

AI meets Connectivity: Digital Realty's perspective and UK developments

LINX 123, 20-21 Nov. 2024, London, UK



Andreas Polyrakis

Director, Strategy & Business Development,
Network Service Providers
apolyrakis@digitalrealty.com

Darren Chan

Sr. Solution Architect

darrenchan@digitalrealty.com





A global data center platform,
with local expertise

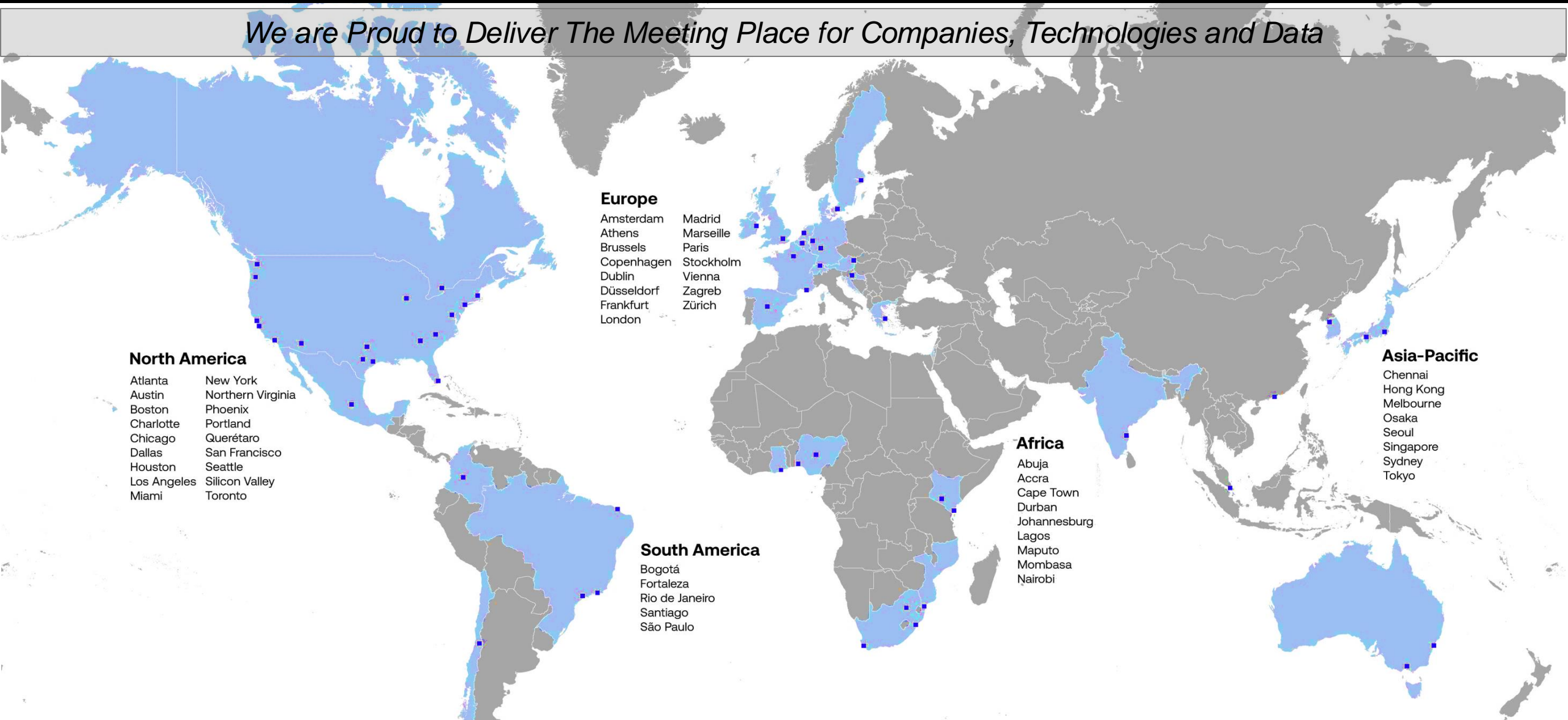
300+
Data centres

25+
Countries

50+
Metros

6
Continents

We are Proud to Deliver The Meeting Place for Companies, Technologies and Data





Agenda

1. Data and AI Insights Survey
2. AI connectivity
3. Digital Realty's Private AI exchange, Metro Connect, Service Fabric
4. Digital Realty UK updates
5. LINX & Digital Realty





Data and AI Insights Survey

The state of Data and AI in Europe

About the Survey

AI raises the stakes for enterprises and IT leaders. AI initiatives are data-intensive, fueled by a nearly endless stream of data, often ingested in real-time or near real time. IT infrastructure that doesn't account for Data Gravity compromises successful AI innovation and puts companies at risk of getting left behind.

To better understand what it takes to succeed in this new era, we surveyed respondents from Europe to understand how they're creating data strategies that support new AI initiatives.

Methodology

1046

IT decision-makers

11

Industries

11

Countries

Respondents from 11 countries:

Austria, Belgium, Denmark, France, Germany, Ireland, Netherlands, Spain, Sweden, Switzerland, and the United Kingdom



Global Data Insights Survey

34

questions

2,254

respondents

21

countries

11

industries

\$100M – \$1B+

company size by revenue

*Due to rounding, not all figures in this report add to 100%.



The state of Data and AI in Europe

Key findings

IT leaders across Europe know that to reap the benefits of data-driven initiatives and realize the value of AI, they need to invest in foundational strategies that support data infrastructure, storage, processing, and analytics tools. While they face challenges with infrastructure investments, data privacy regulations, and sustainability, they are on the right path to a data-centric future in the global AI revolution.

1. Data-first strategies advance AI innovation

65%

of companies across Europe are executing a formal data strategy for their current or planned IT locations.

93%

prioritize sustainability as they develop and adopt formal AI strategies.

2. Data is pervasive and growing

57%

prioritize infrastructure that can handle AI power and energy demands to store, process and host vast quantities of data.

3. Data localization matters more than ever

79%

of companies in Europe follow a distributed data approach.

72%

are tying a data location strategy to their AI strategic plans.

4. Data drives the business agenda

52%

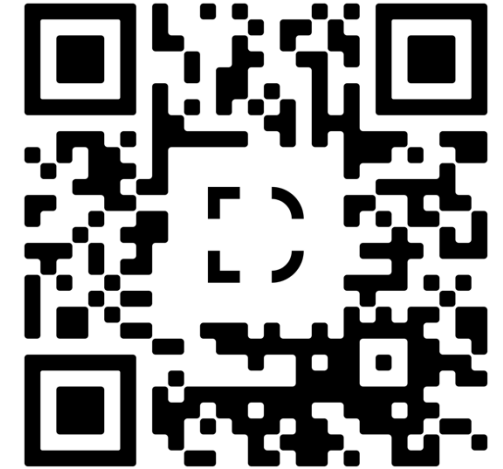
Data-driven insights will have the biggest impact on improving data and infrastructure location strategy.



Download for free



Download



<https://qrco.de/bfYl5l>

Also available: [Global](#) | [Americas](#) | [APAC](#)

Download the Global Data Insights Survey for the region of your interest and discover how IT leaders across the globe leverage data and AI to fulfill their business intelligence strategies and gain competitive differentiation.



AI meets connectivity



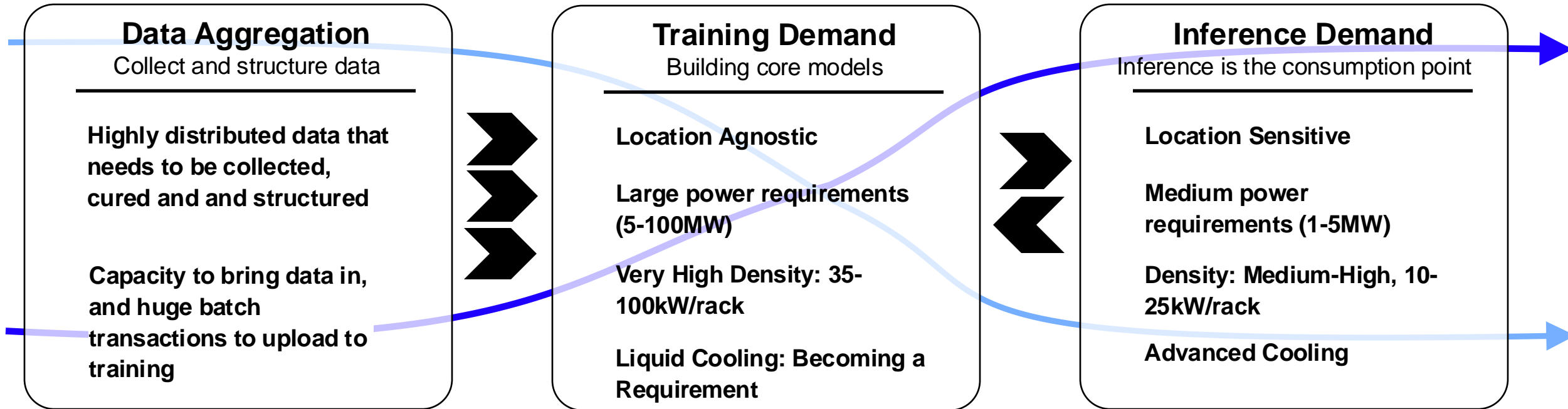
AI is continuing to accelerate and evolve

Data aggregation, training and inference workloads co-exist in Digital Realty data centers

0 Data Aggregation & Preparation

1 Training

2 Inference



AI & Interconnections/Peering

CAPACITY, CAPACITY, CAPACITY

- Huge capacity requirements (eg 400G/800G) for gathering distributed data and feeding training clusters

HYBRID AI

- Public Cloud AI infrastructure will absorb a significant portion of the demand
- Private AI for corporate-sensitive data and proprietary training
- Governance, Regularity & Sovereignty rules (eg on sectors like FS or Health) may lead to Sovereign AI
- Hybrid AI to connect different AI providers

▪ ORCHESTRATION

- AI and Data Exchanges, to provide access to hybrid AI and interconnect components from different providers
- Intelligent orchestration across data, AI models, and applications, delivered to users in real-time

INFERENCE, AI GATEWAYS & ON-RAMPS

- Expect AI Inference to drive interconnection
- Cloud on-ramps may evolve to also host “AI Gateways/on-ramps”
- New specialized AI-related network/peering services?

TRAINING LOCATIONS

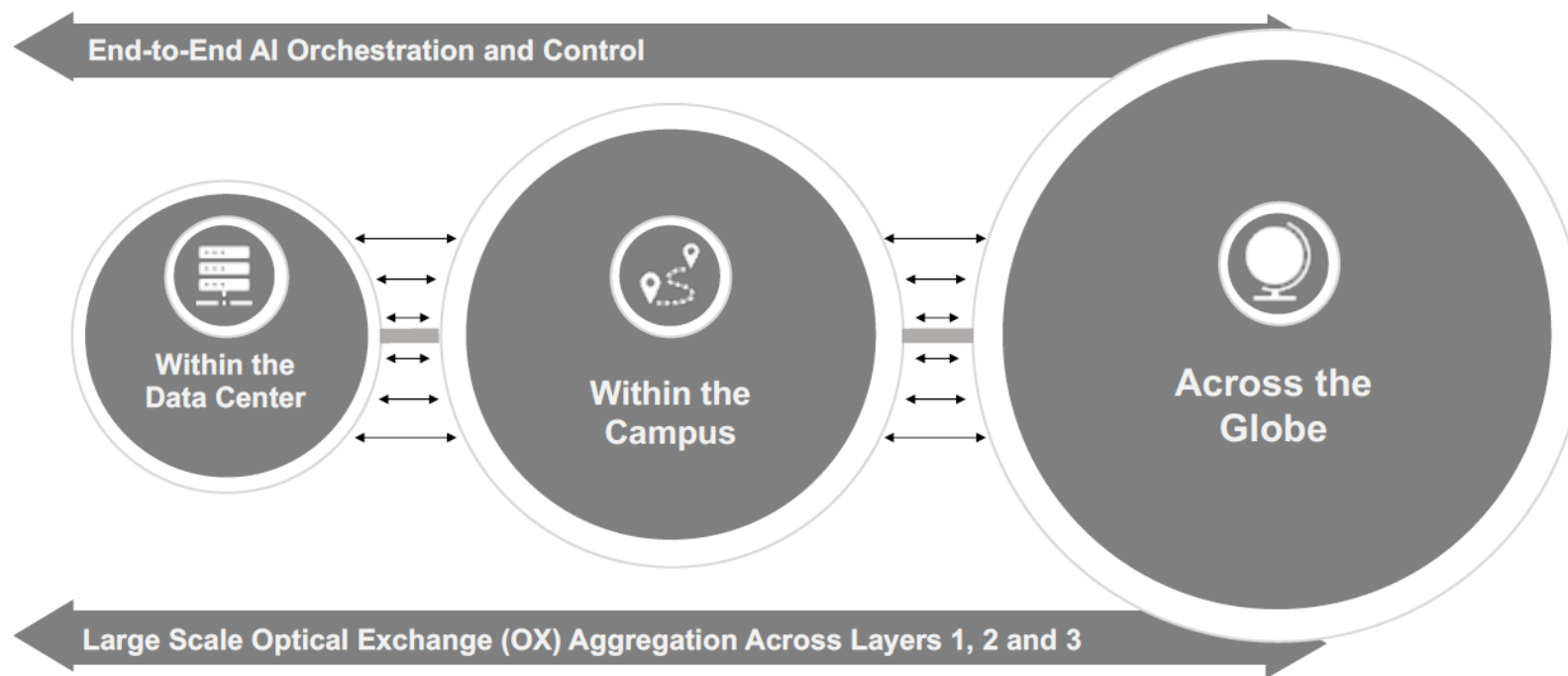
- Training will take place on selected core locations, within purpose-built datacenters that meet the huge capacity and rack density requirements
- Power availability/price will affect training locations
- Land availability/price may drive deployments to suburban campuses.
- Connectivity, although important, not a key factor in land selection. Infrastructure providers are expected to adapt their footprint to address the needs of AI
- Sovereign AI will also affect training locations

Service Fabric and Private AI Exchange

Private AI Exchange (AIPx) – Network Ecosystem

Optical Exchange (OX) for AI Network Scale (NaaS for Physical/Virtual Services)

AI Networking Mandate: large scale flows, latency sensitive, orchestrated, automated, on-demand



ARCHITECTURE: Campus Meet-me-Point Aggregation (for Intra-DC, Intra-Campus, and Inter-Campus/WAN connectivity)

TECHNOLOGY: Active-Tech for Layer 1/2/3 NaaS, Robotic Automation for Physical Network-on-Demand (PNaaS)

ORCHESTRATION: ServiceFabric AI-Controller for realtime discovery, inventory, and control automation across all layers and AIPx-Ecosystem

USE CASE ENABLEMENT: GPU/Cluster (contiguous and distributed), Campus Connect, AI Onramps (WAN/Cloud/AIPx-Ecosystem)



DIGITAL REALTY

(EARLY) OX PARTNERS: Network Service Providers, Distributed-Compute, PNaaS, UltraEthernet/Similar, Cloud (New/Exist.Onramps), more...

Digital Realty London Metro Map

7

Interconnected
Campuses

14

Data Centers

75%

of Fortune 500

200+

Carriers


Alibaba Cloud


aws


citynetwork

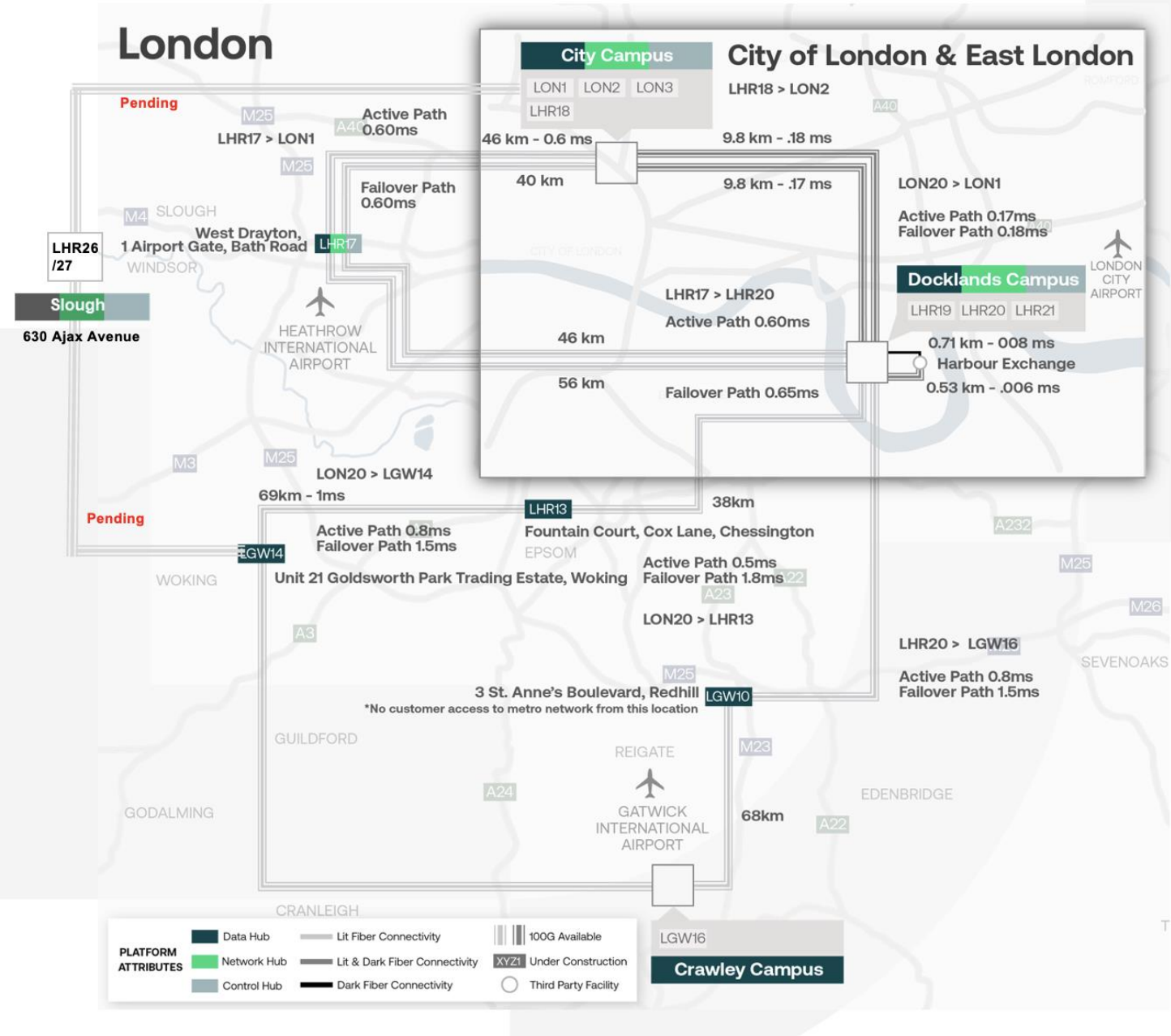

Google Cloud


IBM Cloud


ORACLE
CLOUD


Microsoft
Azure





salesforce



AI Training / Inference



Think AI?
Most people think of Nvidia



NVLink Switch x9

NVIDIA GH200 x32

- 32 NVLink-connected GH200 Grace Hopper Superchips per rack
- Liquid Cooled
- Reduces the cost to train trillion parameter MOE models by 2X
- Doubles inference performance of giant model LLMs
- 20TB of shared memory for the largest AI models

32 GH200 Superchips | 9 NV Switch Systems | 1 Rack
57.6 TB/sec NVLink | 128 PF AI | 4.5 TB & 157 TB/sec HBM3e | 20 TB Total Memory

Actually, it can be done with this



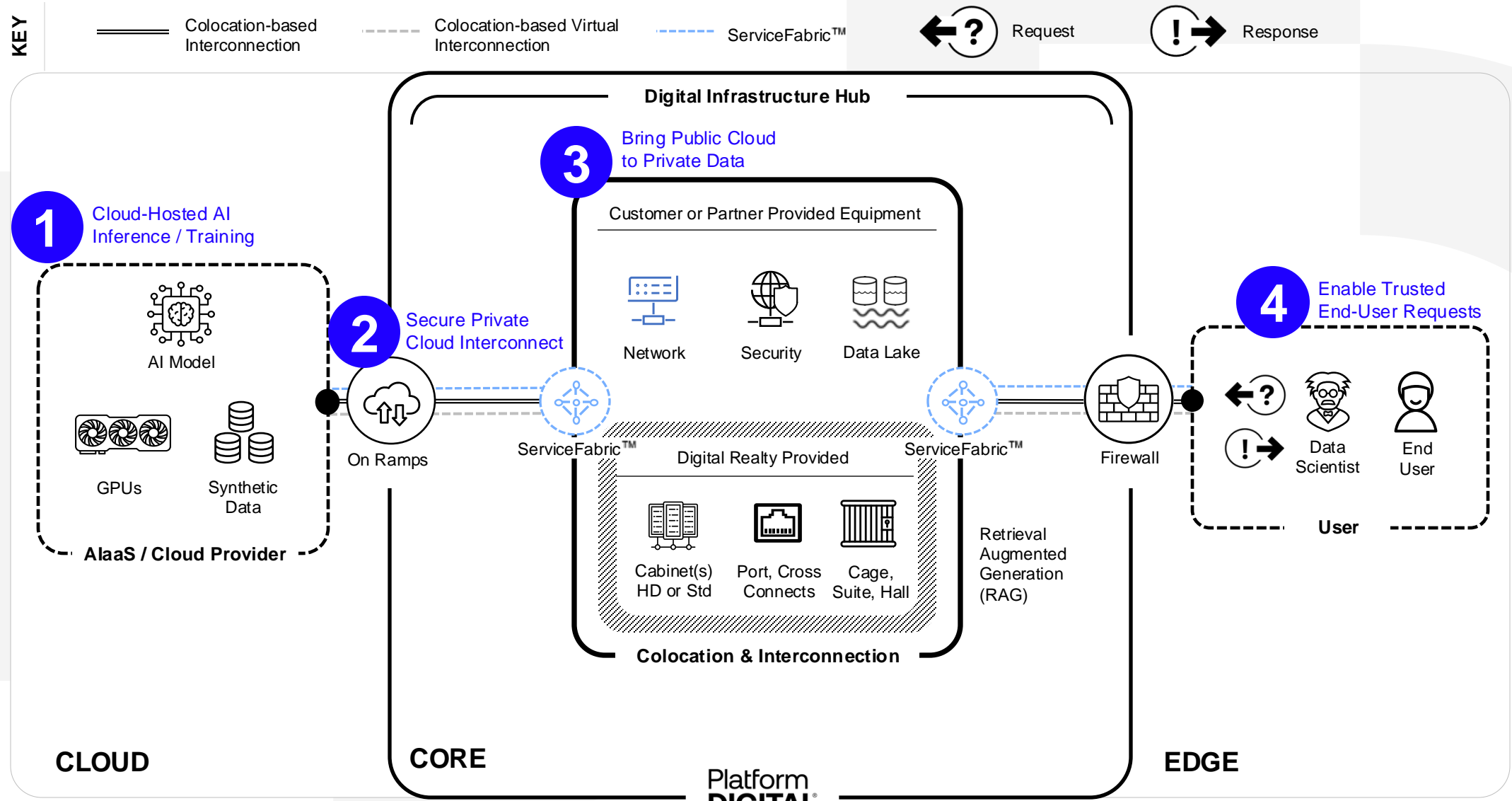
Intel® Xeon® W5-3435X (up to 4.7 GHz with Intel® Turbo Boost Technology, 45 MB L3 cache, 16 cores, 32 threads) Starting with 1125 W to 2250 W can be stack with 4x NVIDIA RTX™ A6000

Studio AI pre-build software works with Github




AI Training / Inference – Hybrid Cloud

AI Training / Inference Cloud Hosted, Data-On-Prem

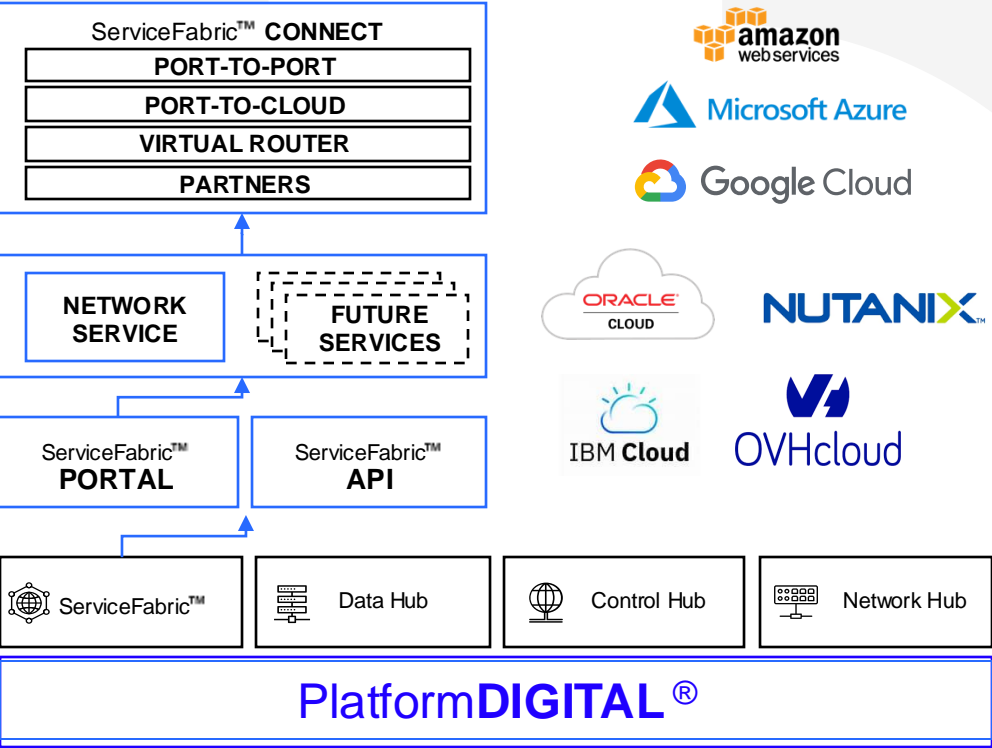


ServiceFabric™ Components

ServiceFabric™ Connect	
Ports	1G, 10G, 100G*
Virtual Router*	1G, 2.5G, 5G, 10G
Connections	Up to 10G** Destinations: Native Digital Realty, Megaport Destination Types: Cloud, Self, Other (Customers/ Partners/ Service Providers) Distance: Metro, Intercity

ServiceFabric™ Portal & API	
Partners	 

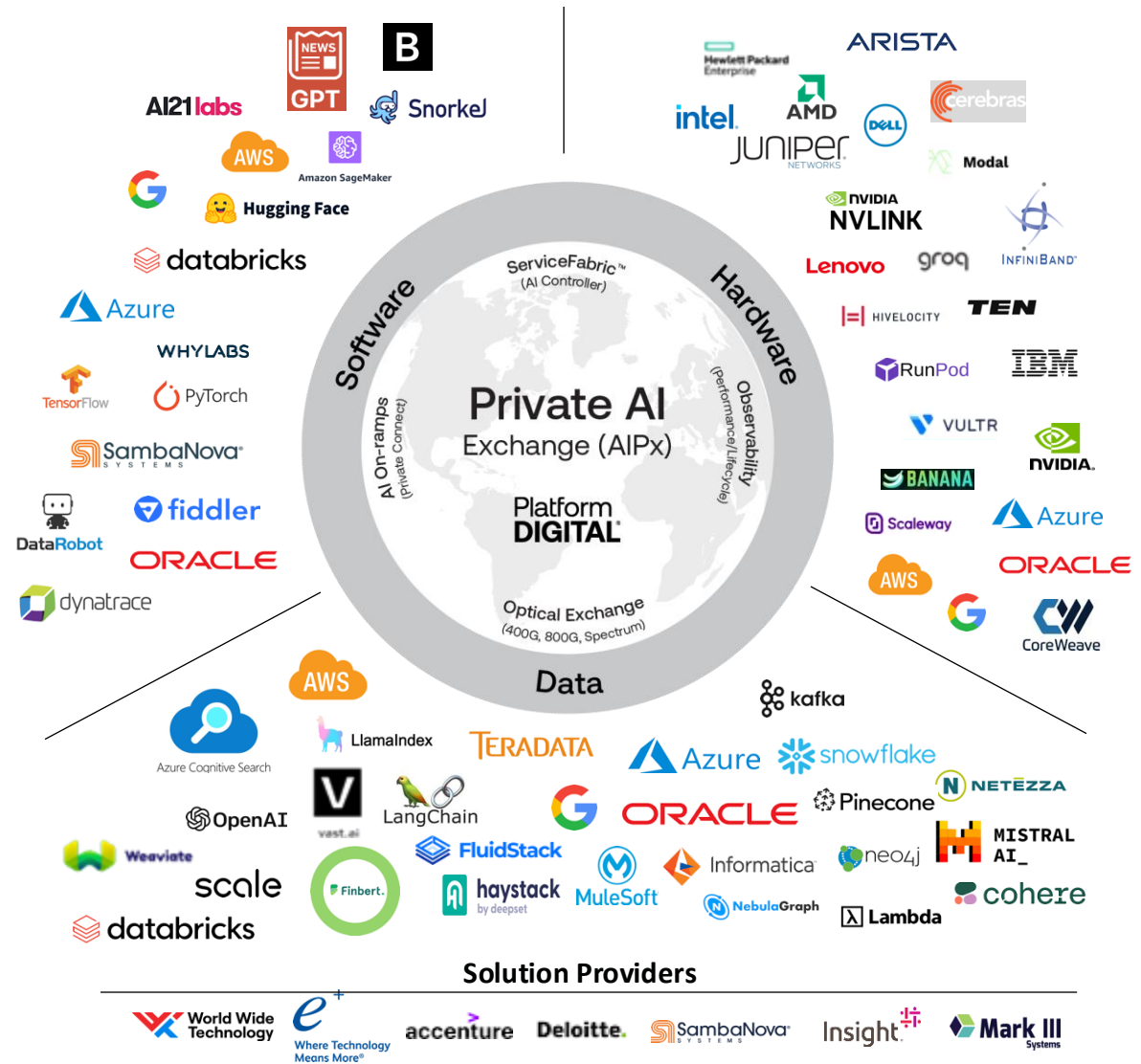
Components



ServiceFabric™ and AIPx

Private AI Exchange (AIPx) leverages ServiceFabric,™ enabling partners to extend their AI Infrastructure and Services over a single port (private, dedicated, AI On-ramp).

- Direct B2B Connections & Collaboration
- Brand Promotion & Revenue Growth
- Showcase Capabilities in Service Directory
- Expand to new markets beyond current territories
- Streamlined Service Access via “Click to Connect”



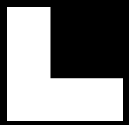


UK updates





Wrapping up





&





Questions?

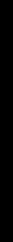




Thank you!



Connect with
Digital Realty



Andreas Polyrakis

Director, Strategy & Business Development,
Network Service
Providersapolyrakis@digitalrealty.com



Darren Chan

Sr. Solution Architect

darrenchan@digitalrealty.com

