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TUT-1172

Edge, are you ready?

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SUSE

Agenda:

1. Introduction to Edge
2. Types of Edge & use cases
3. SUSE solutions for Edge
4. Conclusions
5. Q&A

Introducing the speakers

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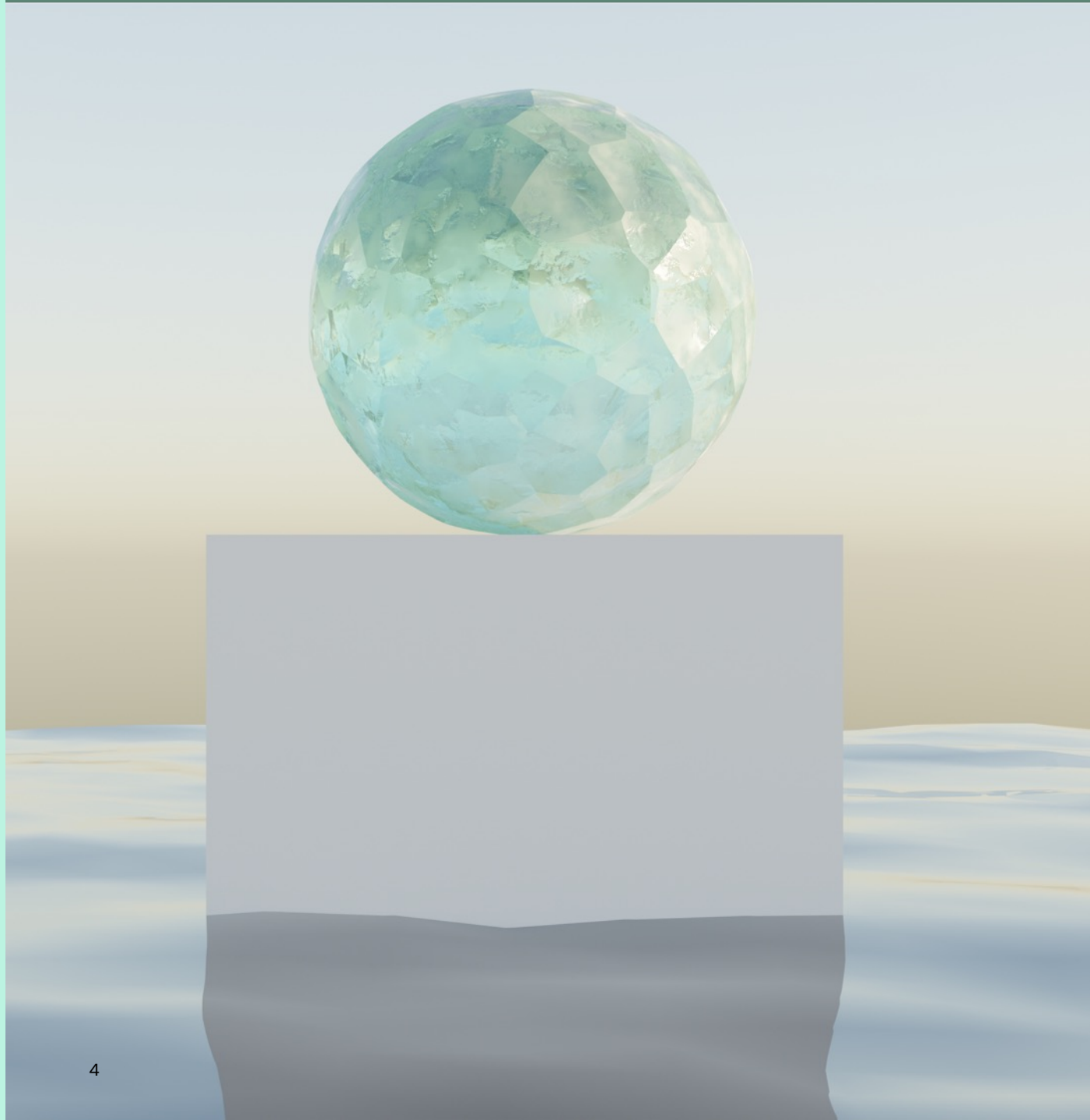
Introduction to Edge



Introduction to Edge computing

What is Edge computing?

- Techtarget defines Edge computing as a distributed information technology (IT) architecture in which client data is processed at the periphery of the network, as close to the originating source as possible.
- Edge refers to computing done at the location closest to a system's data but far from the data center. Edge architecture improves data flow since the data is processed as close as posible to the source improving latency and avoids sending big amounts of information from the source to the data centers or the cloud.

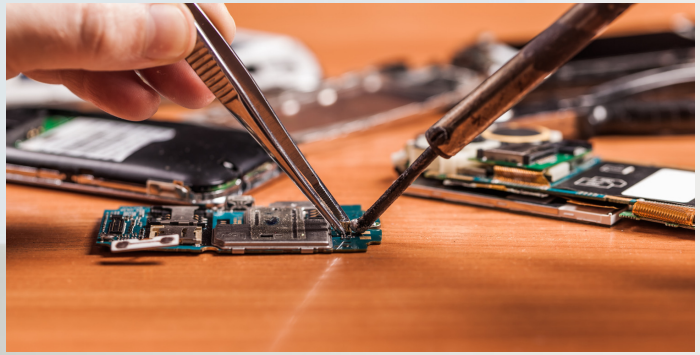
Introduction to Edge computing

Why Edge matters?

- Worldwide spending on Edge computing is expected to be $176 billion in 2022, an increase of 14.8% over 2021. Enterprise and service provider spending on hardware, software, and services for edge solutions is forecast to sustain this pace of growth through 2025 when spending will reach nearly $274 billion - IDC Worldwide Edge Spending Guide -
- Gartner's IoT forecast is showing that, by 2029, more than 15 billion IoT devices Will attach to the enterprise infrastructure - Gartner Predicts 2021: Cloud and Edge Infrastructure -

Introduction to Edge computing

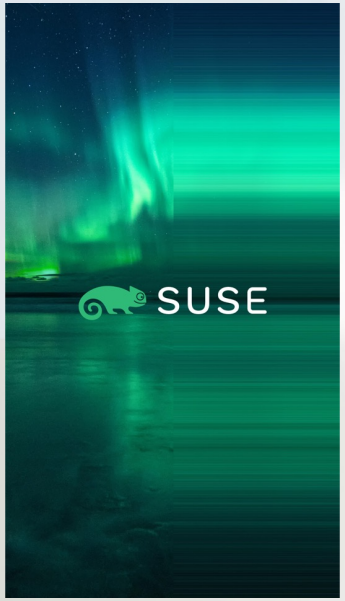
Why Edge matters?



- In today's world, potentially Edge devices are everywhere, cars which usually have from 25 to 50 CPUS, personal devices like smartwatches, factories sensors, smart grids, city cameras, etc. Generating large amounts of data.
- The potential market for Edge will grow alongside the actual society because Edge is more and more present in our life.
- The potential grow in Edge is almost endless in the actual world.

Introduction to Edge computing

SUSE & Edge



- Most of IoT and Edge devices use Linux since they need a lightweight, secure, and reliable OS to run. Who better than SUSE and our experience on Linux to provide Edge solutions.
- Edge is about data and distributed computing. Today distributed computing means Kubernetes and containers. With Rancher portfolio SUSE has become a strong player in the Kubernetes market.

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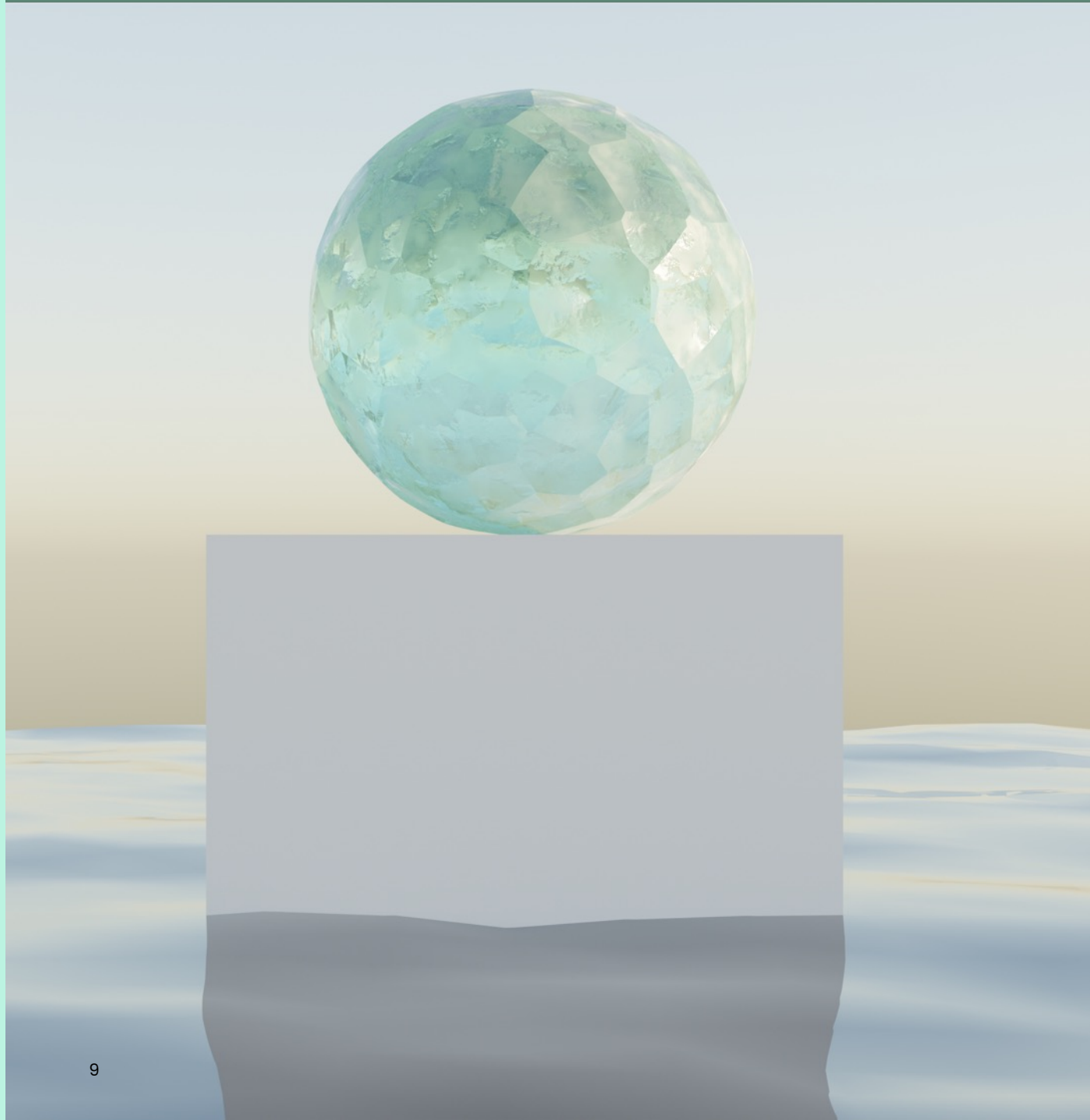
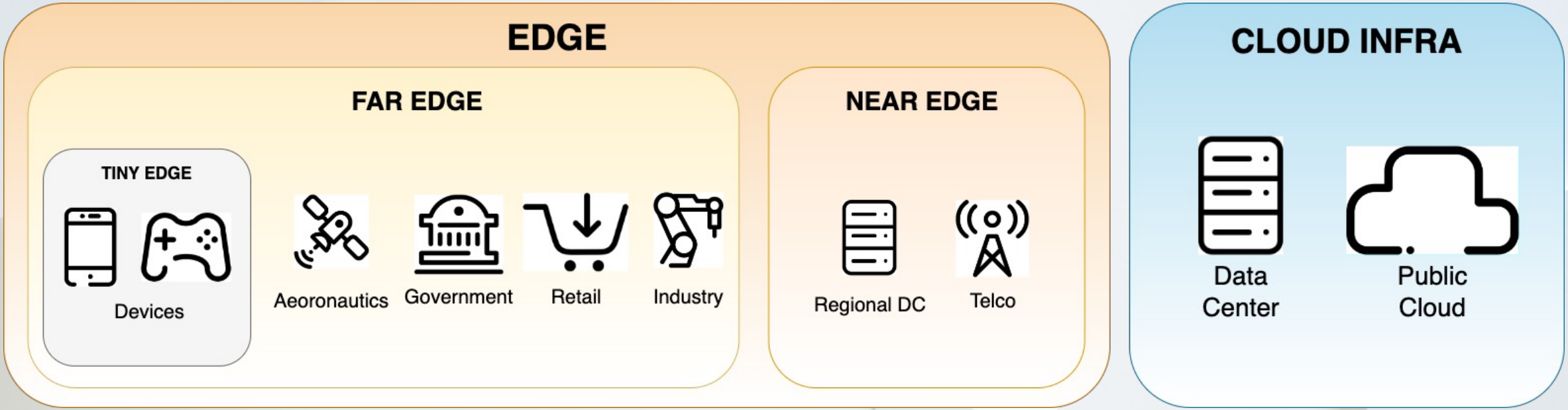
Types of edge & use cases



Edge types

- The Edge is classified in using the distance to the data centers, finding two big categories:
  - Near Edge
  - Far Edge



Edge use cases

Near and far Edge

NEAR EDGE

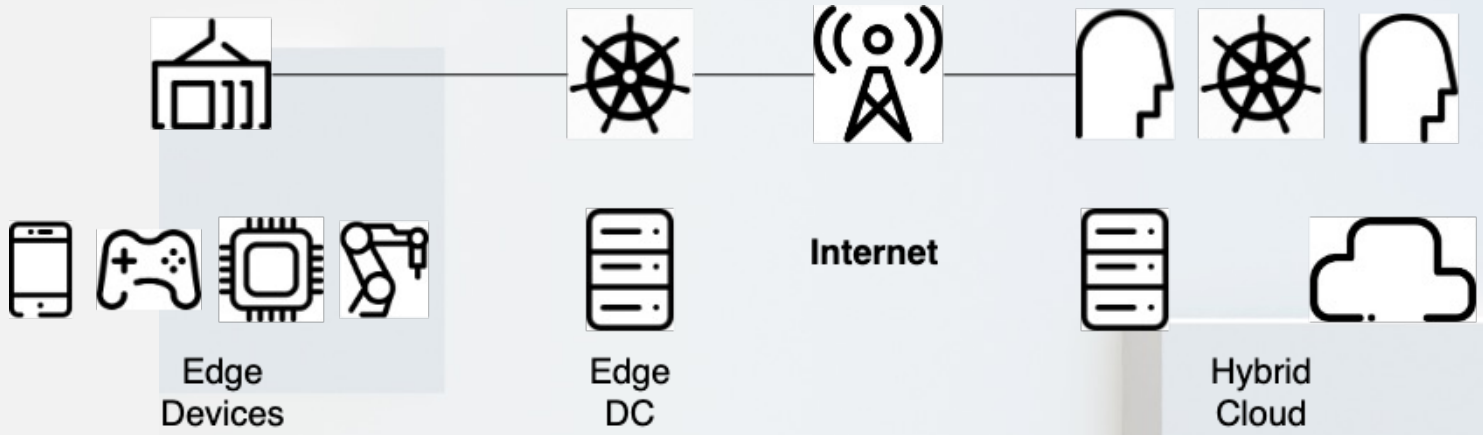
- Telco – Virtual Radio Access Network (vRAN)
- Telco - Private LTE/5G Networks
- Media – Virtual Content Delivery Networks (vCDN)

FAR EDGE

- Commercial – Retail
- Commercial – Healthcare
- Industrial – Industry 4.0
- Industrial – Smart Grids
- Public sector – Defense
- Tiny Edge – IoT, Mobile phones

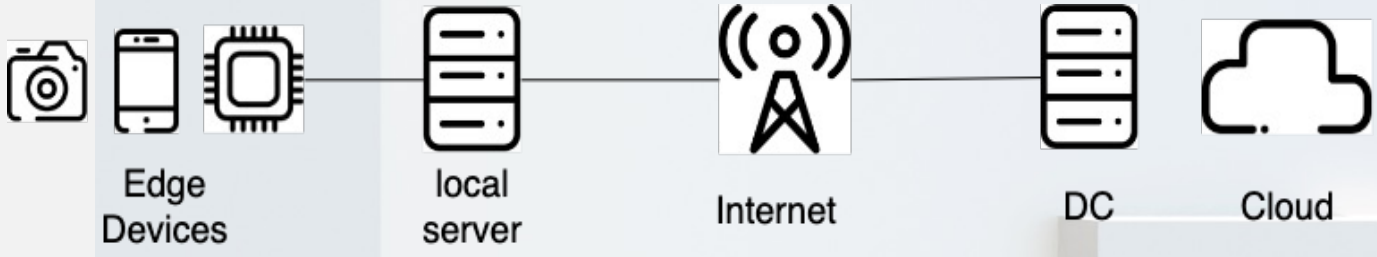
Architecture – Edge Data Center

The most common Edge architecture is the one that places computing power close to the edge location. This model facilitates the processing of the data nearby to the data generation.



Edge – Retail Shop

A very common use case is a shop in which you can find different devices, sensors, client phones, weights, cash registers, etc. All these devices produce large amount of data, this data needs to be processed.



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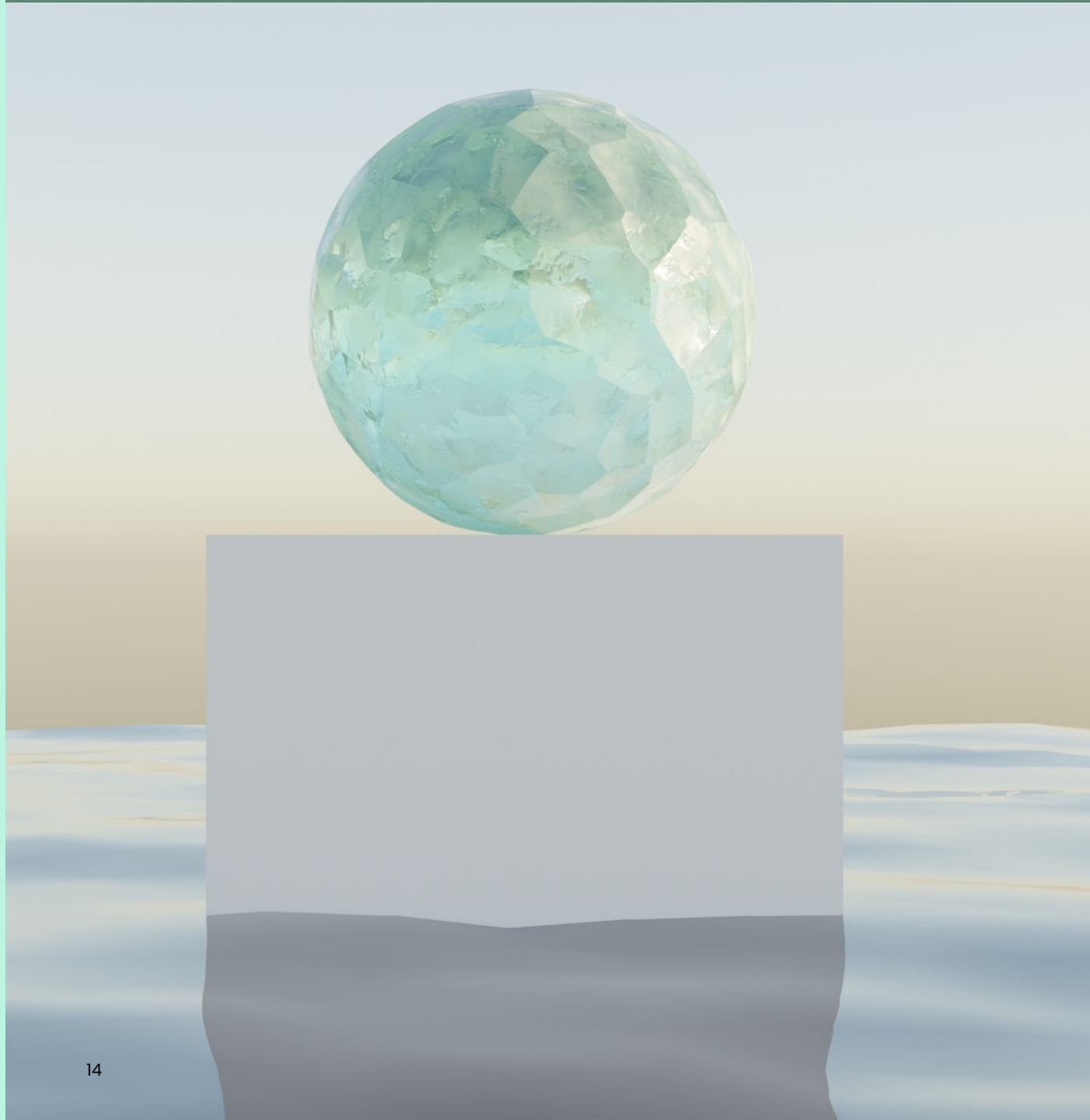
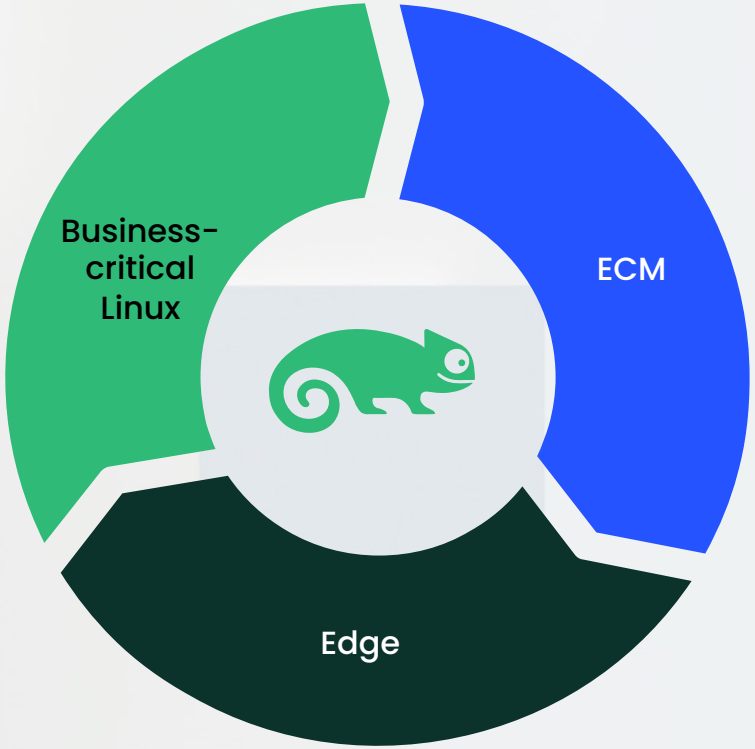
SUSE solutions for Edge



SUSE offering

Simplify and optimize existing environments

- Complexity of managing hybrid cloud infrastructure and apps
- Run workloads anywhere, containers, VMs, on-premises and across clouds
- Secure operation of all mission-critical workloads
- Need to eliminate downtime



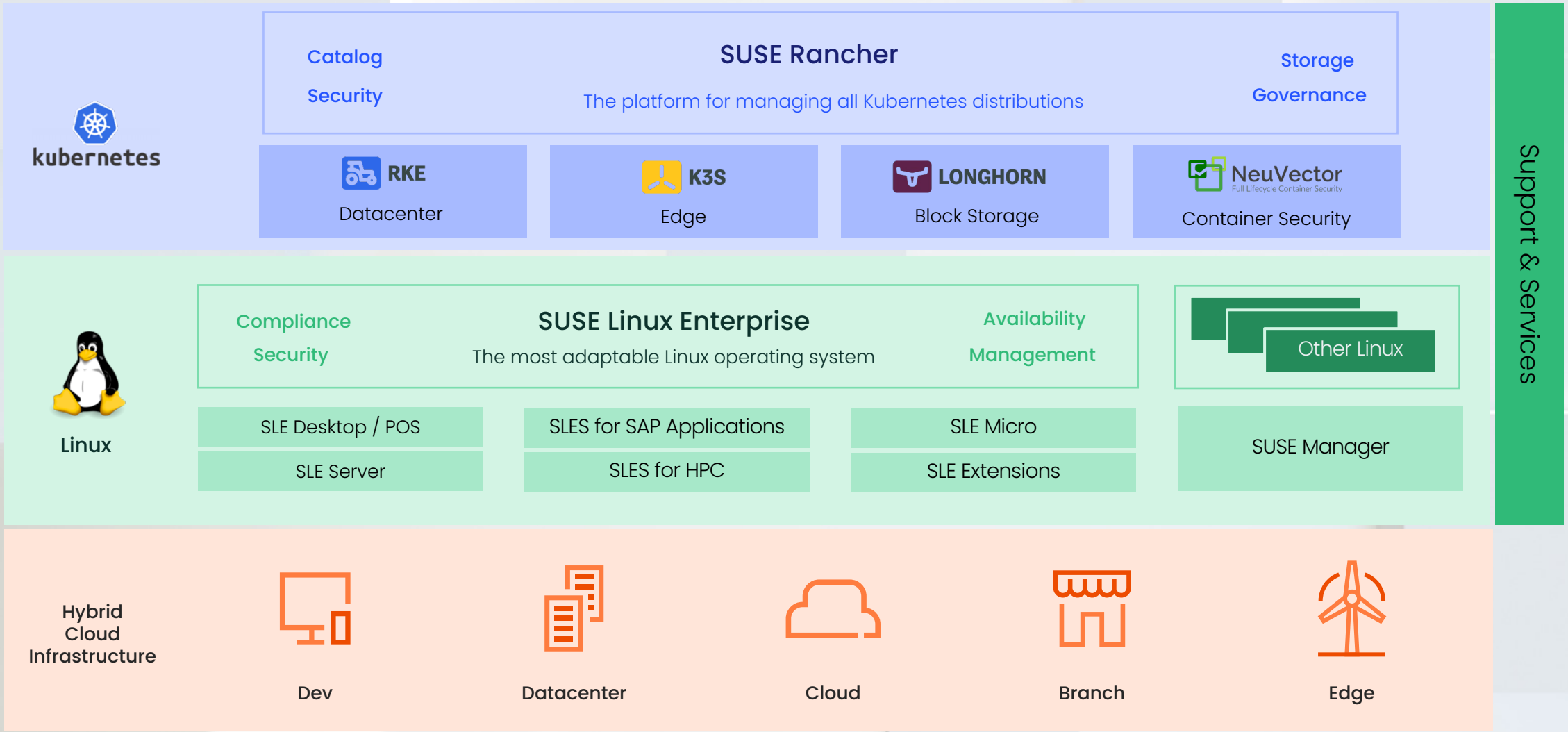
Bring apps and infrastructure into modern cloud computing

- Container and Kubernetes complexity
- Modernizing legacy apps and accelerating time to market
- Reduce cost and risk

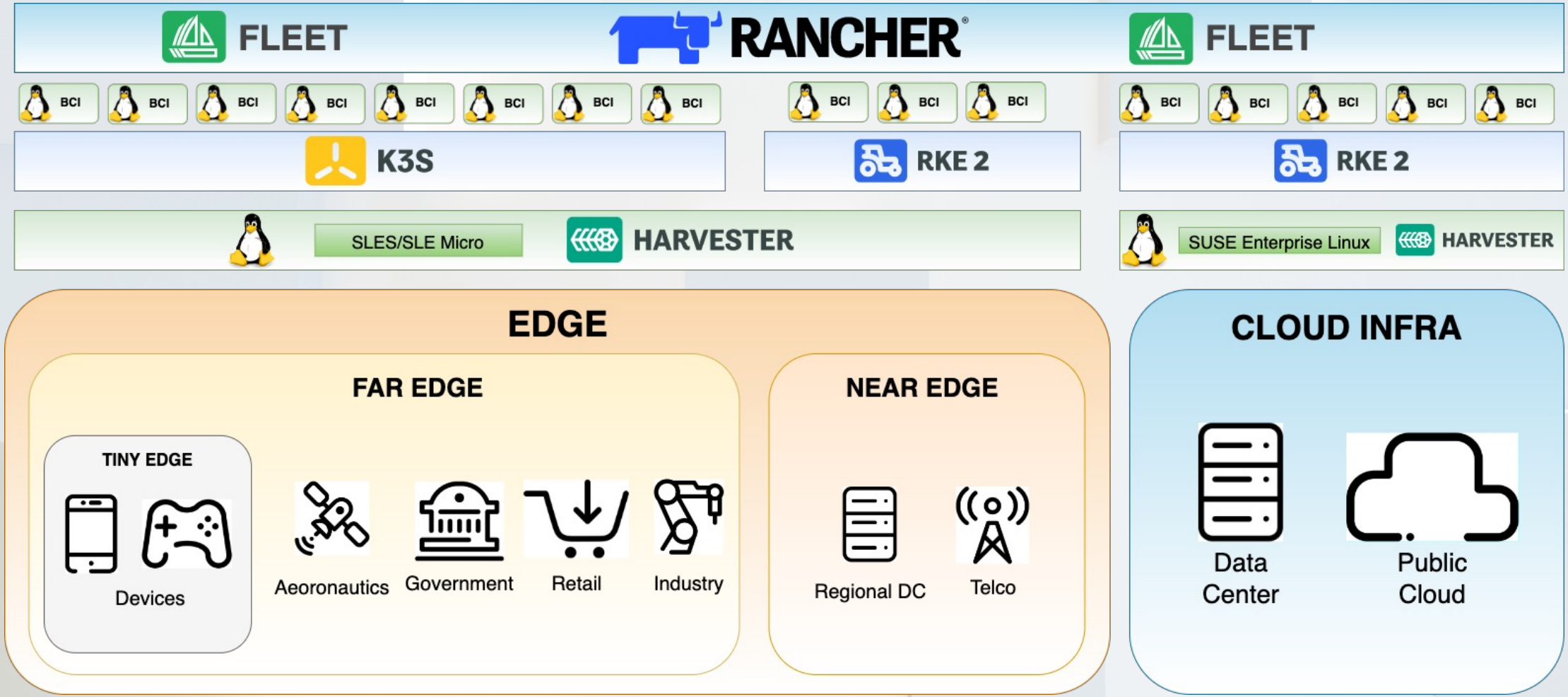
Accelerate business innovation

- Lack of a consistent platform from core, to cloud, to edge
- Concerns about security, privacy, compliance
- Breadth and complexity of edge use-cases

SUSE stack



SUSE Edge solutions



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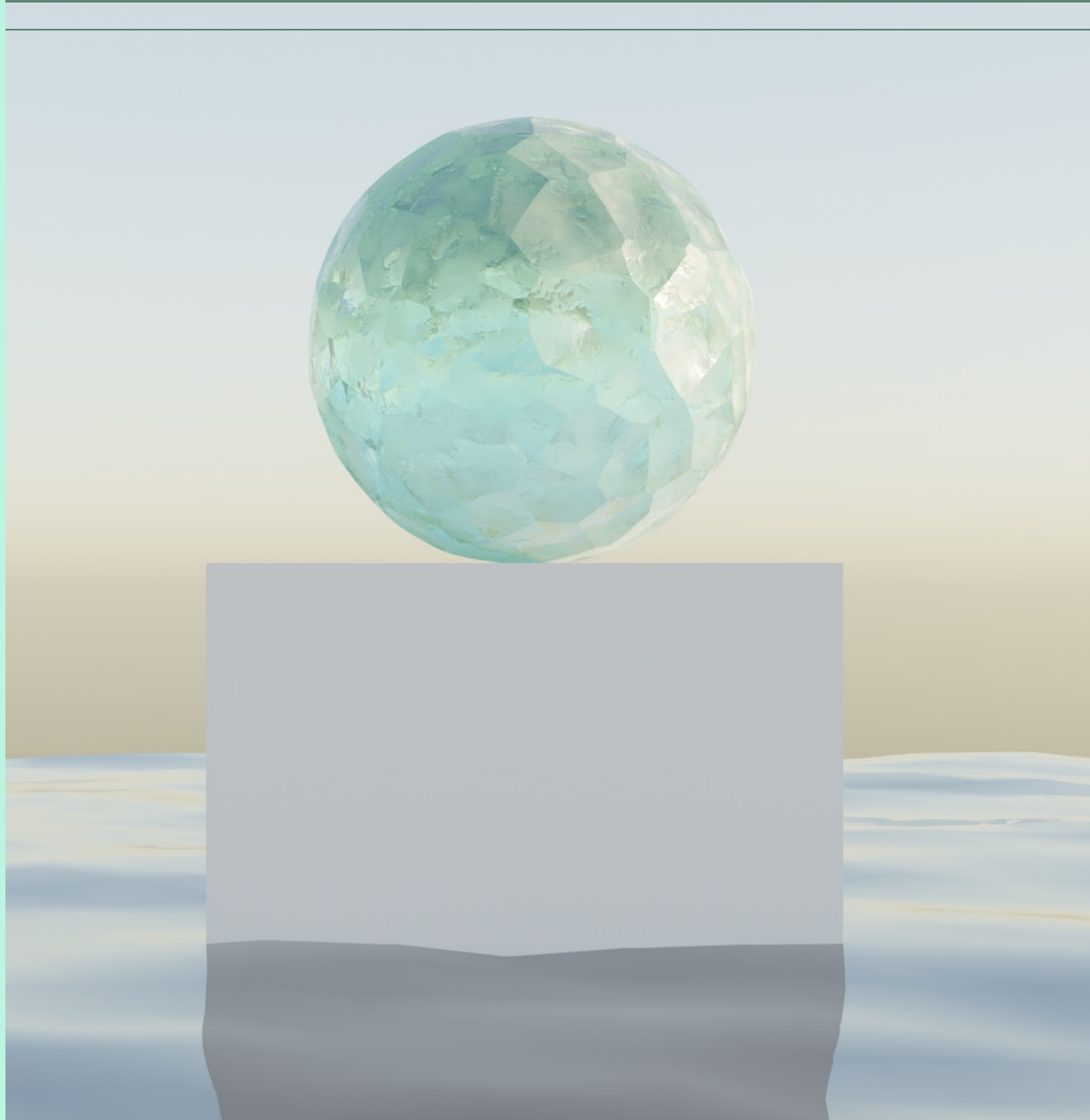
Conclusions



Conclusions

Edge computing

- Edge is everywhere, the amount of devices and the applications for Edge devices is growing exponentially. The market will grow fast in the next years.
- Our conception of Hybrid Cloud needs to adapt to the actual situation. Edge computing is becoming more strategic for the organizations. The compute power at the Edge will be part of what we consider today Hybrid Cloud becoming distributed DCs.
- With the growing amount of devices and small Edge servers connecting back to the Cloud and DCs, the exposure is huge, making compliance and security more important than ever.
- Management capabilities Will be crucial to be successful managing devices at the Edge.

Conclusions

SUSE & Edge

- For this complicated and fast growing environment, having a partner with the right solutions and skills to help you is key. SUSE can help you to achieve your goals with its experience in security, Linux, Kubernetes and management.
- Open Source software provides the flexibility, Independence and neutral tools that the organizations needs for this new complex scenario.
- Solutions like SLES, SLE micro, BCI, K3s, RKE, RKE2, NeuVector and Rancher can help you to make a difference and be succesful on your Edge trip.

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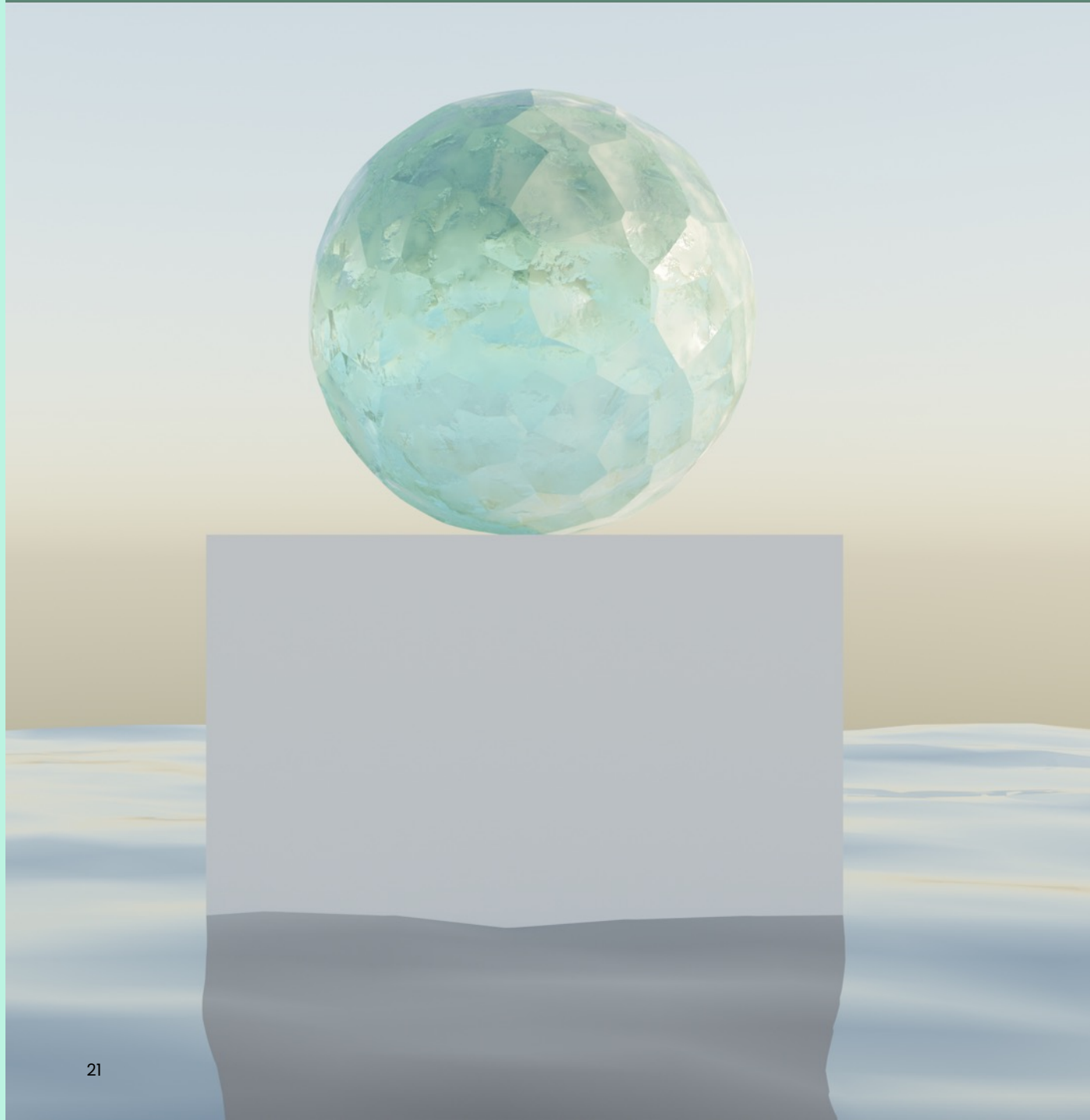
Q&A



Links & information

SUSE

- K3s: Lightweight Kubernetes
- RKE2 - Rancher's Next Generation Kubernetes Distribution
- Enterprise Kubernetes Management | Rancher
- SUSE Linux Enterprise Base Container Images | SUSE
- Harvester - Open-source hyperconverged infrastructure
- Fleet - GitOps at Scale
- Home - Akri

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Thank you

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