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MERIDIAN GROUND SYSTEMS

ai-solutions.com/meridian

Large Scale Flight Dynamics

Navigating Complex Scanerios with Simple Patterns

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GSAW 2024

1

Nominal Launch

N

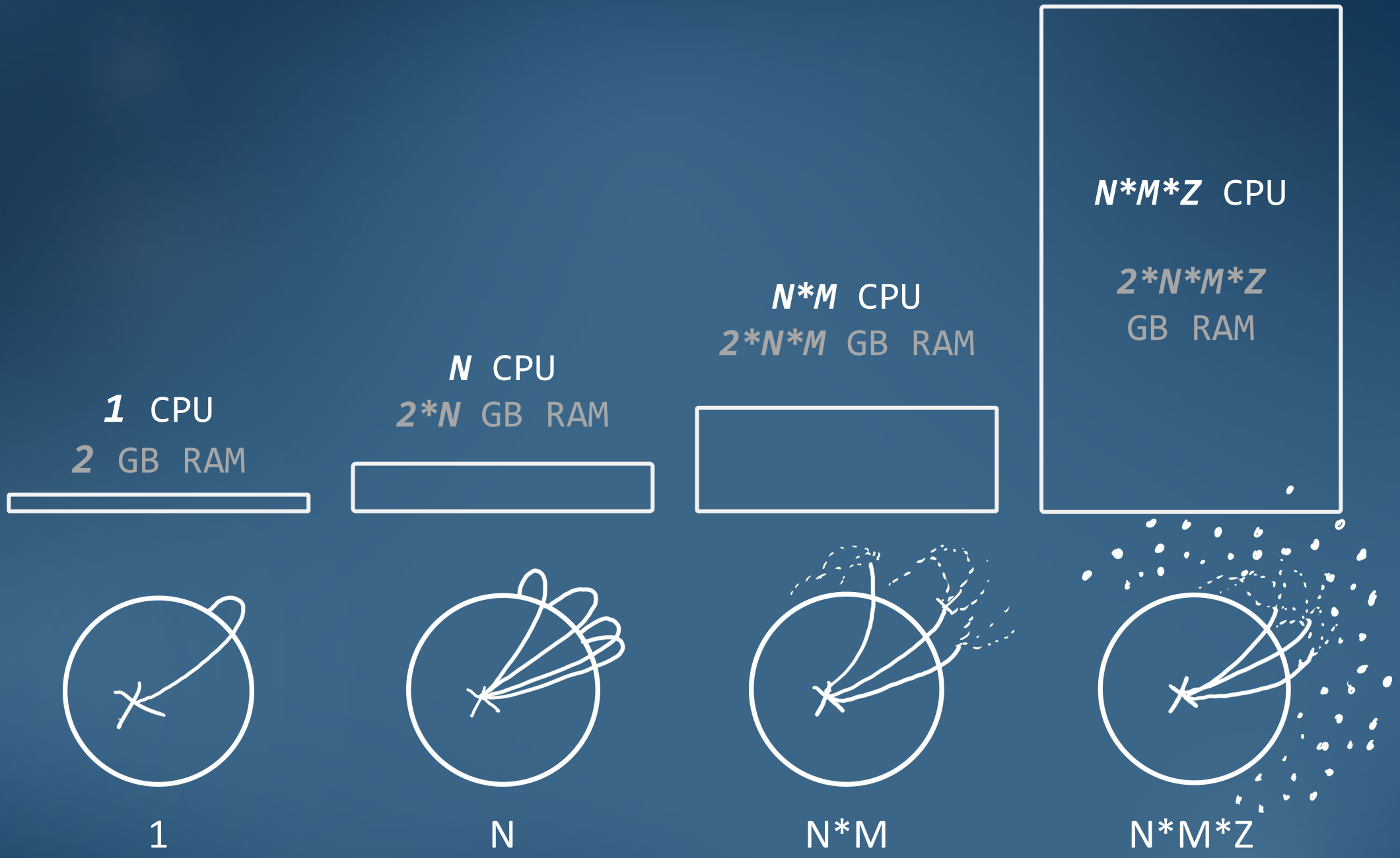
Multiple Launch Windows

N * M

Deploying Multiple Satellites

N * M * Z

Debris Conjunction Assessment


1 CPU
2 GB RAM
N CPU
2*N GB RAM
N*M CPU
2*N*M GB RAM
N*M*Z CPU
2*N*M*Z
GB RAM
1
N
N*M
N*M*Z

Flight Dynamics Engineers

Meridian Cloud Workbench

Service Containers

API

Database

Schedule

Network

These are “always on” containers

Data Center

Orchestration Layer

Computer H/W

Computer H/W

Computer H/W

Flight Dynamics Engineers

Meridian Cloud Workbench

Service Containers

API | Database | Schedule | Network

These are “always on” containers

FreeFlyer

Algorithm Library Container

The algorithm library container runs “on demand”

Data Center

Orchestration Layer

Computer H/W | Computer H/W | Computer H/W

Flight Dynamics Engineers

Meridian Cloud Workbench

Service Containers

API

Database

Schedule

Network

Algorithm Library Container

When a flight dynamics eng. runs a task, the API tells the orchestration layer to run our algorithm using a container

Data Center

* Can be “on-premises” or on a cloud provider

Orchestration Layer

Flight Dynamics Engineers

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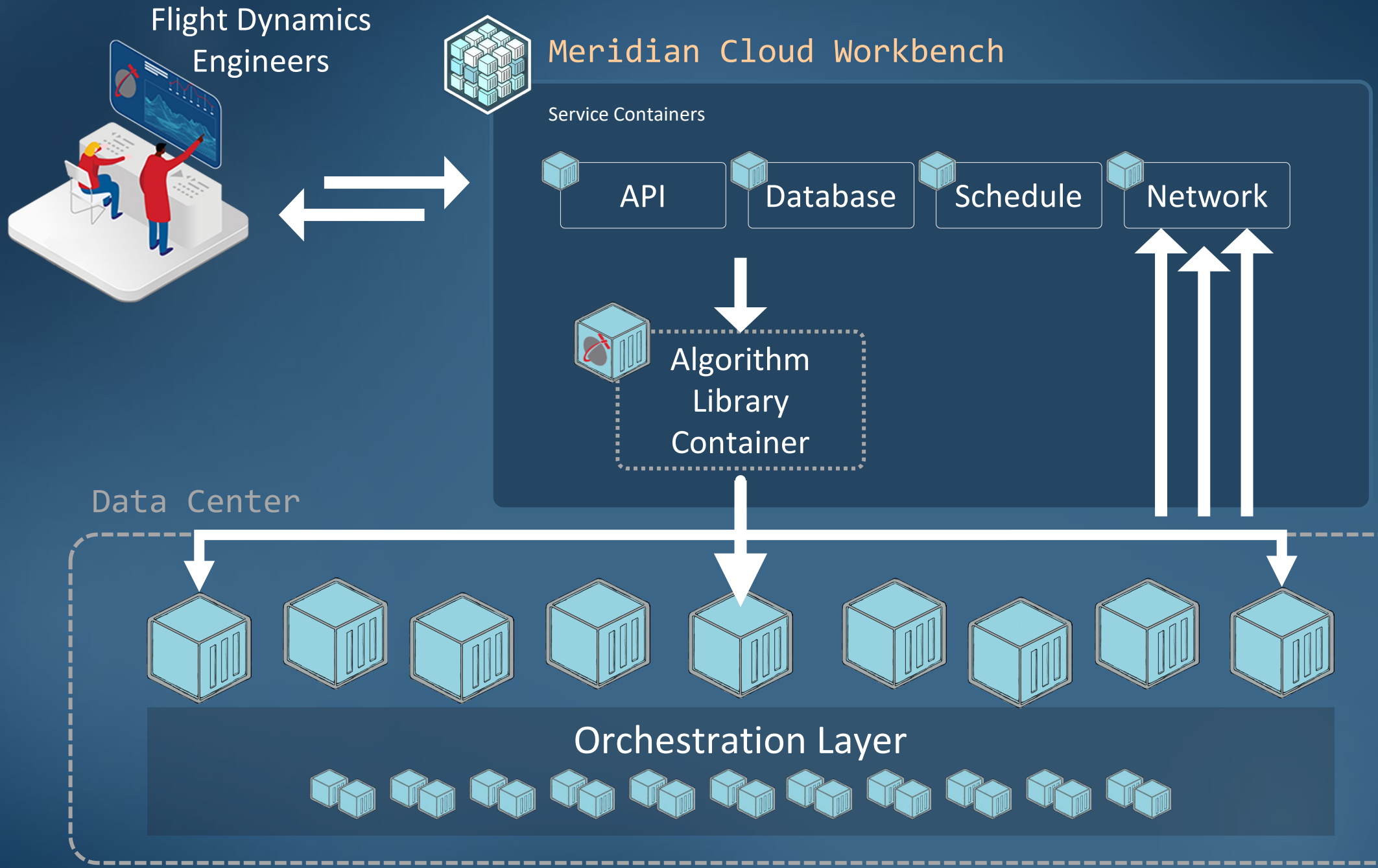
Algorithm Library Container

Data Center

As the container runs, the container passes back data in real time, splitting the load

Orchestration Layer


Flight Dynamics Engineers
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Meridian Cloud Workbench

Data Center

64 CPU / 256 GB RAM

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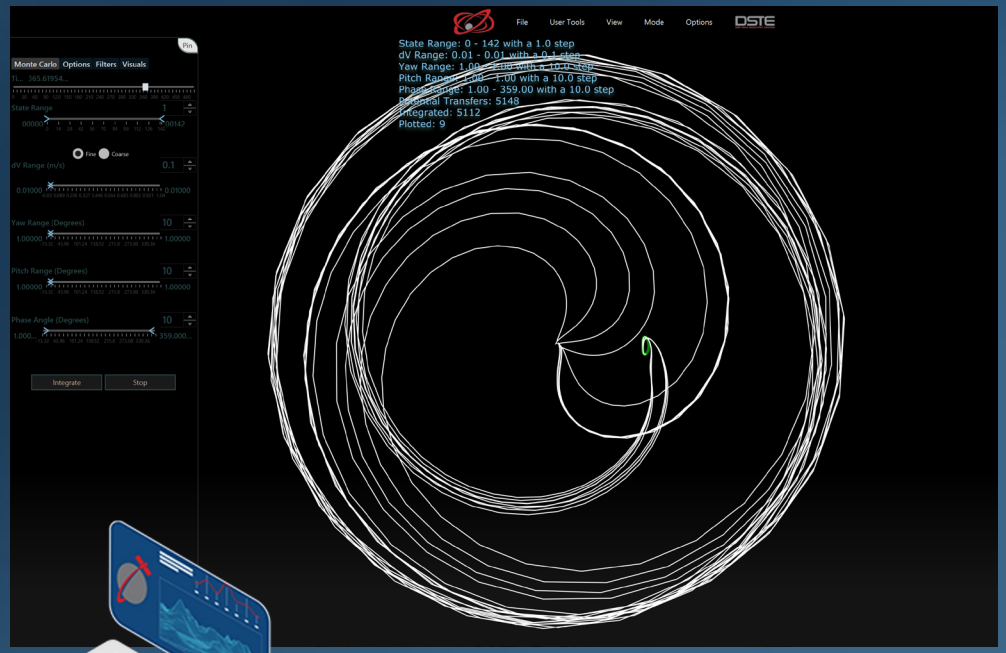
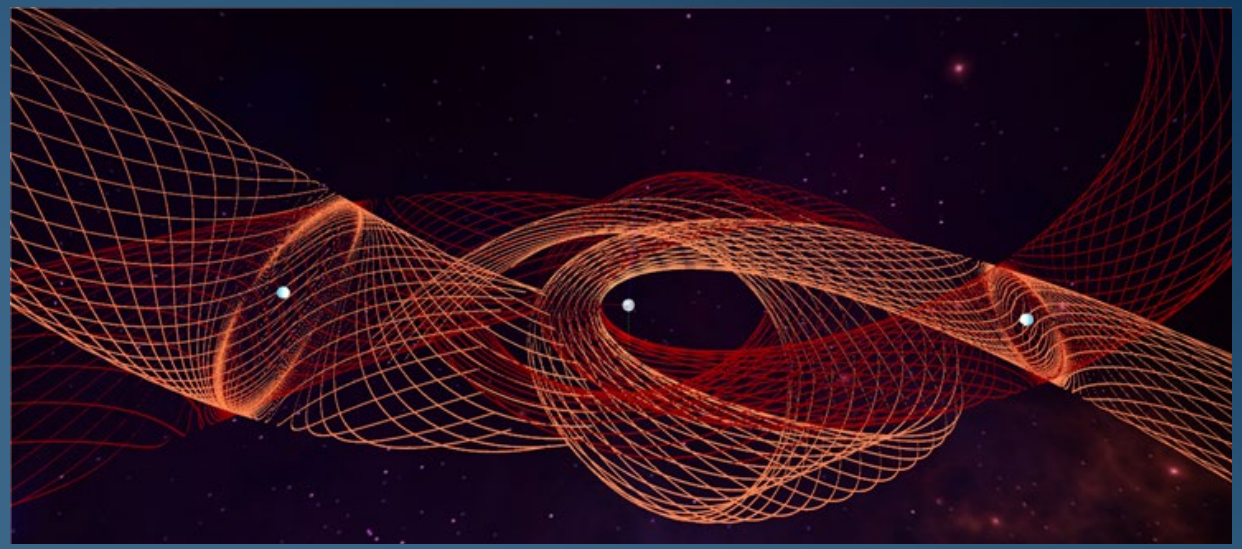
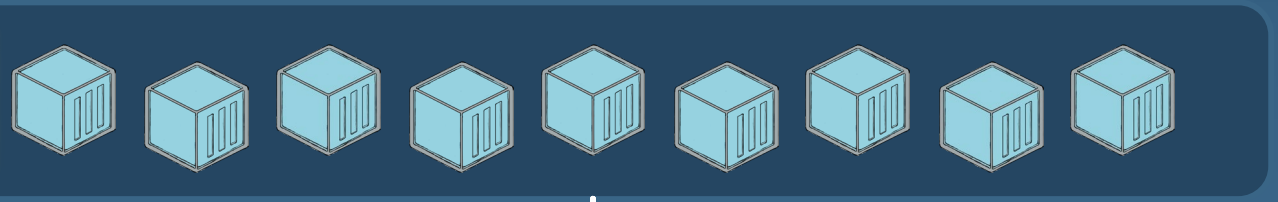




Meridian Cloud Workbench



Data Center

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Thank You

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