



Edge computing and the rationale for an open framework for lightweight IoT devices

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thin-edge.io





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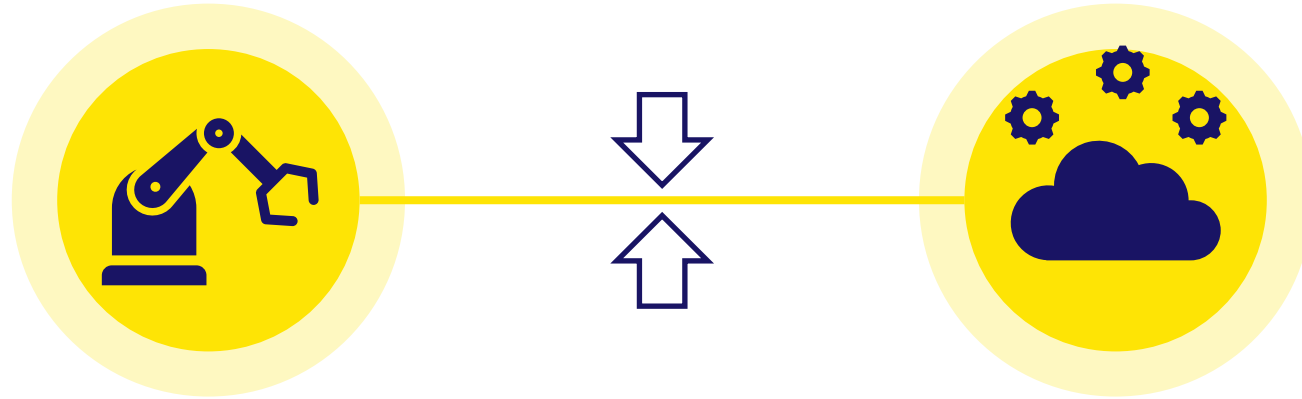


Data processing latency — Low

Data ingestion frequency — High —

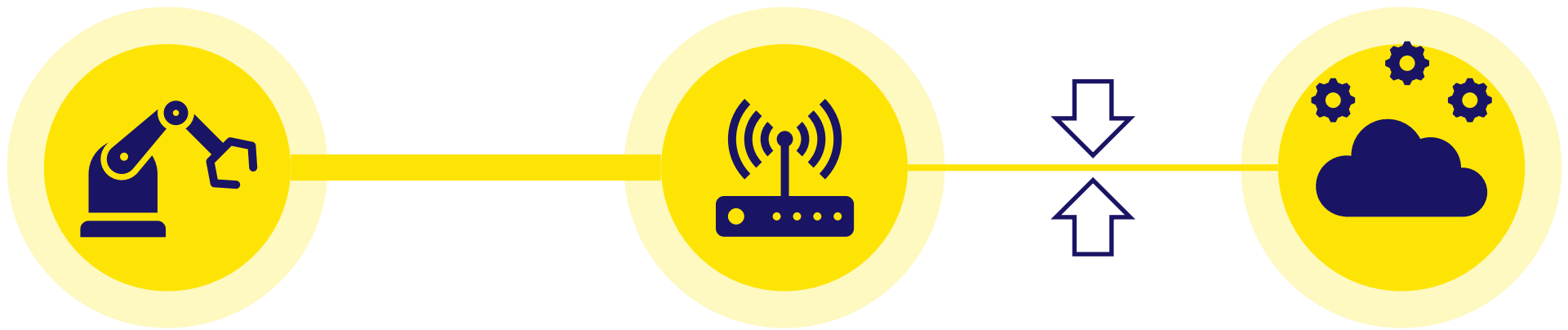
Data storage capacity — Low

Technologies deployed Optimized



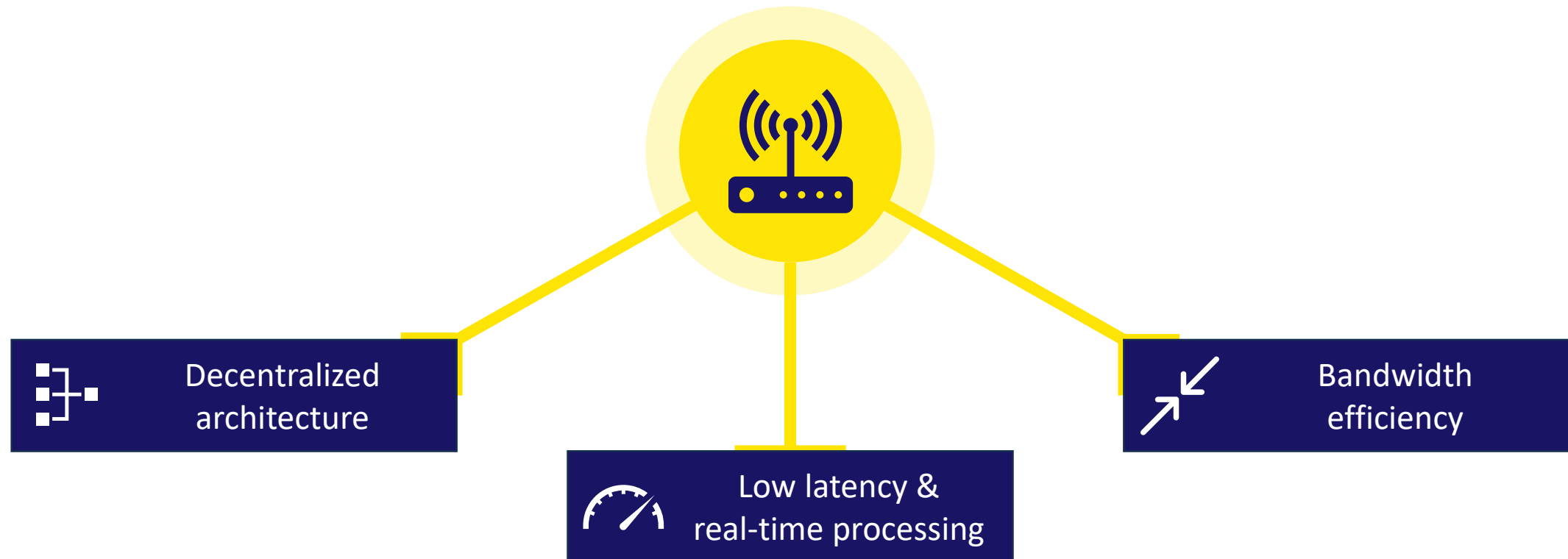
Data processing latency	<div style="width: 10%;"><div style="width: 10%;"></div></div> Low
Data ingestion frequency	<div style="width: 90%;"><div style="width: 90%;"></div></div> High
Data storage capacity	<div style="width: 10%;"><div style="width: 10%;"></div></div> Low
Technologies deployed	Optimized

<div style="width: 90%;"><div style="width: 90%;"></div></div> High
<div style="width: 10%;"><div style="width: 10%;"></div></div> Low
<div style="width: 90%;"><div style="width: 90%;"></div></div> High
Standardized

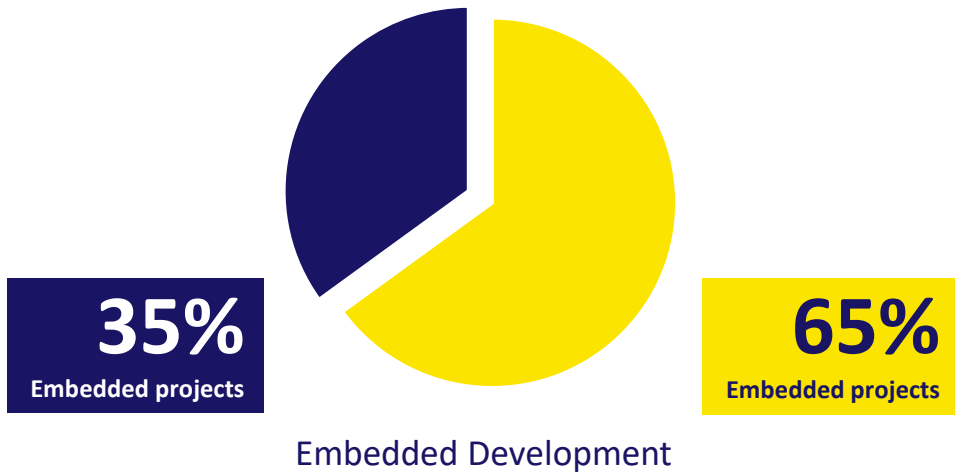


Data processing latency	Low	Low	High
Data ingestion frequency	High	High	Low
Data storage capacity	Low	Medium	High
Technologies deployed	Optimized	Standardized	Standardized

Distinguishing features of edge computing



Efficient development is critical for connected products



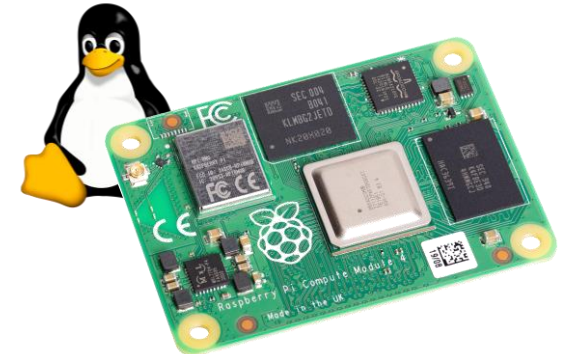
Sources: IEEE, EE Times, Embedded Linux

Modern soft PLCs leverage edge technologies

High performance GPIOs

Standardized internet connectivity

Open software architecture



Your approach to edge can impose strategic limitations



Develop 100% in-house

Embedded IoT software engineers are scarce and expensive

Limited re-use between hardware and IoT platform combinations

Software management life-cycle effort is high and growing



Leverage open-source

Leverage robust extensible cloud-agnostic IoT connectivity

Increase software re-use regardless of hardware or language

Accelerate innovation with in-house, commercial and community software



Use single IoT vendor

Imposes the technical limitations of the IoT platform onto the device

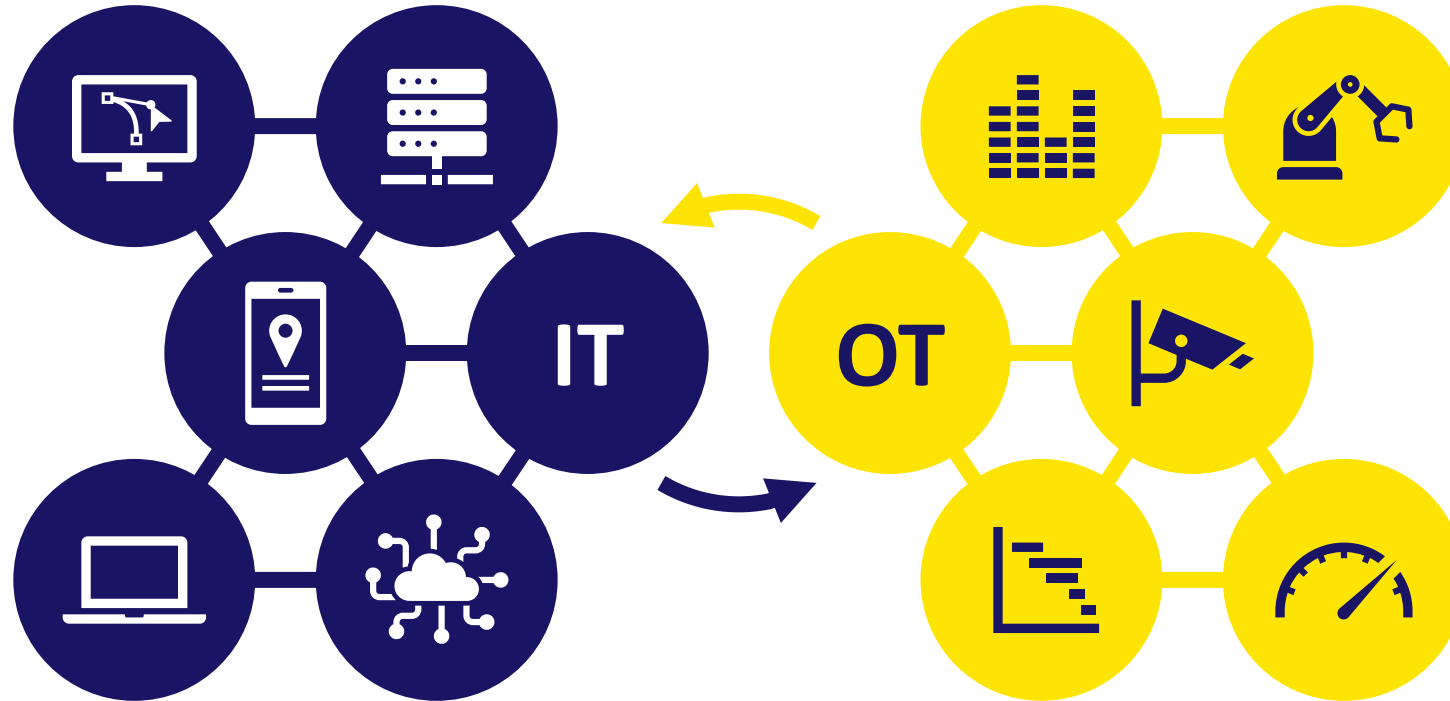
Hinders B2B2X opportunities where supplier agonism is essential

Prevents sourcing flexibility and increases business continuity risks

Open IoT edge computing framework can help you leapfrog...



Fast path for IT-OT convergence



Adaptability - data conversion, ready for computation

Resiliency - No data loss

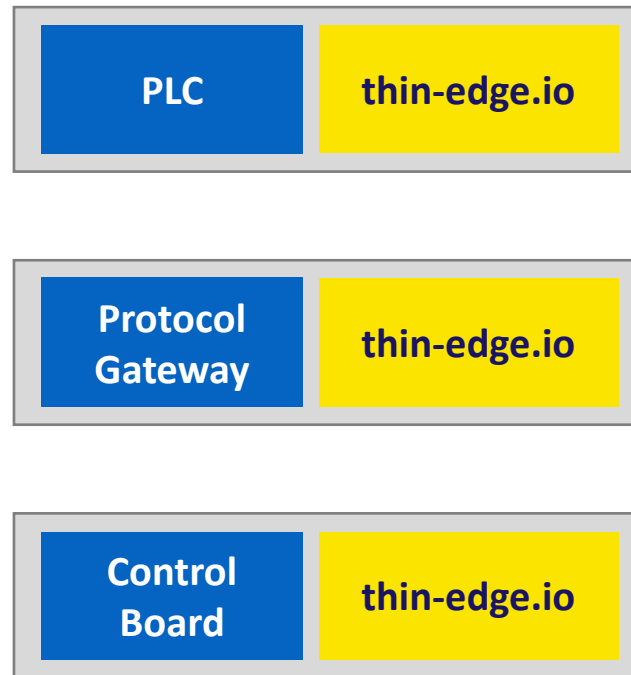
Zero or near zero downtime

Makes devices ready for any cloud

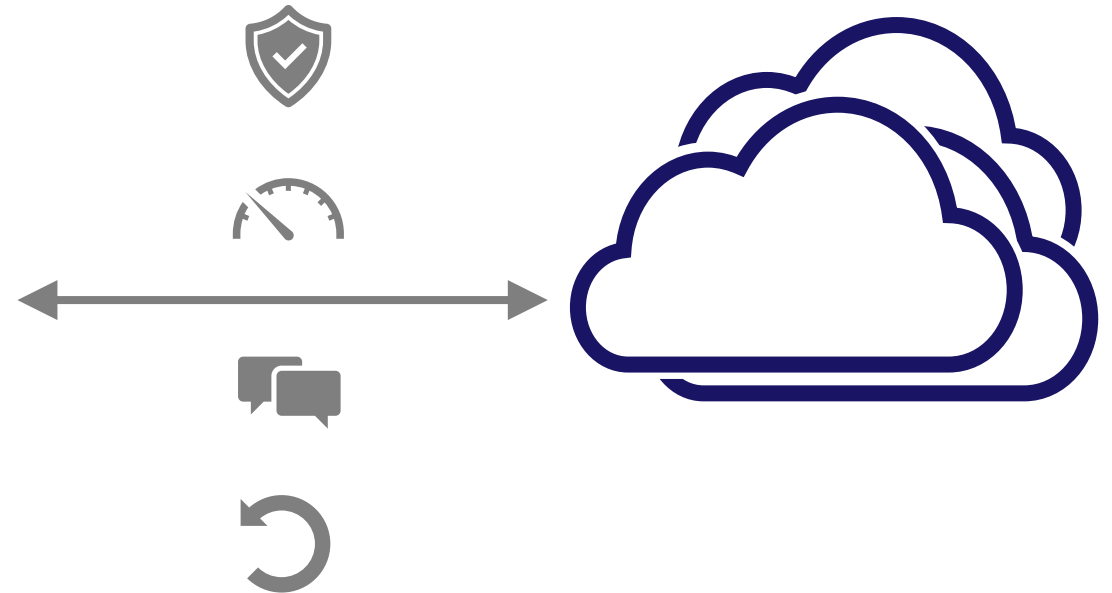
Balances simplicity and sophistication



IoT Edge

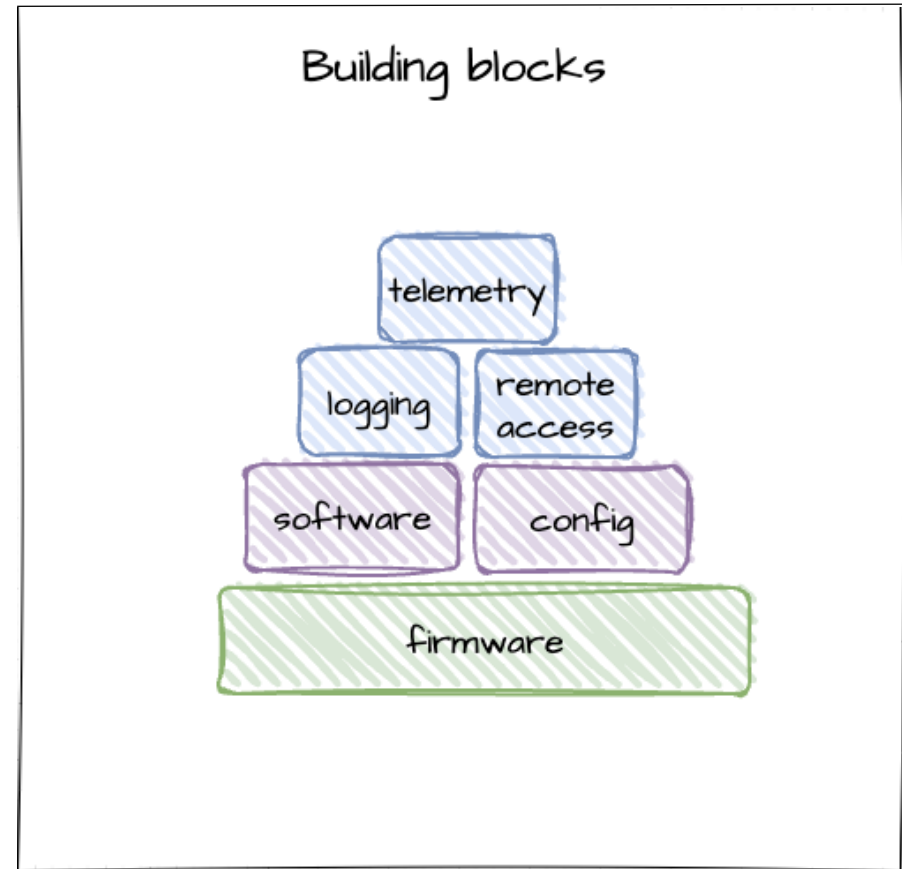


IoT Cloud Platform(s)



Prepare the foundation

Manage a fleet of devices locally or remote



So that you can focus on your IP

Provides tools that get value fast



Data model on device and cloud



Pluggable framework on device



Local data processing in any programming language



Lifecycle management

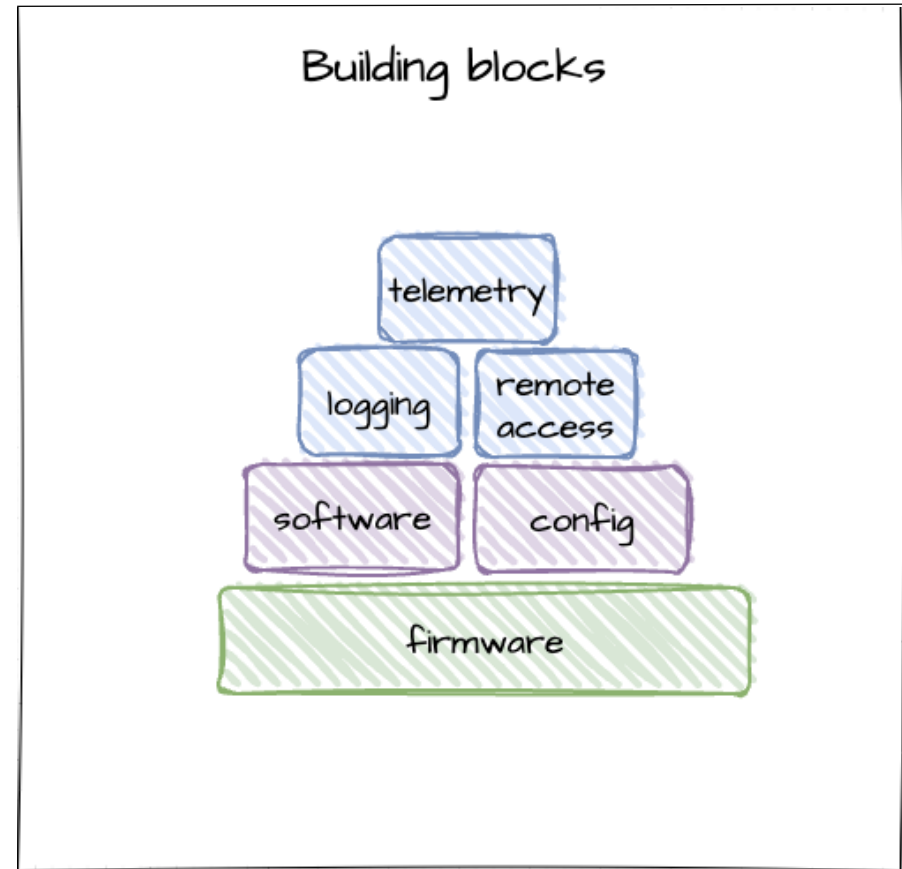
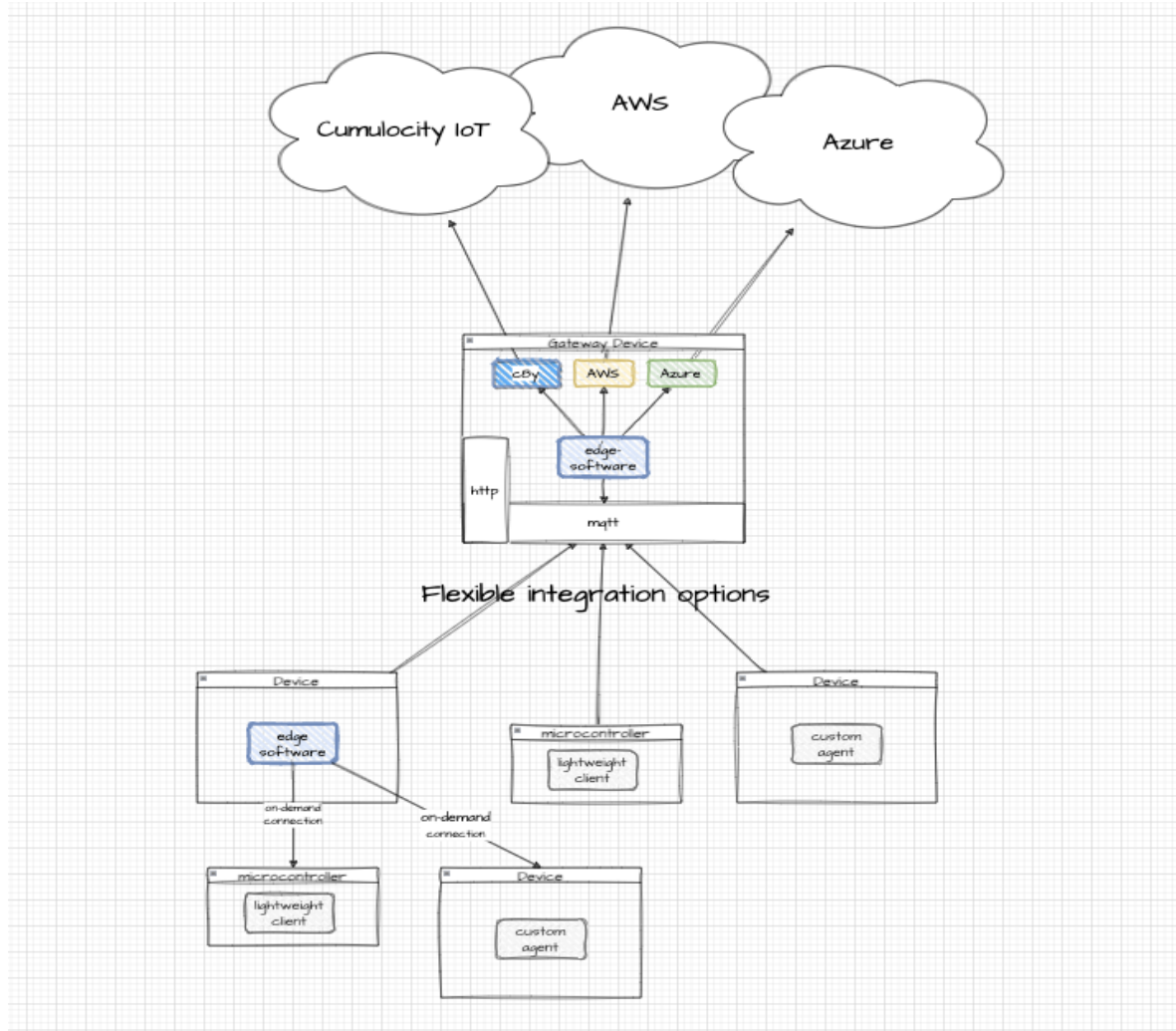


Ease of doing analytics



Device hierarchy is not your problem

The foundation is ready for any topology



Enable IoT device

Edge framework addresses the blockers and pain points



Small footprint

Security



Low latency

Fast response times

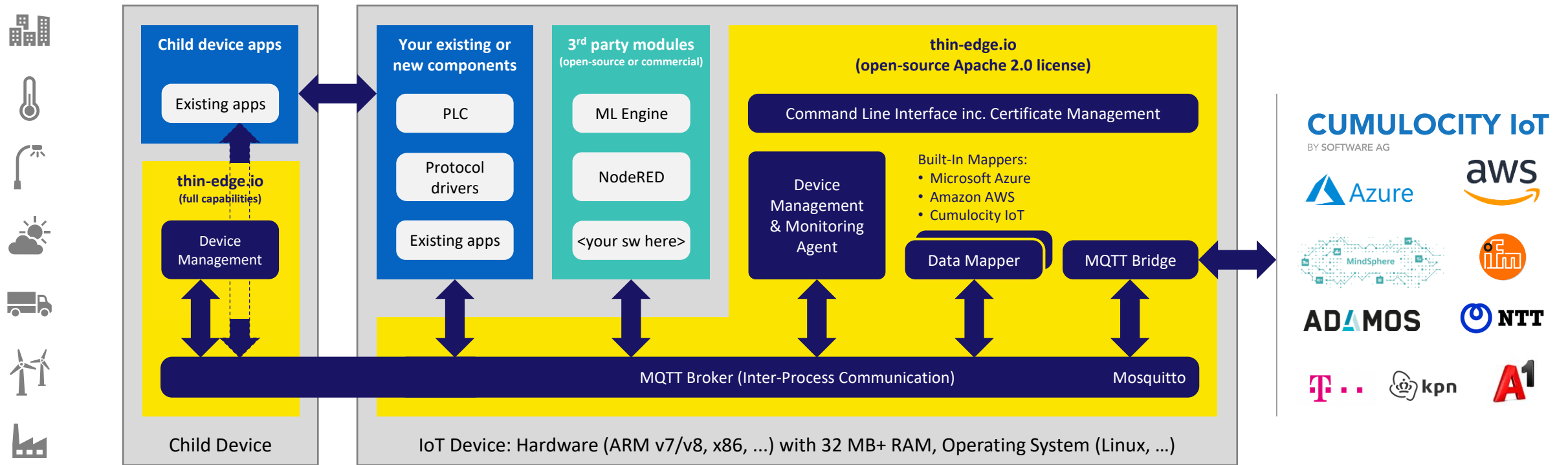


Reusability

Interoperability

Open source is the way to go

Open-source, cloud-agnostic IoT framework designed for resource constrained edge devices



Contributors | software AG ADAMOS nexus INCGROUPE inetum brainboxes REVOLUTION PI BY KUNBUS KUNBUS //consult.red

Edge computing simplified



Edge computing enables efficient distributed data processing



Distributed computing requires management of edge devices



Open-source IoT framework simplifies edge connections and management

Learn more and try at <https://thin-edge.io>

Docs

thin-edge

The open edge framework for lightweight IoT devices

thin-edge.io is the first open-source, cloud-agnostic IoT framework designed for resource constrained edge devices.

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PradeepKiruvale tedg thin-edge documentation 0.13.1 Search

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Install

Version: 0.13.1

ANNOUNCEMENT

thin-edge.io ❤️ Linux so we now support installing thin-edge on any Linux distribution!

Systemd is still the default init system (aka. service manager), however if you don't have Systemd, then it won't be used. You are then free to configure your own service manager to run thin-edge how you want, or use one of the [community supported packages](#).

Install/update

The easiest way to get started with thin-edge.io is to use the installation script which will auto detect the installation method appropriate for your Linux distribution. The script will configure the package manager and install thin-edge.io and its dependencies (e.g. mosquito). If your distribution does not have one of the supported package managers, then the tarball will be used to install thin-edge.io.

To install or update to the latest version, run the following command:

Install/update

- Update using a package manager
- Optional: Linux distributions without Systemd
- Supported Linux Package Managers
- Alternative installation methods and installation
- Manual repository setup and installation
- Install via tarball
- Package repository hosting

A background network diagram consisting of a complex web of light gray lines connecting various nodes. Some nodes are represented by small gray circles, while others are simple dots. The network is spread across the entire width of the image, with a higher density of connections in the center.

thin-edge

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