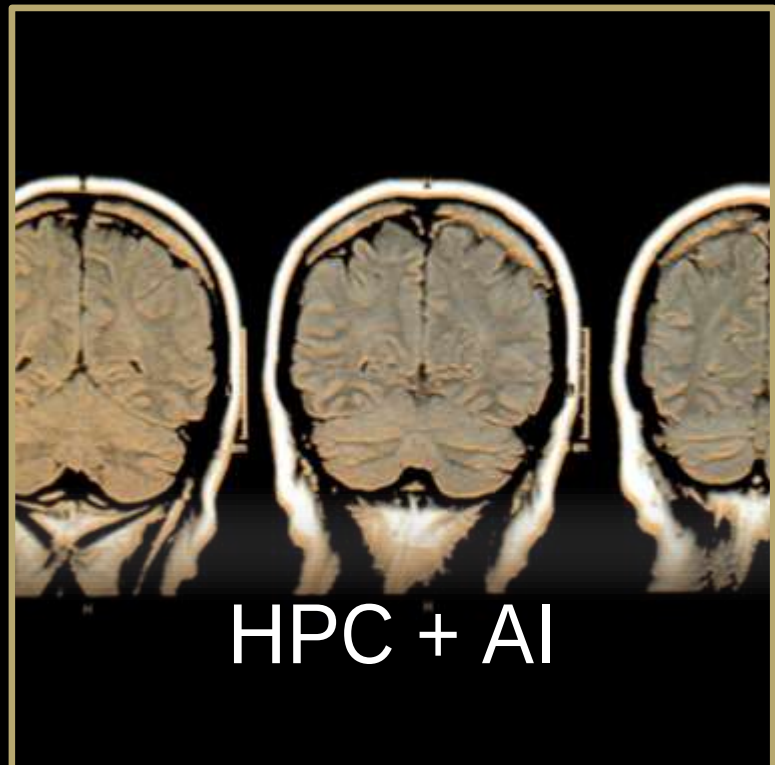
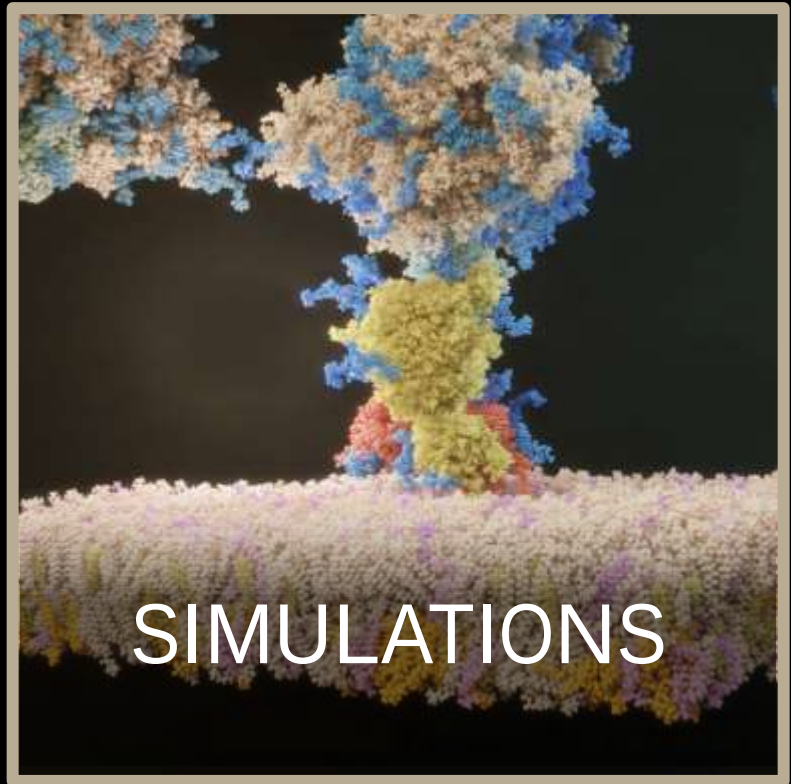


SIMULATION + AI: MILLION-X SPEEDUP FOR INNOVATION AND DISCOVERY

DIVERSITY OF APPLICATIONS REQUIRES ARCHITECTURAL FLEXIBILITY



CLOUD NATIVE SUPERCOMPUTING





NVIDIA SUPERCOMPUTING

In-Network Computing

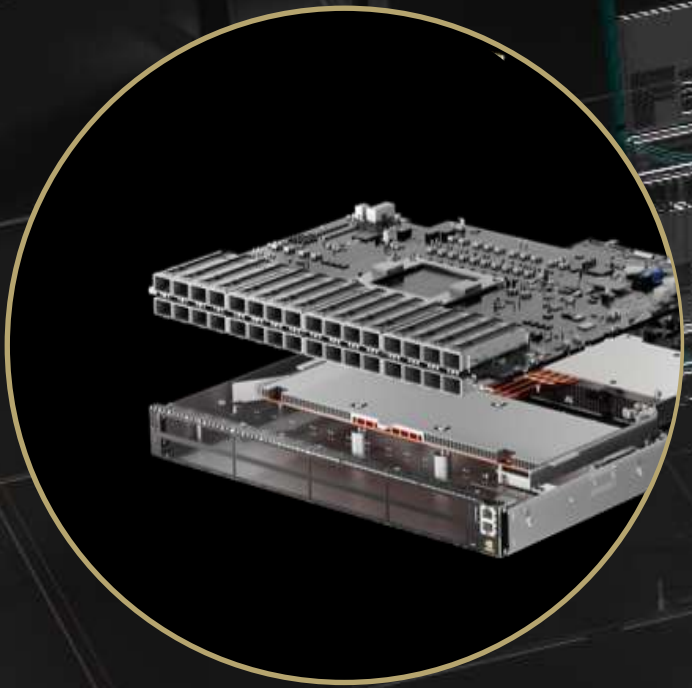
Computational Storage

Performance Isolation

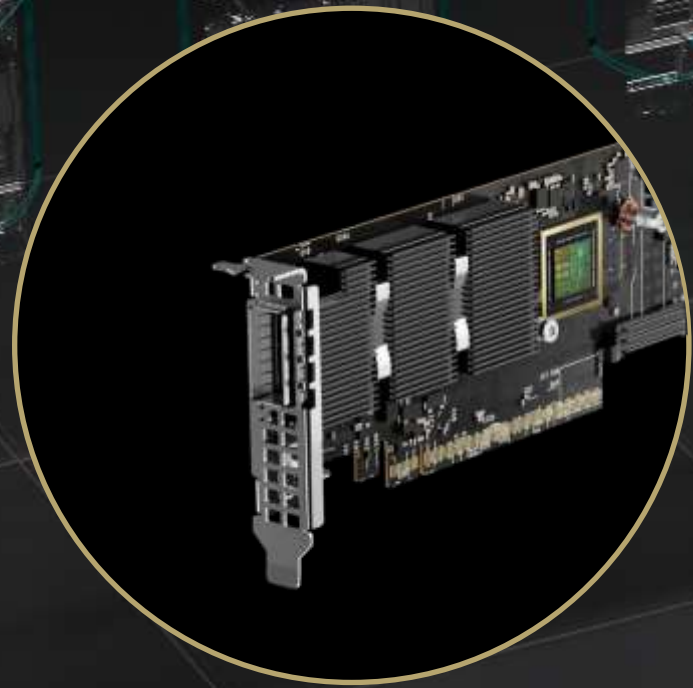
Enhanced Telemetry

Zero Trust Security

CLOUD NATIVE SUPERCOMPUTING ENABLED BY NVIDIA QUANTUM-2 IB PLATFORM



QUANTUM-2 INFINIBAND SWITCH
Cloud Native Supercomputing Platform
SHARP In-Network Computing
Higher Scalability



CONNECTX-7 SMARTNIC
Intelligent Offloads
Precision Timing
Software Defined Networking



BLUEFIELD-3/-X DPU
Intelligent Offloads
Precision Timing
Software Defined Networking



SKYWAY GATEWAY
InfiniBand to Ethernet
Low Latency
Load Balancing



UFM
Monitoring, Management, Orchestration
Predictive Maintenance
Anomaly Detection

CLOUD-NATIVE SUPERCOMPUTING

Bare-metal Secured Infrastructure

Higher Application Performance

From the Edge to the Main Data Center



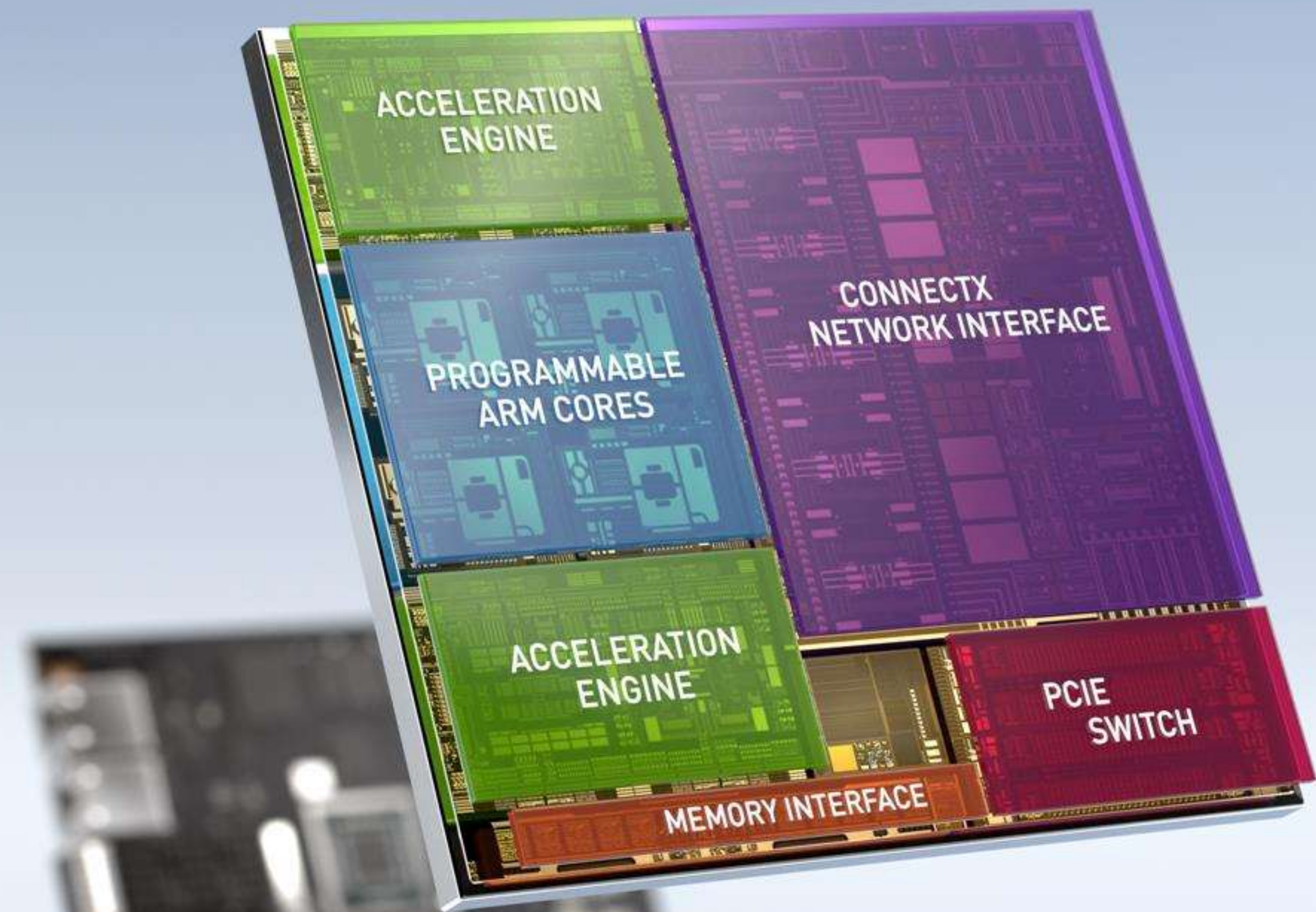
BARE-METAL
PERFORMANCE



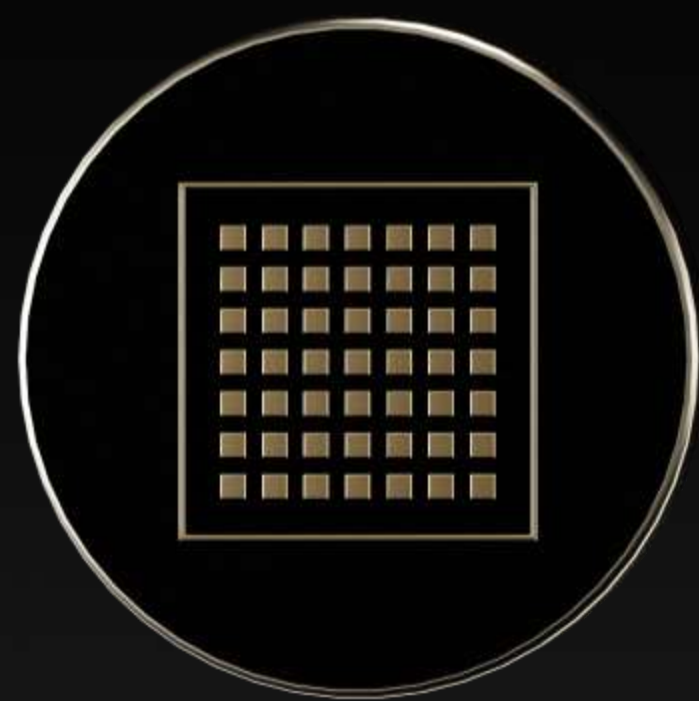
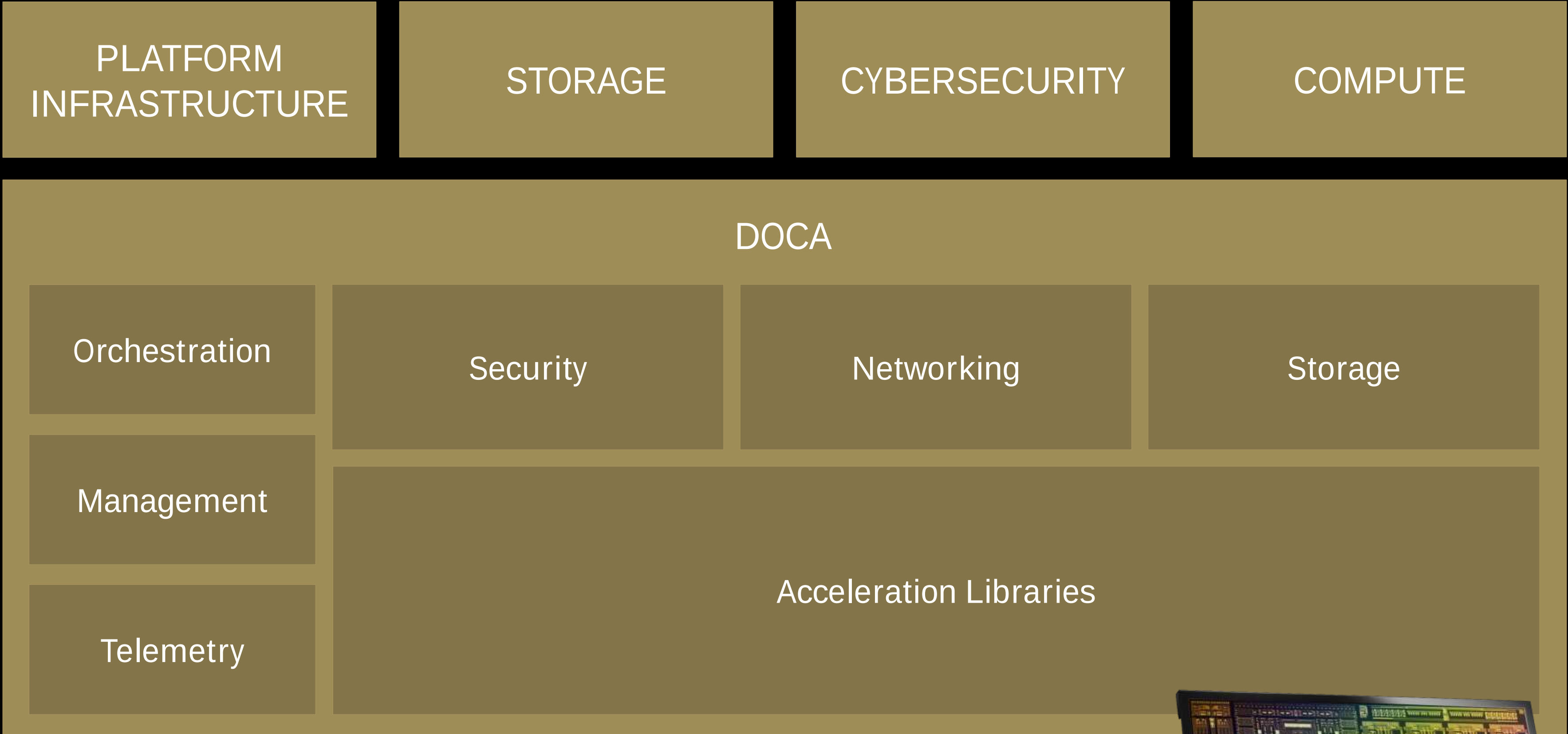
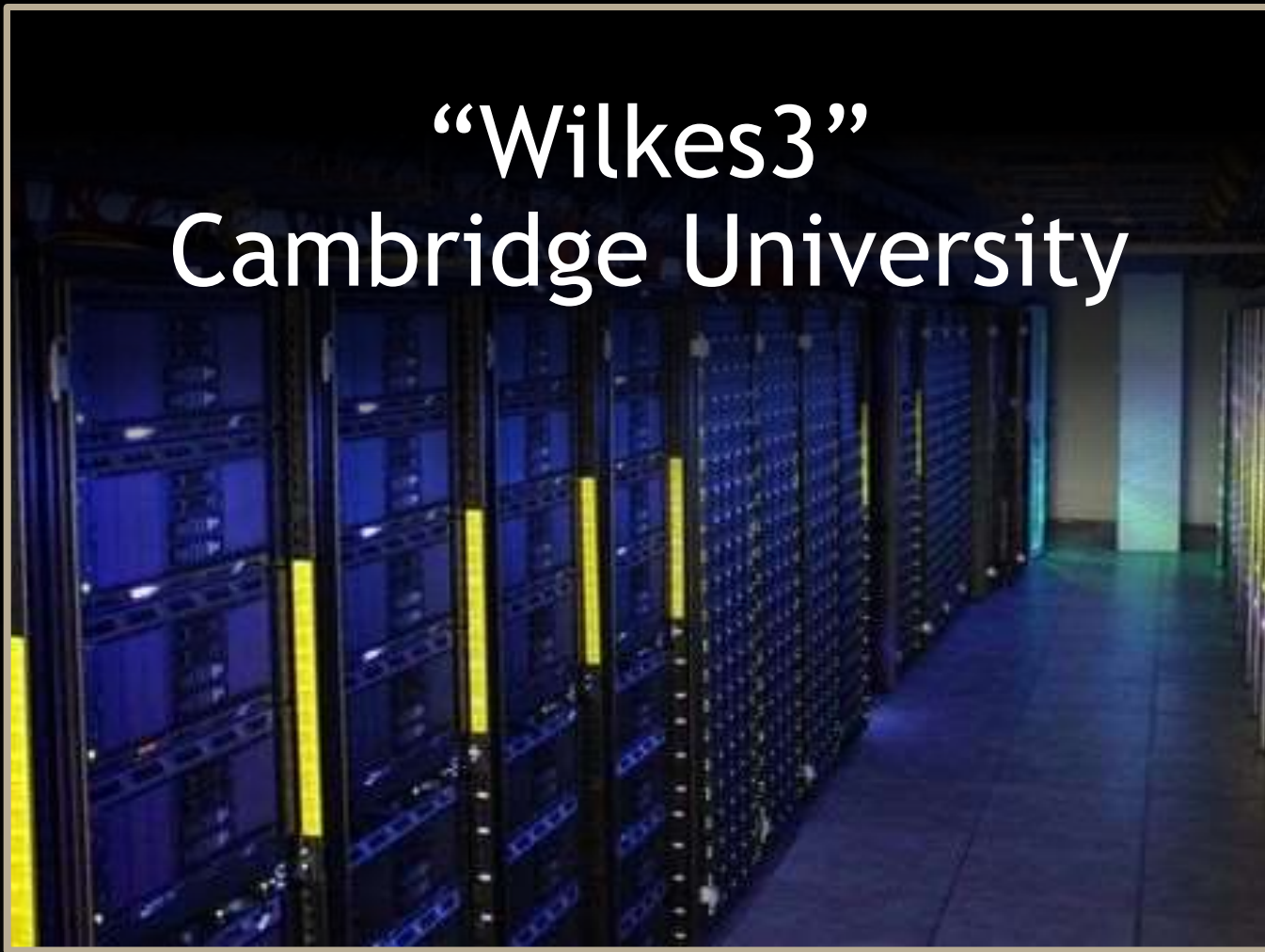
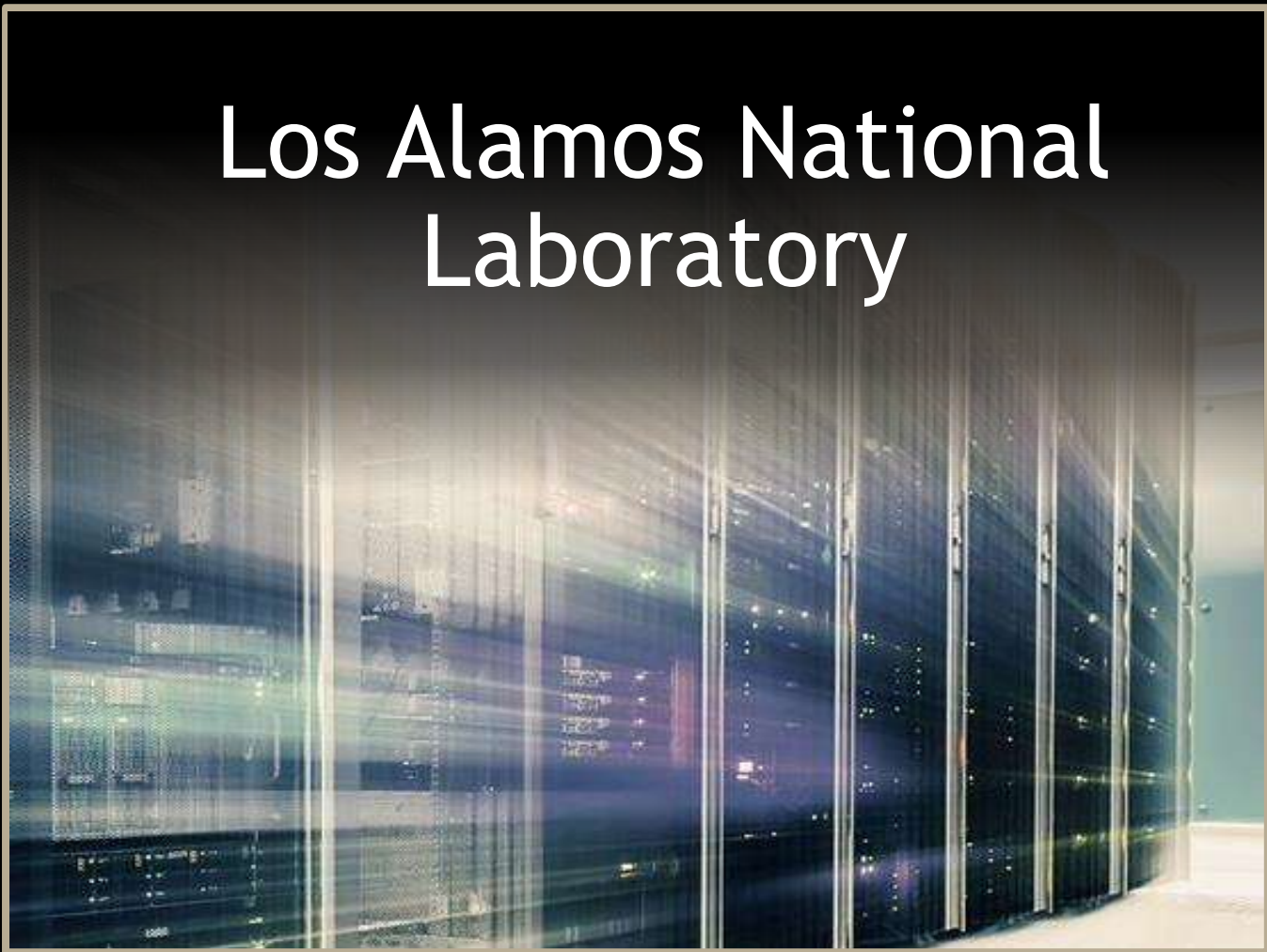
MULTI
TENANCY



EDGE
COMPUTING



DELIVERING CLOUD NATIVE SUPERCOMPUTING



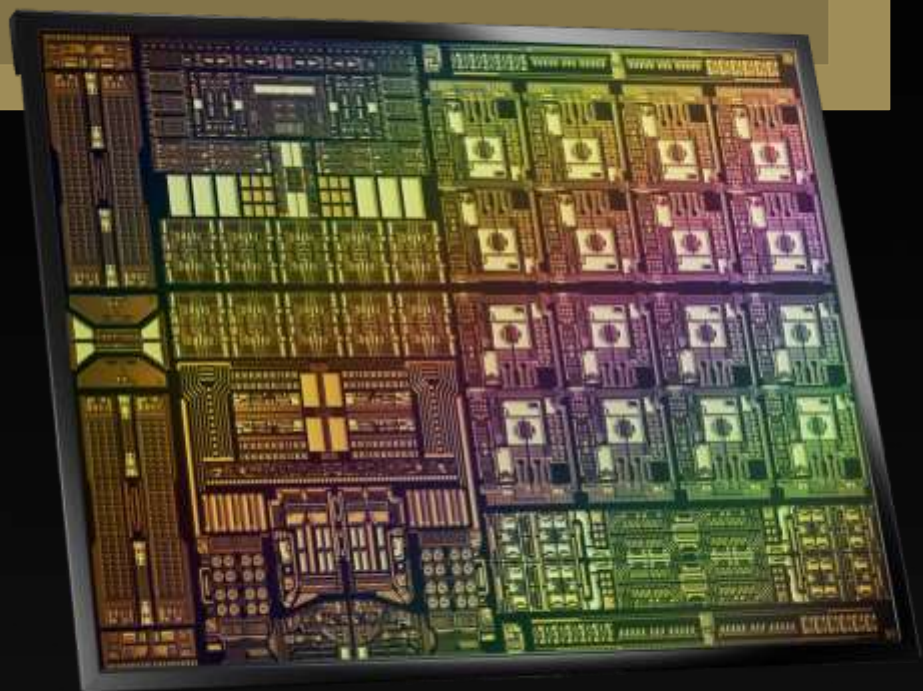
PROGRAMMABLE
COMPUTE



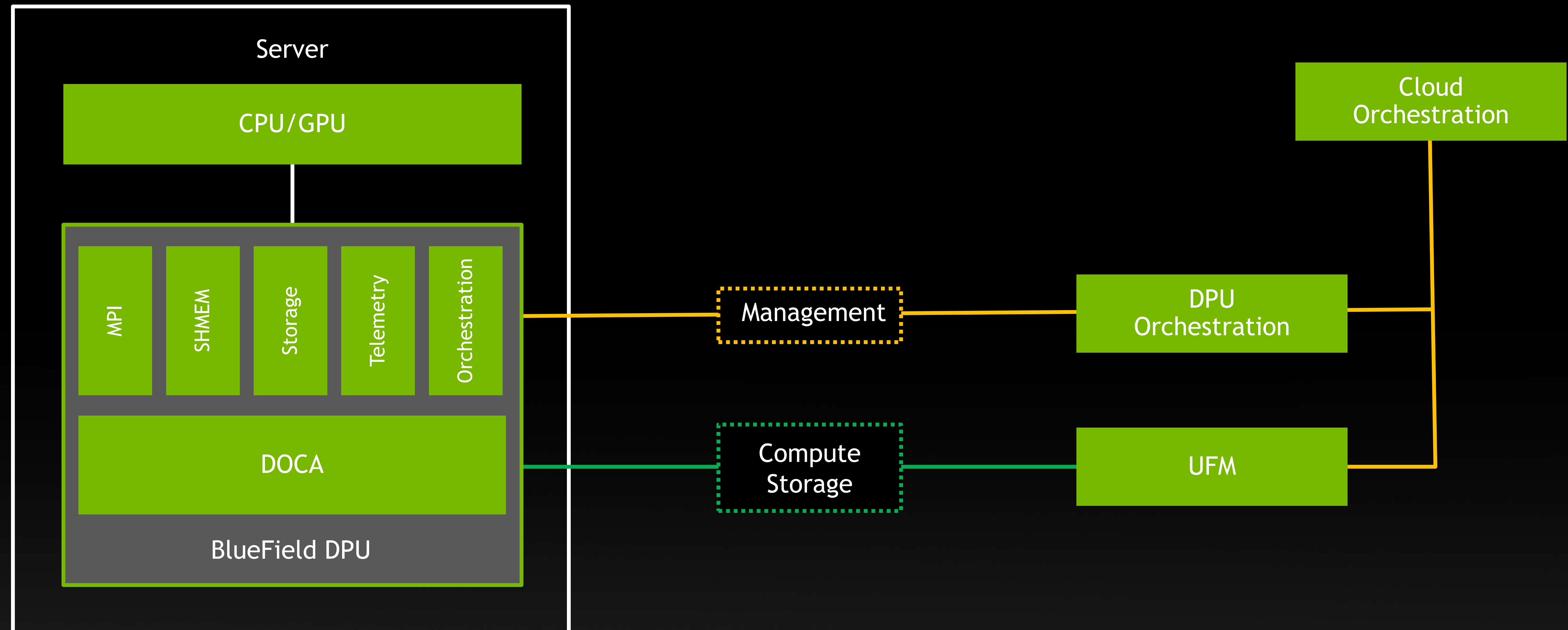
COMPUTATIONAL
STORAGE



ZERO-TRUST
SECURITY

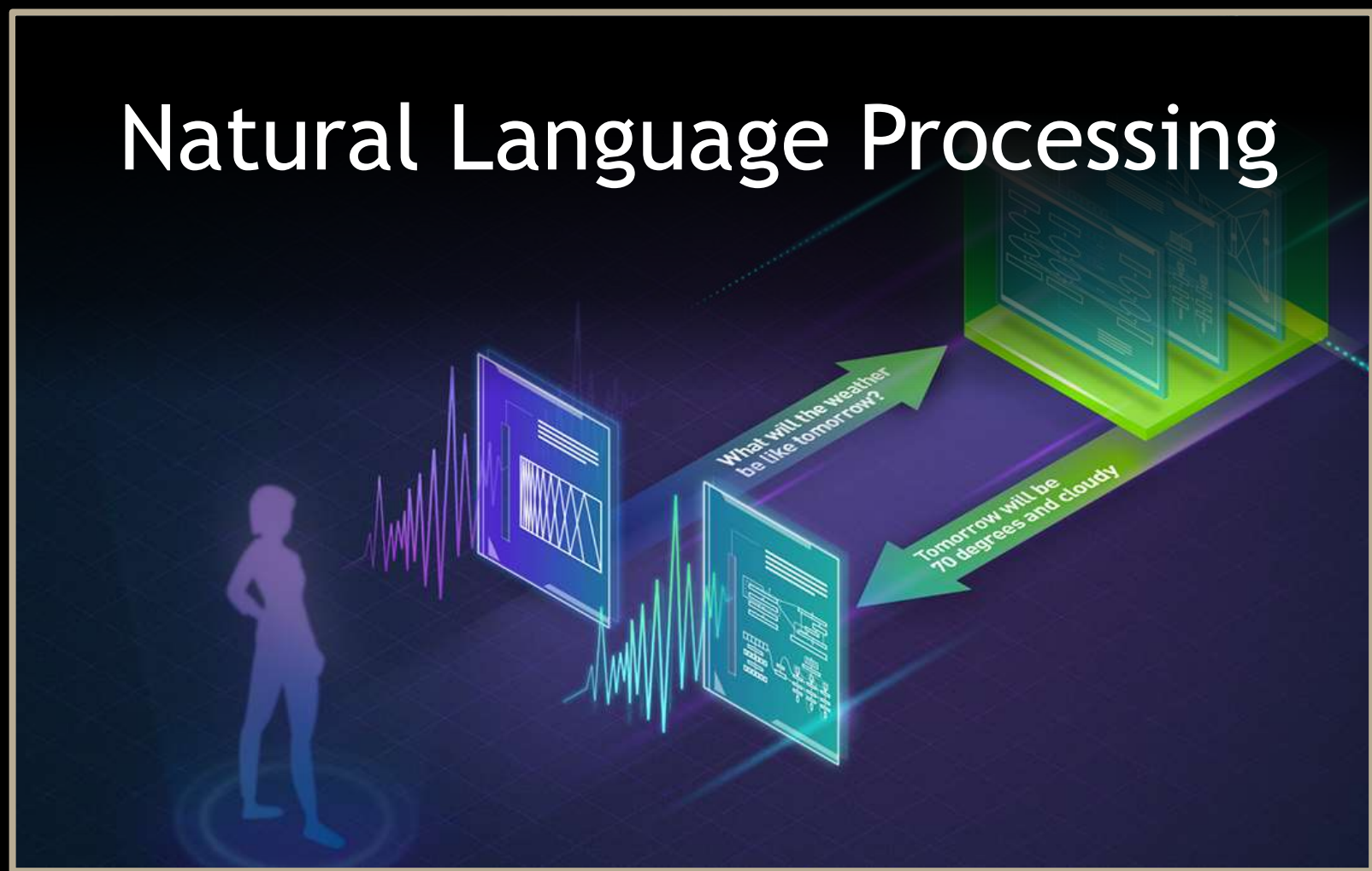


DELIVERING CLOUD NATIVE SUPERCOMPUTING

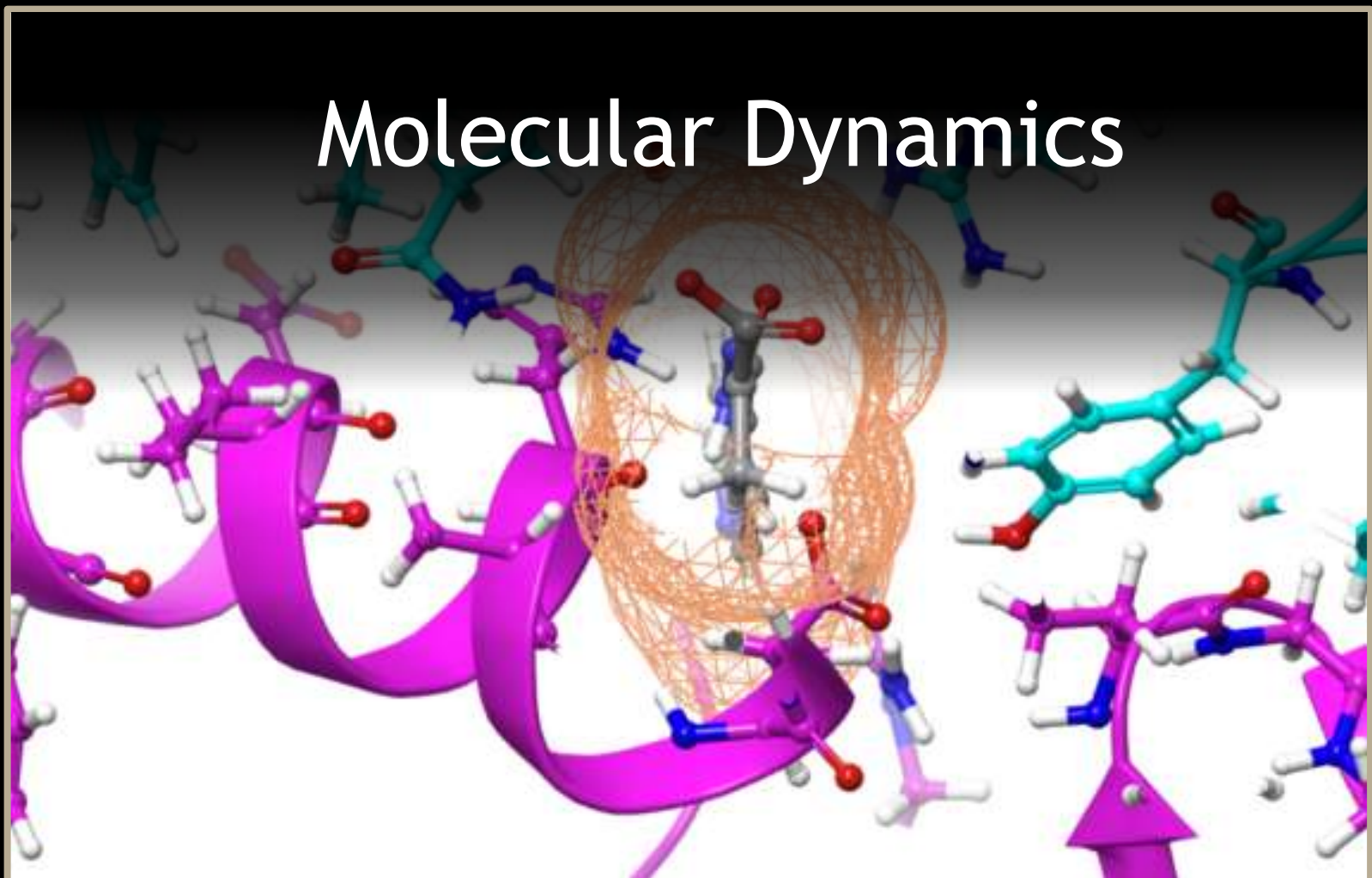


CLOUD-NATIVE SUPERCOMPUTING DRIVING APPLICATION PERFORMANCE GAINS

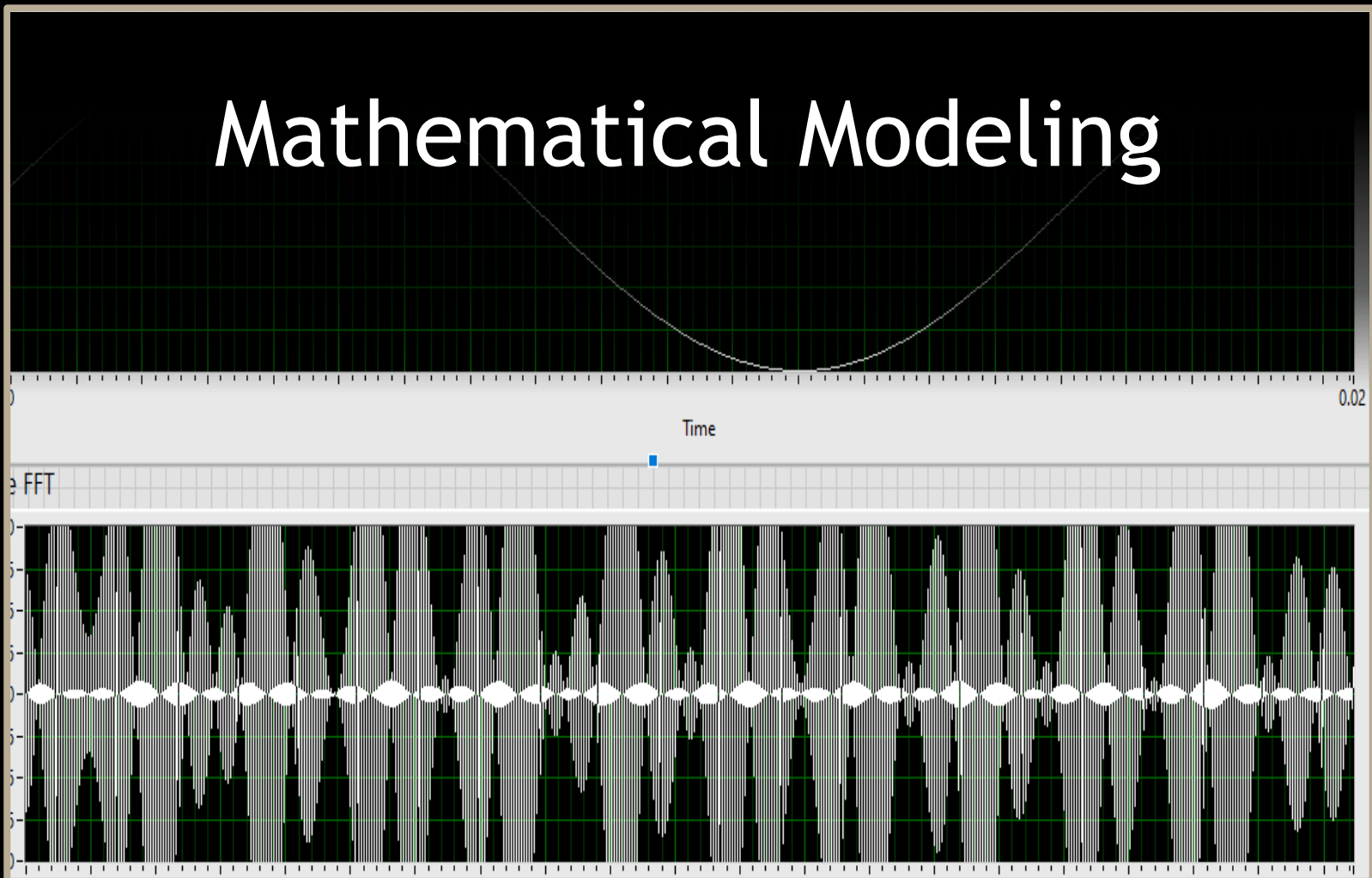
Natural Language Processing



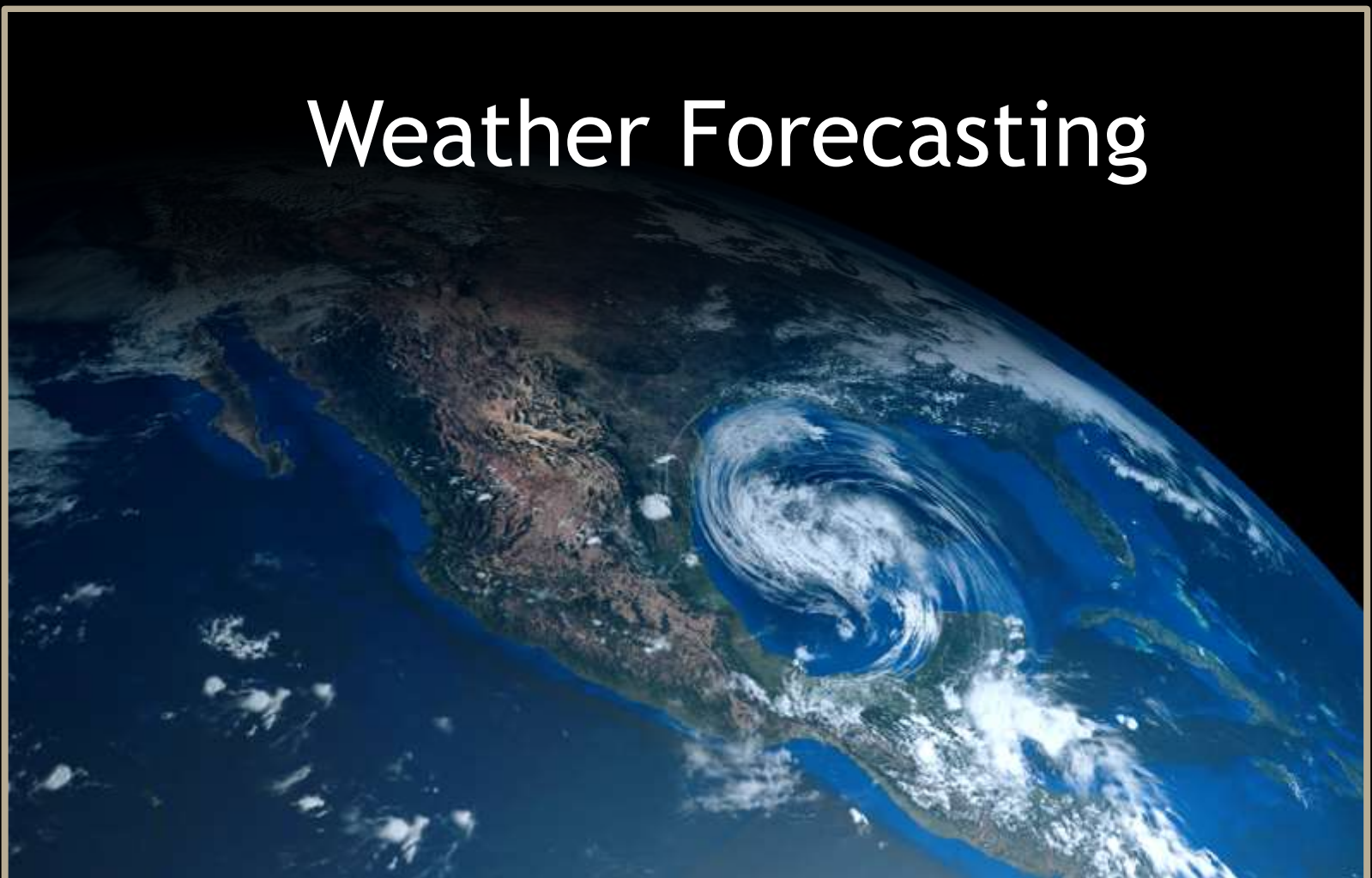
Molecular Dynamics



Mathematical Modeling



Weather Forecasting



Barcelona
Supercomputing Center

Durham
University

Georgia Institute
of Technology

Japan Meteorological
Agency

Los Alamos
National Laboratory

Ohio State
University

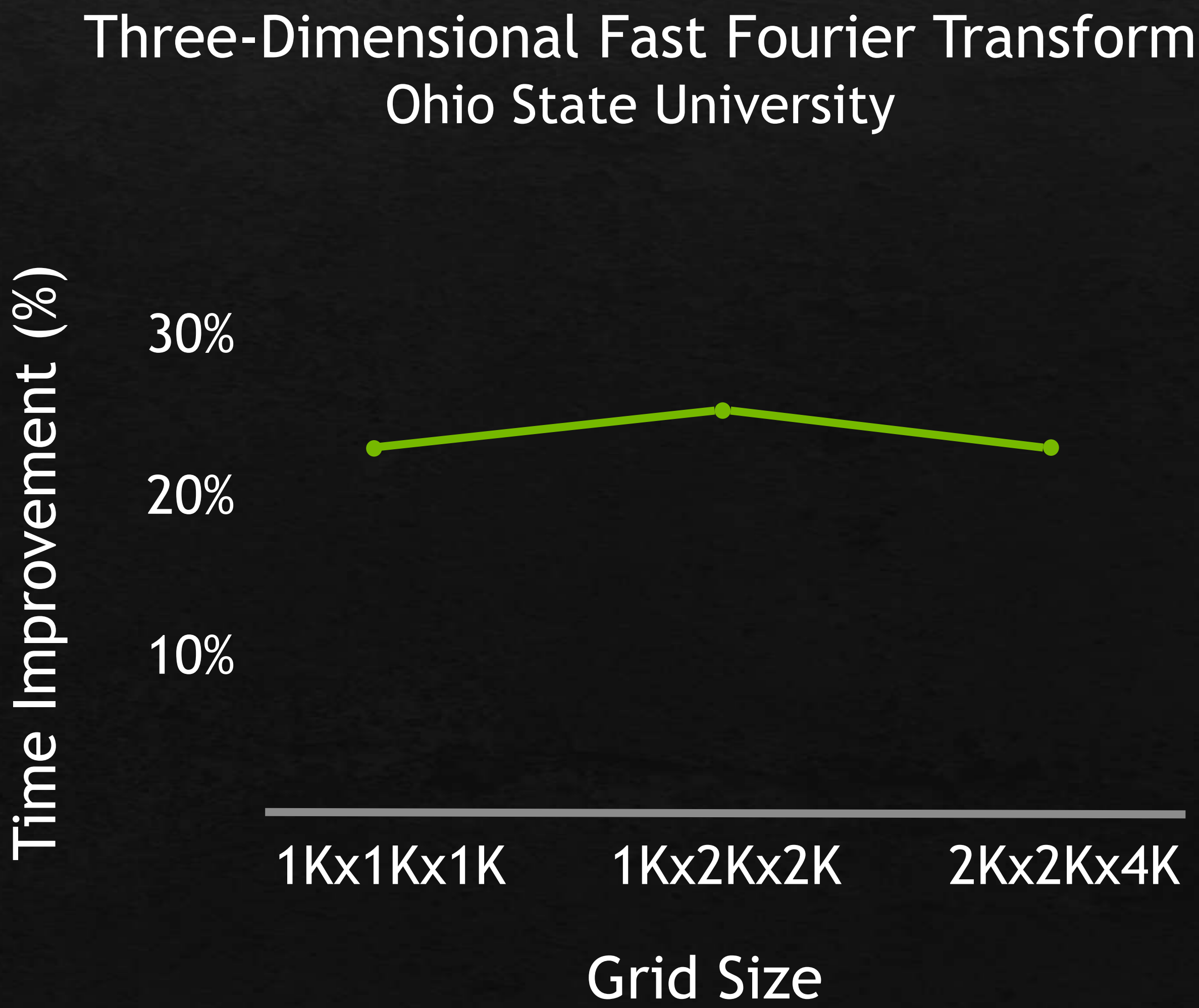
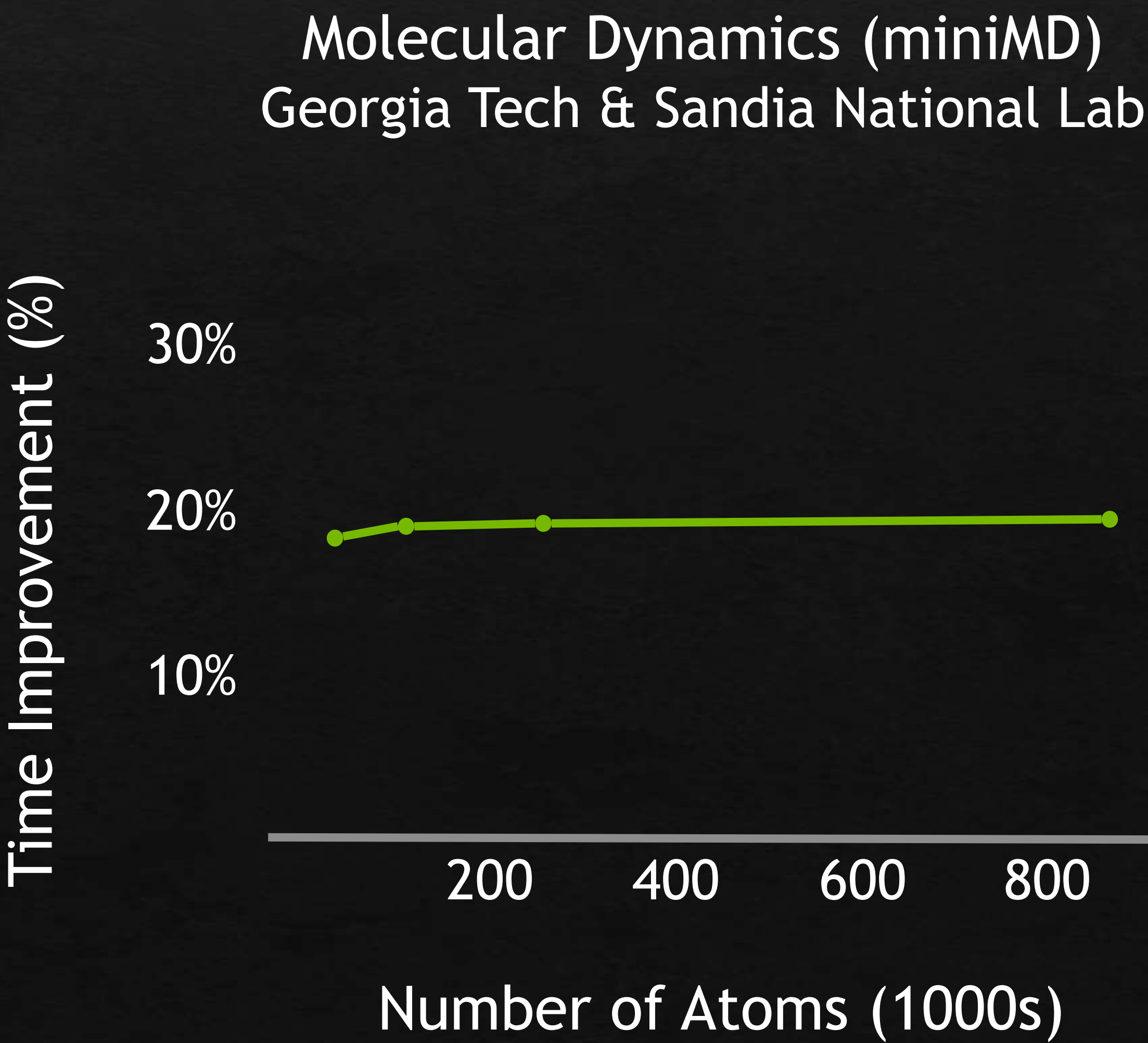
Sandia National
Laboratory

Technical University
Munich

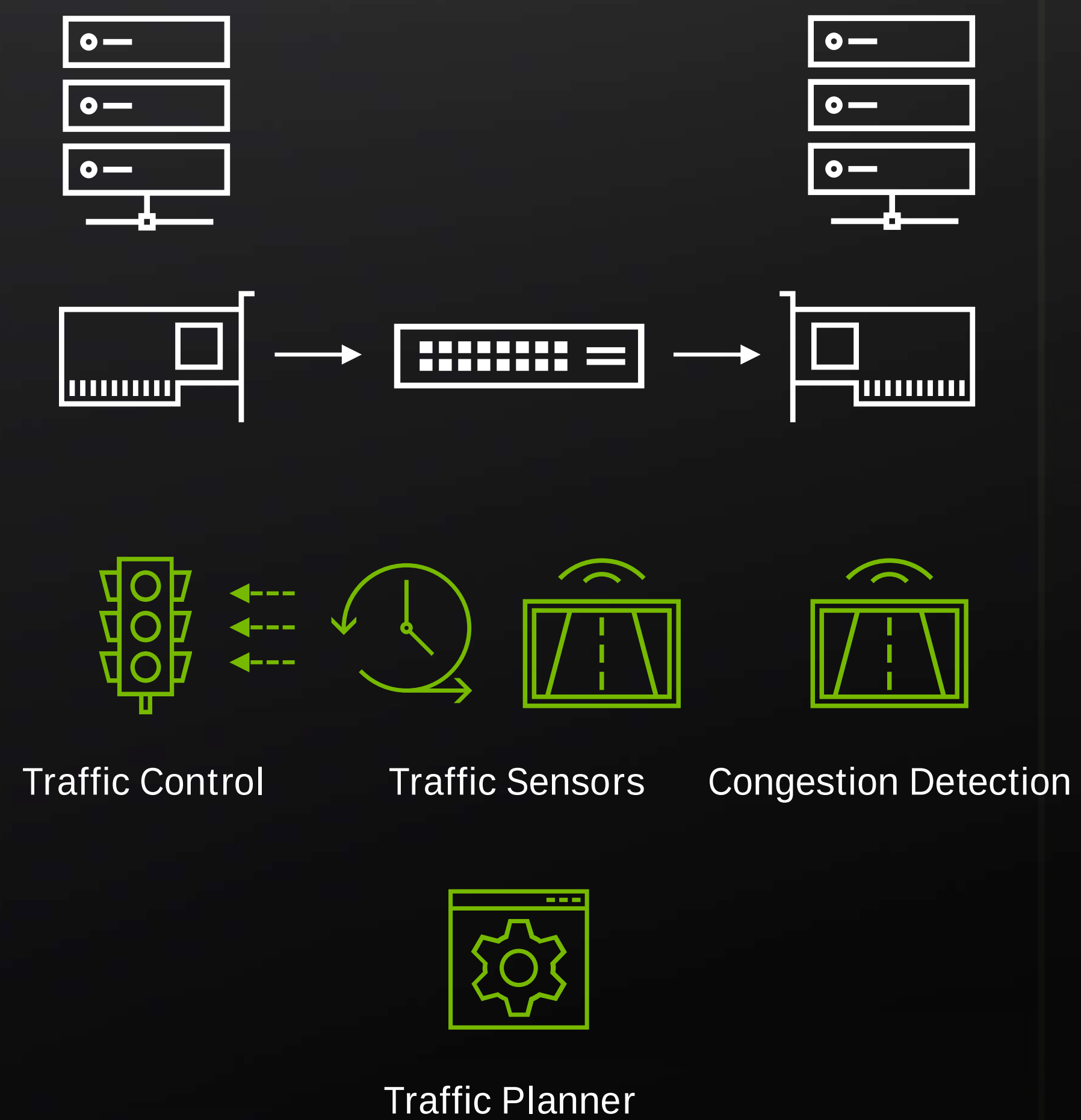
University College
London

HIGHER APPLICATION PERFORMANCE
With BlueField DPU and Quantum In-Network Computing

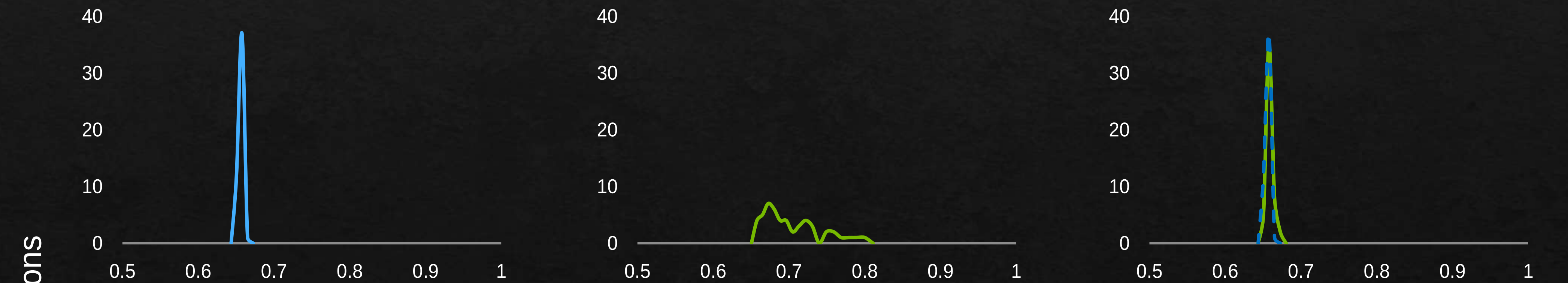
CLOUD-NATIVE SUPERCOMPUTING DRIVING APPLICATION PERFORMANCE GAINS



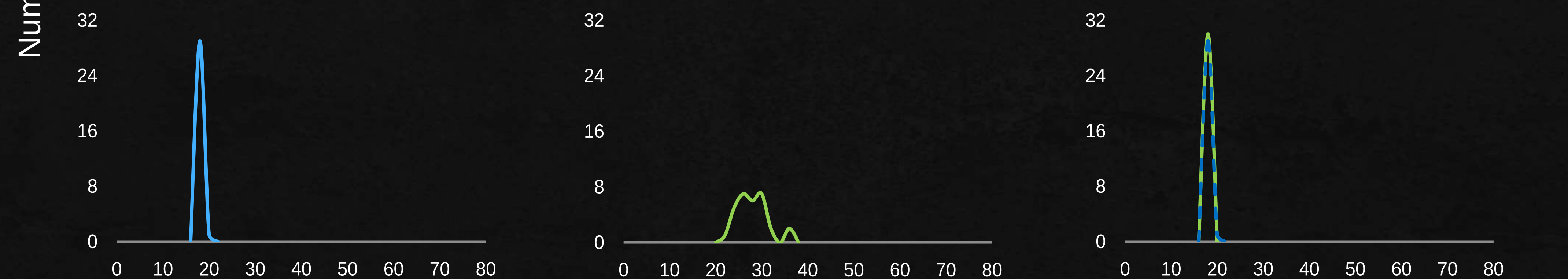
ADAPTIVE PERFORMANCE ISOLATION



MOLECULAR DYNAMICS (LAMMPS)



PARALLEL ALGEBRAIC MULTI-GRID SOLVER (AMG)

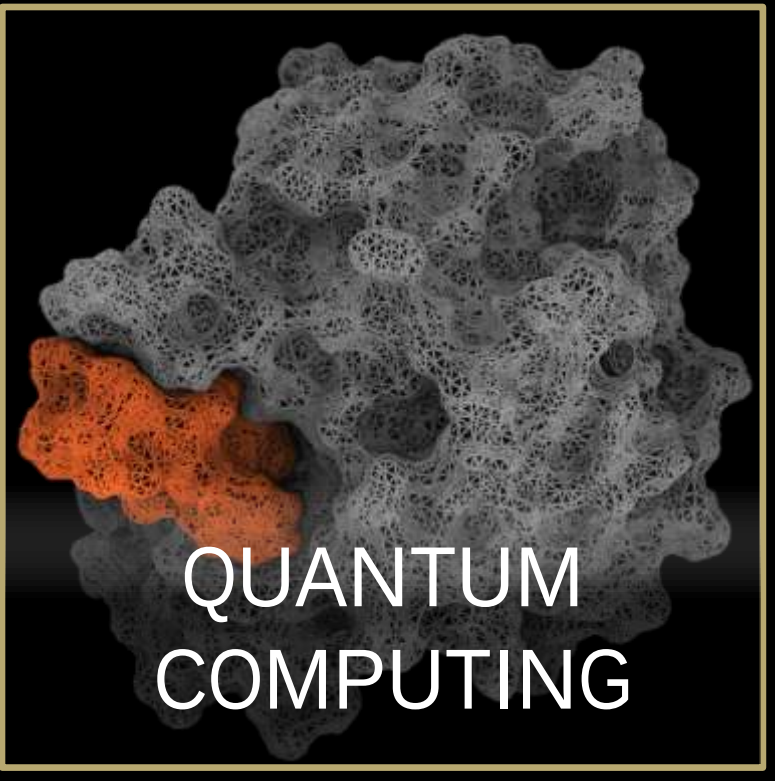
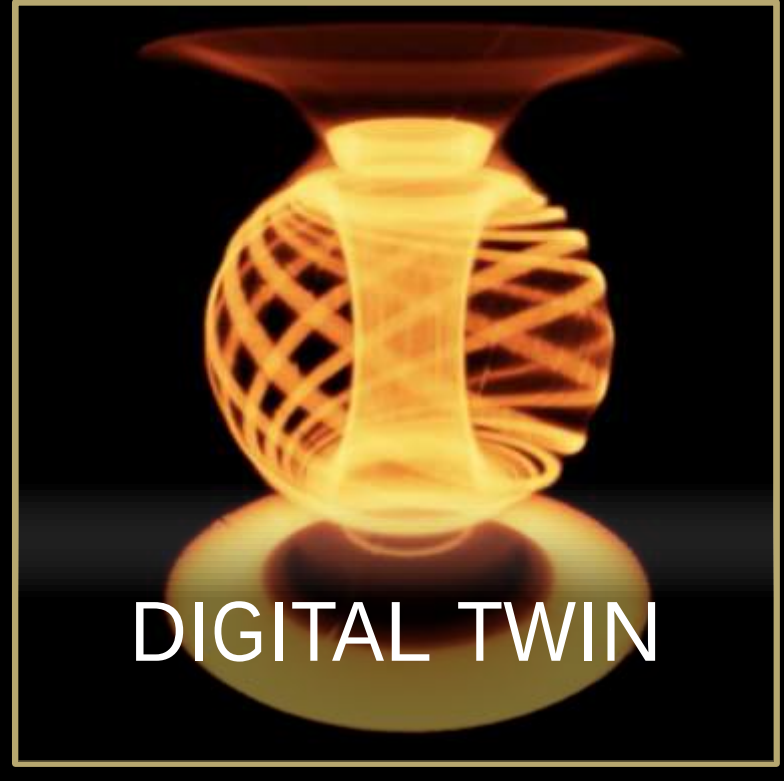
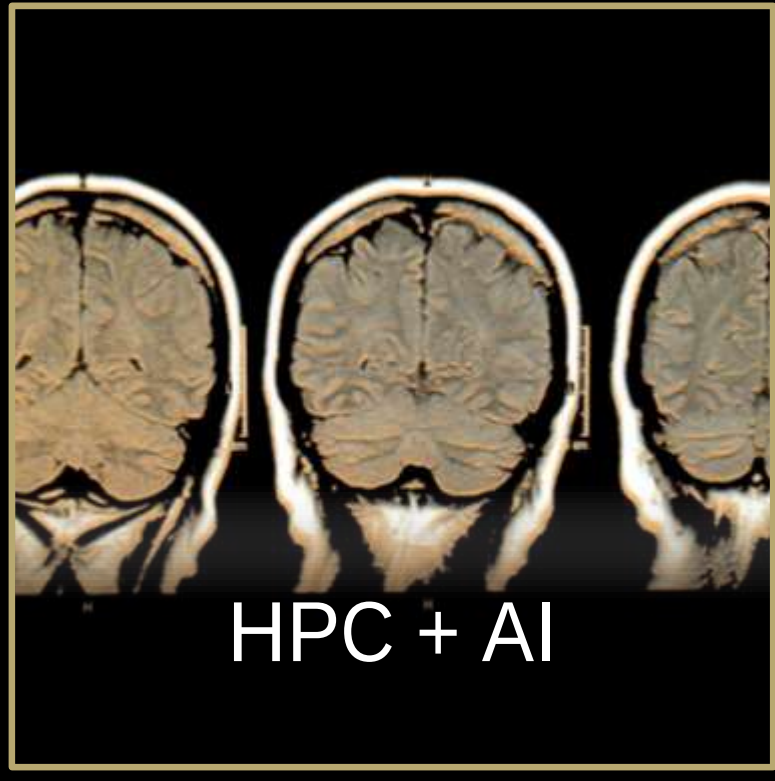
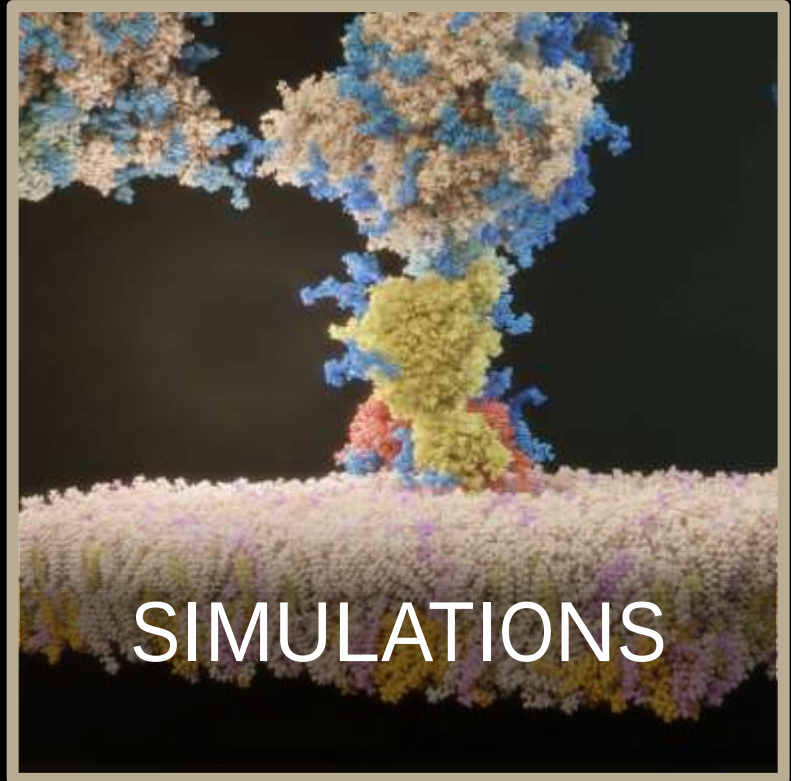


Bluefield DPU

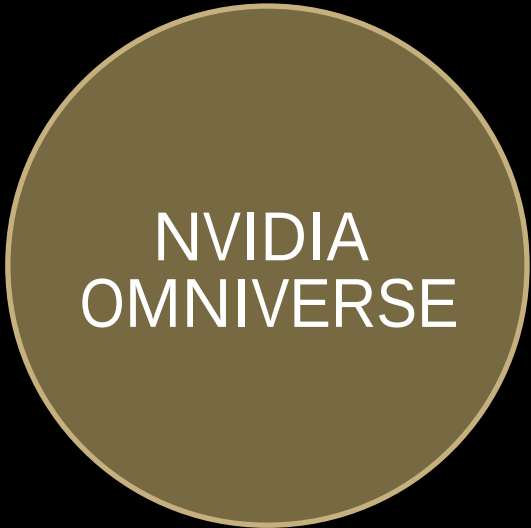
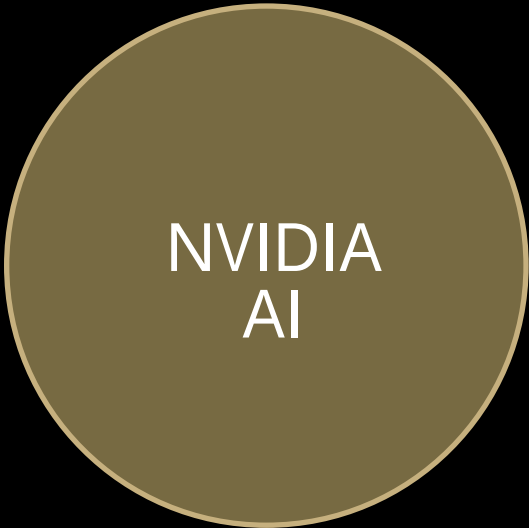
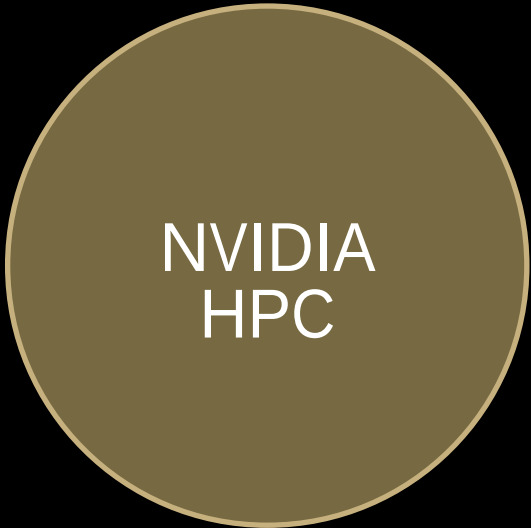


Quantum InfiniBand

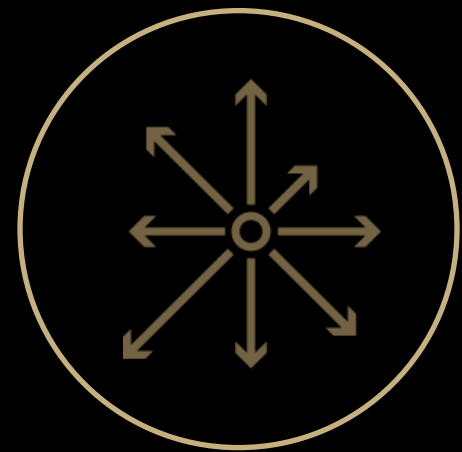
APPLICATIONS



PLATFORM



SYSTEM SOFTWARE



HARDWARE

