

High Performance Datacenters with Advanced Cooling Technology

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More data, more heat

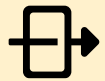
The next wave in computing performance requires data center innovation



A **transformative wave** is sweeping industries, boosting efficiency, driving data-driven decisions, enhancing customer experiences, and fueling innovation.



AI demands **specialized infrastructure** to process vast data and requires significant computational power, far beyond what general-purpose server farms can provide.



Gain access to the most impactful data by placing your most data-intensive workloads in proximity to the data you need



Pick the right collaborative partners to guide your innovation and overcome skill gaps and deployment complexity



“Surveyed organizations with AI in production report a median of 125 models in use and more than **1 Petabyte** of data required to train those models in aggregate.”¹

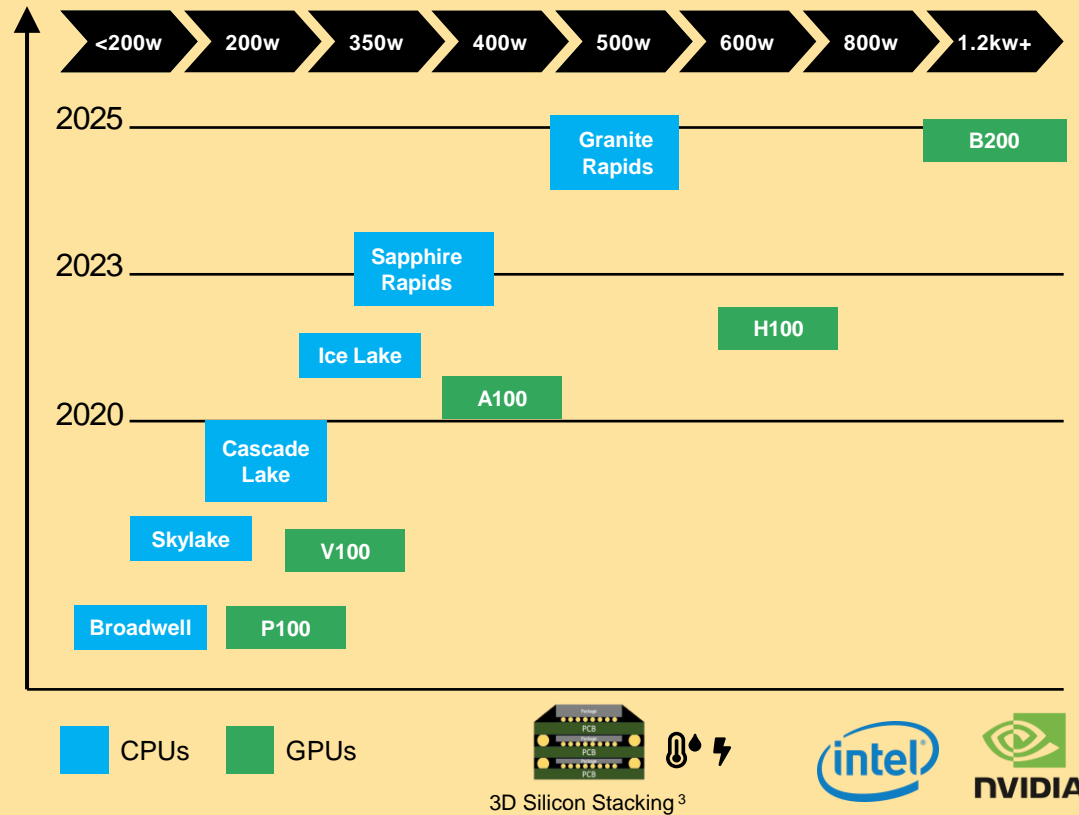


A Gen 4 CPU has TDP of **500w**.²



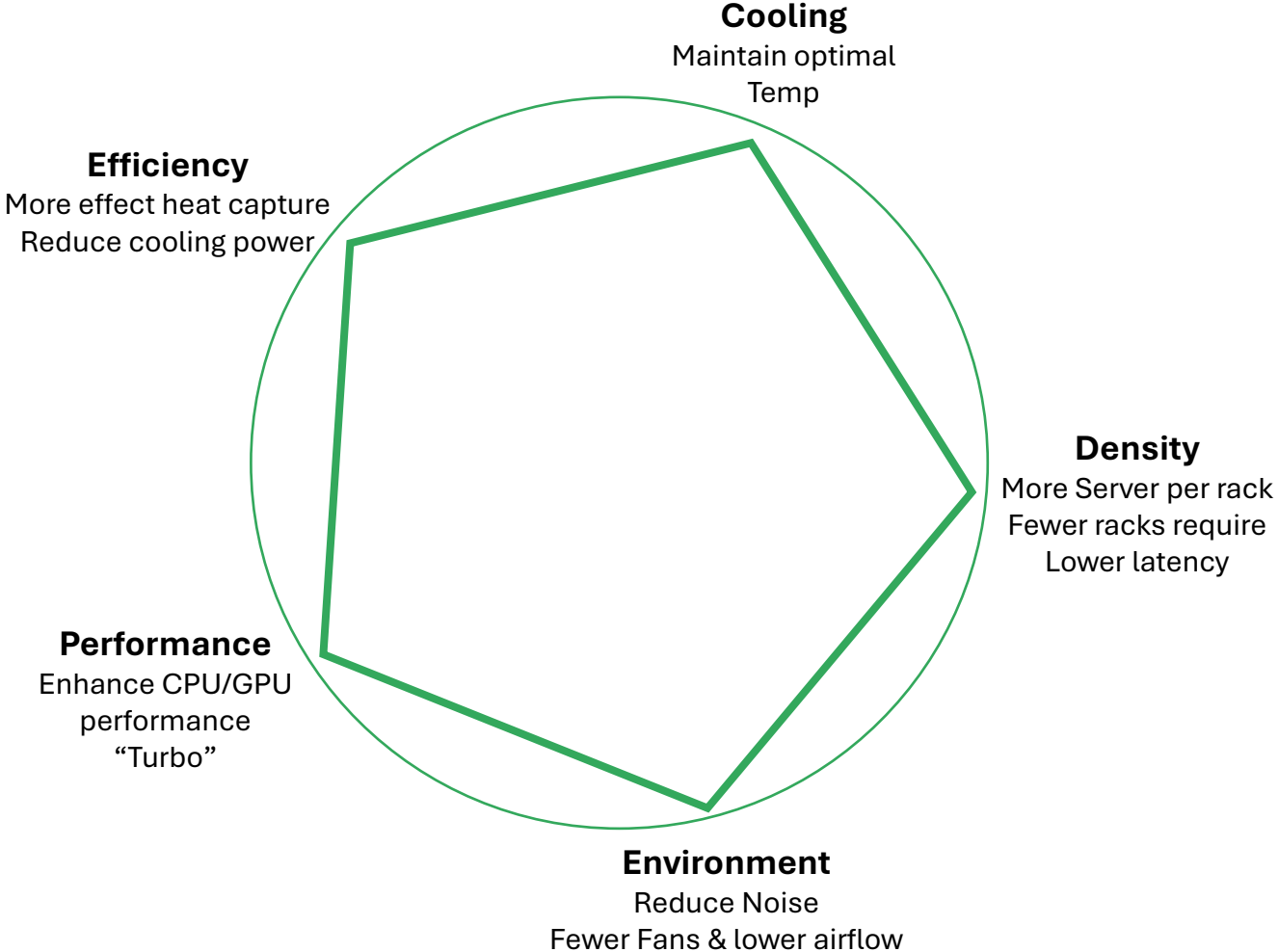
“Enterprises cite **networking** as the top bottleneck to AI performance.”³

Each generation of chipsets has a significant increase in power



Why liquid Cooling?

Higher Performance, Efficiency, Cooling, Density, Environment



Is liquid cooling right for your workload?

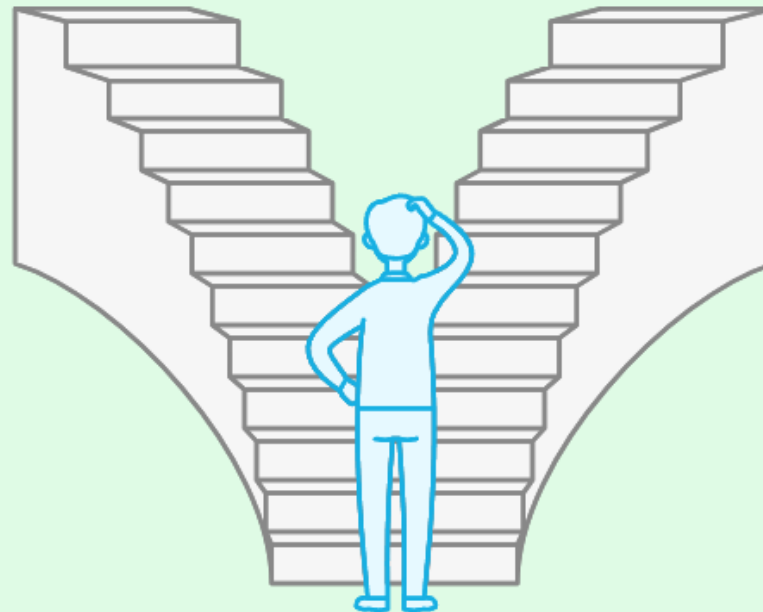
Should we adopt liquid cooling?

Adopt Liquid Cooling

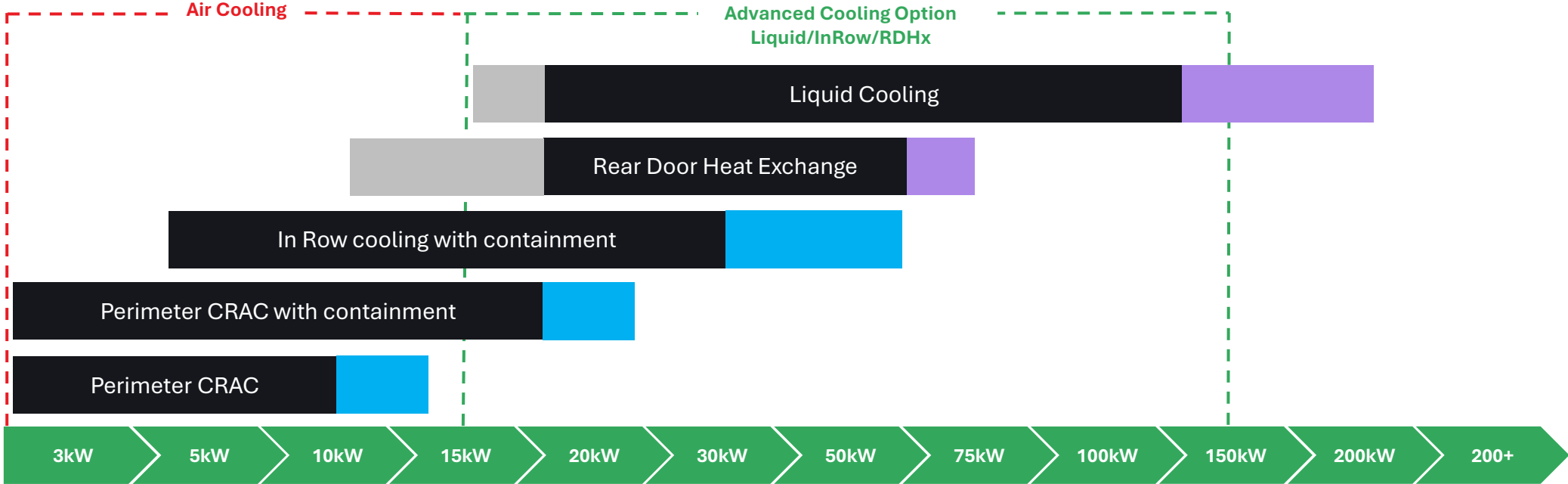
Higher Density Deployment, Improved energy efficiency, Improve Performance

Maintain Air Cooling




Lower upfront costs, established infrastructure, simpler maintenance.



Liquid Cooling vs Air Cooling: How Thermal Management Systems are evolving?



Note: Green boundary is viable for liquid cooling

-  Lower boundaries by design for efficiency or use case
-  Upper boundaries for extreme density rack size typical increases in height with width
-  Multiple technology can be combined for hybrid solutions



Server cooling system

Servers generate heat that has to be managed by either liquid or air cooling.

Server liquid cooling

Server air cooling

Air cooled chiller

Evaporative cooling tower

Heat exchanger
(eg: CRAC, CRAH, CDU)

Building cooling system

Either an air cooling or evaporative cooling system rejects heat outside the building.

Heat exchange

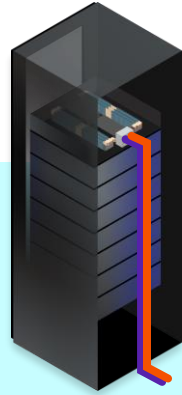
A heat exchanger transfers heat from the server room to the selected building cooling system.



High-density cooling solutions

Enabling the next generation of data center cooling innovation

Liquid Cooling

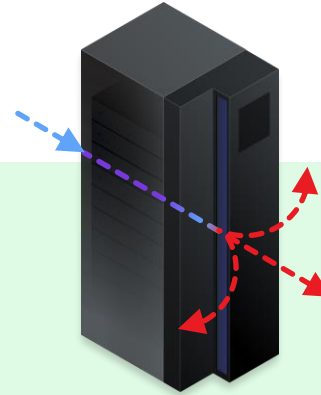


Direct-to-chip

- Most efficient heat transfer
- True liquid cooling
- Enables highest power densities
- Bring your own cooling distribution unit (can be purchased from Equinix)

*Shared Space & Private Cage

Augmented Air Cooling



Rear-door heat exchangers

- Enhanced air cooling
- Does not require server-level retrofit
- Bring your own cooling distribution unit (can be purchased from Equinix)

*Private Cage

In-row coolers

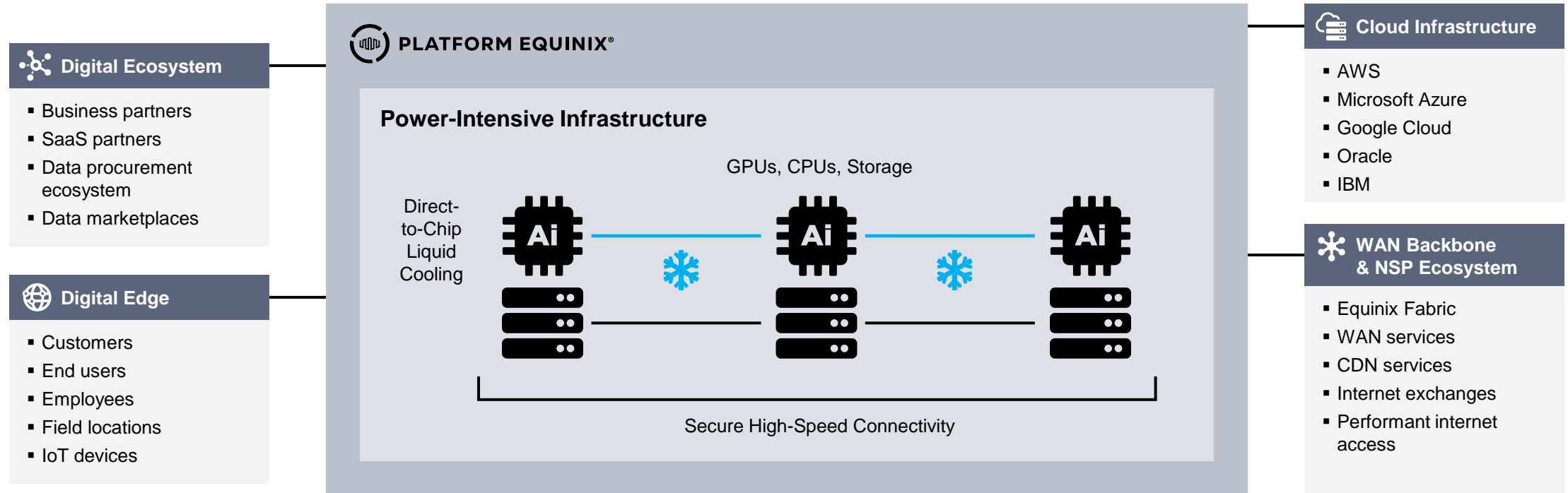


- Enhanced air cooling
- Does not require server-level retrofit
- Only available in cage environments

Build your preferred solution — enabled by a controlled water flow from Equinix-provided water loop at a demarcation point within your cage or cabinet.

How Platform Equinix enables data-intensive workloads

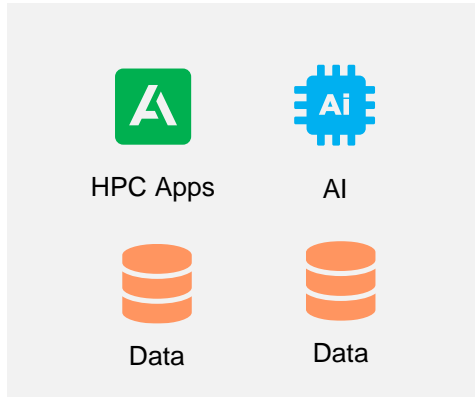
The best place to harness the power of big-data is at the nexus of data flows



Deploy liquid cooled Colocation at the crossroads of your clouds, backbone, digital ecosystems and edge. Unlock your data-driven advantage with direct interconnection between your data, end-points, and IT resources.

High-Density Deployment

Accelerated computing workload

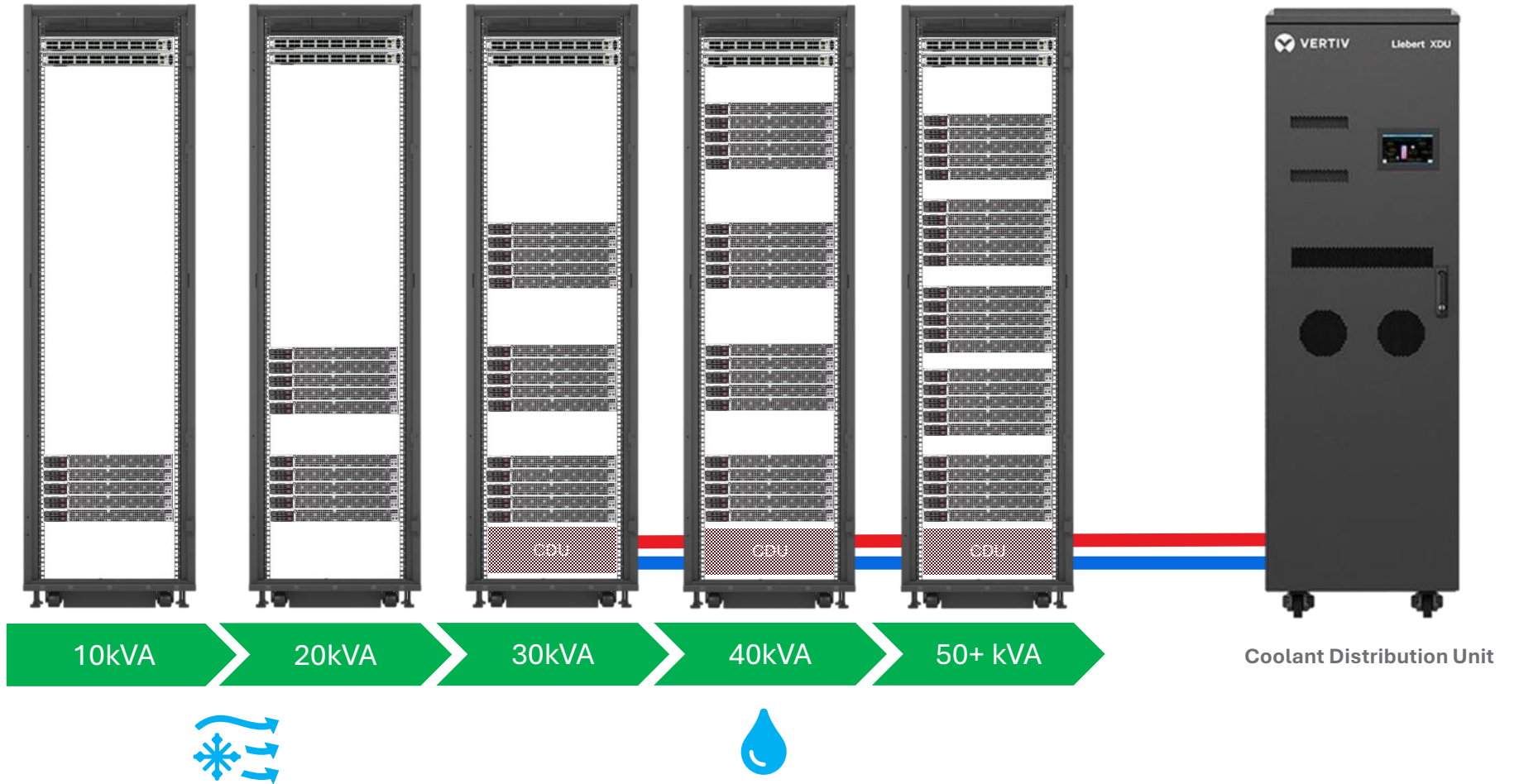


HPC Apps AI
Data Data



1U Intel Gen 4/AMD
Supports 4 GPU

60 new servers





**Enterprise AI
under your
complete control**



Direct to Chip

specialized for performance



~30kVA

Liquid to Cabinet



Interconnected

to clouds, Internet, partners



Proximity

to industry-leading AI partners



Take the next step

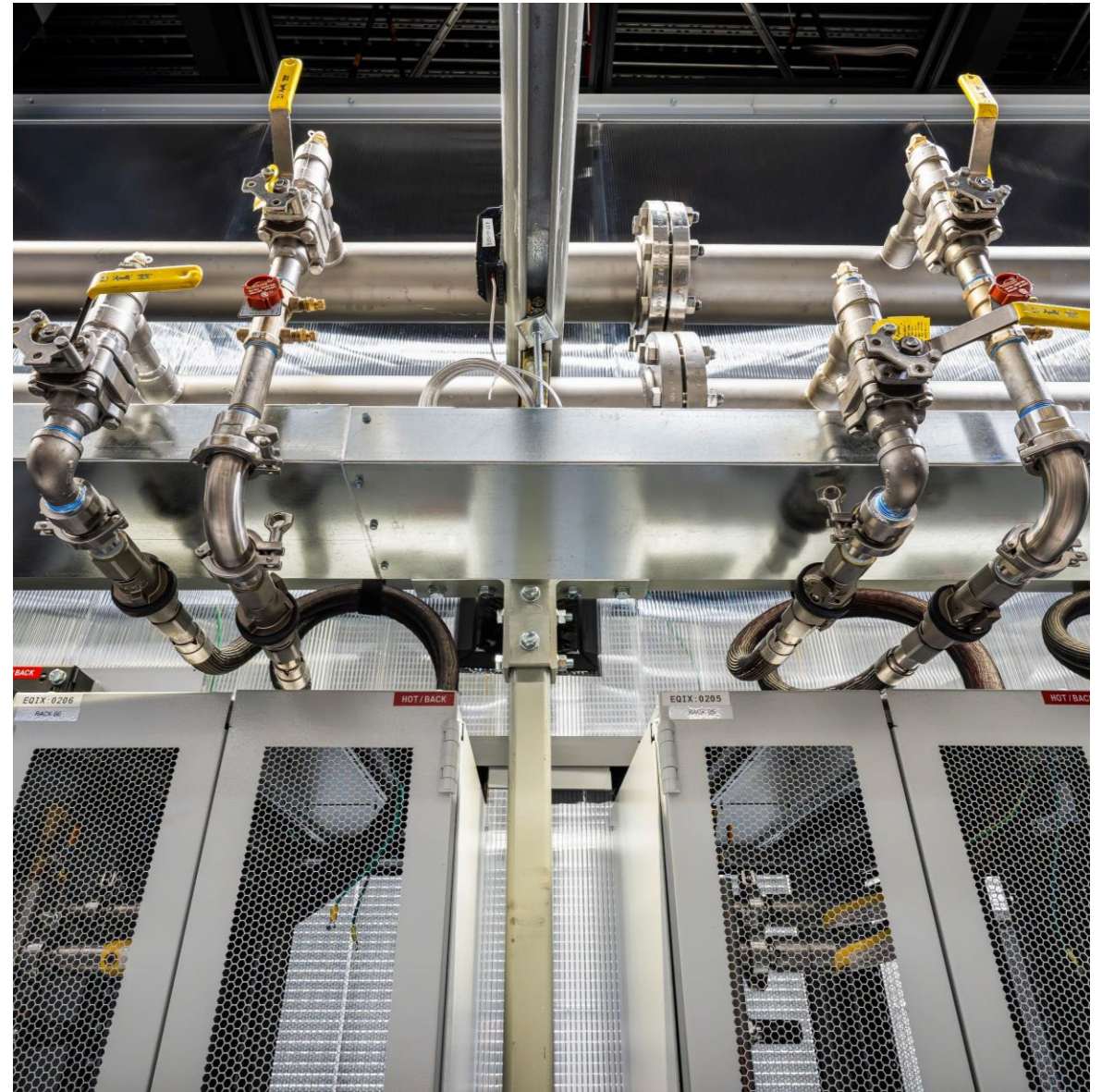
Build your high-powered, data-hungry workloads at Equinix

Equinix blogs:

[Exploring Liquid Cooling for Next-Gen Business Applications](#)

[3 Trends Driving Liquid Cooling for Data Centers](#)

[Data Center Cooling Continues to Evolve for Efficiency and Density](#)





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