

Lenovo Cloud Reference Architecture

for Red Hat OpenStack Platform

Lenovo™

Elastic Private Cloud with Performance and Resiliency

The Fast Path to Elastic Private and Hybrid Cloud

Worry less about deploying cloud and focus more on developing innovative applications with the Lenovo Cloud Reference Architecture (RA) for Red Hat OpenStack Platform. Lenovo's pre-tested, validated, and co-engineered private and hybrid cloud solutions simplifies cloud configuration, deployment, and management. Our end-to-end solution for Red Hat OpenStack Platform 11 delivers the following benefits:

- Consolidated and integrated hardware resources with balanced workloads for compute, network & storage
- Aggregated compute and storage infrastructure delivering virtualized resource pools easily customized to meet specific compute and storage ratio needs
- Simplified scalability with the ability to extend compute and storage at run time
- Single points of failure elimination in all layers of the infrastructure stack, yielding continuous access to VMs
- Rapid OpenStack cloud deployment, including updates, patches, security, and usability enhancements with enterprise-grade support from Lenovo and Red Hat
- Unified management and monitoring for kernel-based VMs
- Red Hat OpenStack Platform 11 introduces co-location of Ceph storage with OpenStack compute nodes.

The Lenovo RA for Red Hat OpenStack Platform 11 provides all the components needed to build and run a Red Hat OpenStack Platform infrastructure that uses a software-defined data center (SDDC) architecture. As a sequential release, it enables customers to quickly test new features. Additionally, upgrades are generally done without major workload interruptions. The entire server configuration can be combined into a single rack containing a balanced configuration of compute, storage, networking, and power. The Lenovo RA for Red Hat OpenStack Platform provides the speed, scalability and reliability that enterprise data centers and multitenant service providers need for high-performance, high availability, and ease of management.

This reference architecture combines the latest systems management features of the Lenovo XClarity Administrator software with the Red Hat OpenStack Platform cloud management suite. Lenovo XClarity provides foundational systems management for Lenovo servers, network, storage & cloud solutions. Through an uncluttered, dashboard-driven GUI, XClarity provides automated discovery, monitoring, firmware updates, pattern-based configuration management, and installation of hypervisors and operating systems to bare metal servers. The advanced level of integration between Lenovo and Red Hat OpenStack Platform allows you to confidently control your private and hybrid cloud implementations and enhances total system reliability.

Highlights

- Provides guidance for deploying Lenovo systems with a complete Red Hat OpenStack solution for Managed Service Providers, Cloud Service Providers, and enterprise private and hybrid clouds
- Includes the latest data center equipment available such as the Lenovo ThinkSystem SR650 and SR630 servers and Lenovo ThinkSystem Ethernet switches
- Simplifies OpenStack deployment by outlining a validated configuration that scales and delivers an enterprise level of redundancy across servers, storage, and networking



Lenovo ThinkSystem SR650 and SR630 servers, along with Lenovo ThinkSystem networking, form the foundation of the Lenovo Cloud Reference Architecture for Red Hat OpenStack Platform



Lenovo ThinkSystem SR650 Server and ThinkSystem SR630 Server



Powered by Lenovo ThinkSystem SR650 and ThinkSystem SR630 Servers

The Lenovo ThinkSystem SR650 and SR630 servers serve as the compute/storage nodes for this solution. These 2-socket high performance servers are energy efficient and enable the deployment of large cost effective big data clusters. Both servers feature the latest Intel processors and support industry leading high IOP flash storage options. The 2U ThinkSystem SR650 and 1U ThinkSystem SR630 high capacity servers utilizes high-volume on-board storage, eliminating the need for attached storage to support large clusters.

This Red Hat OpenStack solution also features the Lenovo ThinkSystem G8272 10Gb and G7028 1Gb Ethernet switches to support the data network and management network, respectively.

Why Lenovo

Lenovo is a leading provider of x86 servers for the data center. Featuring rack, tower, blade, dense and converged systems, the Lenovo server portfolio provides excellent performance, reliability and security. Lenovo also offers a full range of networking, storage, software, solutions, and comprehensive services supporting business needs throughout the IT lifecycle. With options for planning, deployment, and support, Lenovo offers expertise and services needed to deliver better service-level agreements and generate greater end-user satisfaction.

For More Information

To learn more about the Lenovo Cloud Reference Architecture for Red Hat OpenStack Platform, contact your Lenovo Business Partner or visit: www.lenovo.com/systems/solutions

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