

Introduction to Edge Computing

Red Hat value proposition

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What we'll discuss today

- ▶ Self Intro
- ▶ Distributed Architectures
- ▶ A real life scenario (Edge Manufacturing)
- ▶ RHEL for Edge Demo

Self Introduction

Self introduction

Name: Andrea Battaglia

Email: andrea.battaglia@redhat.com

Base: Italy (Far south)

Red Hat Champion

Roles:

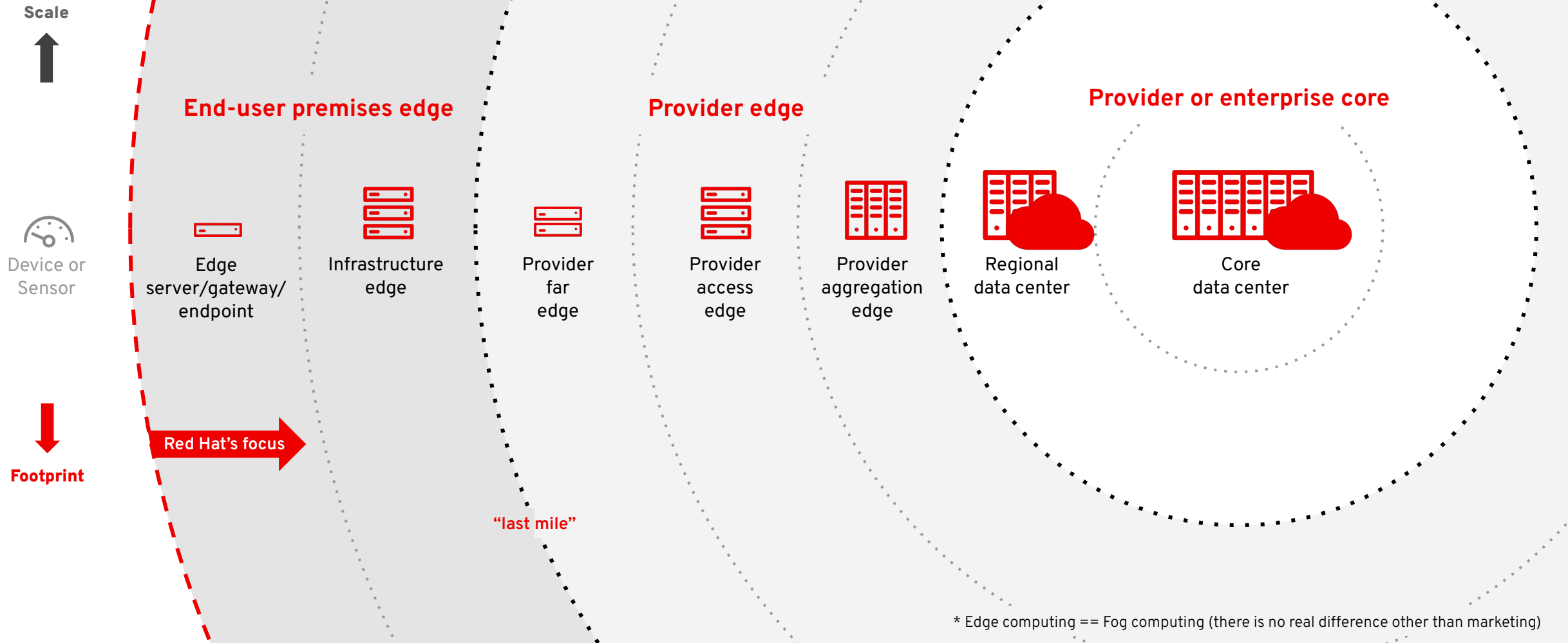
- Red Hat Hackfest program lead
- EMEA Technical Partner Development Manager -
DX and Edge Computing

Experience: Red Hat Technical Head of DX EMEA



Distributed Architectures

Edge tiers

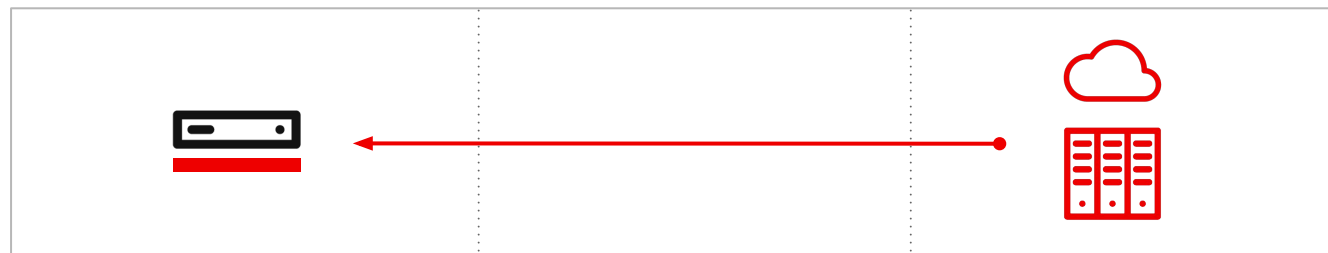


* Edge computing == Fog computing (there is no real difference other than marketing)

Small footprint edge OS

Memory-constrained edge servers/Internet of Things (IoT) Gateways

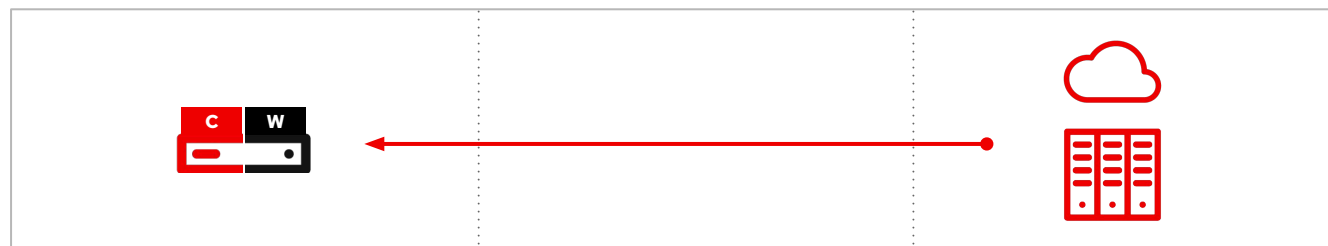
► Today



Single-node edge servers

Low bandwidth or disconnected sites

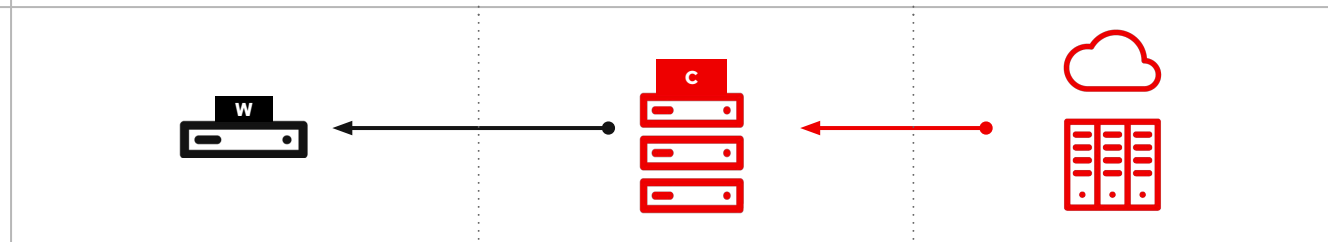
► Today



Remote worker nodes

Space-constrained environments

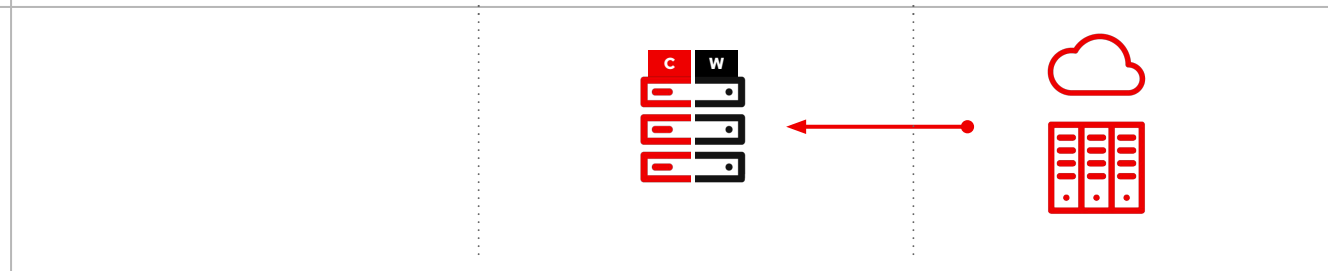
► Today



3 node Clusters

Small footprint with high availability

► Today



Far edge

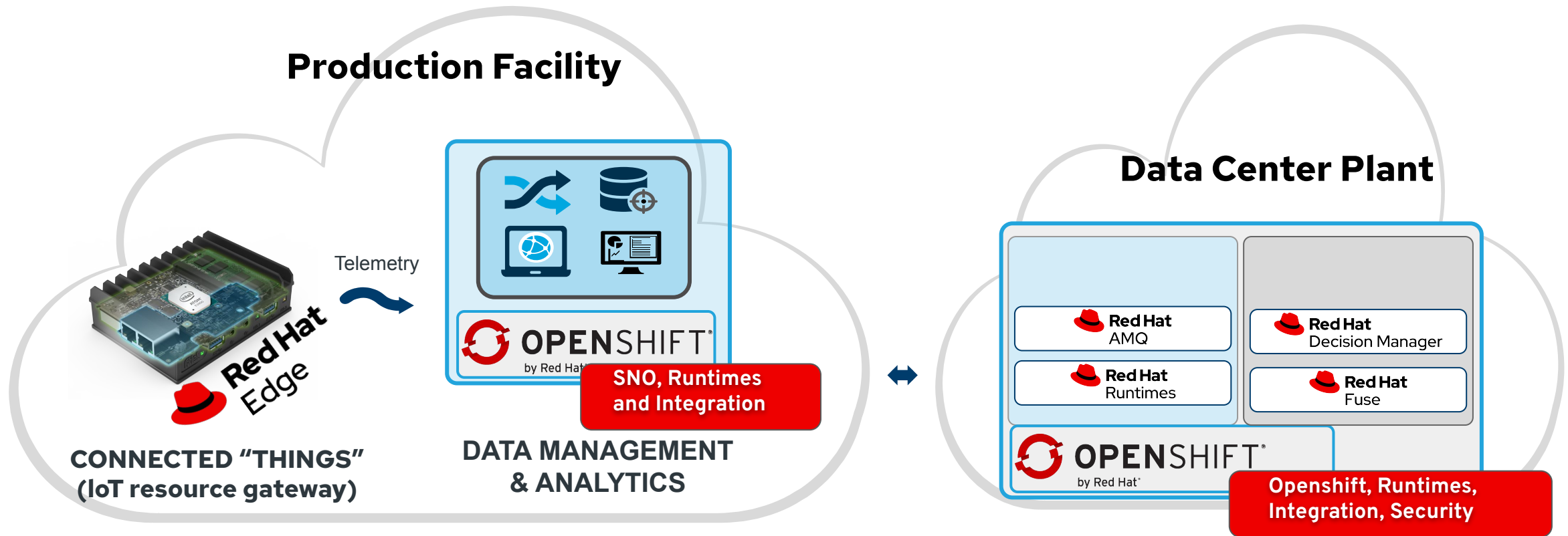
Regional data center

Central data center

A real life scenario...

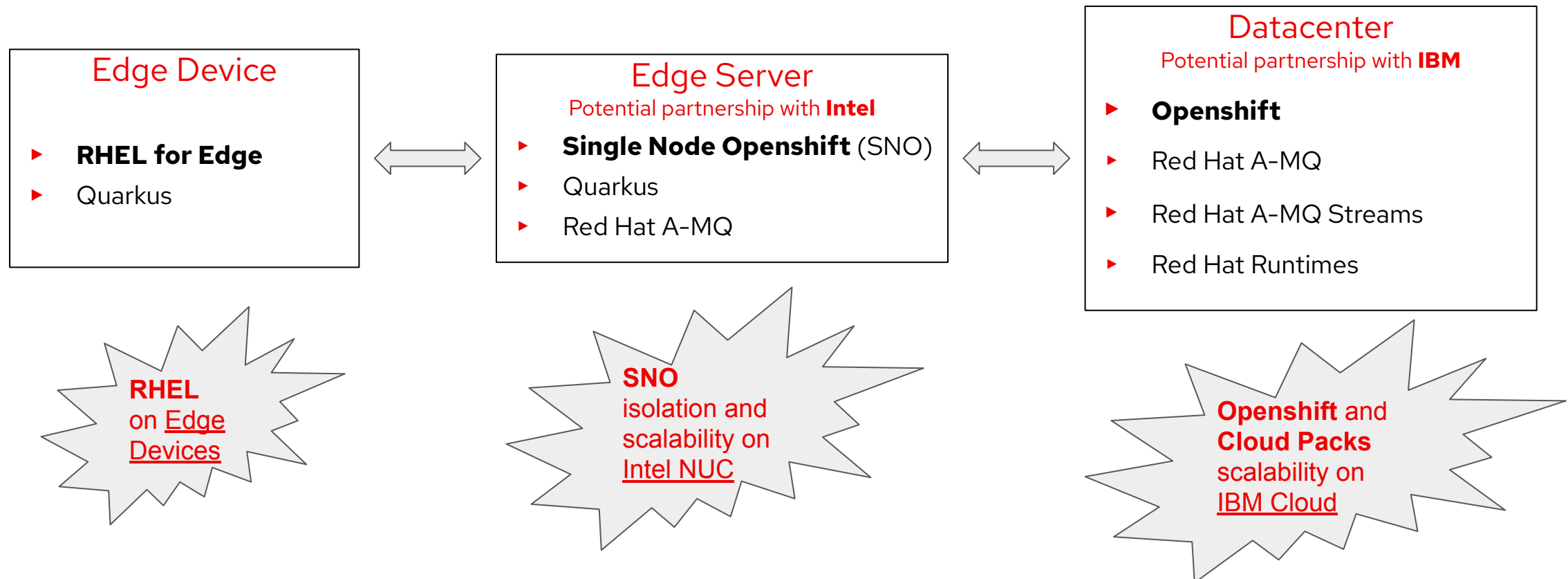
Edge Manufacturing

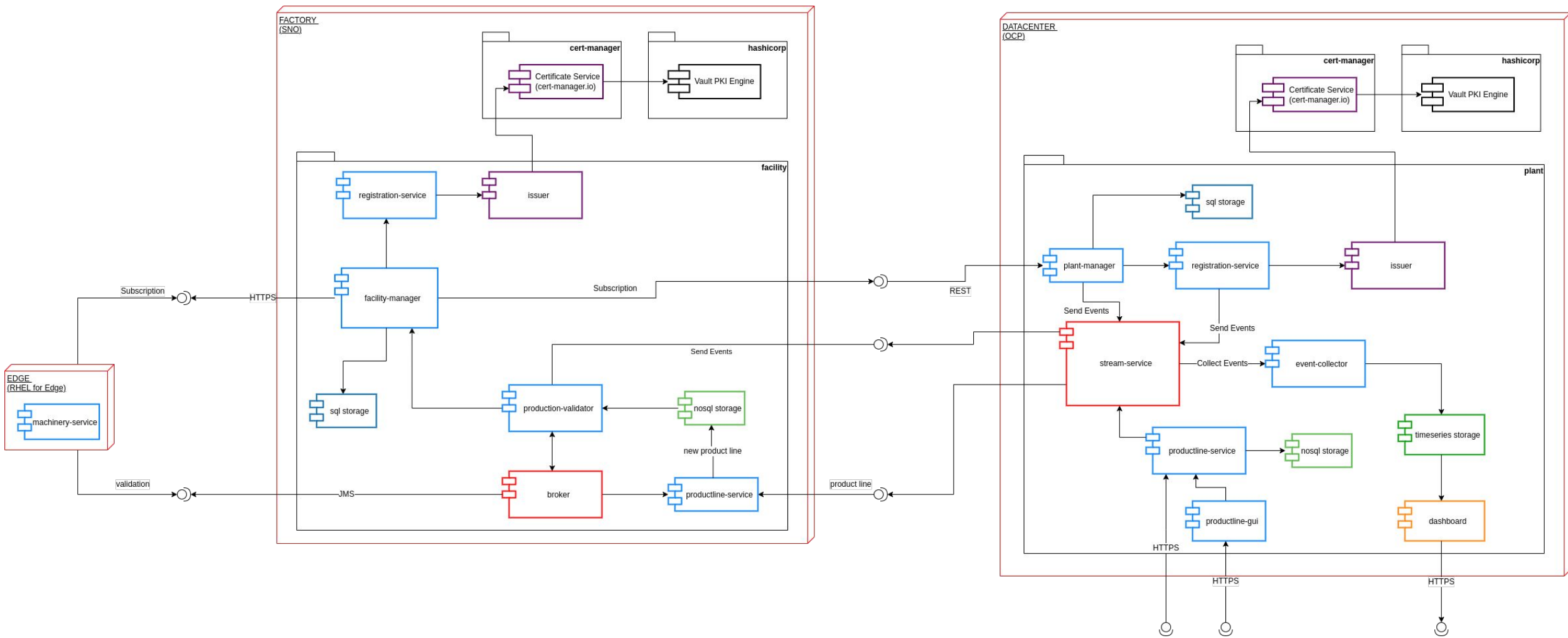
Use-case



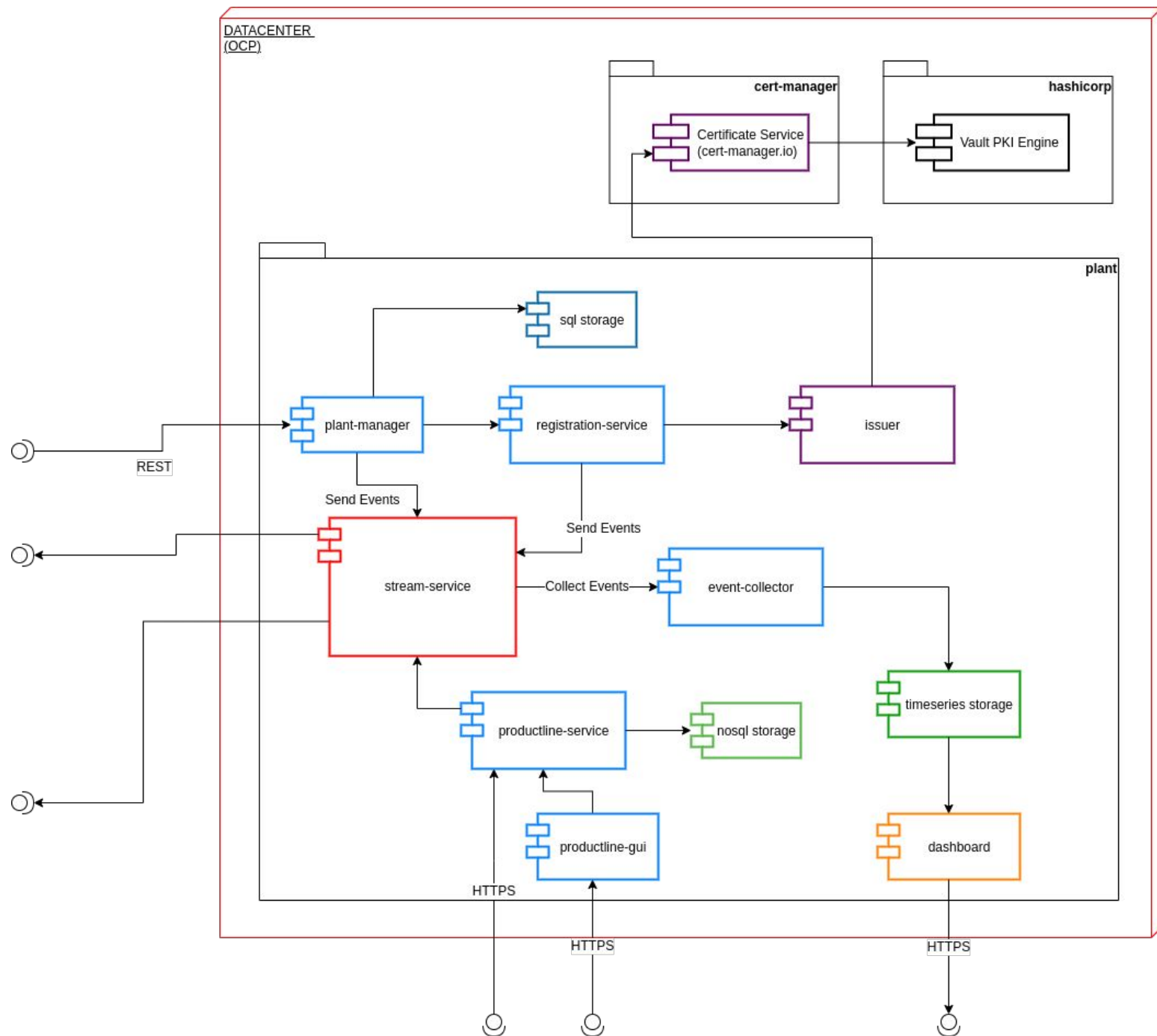
Technology stack evolution

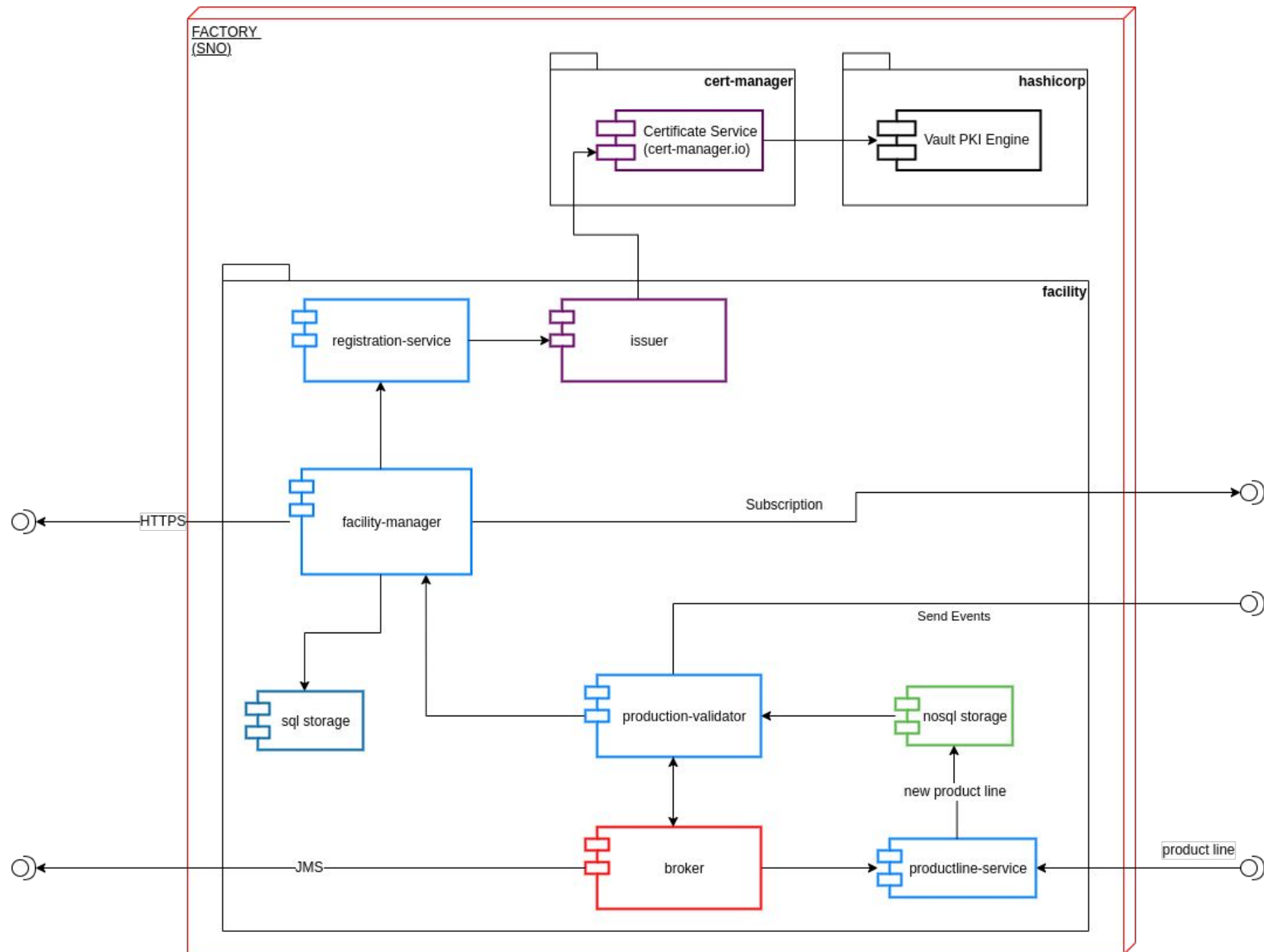
Working with technology partners to extend the portfolio offering

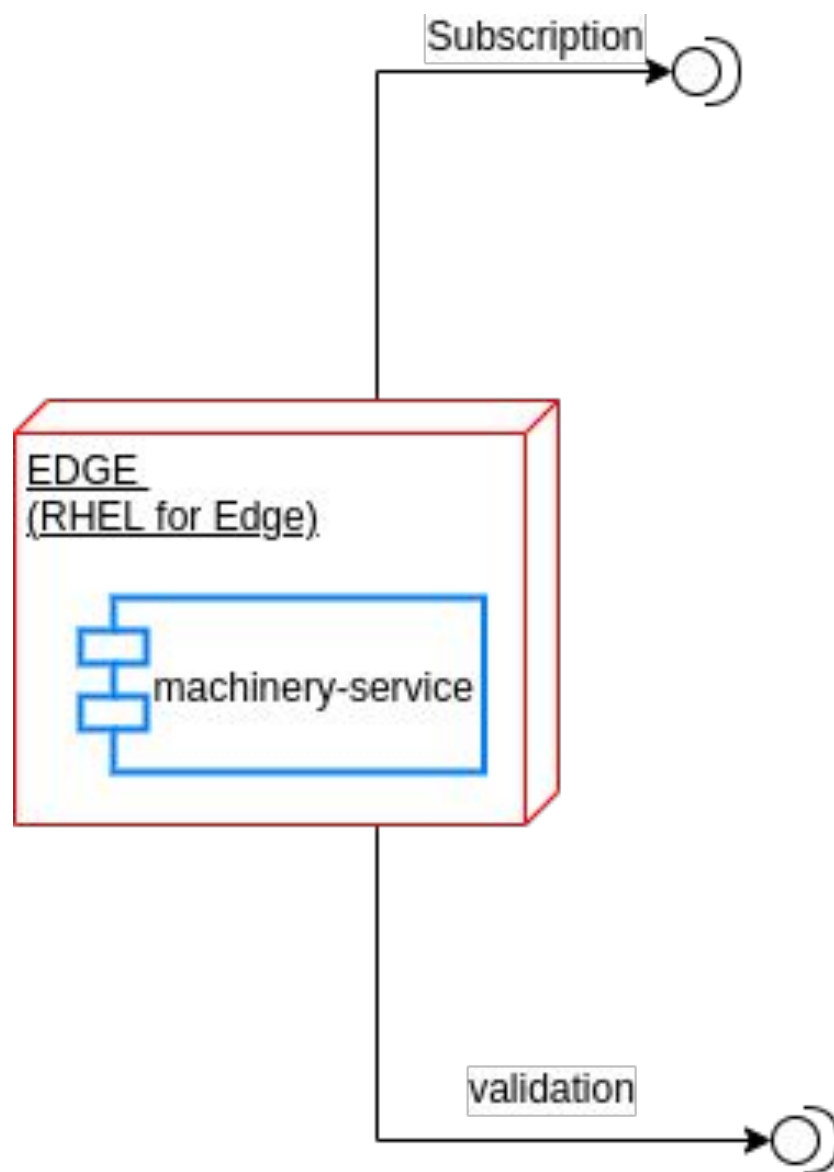




Datacenter Plant

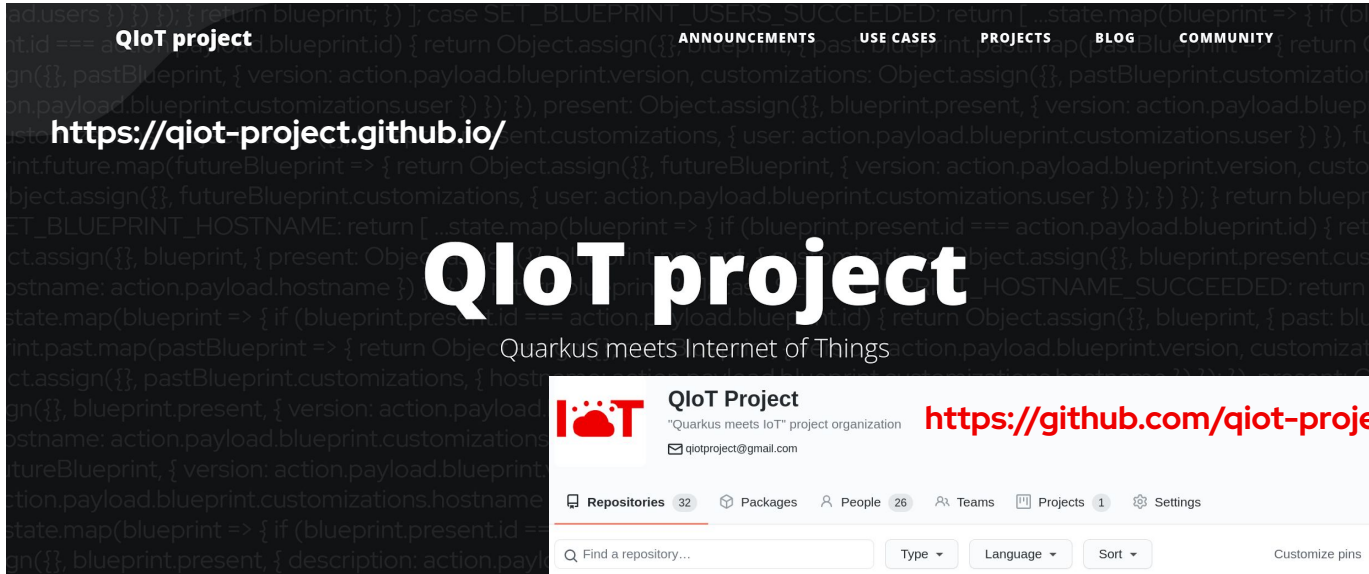






Red Hat Hackfest technical community

A community of Subject Matter Experts (Red Hat + Technology Vendors + Ecosystem + Upstream world)



The image shows a screenshot of the QIoT project's GitHub repository page. At the top, there's a navigation bar with links: ANNOUNCEMENTS, USE CASES, PROJECTS, BLOG, and COMMUNITY. Below this, the repository name "QIoT project" is displayed in large white text on a dark background. To the left of the repository name, the URL "https://qiot-project.github.io/" is visible. Below the repository name, the tagline "Quarkus meets Internet of Things" is present. The main content area shows the repository's statistics: 32 repositories, 26 packages, 26 people, 1 team, and 1 project. A search bar and filters for Type, Language, and Sort are also visible. The repository list includes "qiot-project.github.io", "qiot-covid19-datahub-installer", "qiot-covid19-datahub-operators", and "qiot-covid19-datahub-pipelines".

Our use cases:

- **Air Quality measurement**
- **Manufacturing**
- **Energy & Utilities (WIP)**

- ▶ Global repository for solutions
- ▶ Focuses on horizontal use cases, implementing solutions to problems common to every vertical
- ▶ Helps Developers understanding the value of the technology
- ▶ Remodulates complex architectures implementing common modules
- ▶ Applies technologies and horizontal skills to specific verticals
- ▶ Developers learn, share, solve, innovate together, with the support of technology vendors

DEMO TIME!

