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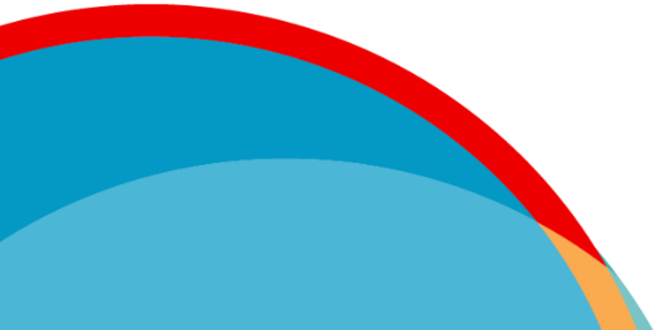
Lenovo: Edge to AI to Cloud

Edge computing is revolutionizing the way we process data, but the deployment of edge computing solutions can be complex and time-consuming. In this session, we will explore how Lenovo and RedHat are collaborating to simplify and automate deployment, management, and lifecycle of edge infrastructure. From reducing costs to increasing efficiency, discover how Lenovo can accelerate the edge journey from IOT to AI.



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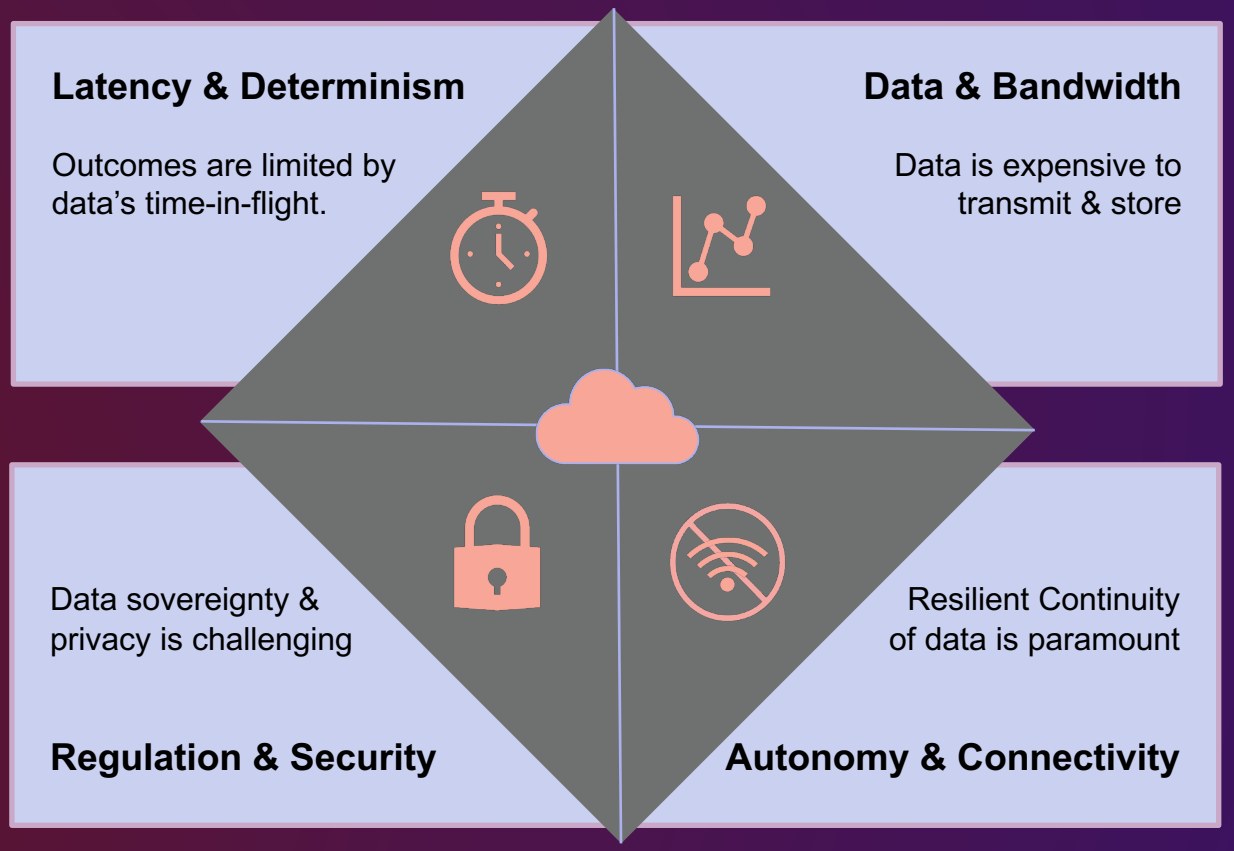
Edge Computing

What is it?

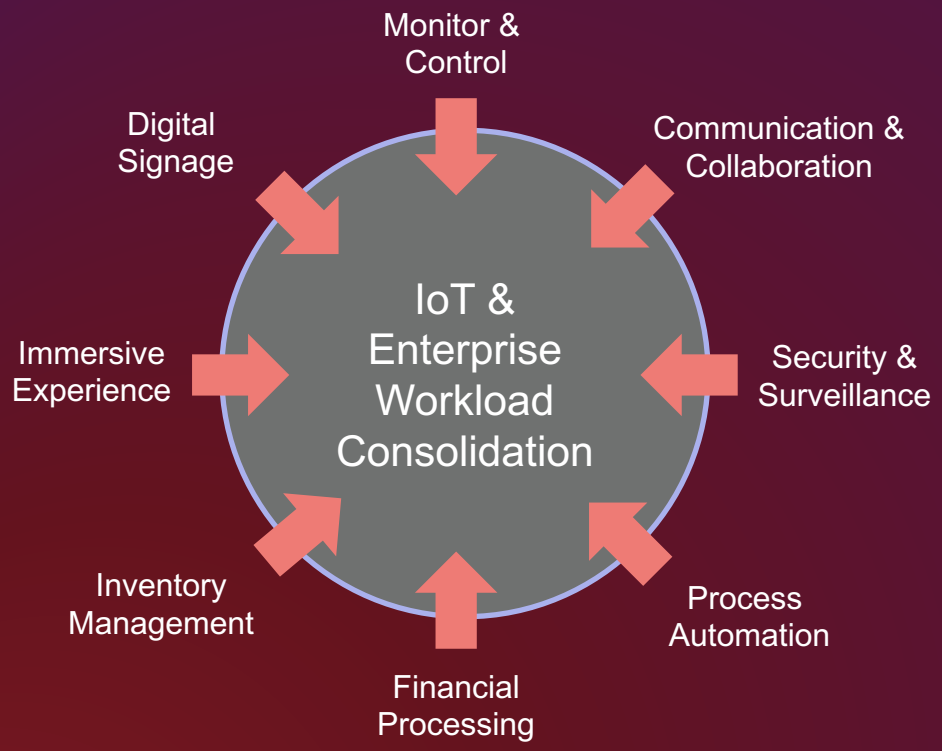
- Computing capacity **outside** of the **Datacenter**
- Closer to where data is **generated** and **acted** upon
- Unlocks new **business value** by enabling **innovative** new use-cases

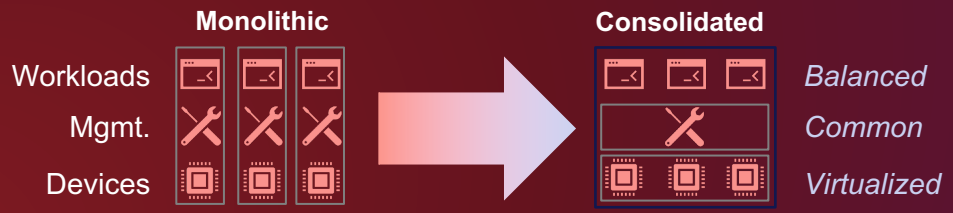
What drives it?



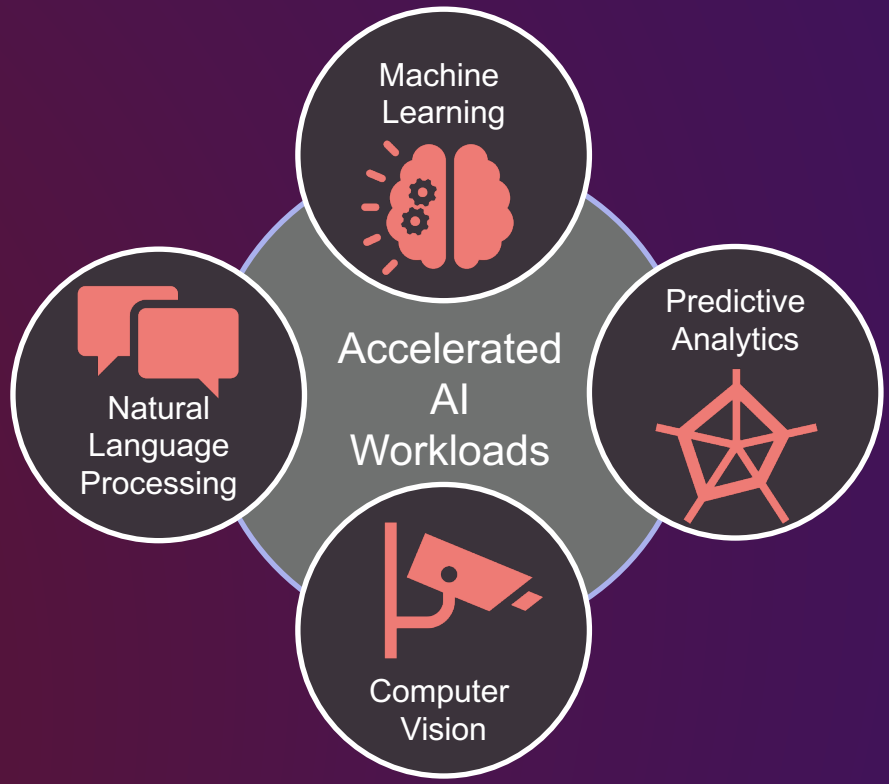
Trends in Edge Computing: Two Paths are Becoming Clear

Consolidation





Acceleration



Consolidation justifies business case

AI unlocks new business value and competitive advantage

Portfolio Overview - From Far Edge to Core

Edge Client

SE10

-20C to 60C
ATOM
Up to 32 GB RAM

M90n-1

0°C to 50°C
Celeron, i3, i5
Up to 8GB RAM

SE30

-20°C to 60°C
Core™ i3, i5
Up to 16GB RAM

SE50

0°C to 50°C
Core™ i3, i5, i7
Up to 32GB RAM

SE70

NVIDIA

-20°C to 60°C
NVIDIA Jetson
Up to 16GB RAM

Edge Server

SE350

0°C to 55°C
Xeon® D-2100
Up to 256GB RAM

SE450

-5°C to 55°C
Xeon® SP 3rd Gen
Up to 1TB RAM

Datacenter

EPYC

ThinkSystem

0°C to 35°C

Gateways | **Base Station / DC Closet** | **Data Center**

Diverse Portfolio
From ultra compact gateways to data center grade products.

Highest Performance
CPU & GPU rich systems for ultimate performance.

Flexible Deployment
In harsh environments with ruggedized devices & unique cooling capabilities.

Edge computing has unique requirements…

Environmental

- Wide temperature
- Shock & vibe
- Dust filtering & fanless
- Low acoustic
- IP/MIL protection

Security

- Encrypted data
- On-site authentication
- Movement & tamper detection
- Physical Security

Continuity

- Diverse connectivity
- Optimized performance
- Redundant operation

Management

- Single tool for DC & edge
- Automate deployment
- Lifecycle Management

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“With help from Lenovo, we were able to create a virtual garage. Our engineers are now connected live with the circuit and work like they are present at the track.” said **Paolo Ciabatti, Sporting Director, Ducati Corse**

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Lenovo Solution for Red Hat OpenShift

- Jointly engineered with Red Hat
- Optimized configurations for a variety of use cases
- Supported on bare-metal, hypercoverged, and edge servers

Benefits:

- Modernize existing applications
- Build cloud-native applications
- Add artificial intelligence (AI) to cloud-native applications
- Quickly integrate with custom and third-party services

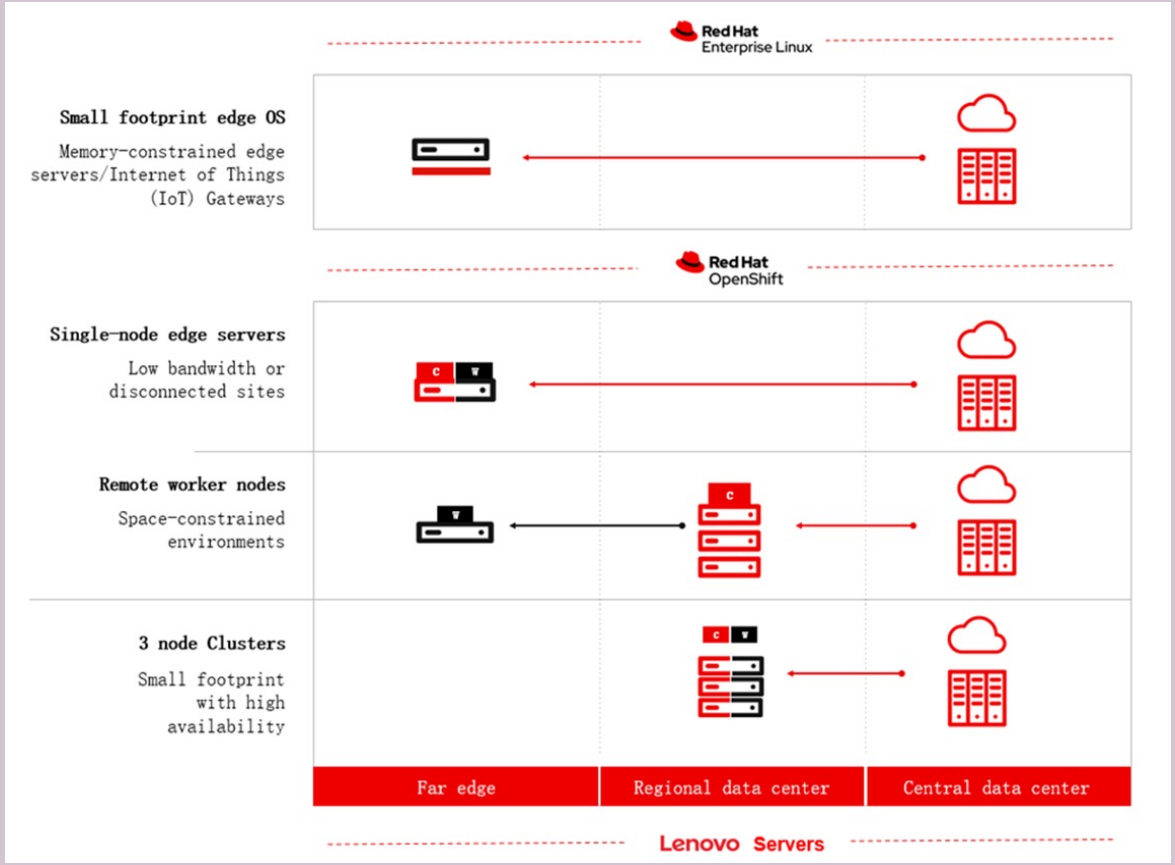
Lenovo OpenShift Use Cases

Minimum Cluster
- 3-node cluster
- smallest, fully functional OpenShift cluster offering high availability

Single Node
- single physical or virtual node
- ideal for edge sites with limited space, low bandwidth, or intermittent connectivity

HCI
- build, scale, and manage cloud-native applications on-prem and in hybrid clouds
- efficient allocation of server resources

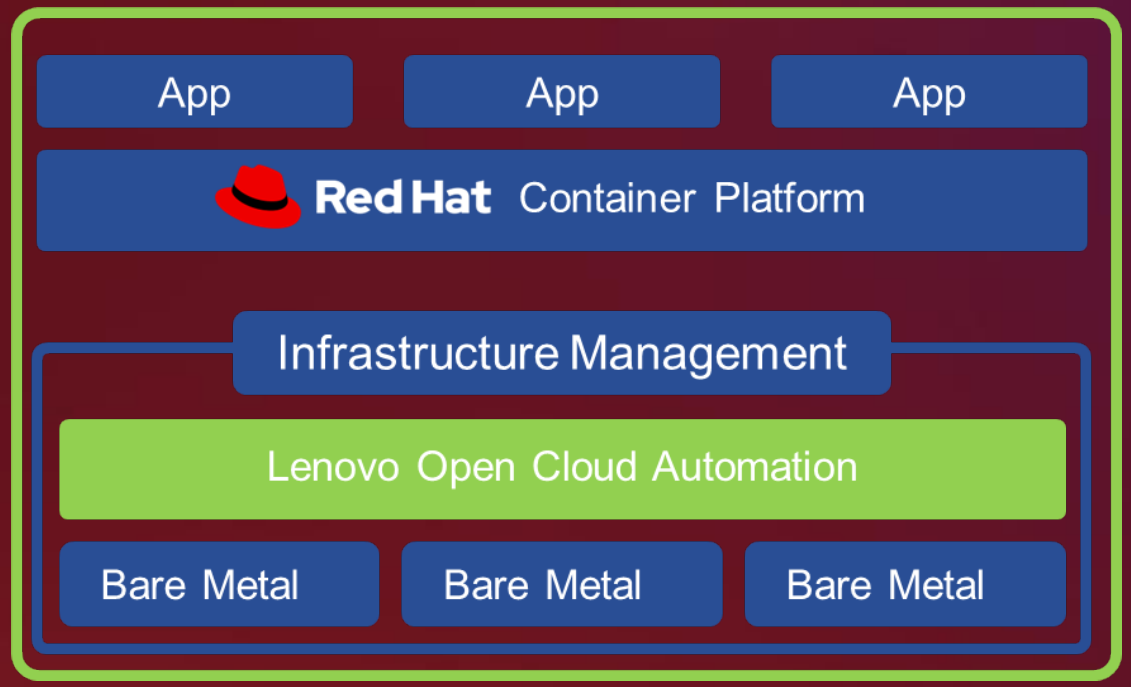
Datacenter Cluster
- 6-node cluster for large scale deployments
- eases the burden of configuring, deploying, managing, and monitoring the environment



AI Edge
- single node solution
- accelerates artificial intelligence/machine learning (AI/ML) workflows at the edge

Simplify OpenShift Deployment with LOCA

Lenovo Open Cloud Automation (LOCA) can deploy 3-node Red Hat OpenShift Container Platform clusters – up to version 4.12, directly from bare-metal



Benefits of Lenovo Open Cloud Automation

Before LOC-A

- Complex logistics chain and long, manual deployment times
- Manual installation is staff-dependent
- More locations = more $$ spent per site
- Travel, waste output at multiple sites increases carbon footprint

After LOC-A

New!

Factory | Shipping | Unbox, Rack and Stack | Server Activation | Automate remote deployment

Execute configuration playbook for hardware, Operating Systems and Cloud

- Reduces Edge deployment time up to 3.3x*
- Reduces required resources up to 4.1x*
- Saves up to 50% in deployment costs (scenario dependent)
- Reduces carbon emissions by up to 65%*

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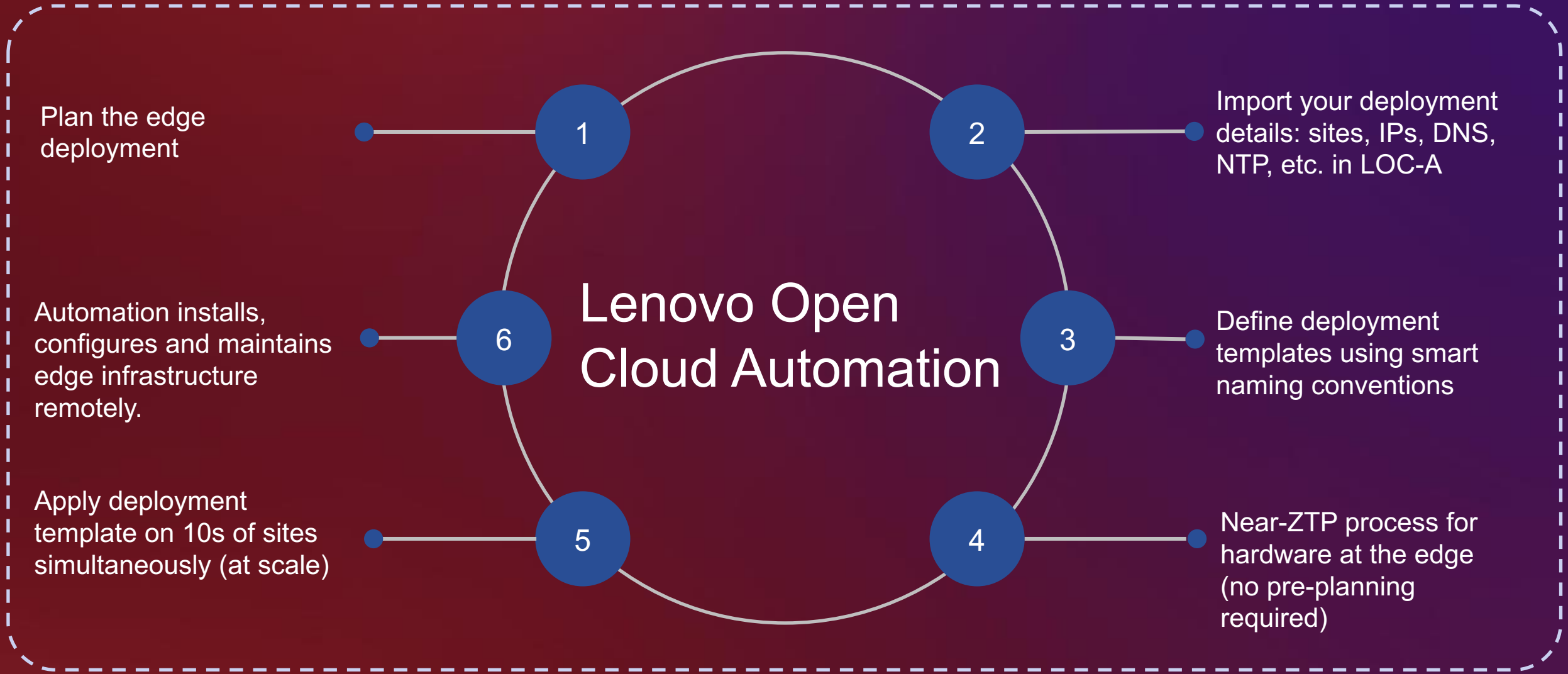
How Lenovo Open Cloud Automation for Edge Works



TruScale Hybrid Cloud with Red Hat

- **Enterprise-ready Kubernetes container platform as-a-Service offering**
- Fully managed as-a-Service container platform for running OpenShift Container Platform (OCP) in a consumption-based price model
- Combines the security of on-premises infrastructure with hybrid cloud services
- Red Hat OpenShift on Lenovo ThinkSystem or ThinkAgile systems

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Q&A?

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Thank you

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