#RedHatOSD

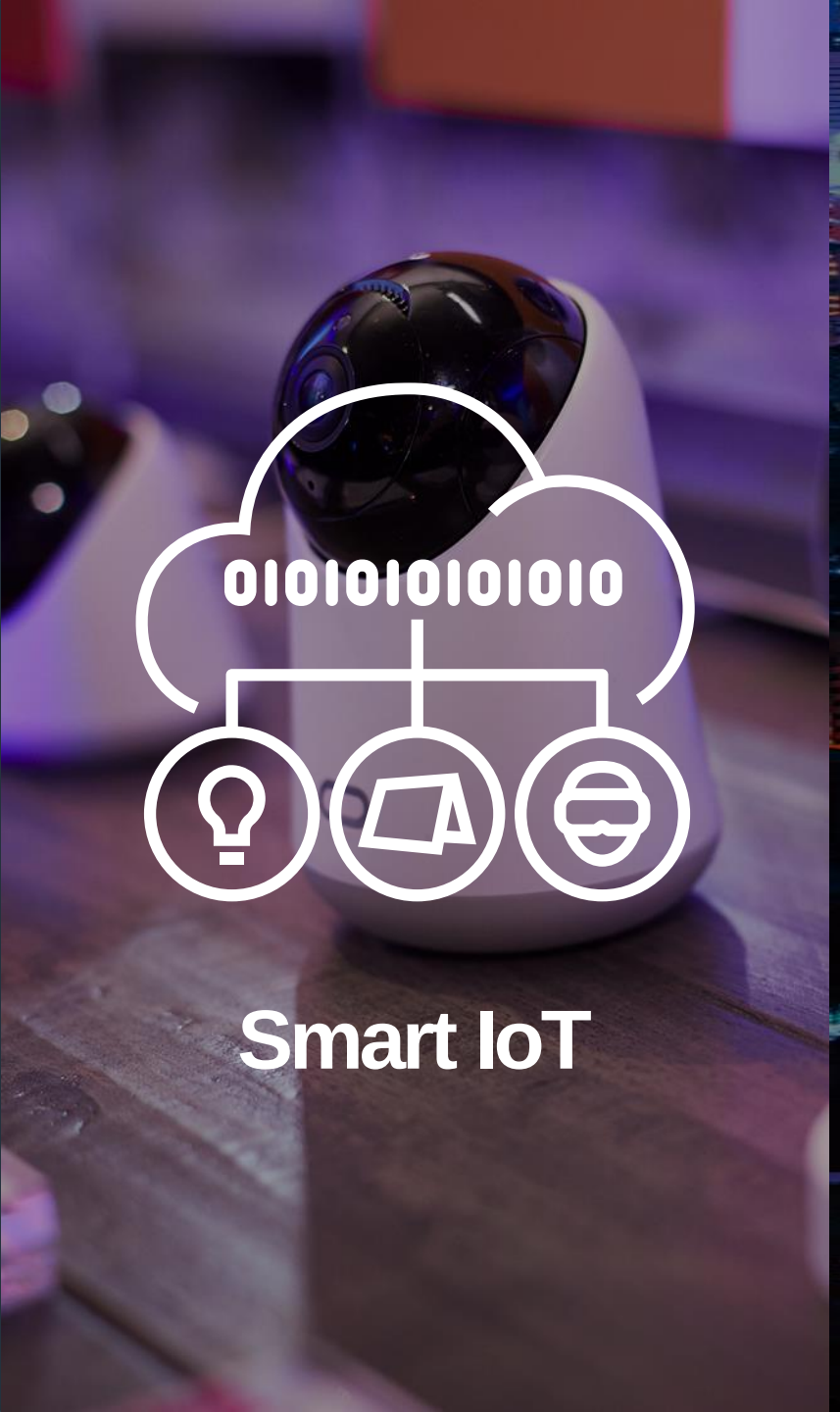
RED HAT FORUMS

Lenovo e Red Hat

Soluzioni hardware e software integrate per un mondo aperto e connesso

Roberta Marchini
Lenovo DataCenter Group Technical Sales Manager
Milano - 3 Dicembre 2019

Red Hat | Lenovo


Smart IoT

Smart Infrastructure

Smart Vertical

Data Center Group Vision

Be the most trusted data center partner – empowering customers' **Intelligent Transformation** and solving humanity's greatest challenges.

A global technology leader

52,000 Employees serving customers in 160+ countries	**#240** Fortune 500	**7** Nationalities in leadership executive council	**100%** Publicly traded
48.6% Growth rate Fastest growing server vendor	**$1.2B** AI & IOT investment	**#5** On Gartner high tech supply chain ranking	**36** Manufacturing facilities, 7 research centers and 71 offices globally

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DCG's 26 years of innovation

A history dedicated to continuous increases on performance, agility, and reliability

1999
1st 1U Tier 1 Rack Server
1st Light Path Diagnostics

1992
x86 Server
IBM PC Server

2005
1st high availability hot-swap memory

2002
1st Scalable 16-socket X86 server

2010
1st x86 server to break 1M tpmC

2007
1st to decouple memory from processor

2014
1st integrated memory channel flash storage

2012
1st warm water cooling technology

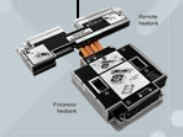
2017
1st Mission-critical 8 way server in 4u form factor

2014
1st 45 °C operating servers

2017
Flexible I/O

2017
Front/Rear access to all server components

2018
Thermal Transfer Module



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Lenovo's innovation continues

Dedicated to continuous advancements in performance, agility, and reliability for the data center

ThinkSystem

- **1st** Of all vendors in number of World Records
- **1st** In Supercomputing in the world
- **1st** Mission-critical 8 way server in 4u form factor with SR950
- **1st** Warm water cooled Intel Scalable Xeon supercomputer

ThinkAgile

- **1st** Deployment of Azure Stack in the world
- **1st** To have VMware vSAN ready nodes with Intel Optane SSD DC
- **1st** Full integration with Nutanix Prism
- **1st** To power on Intel Optane DC Persistent Memory

#1

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ThinkSystem

Server, Storage, & Networking Solutions
for the future-defined data center

ThinkAgile

Next generation IT for
software-defined infrastructure

Hybrid Cloud
Finding clarity among the clouds
Lenovo

Everyday cloud challenges

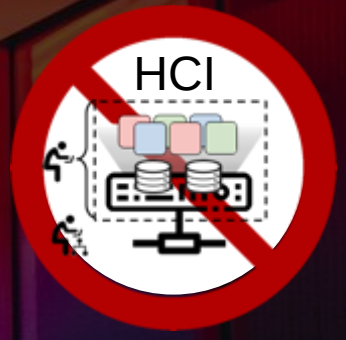
And things are moving fast

You can’t afford to be left behind

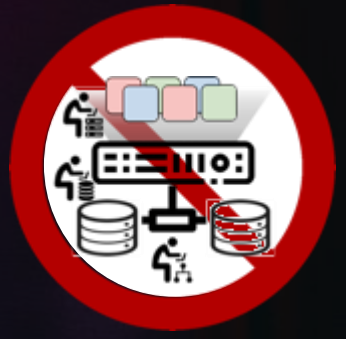
The vision is clear, but the right answer isn’t.
Because cloud is complex, and it’s tough to make it happen.

This is not cloud

Not a Place



Not HCI



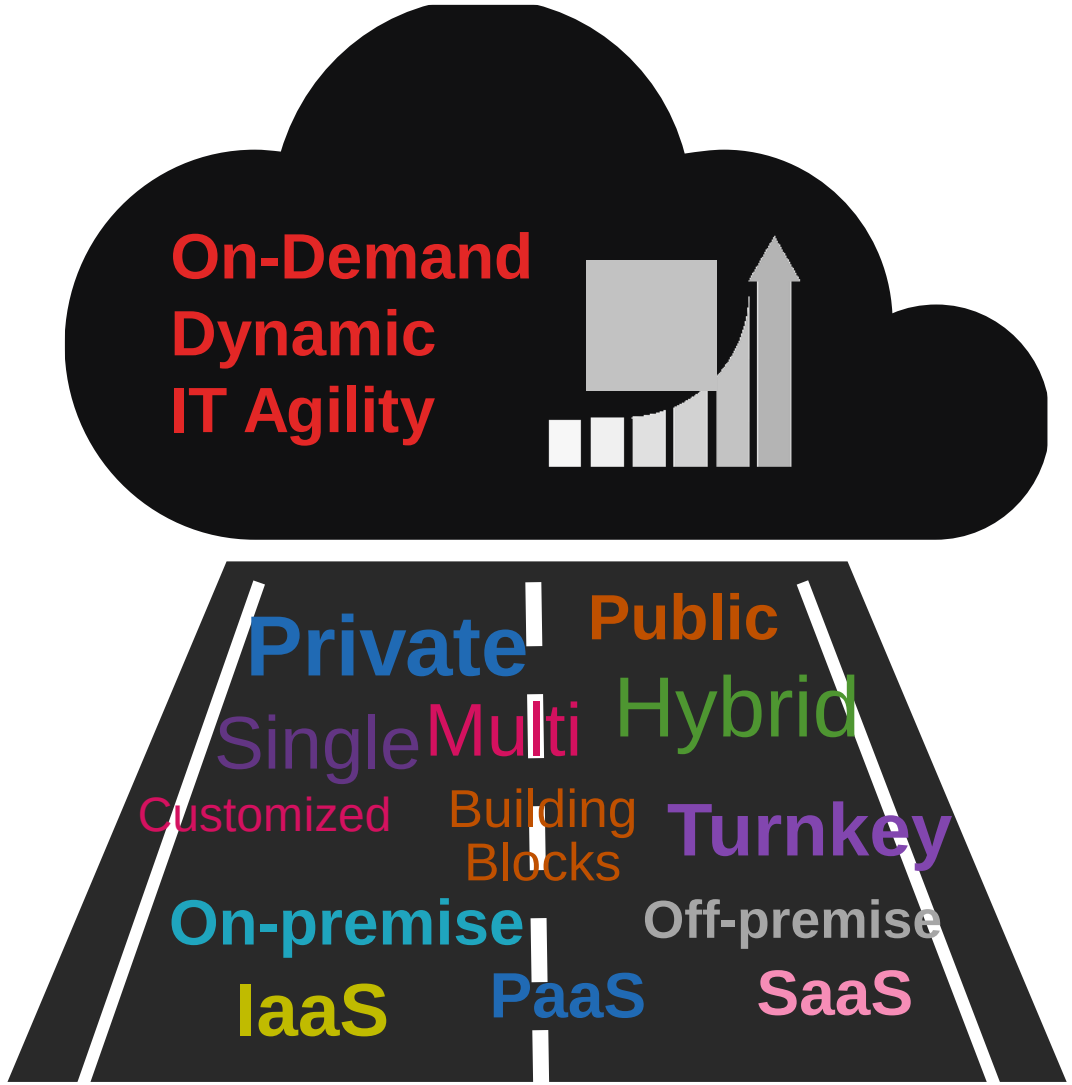
Not virtualization

So what is cloud?

IT Delivery & Consumption Model
to provide infrastructure resources,
applications and services
on-demand or by *subscription*

IT Operating Model
that can easily adapt to
meet changing application
and service requirements

Every cloud is different



Lenovo’s smarter approach to cloud

1. Develop a robust cloud strategy
2. Select the right technology and partnerships
3. Assist/Consult and deployment of infrastructure
4. Support ongoing management of resources

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Stronger together
Lenovo & Red Hat

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Red Hat and Lenovo

- Global Resell Agreement
- Engineered Solutions
- New Innovations
- Corporate Commitments to Open Source
- Executive Alignment

Global Resell Agreement

- Global Resell Agreement
- Lenovo sells both OEM and Reseller SKUs
- Level 1 and 2 support from either Lenovo or Red Hat
- All Geos are covered

Engineered Solutions

- OpenStack Reference Architectures
- OpenShift Reference Architectures
- RedHat OpenShift using Lenovo ThinkAgile HX Series Reference Architectures
- Telco NFV Reference Architectures
  - Validated, tested design and configuration documents
  - Step-by-step deployment guides with scripts

Create a Private Cloud Solution with Lenovo & Red Hat

- Reference Architecture includes:
  - Nova, Swift, Glance, Keystone, Horizon, Neutron, Cinder, Ceilometer, Heat, Trove, Ironic Sahara
  - Integration with Ironic for bare metal automated deployment
- Hardware Includes:
  - 2U ThinkSystem SR650
  - Lenovo 10Gbps switches
- Lenovo is Single point of support for Hardware and Red Hat Software

https://lenovopress.com/lp0762.pdf

Lenovo XClarity

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Create a Container Solution with Lenovo & Red Hat

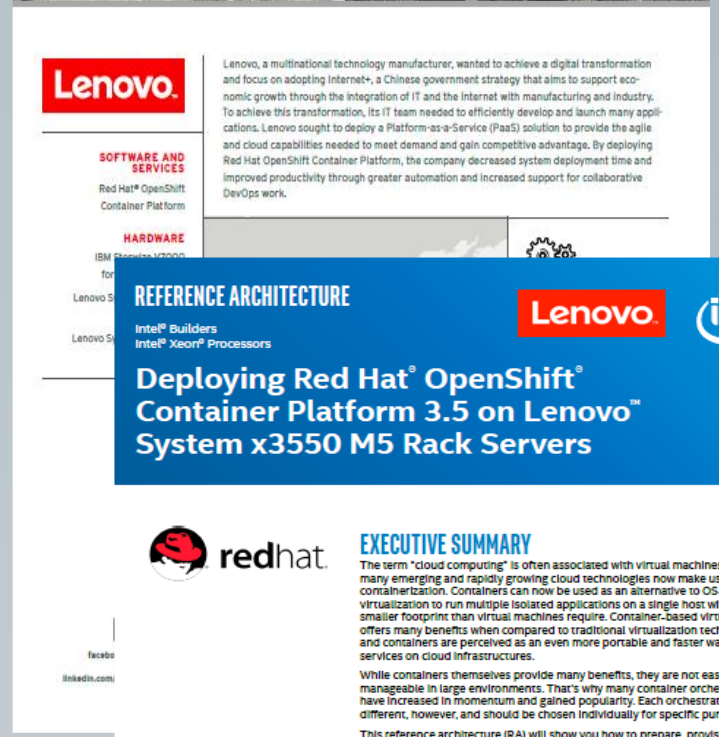
- Provides overview of application containers
- Container orchestration technologies (Docker and Kubernetes)
- Describes DevOps, Continuous Integration and Continous Delivery
- Provides examples for Openshift Container Platform

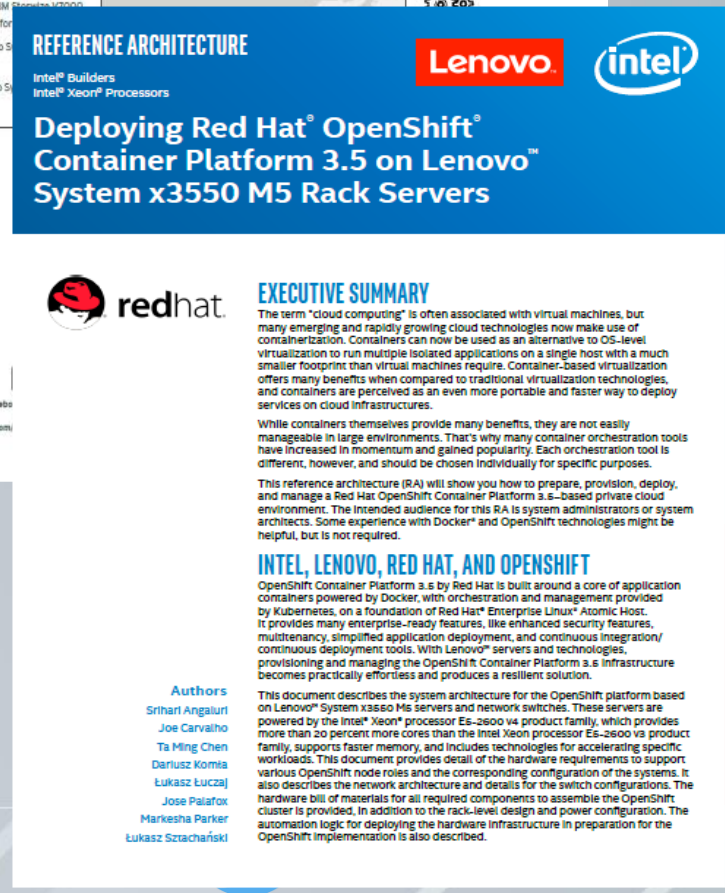
Lenovo XClarity

http://lenovopress.com/lp0968.pdf

Engineered Solutions

- DevOps based on OpenShift
  - Customer Success story from Lenovo IT dept using OpenShift
  - Reference Design document for easy installation





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Engineered Solutions – HCI/SDS

- Red Hat Hyperconverged Infrastructure for Virtualization Reference Architectures
- Red Hat Ceph Storage Reference Architectures

Create an HCI Solution with Lenovo & Red Hat

- Describes the reference architecture for Red Hat Hyperconverged Infrastructure
- Provides detailed networking configuration information
- Describes Lenovo ThinkSystem servers and network switches
- Includes validated and tested deployment information including bill of materials
- Lenovo is Single point of support for Hardware and Red Hat Software

Lenovo XClarity

http://lenovopress.com/lp1148.pdf

Create a SDS Solution with Lenovo & Red Hat

- Describes the reference architecture for storage using Red Hat Ceph Storage
- Provides performance options for the storage solution
- Describes Lenovo ThinkSystem servers, networking, and storage management software
- Includes validated and tested deployment and sizing guide
- Lenovo is Single point of support for Hardware and Red Hat Software

Lenovo XClarity

http://lenovopress.com/lp1147.pdf

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New Innovations

Strategic Initiatives

SAP Data Hub
- Lenovo Intelligent Insights; RH certified

Open Cloud for Telco
- Validated for Red Hat vCO program
- NFV use case for Telco

DevOps with OpenShift
- Engineered Solutions with Ref. Architectures

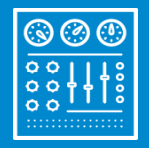
Oil and Gas Solution
- Joint solution brief, sales events

ThinkAgile CP
- Embedded OEM with RHEL and RHV

IoT/Edge Development Project
- CTO led engagement

CloudForms - An Evolutionary Path to Hybrid

RED HAT® CLOUDFORMS



Service Management

Compliance & Governance

Efficiency & Optimization

CONTAINERS

Red Hat© OpenShift Container Platform

VIRTUALIZATION

VMware©

Microsoft© Hyper-V

Red Hat Virtualization

PRIVATE CLOUD

Red Hat Openstack© Platform

PUBLIC CLOUD

Amazon© Web Services

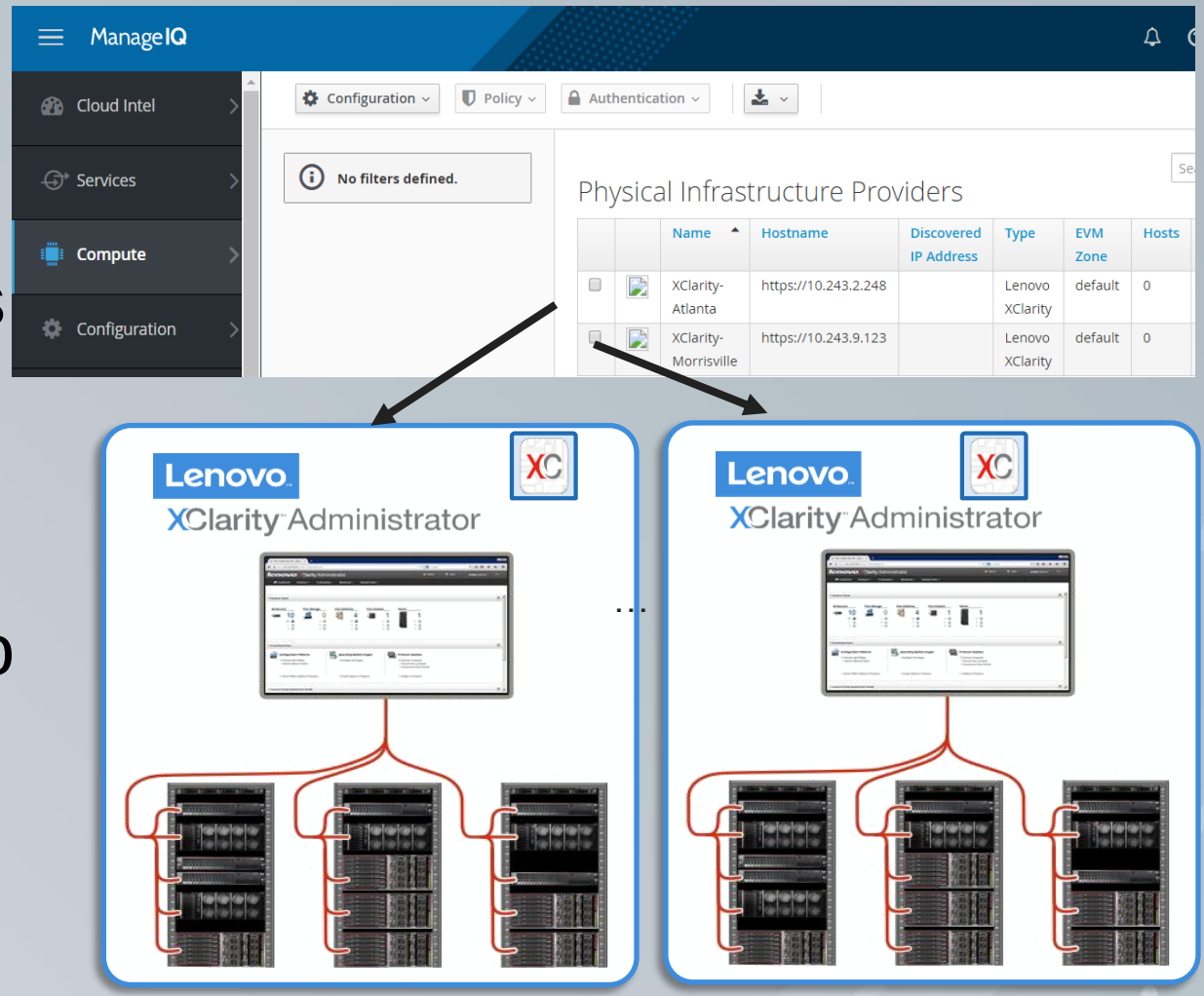
Microsoft Azure

Google© Cloud Platform

SOFTWARE DEFINED NETWORKING

Hybrid Cloud Management

- First OEM with integrated physical provider in CloudForms (version 4.6)
- Visibility of physical assets via CloudForms
- XClarity Provider embedded into CloudForms



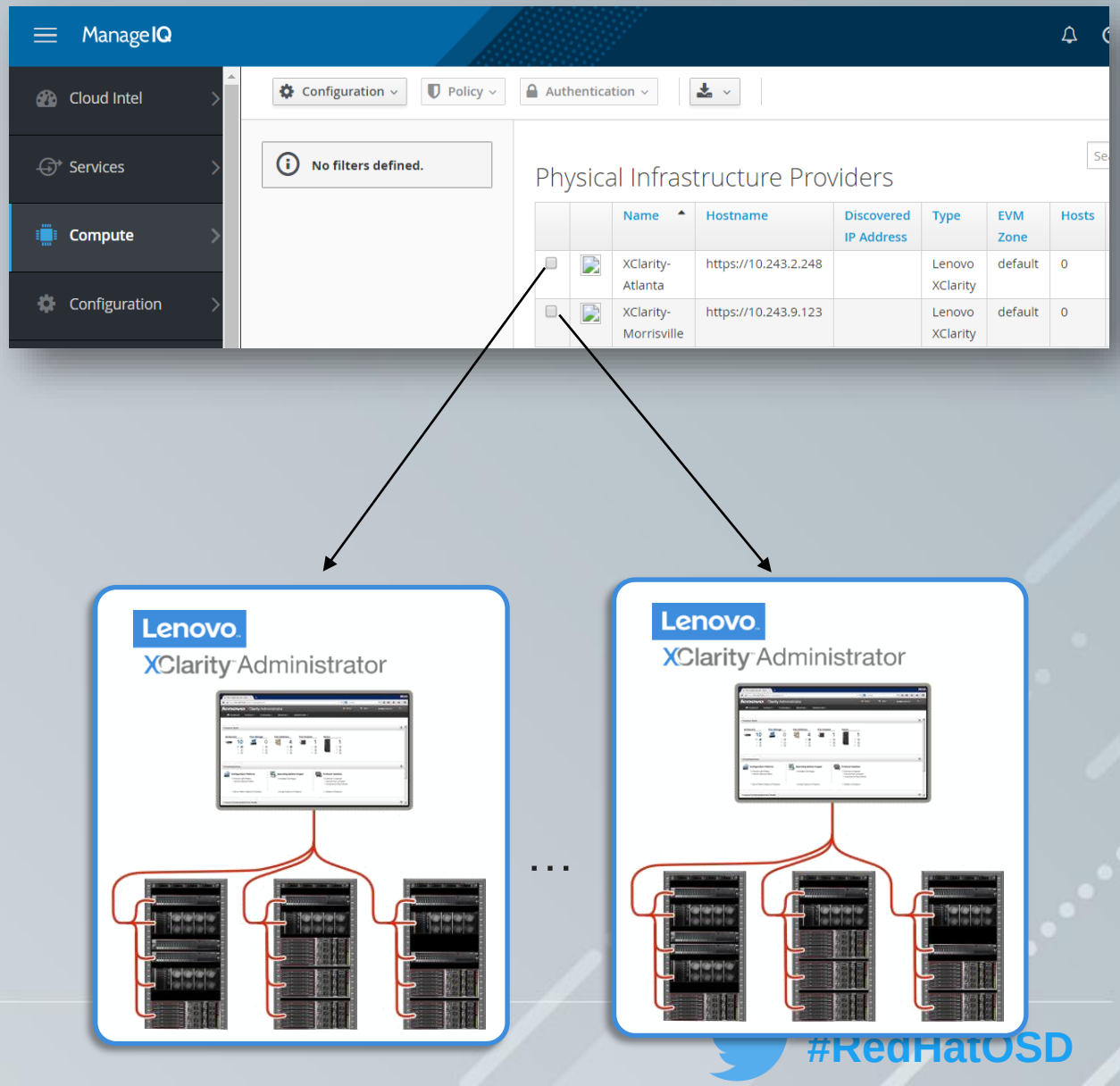
"This release also introduces Lenovo XClarity as the first physical infrastructure provider, enabling CloudForms to go beyond managing hybrid virtualized and private cloud environments to managing hybrid infrastructures. The new Lenovo XClarity provider enables CloudForms to discover and manage physical compute infrastructure alongside virtual and private-cloud through a single pane of glass."

XClarity Integrator for Red Hat CloudForms

Adding a Physical Server Inventory View to Red Hat CloudForms
- Vital product data
- Include network adapters and port configuration detail

Base firmware and network adapter firmware
Server to host to VM relationships
Physical server information
- Power operations
- Location LED operations
- Server to host relationships
- Event collection

Integrated into CloudForms (No Download required)



Commitment to Open Communities

* Including System x results prior to System x acquisition by Lenovo in 2014

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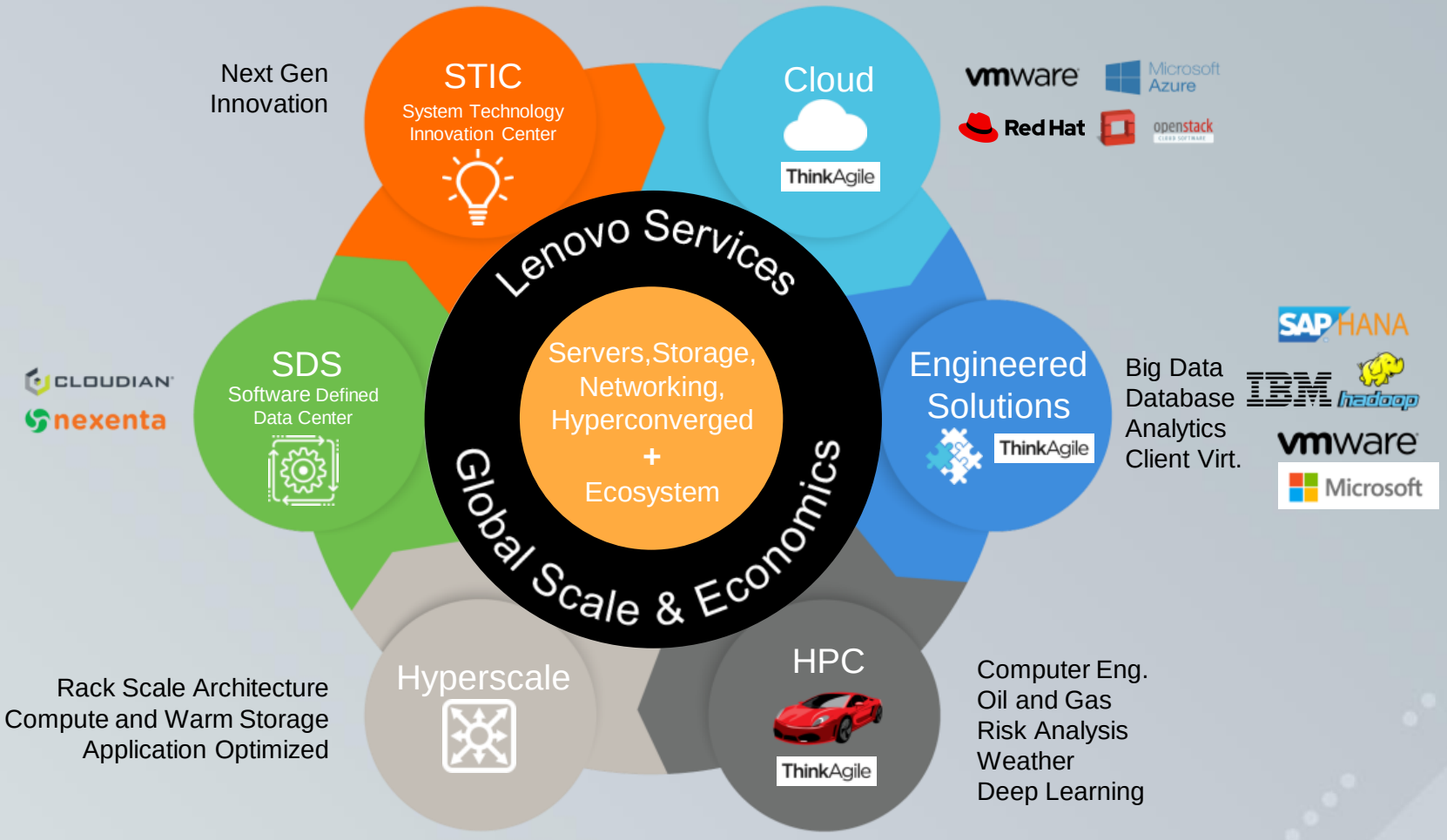
Bringing it all together: Lenovo 360



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