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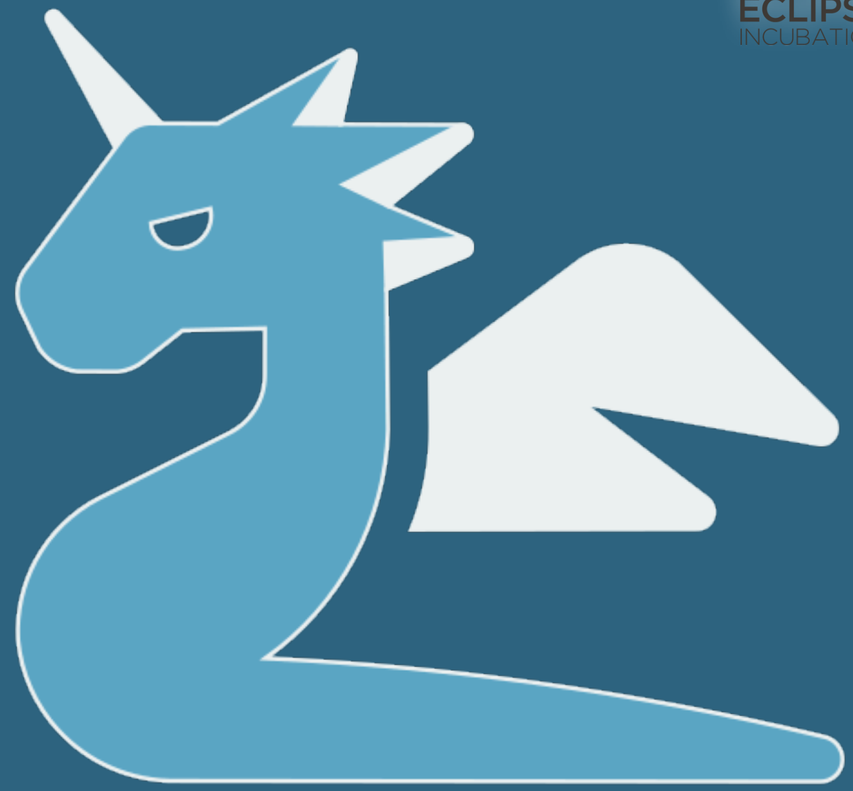
Unifying Data in Motion and Data at Rest from the Cloud to the Device



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Leading EDGE COMPUTING
Advanced Technology Office

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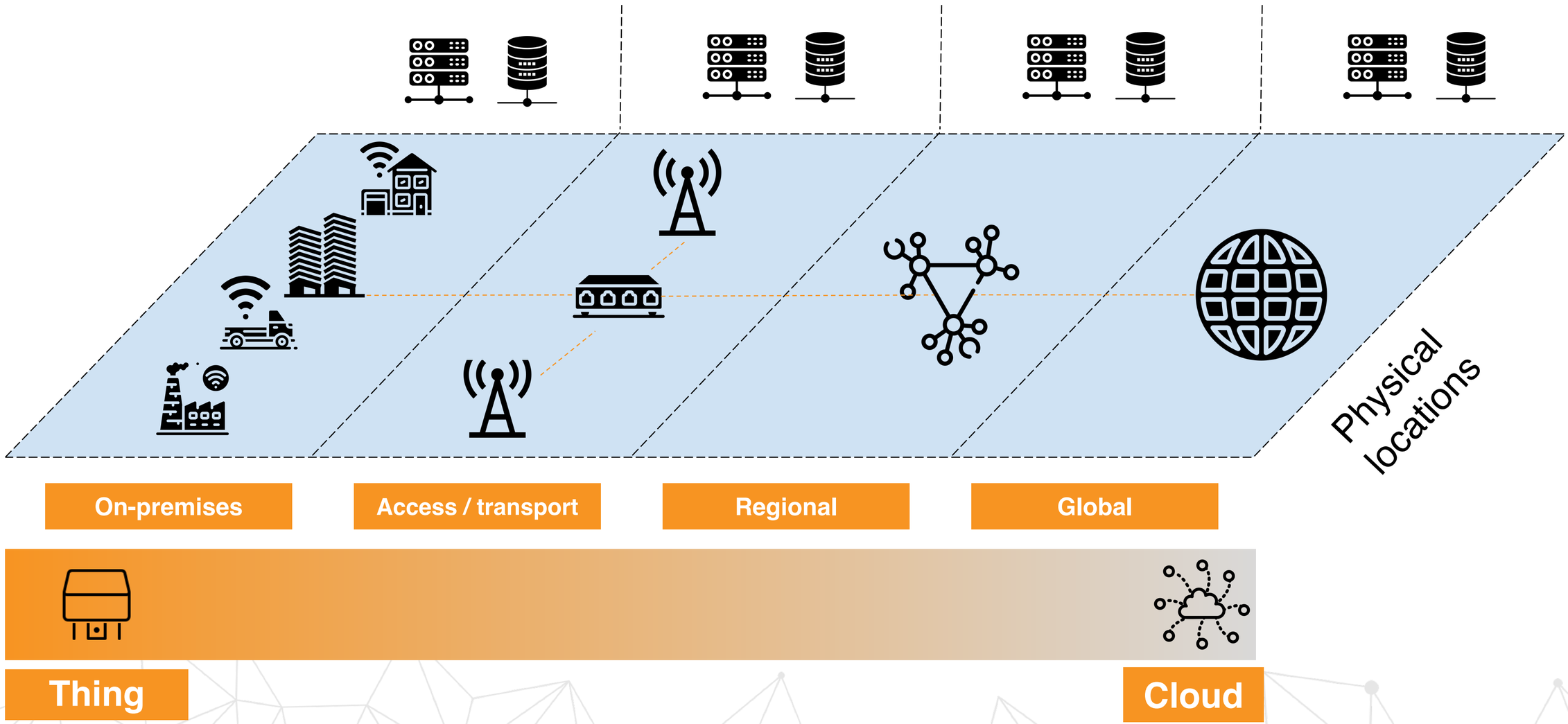
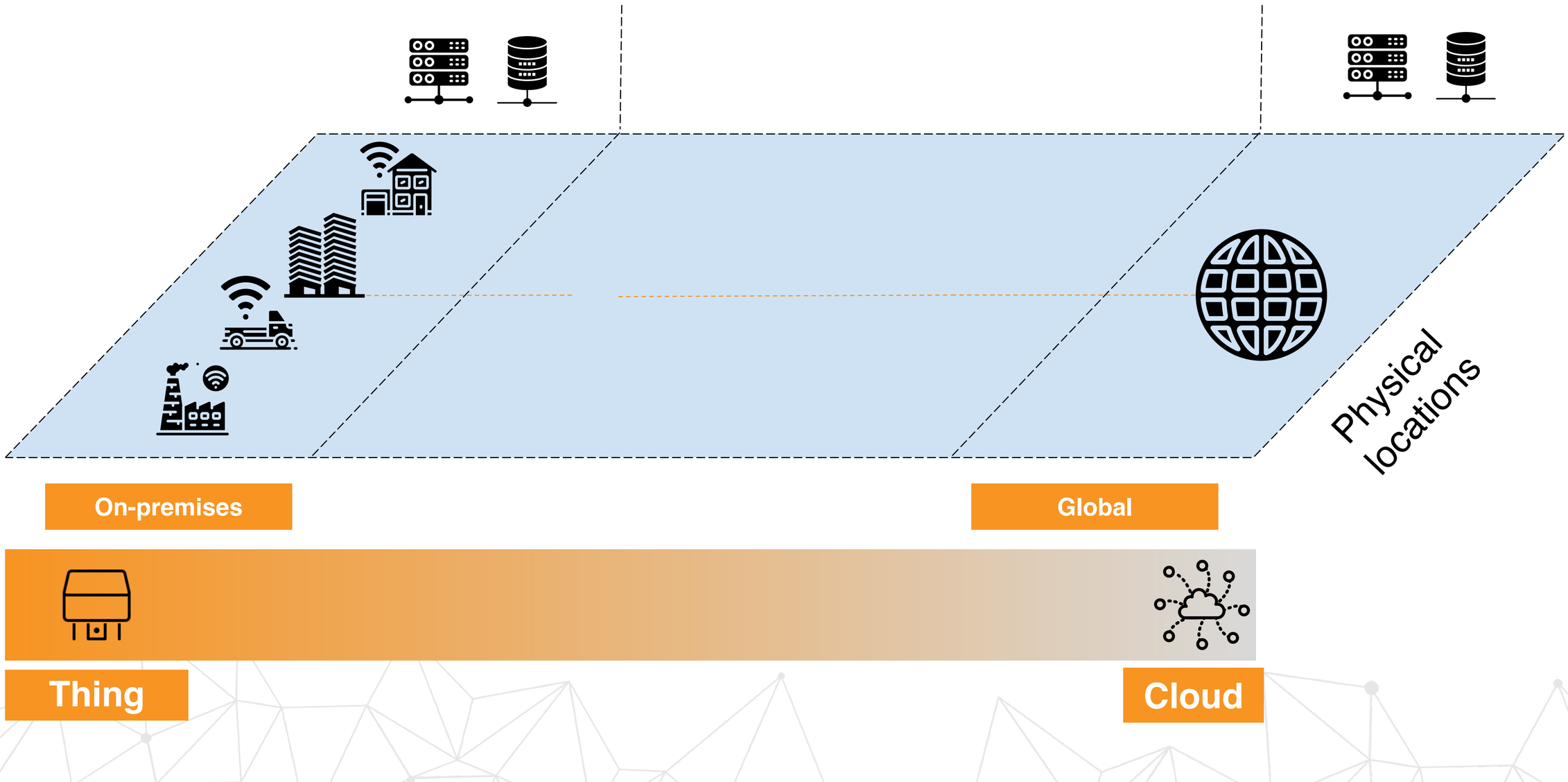
How Systems Are



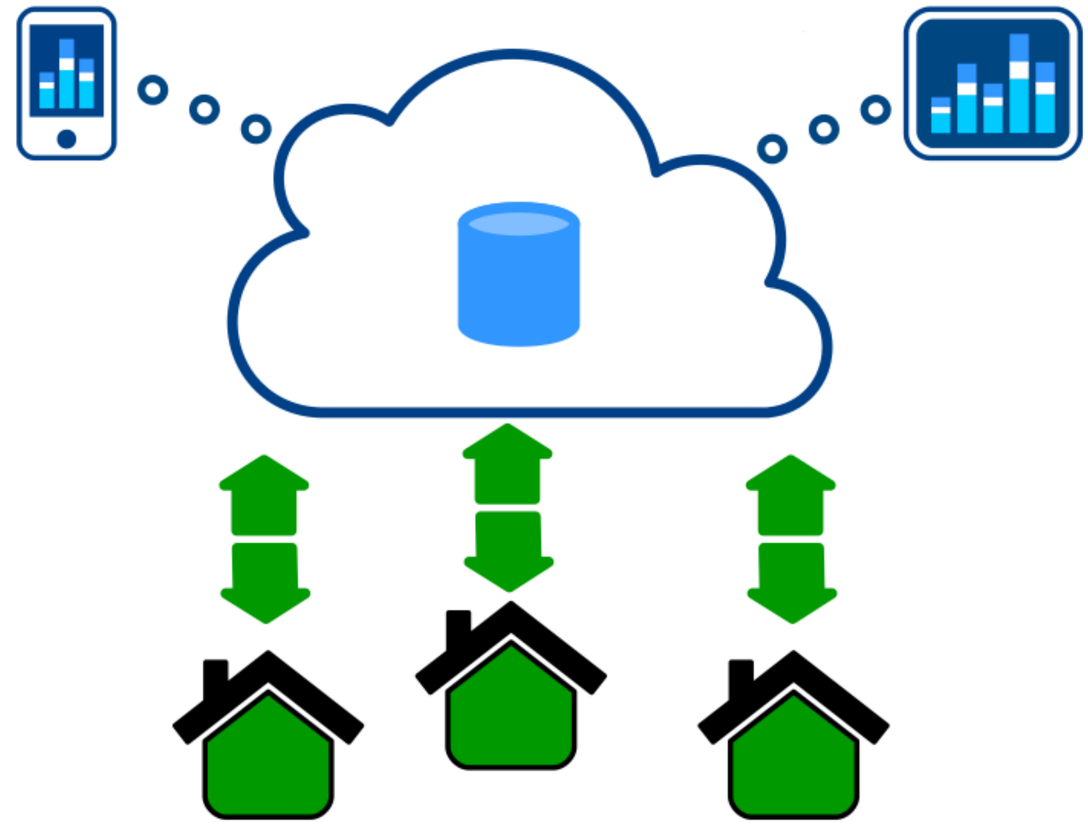
How Cloud Looks at Them



What's The Consequence

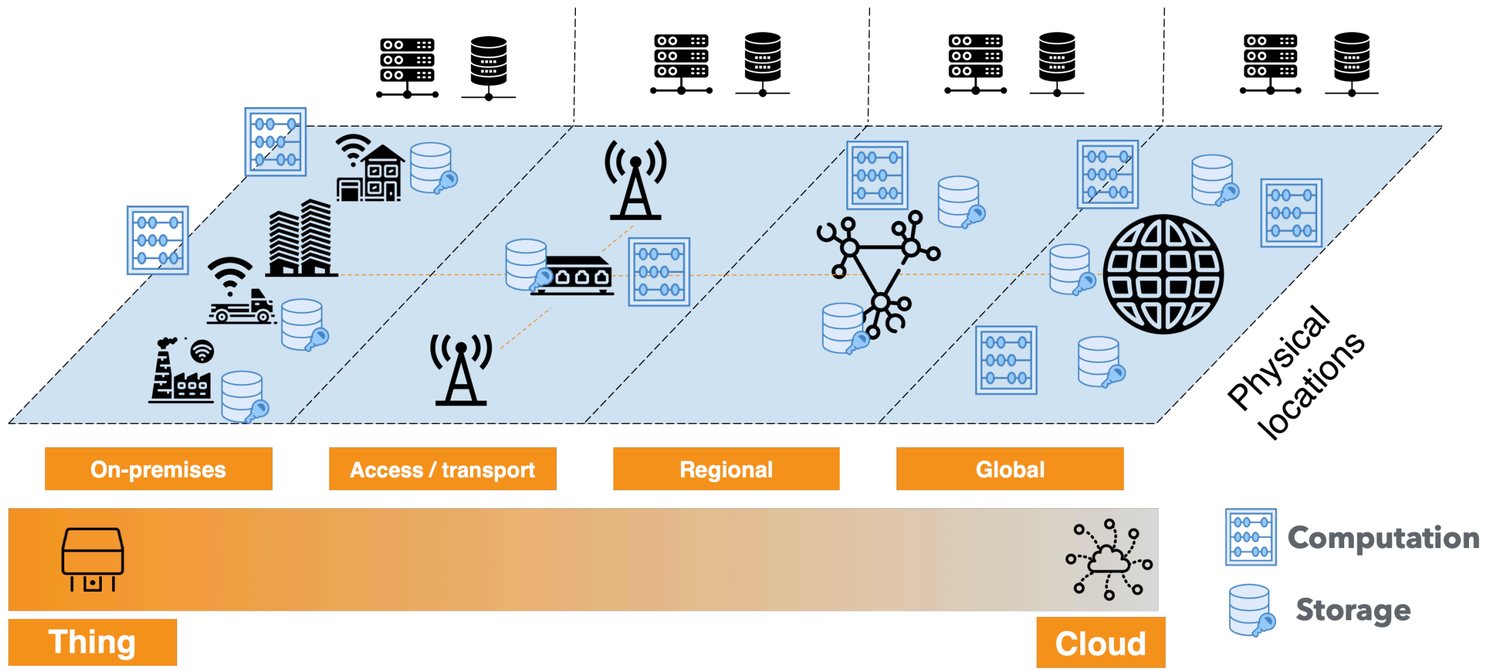
Locality is not exploited with consequence on **latency**, **energy** and impacts on **privacy**

No location transparency. The cloud is the one and only place that mediates data availability

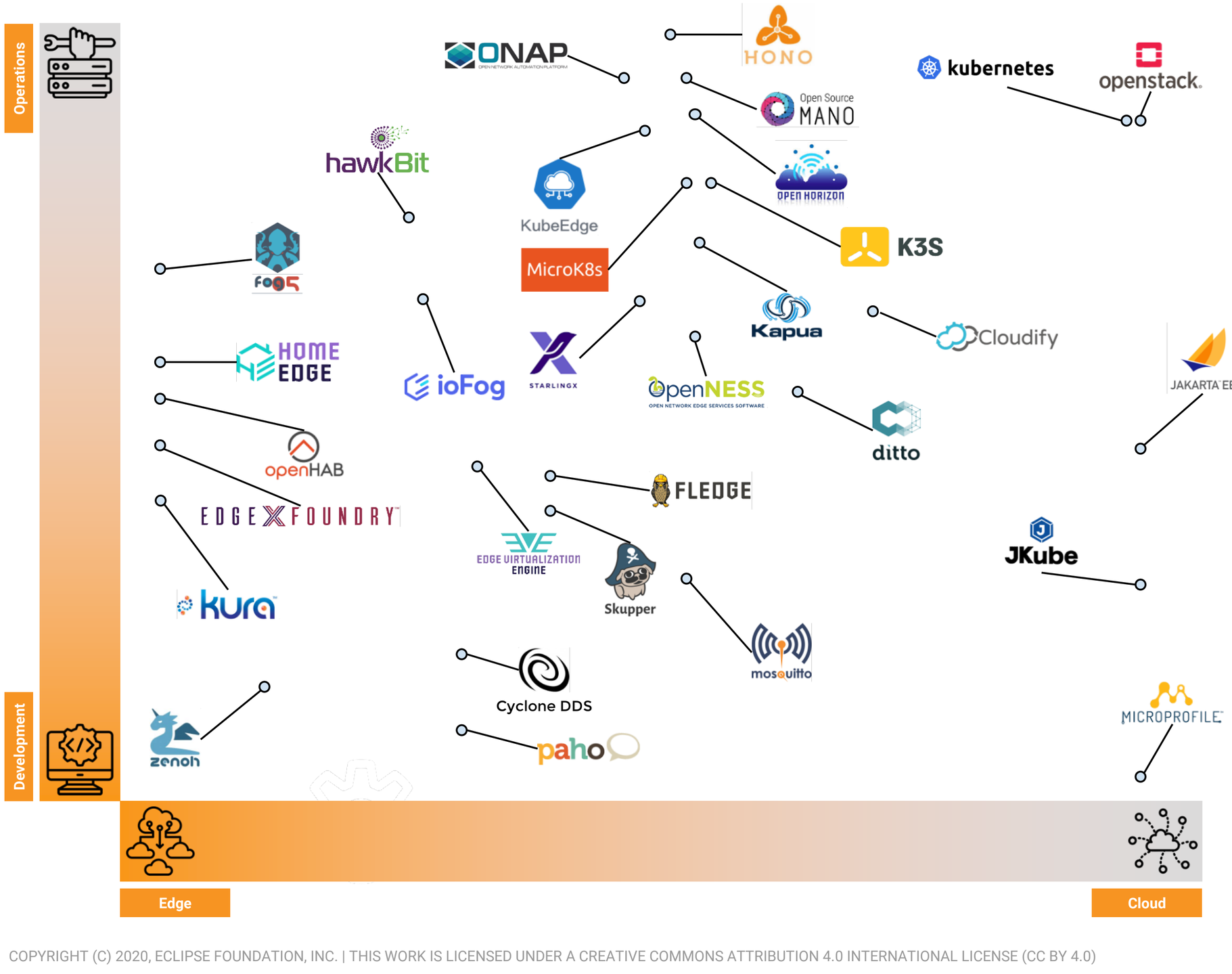


Liberum Arbitrium

Freely decide where it makes the most sense to store data, what is the most efficient way to communicate and place computations



The EdgeOps Matrix



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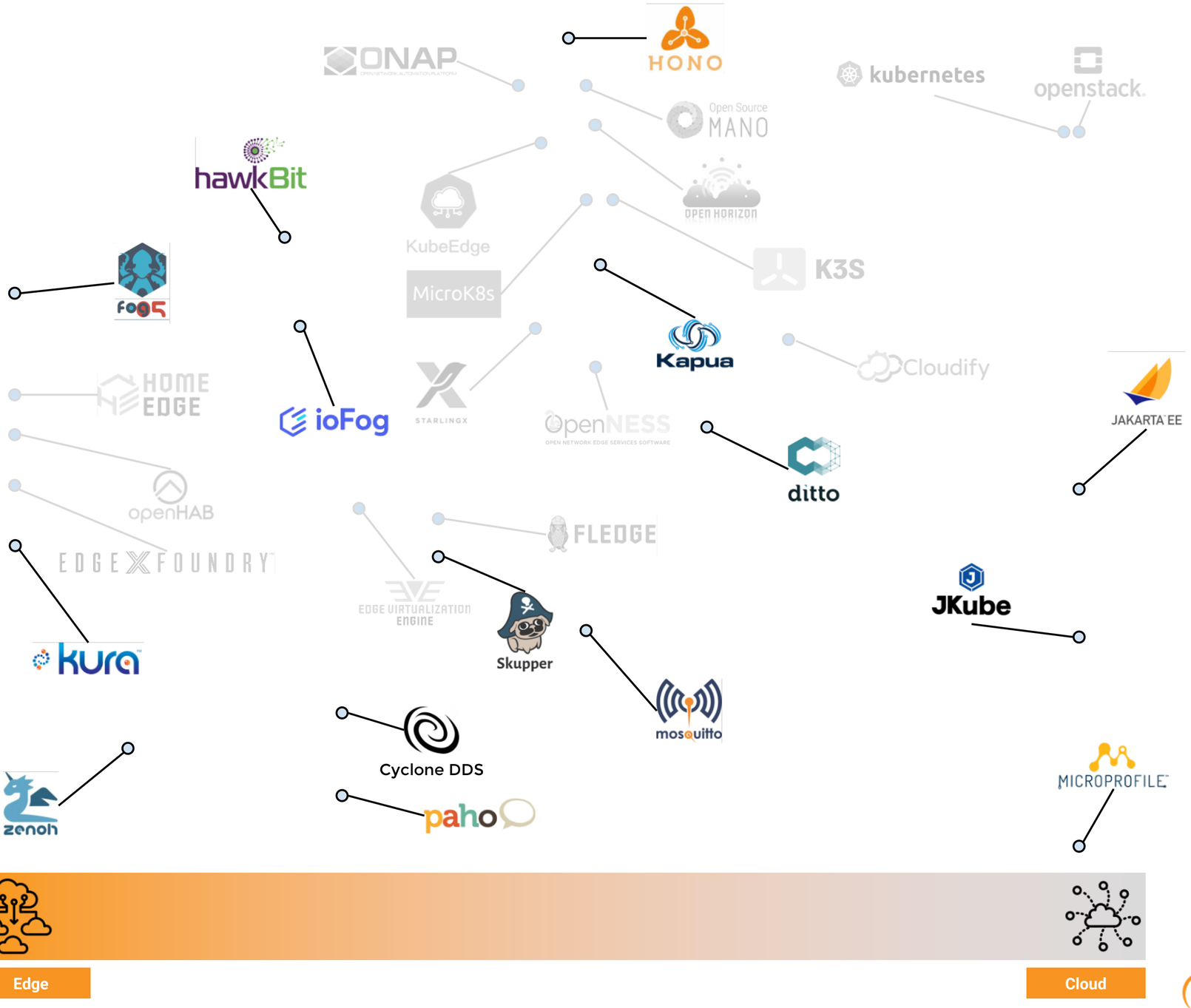
The Eclipse EdgeOps Matrix



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Unifies data in **motion**, data **in-use,** data at **rest** and **computations**

It carefully **blends** traditional **pub/sub** with **distributed queries**, while retaining a level of **time and space efficiency** that is well beyond any of the mainstream stacks

It provides built-in support for **geo-distributed storages** and **distributed computations**

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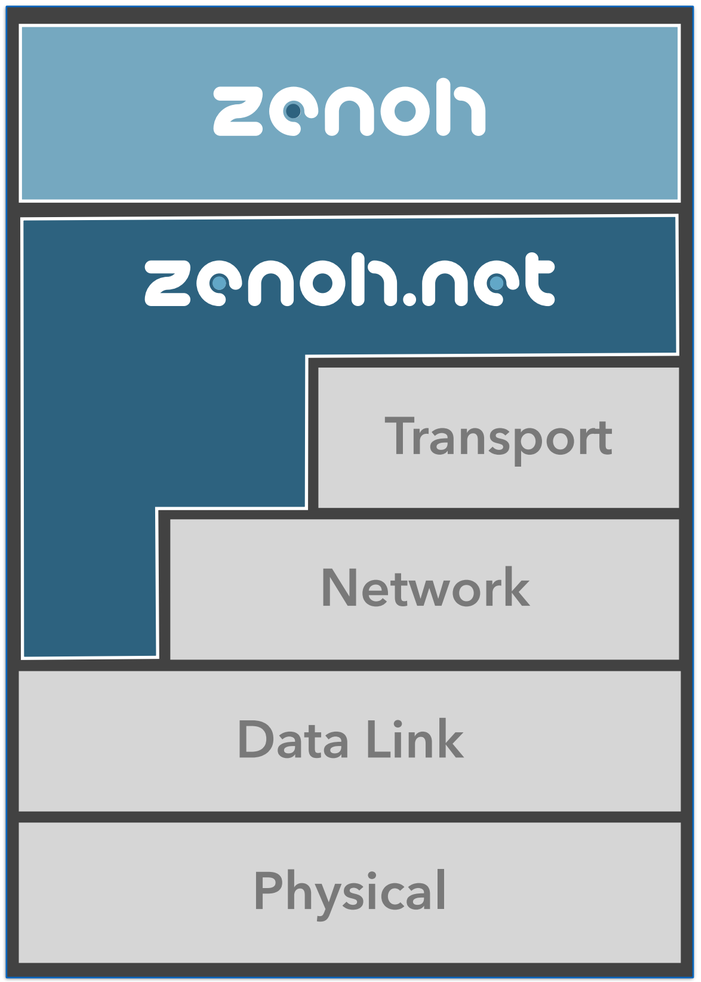
Provides a **high level API** for **pub/sub** and **distributed queries**, **data** representation **transcoding**, an implementation of **geo-distributed storage** and **distributed computed values**



zenoh.net

Implements a **networking layer** capable of running above a Data Link, Network or Transport Layer. This protocol provides primitives for **efficient pub/sub** and **distributed queries**. It supports **fragmentation** and **ordered reliable delivery.**

zenoh.net Protocol Highlights

Adopts **Named Data Networking (NDN)**, data is addressed by naming data and queries are expressed using selectors over data names

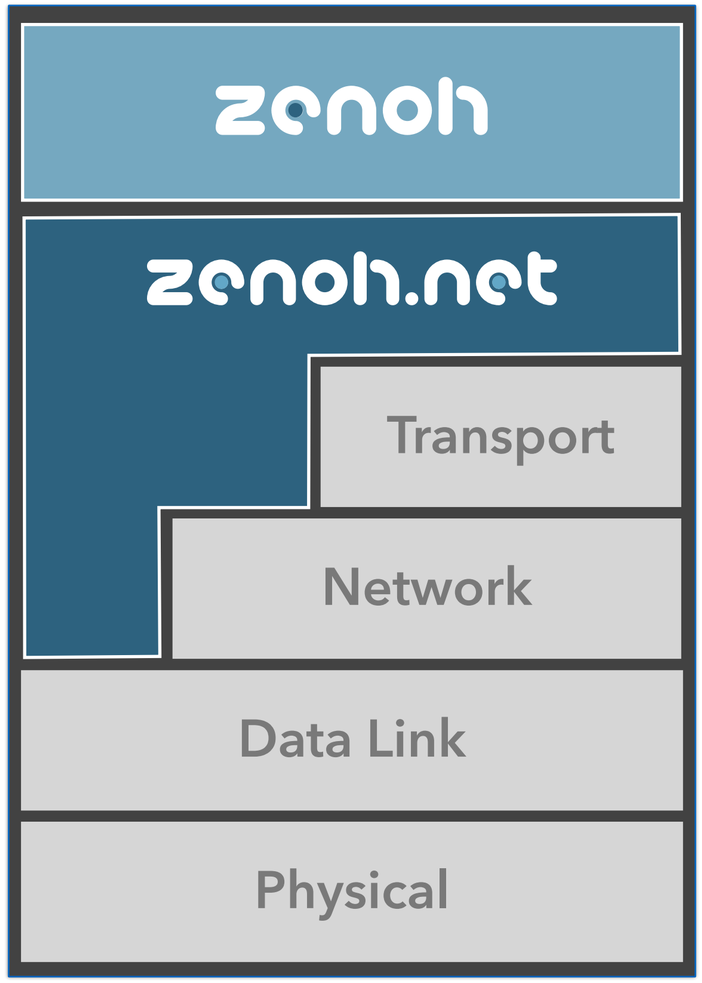
Most wire/energy/memory efficient protocol in the market to provide connectivity to extremely constrained targets

Supports **push** and **pull pub/sub** along with **distributed queries**

Supports for **peer-to-peer** and **routed communication**.

Ordered reliable data delivery and **fragmentation**.

Minimal **wire overhead** for user data is **4 bytes**



References

- https://edgenative.eclipse.org
- http://zenoh.io
- https://fog05.io

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