# Red Hat Software Solution Product Guide
## Product Guide

Red Hat and Lenovo have been partners for over 20 years. Together we ensure that the latest Red Hat technologies work perfectly with Lenovo ThinkSystem infrastructure and ThinkAgile solutions to provide the most reliable, secure and high-performing datacenters for our customers. Built with proven Lenovo innovation, Lenovo ThinkSystem servers and ThinkAgile solutions extend Red Hat's operating systems, virtualization technologies, and infrastructure platforms so you can build a highly productive IT environment that can help your business achieve true innovation.

Lenovo has proven experience in developing and delivering Red Hat-based solutions that help customers modernize and simplify their IT infrastructure to dramatically drive down operating costs and open the door to cutting-edge innovations. Built around the latest Lenovo ThinkSystem servers and networking hardware, the Lenovo solution with Red Hat provides businesses with an affordable, interoperable, and reliable industry-leading solution to manage their virtualized workloads.



Red Hat and Lenovo offer a full open hybrid cloud portfolio that provides the right solution for every application.

## Did you know?

Lenovo XClarity Administrator is a centralized resource management solution that is aimed at reducing complexity, speeding response, and enhancing the availability of Lenovo server systems and solutions. Lenovo XClarity Administrator provides agent-free hardware management for our servers, storage, network switches, hyperconverged and ThinkAgile solutions.

For more information, refer to the Lenovo XClarity Administrator Product Guide, available from:
https://lenovopress.com/tips1200-lenovo-xclarity-administrator

## Why buy Red Hat subscriptions from Lenovo?

Lenovo offers various types and forms of Red Hat subscriptions so organizations and partners can leverage best in class Lenovo servers to build agile IT infrastructure that is reliable, secure, and high performing. Choosing a Red Hat OEM subscription from Lenovo for most customers is the *simplest* and *most cost-effective* approach.

Red Hat subscriptions from Lenovo are specifically pre-tested and optimized to install on Lenovo servers. Lenovo offers support for several Red Hat offerings including Red Hat Enterprise Linux, Red Hat Virtualization, and Red Hat High-Performance Computing, giving customers a single point of support for their datacenter with better pricing than they can get from normal Red Hat distributors.

With the two company headquarters located near each other and a history of technical collaboration, Red Hat and Lenovo consistently deliver innovative joint solutions for the data center. Lenovo's leadership in reliability, customer satisfaction, and performance, combined with Red Hat's reputation in software and cloud, continues to deliver innovative data-center solutions and lower total cost of ownership for our joint customers.

With Lenovo, customers have access to decades of datacenter expertise, industry leading support services and the option to leverage Lenovo consultative, professional, and managed service offerings. Lenovo provides customers with the best solution to generate the business results they are looking to achieve, while leveraging a single partner for all aspects of support and services.

## Linux Operating System and Hypervisor

This section describes the subscriptions available for Red Hat Enterprise Linux and a hypervisor provided via Red Hat Virtualization supported by world-class Lenovo Services.

Red Hat Enterprise Linux Operating System is available in the following deployment scenarios:

- **Red Hat Enterprise Linux (RHEL) Physical or Virtual Node:**  This is the basic RHEL x86 Linux Operating System is sold in a single 2-socket subscription. This subscription supports either two (2) physical sockets of RHEL or two (2) virtual machines using RHEL.
- **Red Hat Enterprise Linux Server Physical with 1 Virtual Node:**  This subscription provides the physical two socket RHEL OS plus an additional VM using RHEL.
- **Red Hat Enterprise Linux Server Physical with 4 Virtual Nodes:**  This subscription provides the physical two socket RHEL OS plus up to four additional RHEL VMs.
- **Red Hat Enterprise Linux for Virtual Datacenters:**  This subscription offers unlimited "bare metal" RHEL OS instances for virtual machines. Note - this subscription does not include the physical server OS.
- **Red Hat Virtualization:**  This is the Red Hat hypervisor (KVM-based) for highly virtualized and software defined datacenter environments. This subscription does not include the underlying physical RHEL server OS.

Customers can purchase Red Hat Enterprise Linux subscriptions from Lenovo through the following ways:

- **CTO (Configure to Order)** – this is the OEM subscription that is added to the Lenovo server quotes.
    - Socket-based per Server
- **BTO (Build to Order)** – this is the OEM subscription that can be added to any customer quotes.
    - Socket-based per Server

Each RHEL OS subscription can provide an OS instance for up to two sockets or two virtual machines. Other options include the physical server OS plus one or four virtual machines as well as unlimited RHEL virtual machines.

The following table lists the subscriptions available for Red Hat Enterprise Linux.

Table 1. Red Hat Enterprise Linux Subscriptions

| Subscription | Licensing model | Notes |
|---|---|---|
| RHEL Server Physical or Virtual Node | Processor-based | 2 sockets or 2 VMs |
| RHEL Server Physical w/ 1 Virtual Node | Processor-based | 2 physical sockets plus 1 VM |
| RHEL Server Physical w/ 4 Virtual Nodes | Processor-based | 2 physical sockets plus 4 VM |
| RHEL for Virtual Datacenter | Processor-based | Unlimited RHEL OS VMs |
| Red Hat Virtualization | Processor-based | Hypervisor (does not include OS) |

The following table lists the feature codes for ordering Red Hat Enterprise Linux and Hypervisor.

Table 2. Red Hat Enterprise Linux and Hypervisor feature codes

| Description | Feature code |
|---|---|
| RHEL Server Physical or Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 1Yr | S0N5 |
| RHEL Server Physical or Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 3Yr | S0N6 |
| RHEL Server Physical or Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 5Yr | S0N7 |
| RHEL Server Physical or Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 1Yr | S0N8 |
| RHEL Server Physical or Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 3Yr | S0N9 |
| RHEL Server Physical or Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 5Yr | S0NA |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 1Yr | S0NB |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 3Yr | S0NC |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Standard Subscription w/Lenovo Support 5Yr | S0ND |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 1Yr | S0NE |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 3Yr | S0NF |
| RHEL Server Physical w/up to 1 Virtual Node, 2 Skt Premium Subscription w/Lenovo Support 5Yr | S0NG |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Standard Subscription w/Lenovo Support 1Yr | S0NH |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Standard Subscription w/Lenovo Support 3Yr | S0NJ |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Standard Subscription w/Lenovo Support 5Yr | S0NK |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Premium Subscription w/Lenovo Support 1Yr | S0NL |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Premium Subscription w/Lenovo Support 3Yr | S0NM |
| RHEL Server Physical w/up to 4 Virtual Nodes, 2 Skt Premium Subscription w/Lenovo Support 5Yr | S0NN |
| RHEL for Virtual Datacenters, 2 Skt Standard Subscription w/Lenovo Support 1Yr | S0NP |
| RHEL for Virtual Datacenters, 2 Skt Standard Subscription w/Lenovo Support 3Yr | S0NQ |
| RHEL for Virtual Datacenters, 2 Skt Standard Subscription w/Lenovo Support 5Yr | S0NR |
| RHEL for Virtual Datacenters, 2 Skt Premium Subscription w/Lenovo Support 1Yr | S0NS |
| RHEL for Virtual Datacenters, 2 Skt Premium Subscription w/Lenovo Support 3Yr | S0NT |
| RHEL for Virtual Datacenters, 2 Skt Premium Subscription w/Lenovo Support 5Yr | S0NU |
| Red Hat Enterprise Virtualization, 2 Skt Standard Subscription w/Lenovo Support 1Yr | S0P1 |
| Red Hat Enterprise Virtualization, 2 Skt Standard Subscription w/Lenovo Support 3Yr | S0P2 |
| Red Hat Enterprise Virtualization, 2 Skt Standard Subscription w/Lenovo Support 5Yr | S0P3 |
| Red Hat Enterprise Virtualization, 2 Skt Premium Subscription w/Lenovo Support 1Yr | S0P4 |
| Red Hat Enterprise Virtualization, 2 Skt Premium Subscription w/Lenovo Support 3Yr | S0P5 |
| Red Hat Enterprise Virtualization, 2 Skt Premium Subscription w/Lenovo Support 5Yr | S0P6 |

# Red Hat Enterprise Linux for HPC

This section provides information on RHEL for HPC from Lenovo. Lenovo is an industry leader in the High-Performance Computing space with 100s of HPC wins using Red Hat Enterprise Linux for HPC in the deployments. Many of the largest super computers are deployed with Lenovo servers and Red Hat HPC software.

For IT professionals with performance is a primary concern, RHEL for HPC provides capabilities to build high performance datacenter environments. These subscriptions are sold by two physical sockets or two virtual machine instances.

- **RHEL for HPC Compute Node.** Lenovo resells RHEL for HPC Compute Node subscriptions with or without Smart Management. These are "self-support" subscriptions where the customers access Red Hat for patches, downloads, software, etc. The support levels are defined by the associated Head Node subscriptions which may be Lenovo or Red Hat support. Options include Standard 10x5 and Premium 24x7 support levels.

- **RHEL for HPC Head Node.** Lenovo resells RHEL for HPC Head Node subscriptions with or without Smart Management included in the bundle. The "Smart Management" Add-On included in the subscription enables you to access the Satellite management tool. Customers can choose industry leading Lenovo technical support for any Red Hat HPC subscriptions.

The following table lists the feature codes for ordering RHEL for HPC.

Table 3. RHEL for HPC feature codes

| Description | Feature code |
|---|---|
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Standard Subs w/Lenovo Support 1Yr | S0NV |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Standard Subs w/Lenovo Support 3Yr | S0NW |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Standard Subs w/Lenovo Support 5Yr | S0NX |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Premium Subs w/Lenovo Support 1Yr | S0NY |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Premium Subs w/Lenovo Support 3Yr | S0NZ |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt, 2 Skt Premium Subs w/Lenovo Support 5Yr | S0P0 |
| RHEL for HPC Head Node, Standard (Physical or Virtual Nodes) Lenovo Support 1Yr | S4ML |
| RHEL for HPC Head Node, Standard (Physical or Virtual Nodes) Lenovo Support 3Yr | S4MM |
| RHEL for HPC Head Node, Standard (Physical or Virtual Nodes) Lenovo Support 5Yr | S4MN |
| RHEL for HPC Head Node, Premium (Physical or Virtual Nodes) Lenovo Support 1Yr | S4MH |
| RHEL for HPC Head Node, Premium (Physical or Virtual Nodes) Lenovo Support 3Yr | S4MJ |
| RHEL for HPC Head Node, Premium (Physical or Virtual Nodes) Lenovo Support 5Yr | S4MK |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup w/EUS, Subs L3 Only 1Yr | B1XC |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup w/EUS, Subs L3 Only 3Yr | B1XD |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup w/EUS, Subs L3 Only 5Yr | B1XE |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup, Subs L3 Only 1Yr | B1X9 |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup, Subs L3 Only 3Yr | B1XA |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Sup, Subs L3 Only 5Yr | B1XB |
| RHEL for HPC Compute Node, Self-support (Physical or Virtual Node) 1Yr | S4MP |
| RHEL for HPC Compute Node, Self-support (Physical or Virtual Node) 3Yr | S4MQ |
| RHEL for HPC Compute Node, Self-support (Physical or Virtual Node) 5Yr | S4MR |
| RHEL for HPC Compute Node w/EUS, Self-support (Physical or Virtual Node) 1Yr | S4MS |
| RHEL for HPC Compute Node w/EUS, Self-support (Physical or Virtual Node) 3Yr | S4MT |

| Description | Feature code |
|---|---|
| RHEL for HPC Compute Node w/EUS, Self-support (Physical or Virtual Node) 5Yr | S4MU |

## Red Hat Enterprise Linux Add-Ons

This section provides information on add-on packages that can be sold with the RHEL Operating System from Lenovo. Any "Add-On" package will adopt the support levels of the underlying server OS (i.e. Standard or Premium support, Lenovo Support or Red Hat Support).

- **RHEL High Availability.** RHEL High Availability Add-On allows a service to fail over from one (1) node to another with no apparent interruption to cluster clients, evicting faulty nodes during transfer to prevent data corruption. This Add-On can be configured for most applications (both off-the-shelf and custom) and virtual guests and supports up to 16 nodes. The High Availability Add-On features a cluster manager, lock management, fencing, command-line cluster configuration, and a Conga administration tool. Lenovo resells High Availability by 2-socket server (like RHEL, either two physical sockets or virtual machines). There is also a subscription for unlimited VMs but will be limited to 16 RHEL VMs.

- **Red Hat Load Balancer.** The Load Balancer Add-On is a set of integrated software components that provide Linux Virtual Servers (LVS) for balancing IP loads across a set of real servers. The Load Balancer Add-On runs on an active LVS router as well as a backup LVS router. The active LVS router serves two roles:
    - To balance the load across the real servers.
    - To check the integrity of the services on each real server.
  The backup LVS router monitors the active LVS router and takes over from it in case the active LVS router fails. Lenovo resells the Load Balancer Add-On in 1, 3, and 5-year subscriptions as with most Red Hat products.

- **Red Hat Resilient Storage.** Red Hat Resilient Storage Add-On lets users access the same storage device over a network—using either shared storage or a clustered file system—through a pool of data that's available to each server in a group. Each server in a cluster has direct access to a shared block device over a local storage area network (SAN) of up to 100 terabytes. This Add-On includes the Global File System 2 to support concurrent access, a cluster-wide locking mechanism to arbitrate storage access, a POSIX-compliant file system across 16 nodes, and Clustered Samba or Common Internet File System for Windows environments.

- **Red Hat Scalable File System.** Red Hat Scalable (also called Global) File System (XFS) helps you maximize the benefits of clustering and minimize the costs. Red Hat XFS is commonly used in clusters of enterprise applications to provide high speed access to a consistent file system image across the server nodes. This allows the cluster nodes to simultaneously read and write to a single shared file system. XFS is a robust and mature 64-bit journaling file system that supports very large files and file systems on a single host. It is the default file system in Red Hat Enterprise Linux. Journaling ensures file system integrity after system crashes (for example, due to power outages) by keeping a record of file system operations that can be replayed when the system is restarted, and the file system remounted. XFS was originally developed in the early 1990s by SGI and has a long history of running on extremely large servers and storage arrays.

- **RHEL Extended Update Support.** RHEL Extended Update Support extends the support period of a Red Hat Enterprise Linux update for approximately two years beyond the standard 7-year life cycle. An Extended Update Support system receives the same updates as the base system until the next minor release, at which point the system tied to this Add-On is restricted to only critical security advisories and prioritized bug fixes. The Extended Update Support Add-On also lets users skip specific Red Hat Enterprise Linux minor releases and instead implement the minor releases of their choosing.

- **Red Hat Smart Management.** Red Hat Smart Management combines the flexible and powerful infrastructure management capabilities of Red Hat Satellite with the simplicity of cloud management services for Red Hat Enterprise Linux. It helps you more securely manage any environment supported by Red Hat Enterprise Linux—from physical machines to hybrid multiclouds. Note that Satellite is no longer sold as a stand-alone subscription but is accessible to any Smart Management subscription. Smart Management is typically bundled with other RHEL subscriptions such as HPC.
- **RHEL Extended Lifecycle Support.** The Red Hat Enterprise Linux (RHEL) Extended Life Cycle Support Add-On (ELS) is an offering that provides extended support once a product is retired and has entered the Extended Life Phase allowing customers to continue to receive critical impact security fixes and selected urgent priority bug fixes on a specific major version of Red Hat Enterprise Linux from the end of its regular life cycle for an extended, defined period of time. ELS is only applicable to the last minor release of the given major release.

The following table lists the Red Hat Enterprise Linux Add-On feature codes.

Table 4. Red Hat Enterprise Linux Add-On feature codes

| Description | Feature code |
| --- | --- |
| RHEL High Availability, 2 Skt Subscription w/Lenovo Support 1Yr | S0P7 |
| RHEL High Availability, 2 Skt Subscription w/Lenovo Support 3Yr | S0P8 |
| RHEL High Availability, 2 Skt Subscription w/Lenovo Support 5Yr | S0P9 |
| RHEL High Availability Unlimited Guests, 2 Skt Subscription w/Lenovo Support 1Yr | S0PA |
| RHEL High Availability Unlimited Guests, 2 Skt Subscription w/Lenovo Support 3Yr | S0PB |
| RHEL High Availability Unlimited Guests, 2 Skt Subscription w/Lenovo Support 5Yr | S0PC |
| RHEL Load Balancer, 2 Skt Subscription w/Lenovo Support 1Yr | S0PD |
| RHEL Load Balancer, 2 Skt Subscription w/Lenovo Support 3Yr | S0PE |
| RHEL Load Balancer, 2 Skt Subscription w/Lenovo Support 5Yr | S0PF |
| RHEL Resilient Storage, 2 Skt Subscription w/Lenovo Support 1Yr | S0PG |
| RHEL Resilient Storage, 2 Skt Subscription w/Lenovo Support 3Yr | S0PH |
| RHEL Resilient Storage, 2 Skt Subscription w/Lenovo Support 5Yr | S0PJ |
| RHEL Resilient Storage Unlimited Guests, 2 Skt Subscription w/Lenovo Support 1Yr | S0PK |
| RHEL Resilient Storage Unlimited Guests, 2 Skt Subscription w/Lenovo Support 3Yr | S0PL |
| RHEL Resilient Storage Unlimited Guests, 2 Skt Subscription w/Lenovo Support 5Yr | S0PM |
| RHEL Scalable File System, 2 Skt Subscription w/Lenovo Support 1Yr | S0PN |
| RHEL Scalable File System, 2 Skt Subscription w/Lenovo Support 3Yr | S0PP |
| RHEL Scalable File System, 2 Skt Subscription w/Lenovo Support 5Yr | S0PQ |
| RHEL Extended Update Support, 2 Skt Subscription w/Lenovo Support 1Yr | S0PR |
| RHEL Extended Update Support, 2 Skt Subscription w/Lenovo Support 3Yr | S0PS |
| RHEL Extended Update Support Unlimited Guests, 2 Skt Subscription w/Lenovo Support 1Yr | S0PU |
| RHEL Extended Update Support Unlimited Guests, 2 Skt Subscription w/Lenovo Support 3Yr | S0PV |
| RHEL Smart Management, 2 Skt Subscription w/Lenovo Support 1Yr | S0PX |
| RHEL Smart Management, 2 Skt Subscription w/Lenovo Support 3Yr | S0PY |
| RHEL Smart Management, 2 Skt Subscription w/Lenovo Support 5Yr | S0PZ |
| RHEL Smart Management Unlimited Guests, 2 Skt Subscription w/Lenovo Support 1Yr | S0Q0 |
| RHEL Smart Management Unlimited Guests, 2 Skt Subscription w/Lenovo Support 3Yr | S0Q1 |
| RHEL Smart Management Unlimited Guests, 2 Skt Subscription w/Lenovo Support 5Yr | S0Q2 |

| | |
|---|---|
| Red Hat Ent Linux Extended Life Cycle Support, Physical or Virtual Subscription w/Lenovo Support 1Yr | S0Q3 |
| Red Hat Ent Linux Extended Life Cycle Support, Unlimited Guests Subscription w/Lenovo Support 1Yr | S0Q4 |

## Red Hat Enterprise Linux for SAP

This section provides information on Red Hat Enterprise Linux for SAP solutions and applications sold from Lenovo. Red Hat offers a subscription called RHEL for SAP Solutions that is used for SAP HANA installations and a separate RHEL for SAP Applications subscription that is used for non-HANA applications such as Business Warehouse. As the number one reseller of SAP HANA servers, Lenovo is well-versed in installing, selling and managing Red Hat based SAP HANA deployments.

- **RHEL for SAP Solutions.** RHEL for SAP Solutions is an attractive, bundled subscription with several Red Hat technologies. This is the subscription required for SAP HANA use cases. This subscription includes Red Hat Insights, Red Hat Enterprise Linux, Red Hat High Availability Add-On and Red Hat Smart Management Add-On. It also has an extended update support of four years included vs the standard support term of two years. Like other RHEL subscriptions, this one offers the two socket or two virtual machine option and the unlimited bare metal virtual machine option (through a Virtual Datacenter SKU).

- **RHEL for SAP Applications.** RHEL for SAP Applications is used for all non-HANA SAP applications. This also comes in the basic two socket / two VM and the unlimited VM option using Virtual Datacenter subscriptions.

- **RHEL for Lenovo Intelligent Insights with SAP Data Hub.** A new offering from Lenovo combines both SAP and Red Hat software products into a powerful data "management" solution that can access data from multiple disparate locations and databases. This product utilizes RHEL, Red Hat Ceph Storage and Red Hat OpenShift Container Platform. You do not need to sell SAP Solutions or SAP Applications for the Data Hub use case.

The following table lists the Red Hat Enterprise Linux for SAP feature codes.

Table 5. Red Hat Enterprise Linux for SAP feature codes

| Description | Feature code |
|---|---|
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Std RH Sup 1Yr | B1LP |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Std RH Sup 3Yr | B1LQ |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Prem RH Sup 1Yr | B1LR |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Prem RH Sup 3Yr | B1LS |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Std w/Lenovo Support 1Yr | S4MY |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Std w/Lenovo Support 3Yr | S4MZ |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Std w/Lenovo Support 5Yr | S4N0 |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Prem w/Lenovo Support 1Yr | S4MV |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Prem w/Lenovo Support 3Yr | S4MW |
| RHEL for SAP Solutions (HANA) w/SM,HA,Ins,4YrEUS, PhyOrVirt Prem w/Lenovo Support 5Yr | S4MX |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Standard RH Sup 1Yr | B1LT |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Standard RH Sup 3Yr | B1LU |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Prem RH Sup 1Yr | B1LV |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Prem RH Sup 3Yr | B1LW |

| Description | Feature code |
|---|---|
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Standard w/Lenovo Support 1Yr | S4N4 |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Standard w/Lenovo Support 3Yr | S4N5 |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Standard w/Lenovo Support 5Yr | S4N6 |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Prem w/Lenovo Support 1Yr | S4N1 |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Prem w/Lenovo Support 3Yr | S4N2 |
| RHEL Virtual Datacenter SAP Solutions (HANA) w/SM,HA,Ins,4YEUS, Prem w/Lenovo Support 5Yr | S4N3 |
| RHEL SAP Apps Smart Management, 2 Skt Prem RH Sup Production 1Yr | 1972 |
| RHEL SAP Apps Smart Management, 2 Skt Prem RH Sup Production 3Yr | 1973 |
| RHEL SAP Apps Smart Management, 2 Skt Std RH Sup NonProduction 1Yr | 1974 |
| RHEL SAP Apps Smart Management, 2 Skt Std RH Sup NonProduction 3Yr | 1975 |
| RHEL SAP Apps Virtual Datacenter, 2 Skt Prem RH Sup Production 1Yr | 1976 |
| RHEL SAP Apps Virtual Datacenter, 2 Skt Prem RH Sup Production 3Yr | 1977 |
| RHEL SAP Apps Virtual Datacenter, 2 Skt Std RH Sup NonProduction 1Yr | 1978 |
| RHEL SAP Apps Virtual Datacenter, 2 Skt Std RH Sup NonProduction 3Yr | 1979 |
| RHEL SAP Apps, 2 Skt Premium RH Sup Production 1Yr | 1968 |
| RHEL SAP Apps, 2 Skt Premium RH Sup Production 3Yr | 1969 |
| RHEL SAP Apps, 2 Skt Standard RH Sup NonProduction 1Yr | 1970 |
| RHEL SAP Apps, 2 Skt Standard RH Sup NonProduction 3Yr | 1971 |
| RHEL SAP Apps Virtual Datacenter SmartMgmt, 2Skt Premium RH Sup Production 1Yr | 1994 |
| RHEL SAP Apps Virtual Datacenter SmartMgmt, 2Skt Premium RH Sup Production 3Yr | 1995 |
| RHEL SAP Apps Virtual Datacenter SmartMgmt, 2Skt Standard RH Sup Non-Production 1Yr | 1996 |
| RHEL SAP Apps Virtual Datacenter SmartMgmt, 2Skt Standard RH Sup Non-Production 3Yr | 1997 |

# Red Hat OpenShift

This section provides information on Red Hat OpenShift, Red Hat's container platform. Containers are providing datacenter managers with an excellent tool to support multiple applications via individual "containers" while providing security. Red Hat OpenShift offers a consistent hybrid cloud foundation for building and scaling containerized applications. Benefit from streamlined platform installation and upgrades from one of the enterprise Kubernetes leaders.

Red Hat OpenShift gives administrators a single place to implement and enforce policies across multiple teams, with a unified console across all Red Hat OpenShift clusters. Red Hat OpenShift builds security checks into your container stack—starting with Red Hat Enterprise Linux and continuing throughout the application lifecycle.

- **Red Hat OpenShift Container Platform.** Red Hat OpenShift Container Platform is a bundled subscription that includes RHEL OS, Ansible and OpenShift (containers). Unlike other subscriptions, Red Hat OpenShift Container Platform is sold by cores, not by sockets or VMs. The lowest cost option is a two-core subscription. Like all Red Hat subscriptions, support is either 10x5 Standard or 24x7 Premium. These subscriptions only offer Red Hat support.

The following table lists the feature codes to order Red Hat OpenShift.

Table 6. Red Hat OpenShift feature codes

| Description | Feature code |
|---|---|
| Red Hat OpenShift Container Platform, 2 Cores Prem RH Sup 1 Yr | S066 |
| Red Hat OpenShift Container Platform, 2 Cores Prem RH Sup 3 Yr | S067 |
| Red Hat OpenShift Container Platform, 2 Cores Std RH Sup 1 Yr | S068 |
| Red Hat OpenShift Container Platform, 2 Cores Std RH Sup 3 Yr | S069 |
| Red Hat OpenShift Container Platform, 16 Cores or 32vCPU, Prem RH Sup 1 Yr | S06A |
| Red Hat OpenShift Container Platform, 16 Cores or 32vCPU, Prem RH Sup 3 Yr | S06B |
| Red Hat OpenShift Container Platform, 16 Cores or 32vCPU, Std RH Sup 1 Yr | S06C |
| Red Hat OpenShift Container Platform, 16 Cores or 32vCPU, Std RH Sup 3 Yr | S06D |

# Red Hat Cloud

This section provides information on Red Hat "cloud" products that include OpenStack and a bundled offer called Cloud Suite.

- **Red Hat Cloud Suite.** Red Hat Cloud Suite is a combination of tightly integrated Red Hat technologies you can use to build a cloud infrastructure, develop cloud-native apps, and orchestrate deployments across hybrid IT environments. It's everything you could possibly need to create, connect, and be productive in a hybrid cloud. This subscription is a bundle of OpenShift (32 cores), OpenStack, and Red Hat Virtualization (hypervisor). It also includes the necessary RHEL virtual machine guests, in a single package.

- **Red Hat OpenStack Platform.** Red Hat OpenStack Platform maintains high availability and policy driven measures, including infrastructure failure recognition, automated host node evacuation, and downed node fencing. It also automatically restarts workloads on remaining available hosts. This subscription is a bundle of RHEL, Red Hat Virtualization and OpenStack. The OpenStack Platform Controller Node "no guest" simply deletes the RHEL OS from the bundle for customers that want to add Red Hat OpenStack onto another vendor OS or already have RHEL OS installed on the server.

The following table lists the Red Hat Cloud feature codes.

Table 7. Red Hat Cloud subscription feature codes

| Description | Feature code |
|---|---|
| RHEL OpenStack Platform, 2 Skt Std RH Sup 1Yr | 2120 |
| RHEL OpenStack Platform, 2 Skt Prem RH Sup 3Yr | 2119 |
| RHEL OpenStack Platform Controller Nodes, no guests, 2Skt Std RHSup 1Yr | 2116 |
| RHEL OpenStack Platform Controller Nodes, no guests, 2Skt Std RHSup 3Yr | 2117 |
| RHEL OpenStack Platform Controller Nodes, no guests, 2Skt Prem RHSup 1Yr | 2114 |
| RHEL OpenStack Platform Controller Nodes, no guests, 2Skt Prem RHSup 3Yr | 2115 |
| Red Hat Cloud Suite, Premium (2 Sockets, 32 Cores) RH Sup, 1-year | S1ZD |
| Red Hat Cloud Suite, Premium (2 Sockets, 32 Cores) RH Sup, 3-year | S1ZE |
| Red Hat Cloud Suite, Standard (2 Sockets, 32 Cores) RH Sup, 1-year | S1ZF |
| Red Hat Cloud Suite, Standard (2 Sockets, 32 Cores) RH Sup, 3-year | S1ZG |

# Red Hat Hyperconverged

This section provides information on Red Hat Hyperconverged Infrastructure (RHHI) subscriptions. Lenovo resells the RHHI-V (RHHI for Virtualization) subscriptions. These are bundles of the Red Hat hypervisor based on KVM and the Red Hat Gluster storage products. Built on Red Hat Virtualization and Red Hat Gluster Storage, RHHI-V provides a single support stack for virtual compute and virtual storage resources.

- **Red Hat Hyperconverged Infrastructure for Virtualization.** This subscription is ideal for hyperconverged offerings and comes with the Red Hat hypervisor (Red Hat Virtualization) and Red Hat Gluster Storage. The minimum configuration is a three-node pod so three servers will be covered in a single subscription.

- **Red Hat Hyperconverged Infrastructure for Virtualization with Guests.** This subscription is like the RHHI-V subscription with the addition of the underlying RHEL Linux OS for the three-node pod (i.e. the three servers). This subscription includes unlimited RHEL VM guests.

The following table lists the feature codes to order a Red Hat Hyperconverged subscription.

Table 8. Red Hat Hyperconverged subscription feature codes

| Description | Feature code |
|---|---|
| Red Hat Hyperconverged Infra. for Virtualization, Prem (3-node pod) RH Sup, 1-year | S1ZH |
| Red Hat Hyperconverged Infra. for Virtualization, Prem (3-node pod) RH Sup, 3-year | S1ZJ |
| Red Hat Hyperconverged Infra. for Virtualization, Std (3-node pod) RH Sup, 1-year | S1ZK |
| Red Hat Hyperconverged Infra. for Virtualization, Std (3-node pod) RH Sup, 3-year | S1ZL |
| Red Hat Hyperconverged Infra. for Virtualization, Prem with Guests (3-node pod) RH Sup, 1-yr | S1ZM |
| Red Hat Hyperconverged Infra. for Virtualization, Prem with Guests (3-node pod) RH Sup, 3-yr | S1ZN |
| Red Hat Hyperconverged Infra. for Virtualization, Std with Guests (3-node pod) RH Sup, 1-year | S1ZP |
| Red Hat Hyperconverged Infra. for Virtualization, Std with Guests (3-node pod) RH Sup, 3-year | S1ZQ |

# Red Hat Storage

This section provides information on Red Hat Storage products. This portfolio contains object and file storage solutions contained in Red Hat Ceph Storage and Red Hat Gluster Storage subscriptions.

- **Red Hat Ceph Storage.** Red Hat Ceph Storage is an open, massively scalable storage solution for modern workloads like cloud infrastructure, data analytics, media repositories, and backup and restore systems. Red Hat Ceph Storage delivers software-defined storage on your choice of industry-standard hardware. With block, object, and file storage combined into one platform, Red Hat Ceph Storage efficiently and automatically manages all your data. Red Hat Ceph subscriptions are sold by both number of nodes and capacity in TBs.
- **Red Hat Gluster Storage.** Red Hat Gluster Storage is a software-defined storage (SDS) platform. It is designed to handle general purpose workloads like backup and archival, as well as analytics. It is ideal for hyperconvergence. It is cost-efficient and, unlike traditional storage systems, can be deployed on bare metal, virtual, container, and cloud environments. Red Hat Gluster Storage stores data without the need for a metadata server, eliminating any single point of failure.

The following table lists the feature codes to order a Red Hat Storage subscription.

Table 9. Red Hat Storage subscription feature codes

| Description | Feature code |
|---|---|
| Red Hat Gluster Storage, 1 Node, Std RH Sup 1Yr | 2108 |
| Red Hat Gluster Storage, 1 Node, Std RH Sup 3Yr | 2109 |
| Red Hat Gluster Storage, 1 Node, Prem RH Sup 1Yr | 2106 |
| Red Hat Gluster Storage, 1 Node, Prem RH Sup 3Yr | 2107 |
| Red Hat Gluster Storage, 3 Nodes (2+1 for Quorum), Std RH Sup 1Yr | 2112 |
| Red Hat Gluster Storage, 3 Nodes (2+1 for Quorum), Std RH Sup 3Yr | 2113 |
| Red Hat Gluster Storage, 3 Nodes (2+1 for Quorum), Prem RH Sup 1Yr | 2110 |
| Red Hat Gluster Storage, 3 Nodes (2+1 for Quorum), Prem RH Sup 3Yr | 2111 |
| Red Hat Gluster Storage, 4 Nodes, Prem RH Sup 1Yr | B1LX |
| Red Hat Gluster Storage, 4 Nodes, Prem RH Sup 3Yr | B1LY |
| Red Hat Ceph Storage, 12 Physical Nodes up to 256TB, Prem RH Sup 1Yr | 2102 |
| Red Hat Ceph Storage, 12 Physical Nodes up to 256TB, Prem RH Sup 3Yr | 2103 |
| Red Hat Ceph Storage, 25 Physical Nodes up to 512TB, Prem RH Sup 1Yr | 2104 |
| Red Hat Ceph Storage, 25 Physical Nodes up to 512TB, Prem RH Sup 3Yr | 2105 |
| Red Hat Ceph Storage, 50 Physical Nodes up to 1 PB, Prem RH Sup 1Yr | B1LZ |
| Red Hat Ceph Storage, 50 Physical Nodes up to 1 PB, Prem RH Sup 3Yr | B1M0 |

## Red Hat Ansible

This section provides information on Red Hat Ansible management products.

- **Red Hat Ansible.** Red Hat Ansible Automation is automation software powered by Red Hat Ansible Engine—an execution engine with hundreds of modules that can automate all aspects of IT environments and processes—and Red Hat Ansible Tower—a management interface that can integrate with other services. The Ansible subscriptions sold by Lenovo are bundles of the Ansible Automation product and management tool called Ansible Tower in a single part number. Ansible is sold by number of nodes vs per socket or per core. Current offers include management for up to 100 nodes, and can be stacked to cover more nodes, hosts or instances.

The following table lists the feature codes to order a Red Hat Ansible subscription.

Table 10. Red Hat Ansible subscription feature codes

| Description | Feature code |
|---|---|
| Red Hat Ansible Automation, Premium (100 Managed Nodes) RH Sup, 1-year | S1Z9 |
| Red Hat Ansible Automation, Premium (100 Managed Nodes) RH Sup, 3-year | S1ZA |
| Red Hat Ansible Automation, Standard (100 Managed Nodes) RH Sup, 1-year | S1ZB |
| Red Hat Ansible Automation, Standard (100 Managed Nodes) RH Sup, 3-year | S1ZC |

## Additional subscriptions

The following table is a list of additional subscriptions available for sell by Lenovo that come with only Red Hat support. Customers must call Red Hat directly for any software related issues. These are "duplicate" subscriptions of those previously listed in this document offering Lenovo Support (referred to as "OEM" subscriptions).

Table 11. Additional Red Hat subscriptions

| Description | Feature code |
|---|---|
| Red Hat Enterprise Linux Operating System | |
| RHEL Server Physical or Virtual Node, 2 Skt Prem RH Sup 1Yr | 2019 |
| RHEL Server Physical or Virtual Node, 2 Skt Prem RH Sup 3Yr | 2020 |
| RHEL Server Physical or Virtual Node, 2 Skt Std RH Sup 1Yr | 2021 |
| RHEL Server Physical or Virtual Node, 2 Skt Std RH Sup 3Yr | 2022 |
| RHEL Smart Management Unlimited Guests, 2 Skt RH Sup 1Yr | 2008 |
| RHEL Smart Management Unlimited Guests, 2 Skt RH Sup 3Yr | 2009 |
| Red Hat Hypervisor | |
| Red Hat Enterprise Virtualization, 2 Skt Std RH Sup 1Yr | 2055 |
| Red Hat Enterprise Virtualization, 2 Skt Std RH Sup 3Yr | 2056 |
| Red Hat Enterprise Virtualization, 2 Skt Prem RH Sup 1Yr | 2053 |
| Red Hat Enterprise Virtualization, 2 Skt Prem RH Sup 3Yr | 2054 |
| High Performance Computing | |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Support 1Yr | B1XK |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Support 3Yr | B1XL |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Support w/EUS 1Yr | B1XM |
| RHEL for HPC Compute Node w/Smart Mgt, Phy or Virt, 2 Skt Self Support w/EUS 3Yr | B1XN |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt. 2 Skt Prem RH Sup 1Yr | B1XF |

| Description | Feature code |
|---|---|
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt. 2 Skt Prem RH Sup 3Yr | B1XG |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt. 2 Skt Std RH Sup 1Yr | B1XH |
| RHEL for HPC Head Node w/Smart Mgt, Phy or Virt. 2 Skt Std RH Sup 3Yr | B1XJ |
| Extended Support | |
| RHEL Extended Update Support Unlimited Guests, 2 Skt RH Sup 1Yr | 1863 |
| RHEL Extended Update Support Unlimited Guests, 2 Skt RH Sup 3Yr | 1864 |
| RHEL Extended Update Support, 2 Skt RH Sup 1Yr | 1871 |
| RHEL Extended Update Support, 2 Skt RH Sup 3Yr | 1872 |
| Red Hat Enterprise Linux Virtual Machines (unlimited) | |
| RHEL for Virtual Datacenters, 2 Skt Prem RH Sup 1Yr | 2042 |
| RHEL for Virtual Datacenters, 2 Skt Prem RH Sup 3Yr | 2043 |
| RHEL for Virtual Datacenters, 2 Skt Std RH Sup 1Yr | 2044 |
| RHEL for Virtual Datacenters, 2 Skt Std RH Sup 3Yr | 2045 |
| Red Hat Add-Ons | |
| RHEL High Availability Unlimited Guests, 2 Skt RH Sup 1Yr | 1941 |
| RHEL High Availability Unlimited Guests, 2 Skt RH Sup 3Yr | 1942 |
| RHEL High Availability, 2 Skt RH Sup 1Yr | 1936 |
| RHEL High Availability, 2 Skt RH Sup 3Yr | 1937 |
| RHEL Load Balancer, 2 Skt RH Sup 1Yr | 1946 |
| RHEL Load Balancer, 2 Skt RH Sup 3Yr | 1947 |
| RHEL Resilient Storage Unlimited Guests, 2 Skt RH Sup 1Yr | 1963 |
| RHEL Resilient Storage Unlimited Guests, 2 Skt RH Sup 3Yr | 1964 |
| RHEL Resilient Storage, 2 Skt RH Sup 1Yr | 1958 |
| RHEL Resilient Storage, 2 Skt RH Sup 3Yr | 1959 |
| RHEL Scalable File System, 2 Skt RH Sup 1Yr | 1998 |
| RHEL Scalable File System, 2 Skt RH Sup 3Yr | 1999 |
| RHEL Smart Management, 2 Skt RH Sup 1Yr | 2003 |
| RHEL Smart Management, 2 Skt RH Sup 3Yr | 2004 |
| RHEL Extended Life Cycle Support, Physical or Virtual, RH Support 1 Yr | M2S6V8 |
| RHEL Extended Life Cycle Support, Unlimited Guests, RH Support 1 Yr | M2S4V8 |

## Part number reference

The following table is a reference of part numbers to enable easy mapping of a specific Red Hat SKU to the corresponding Lenovo SKU.

Table 12. Reference of Red Hat Part Numbers, SEO Codes and Feature Codes

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
|---|---|---|---|---|
| MCT2735 | S066 | 01PG308 | 01PG308 | 5731RHL |
| MCT2735F3 | S067 | 01PG309 | 01PG309 | 5731RHL |
| MCT2736 | S068 | 01PG310 | 01PG310 | 5731RHL |

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
|---|---|---|---|---|
| MCT2736F3 | S069 | 01PG311 | 01PG311 | 5731RHL |
| MCT2884 | 2114 | 00YH838 | 00YH870 | 5731RHL |
| MCT2884F3 | 2115 | 00YH839 | 00YH871 | 5731RHL |
| MCT2885 | 2116 | 00YH836 | 00YH868 | 5731RHL |
| MCT2885F3 | 2117 | 00YH837 | 00YH869 | 5731RHL |
| MCT2886F3 | 2119 | 00YH835 | 00YH867 | 5731RHL |
| MCT2887 | 2120 | 00YH832 | 00YH864 | 5731RHL |
| MCT3691 | S1ZB | 02YD061 | 02YD061 | 5731RHL |
| MCT3691F3 | S1ZC | 02YD062 | 02YD062 | 5731RHL |
| MCT3694 | S1Z9 | 02YD059 | 02YD059 | 5731RHL |
| MCT3694F3 | S1ZA | 02YD060 | 02YD060 | 5731RHL |
| MW00329 | S06A | 01PG312 | 01PG312 | 5731RHL |
| MW00329F3 | S06B | 01PG313 | 01PG313 | 5731RHL |
| MW00330 | S06C | 01PG314 | 01PG314 | 5731RHL |
| MW00330F3 | S06D | 01PG315 | 01PG315 | 5731RHL |
| RH00001 | 2042 | 00YH424 | 00YH621 | 5731RHL |
| RH00001F3 | 2043 | 00YH425 | 00YH622 | 5731RHL |
| RH00002 | 2044 | 00YH422 | 00YH619 | 5731RHL |
| RH00002F3 | 2045 | 00YH423 | 00YH620 | 5731RHL |
| RH00003 | 2019 | 00YH402 | 00YH599 | 5731RHL |
| RH00003F3 | 2020 | 00YH403 | 00YH600 | 5731RHL |
| RH00004 | 2021 | 00YH400 | 00YH597 | 5731RHL |
| RH00004F3 | 2022 | 00YH401 | 00YH598 | 5731RHL |
| RH00025 | 1936 | 00YH530 | 00YH727 | 5731RHL |
| RH00025F3 | 1937 | 00YH531 | 00YH728 | 5731RHL |
| RH00026 | 1958 | 00YH545 | 00YH742 | 5731RHL |
| RH00026F3 | 1959 | 00YH546 | 00YH743 | 5731RHL |
| RH00027 | 1998 | 00YH555 | 00YH752 | 5731RHL |
| RH00027F3 | 1999 | 00YH556 | 00YH753 | 5731RHL |
| RH00028 | 1946 | 00YH540 | 00YH737 | 5731RHL |
| RH00028F3 | 1947 | 00YH541 | 00YH738 | 5731RHL |
| RH00030 | 1871 | 00YH560 | 00YH757 | 5731RHL |
| RH00030F3 | 1872 | 00YH561 | 00YH758 | 5731RHL |
| RH00031 | 2003 | 00YH570 | 00YH767 | 5731RHL |
| RH00031F3 | 2004 | 00YH571 | 00YH768 | 5731RHL |
| RH00032 | 2008 | 00YH575 | 00YH772 | 5731RHL |
| RH00032F3 | 2009 | 00YH576 | 00YH773 | 5731RHL |
| RH00059 | 1941 | 00YH535 | 00YH732 | 5731RHL |
| RH00059F3 | 1942 | 00YH536 | 00YH733 | 5731RHL |
| RH00060 | 1963 | 00YH550 | 00YH747 | 5731RHL |
| RH00060F3 | 1964 | 00YH551 | 00YH748 | 5731RHL |

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
| --- | --- | --- | --- | --- |
| RH00061 | 1863 | 00YH565 | 00YH762 | 5731RHL |
| RH00061F3 | 1864 | 00YH566 | 00YH763 | 5731RHL |
| RH00077 | S0NS | 7S0F000NWW | 7S0F000NWW | 7S0FCTO1WW |
| RH00077F3 | S0NT | 7S0F000PWW | 7S0F000PWW | 7S0FCTO1WW |
| RH00077F5 | S0NU | 7S0F000QWW | 7S0F000QWW | 7S0FCTO1WW |
| RH00078 | S0NP | 7S0F000KWW | 7S0F000KWW | 7S0FCTO1WW |
| RH00078F3 | S0NQ | 7S0F000LWW | 7S0F000LWW | 7S0FCTO1WW |
| RH00078F5 | S0NR | 7S0F000MWW | 7S0F000MWW | 7S0FCTO1WW |
| RH00079 | S0N8 | 7S0F0004WW | 7S0F0004WW | 7S0FCTO1WW |
| RH00079F3 | S0N9 | 7S0F0005WW | 7S0F0005WW | 7S0FCTO1WW |
| RH00079F5 | S0NA | 7S0F0006WW | 7S0F0006WW | 7S0FCTO1WW |
| RH00080 | S0N5 | 7S0F0001WW | 7S0F0001WW | 7S0FCTO1WW |
| RH00080F3 | S0N6 | 7S0F0002WW | 7S0F0002WW | 7S0FCTO1WW |
| RH00080F5 | S0N7 | 7S0F0003WW | 7S0F0003WW | 7S0FCTO1WW |
| RH00097 | S0P7 | 7S0F0013WW | 7S0F0013WW | 7S0FCTO1WW |
| RH00097F3 | S0P8 | 7S0F0014WW | 7S0F0014WW | 7S0FCTO1WW |
| RH00097F5 | S0P9 | 7S0F0015WW | 7S0F0015WW | 7S0FCTO1WW |
| RH00098 | S0PG | 7S0F001CWW | 7S0F001CWW | 7S0FCTO1WW |
| RH00098F3 | S0PH | 7S0F001DWW | 7S0F001DWW | 7S0FCTO1WW |
| RH00098F5 | S0PJ | 7S0F001EWW | 7S0F001EWW | 7S0FCTO1WW |
| RH00099 | S0PN | 7S0F001JWW | 7S0F001JWW | 7S0FCTO1WW |
| RH00099F3 | S0PP | 7S0F001KWW | 7S0F001KWW | 7S0FCTO1WW |
| RH00099F5 | S0PQ | 7S0F001LWW | 7S0F001LWW | 7S0FCTO1WW |
| RH00100 | S0PD | 7S0F0019WW | 7S0F0019WW | 7S0FCTO1WW |
| RH00100F3 | S0PE | 7S0F001AWW | 7S0F001AWW | 7S0FCTO1WW |
| RH00100F5 | S0PF | 7S0F001BWW | 7S0F001BWW | 7S0FCTO1WW |
| RH00102 | S0PR | 7S0F001MWW | 7S0F001MWW | 7S0FCTO1WW |
| RH00102F3 | S0PS | 7S0F001NWW | 7S0F001NWW | 7S0FCTO1WW |
| RH00103 | S0PX | 7S0F001TWW | 7S0F001TWW | 7S0FCTO1WW |
| RH00103F3 | S0PY | 7S0F001UWW | 7S0F001UWW | 7S0FCTO1WW |
| RH00103F5 | S0PZ | 7S0F001VWW | 7S0F001VWW | 7S0FCTO1WW |
| RH00104 | S0Q0 | 7S0F001WWW | 7S0F001WWW | 7S0FCTO1WW |
| RH00104F3 | S0Q1 | 7S0F001XWW | 7S0F001XWW | 7S0FCTO1WW |
| RH00104F5 | S0Q2 | 7S0F001YWW | 7S0F001YWW | 7S0FCTO1WW |
| RH00121 | S0PA | 7S0F0016WW | 7S0F0016WW | 7S0FCTO1WW |
| RH00121F3 | S0PB | 7S0F0017WW | 7S0F0017WW | 7S0FCTO1WW |
| RH00121F5 | S0PC | 7S0F0018WW | 7S0F0018WW | 7S0FCTO1WW |
| RH00122 | S0PK | 7S0F001FWW | 7S0F001FWW | 7S0FCTO1WW |
| RH00122F3 | S0PL | 7S0F001GWW | 7S0F001GWW | 7S0FCTO1WW |
| RH00122F5 | S0PM | 7S0F001HWW | 7S0F001HWW | 7S0FCTO1WW |
| RH00123 | S0PU | 7S0F001QWW | 7S0F001QWW | 7S0FCTO1WW |

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
|---|---|---|---|---|
| RH00123F3 | S0PV | 7S0F001RWW | 7S0F001RWW | 7S0FCTO1WW |
| RH00128 | S0NE | 7S0F000AWW | 7S0F000AWW | 7S0FCTO1WW |
| RH00128F3 | S0NF | 7S0F000BWW | 7S0F000BWW | 7S0FCTO1WW |
| RH00128F5 | S0NG | 7S0F000CWW | 7S0F000CWW | 7S0FCTO1WW |
| RH00129 | S0NB | 7S0F0007WW | 7S0F0007WW | 7S0FCTO1WW |
| RH00129F3 | S0NC | 7S0F0008WW | 7S0F0008WW | 7S0FCTO1WW |
| RH00129F5 | S0ND | 7S0F0009WW | 7S0F0009WW | 7S0FCTO1WW |
| RH00136 | S0NL | 7S0F000GWW | 7S0F000GWW | 7S0FCTO1WW |
| RH00136F3 | S0NM | 7S0F000HWW | 7S0F000HWW | 7S0FCTO1WW |
| RH00136F5 | S0NN | 7S0F000JWW | 7S0F000JWW | 7S0FCTO1WW |
| RH00137 | S0NH | 7S0F000DWW | 7S0F000DWW | 7S0FCTO1WW |
| RH00137F3 | S0NJ | 7S0F000EWW | 7S0F000EWW | 7S0FCTO1WW |
| RH00137F5 | S0NK | 7S0F000FWW | 7S0F000FWW | 7S0FCTO1WW |
| RH00148 | 1976 | 00YH514 | 00YH711 | 5731RHL |
| RH00148F3 | 1977 | 00YH515 | 00YH712 | 5731RHL |
| RH00149 | 1978 | 00YH512 | 00YH709 | 5731RHL |
| RH00149F3 | 1979 | 00YH513 | 00YH710 | 5731RHL |
| RH00150 | 1968 | 00YH506 | 00YH703 | 5731RHL |
| RH00150F3 | 1969 | 00YH507 | 00YH704 | 5731RHL |
| RH00151 | 1970 | 00YH504 | 00YH701 | 5731RHL |
| RH00151F3 | 1971 | 00YH505 | 00YH702 | 5731RHL |
| RH00152 | 1994 | 00YH518 | 00YH715 | 5731RHL |
| RH00152F3 | 1995 | 00YH519 | 00YH716 | 5731RHL |
| RH00153 | 1996 | 00YH516 | 00YH713 | 5731RHL |
| RH00153F3 | 1997 | 00YH517 | 00YH714 | 5731RHL |
| RH00154 | 1972 | 00YH510 | 00YH707 | 5731RHL |
| RH00154F3 | 1973 | 00YH511 | 00YH708 | 5731RHL |
| RH00155 | 1974 | 00YH508 | 00YH705 | 5731RHL |
| RH00155F3 | 1975 | 00YH509 | 00YH706 | 5731RHL |
| RH00270 | M2S6V8 | 01GU768 | 01GU768 | 5731RHL |
| RH00271 | M2S4V8 | 01GU769 | 01GU769 | 5731RHL |
| RH00272 | S0Q3 | 7S0F001ZWW | 7S0F001ZWW | 7S0FCTO1WW |
| RH00273 | S0Q4 | 7S0F0020WW | 7S0F0020WW | 7S0FCTO1WW |
| RH00394 | x | 01PG281 | 01PG281 | 5731RHL |
| RH00394F3 | x | 01PG282 | 01PG282 | 5731RHL |
| RH00557 | B1XF | 01PG273 | 01PG273 | 5731RHL |
| RH00557F3 | B1XG | 01PG274 | 01PG274 | 5731RHL |
| RH00558 | B1XH | 01PG275 | 01PG275 | 5731RHL |
| RH00558F3 | B1XJ | 01PG276 | 01PG276 | 5731RHL |
| RH00560 | B1XK | 01PG277 | 01PG277 | 5731RHL |
| RH00560F3 | B1XL | 01PG278 | 01PG278 | 5731RHL |

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
|---|---|---|---|---|
| RH00562 | S0NY | 7S0F000UWW | 7S0F000UWW | 7S0FCTO1WW |
| RH00562F3 | S0NZ | 7S0F000VWW | 7S0F000VWW | 7S0FCTO1WW |
| RH00562F5 | S0P0 | 7S0F000WWW | 7S0F000WWW | 7S0FCTO1WW |
| RH00563 | S0NV | 7S0F000RWW | 7S0F000RWW | 7S0FCTO1WW |
| RH00563F3 | S0NW | 7S0F000SWW | 7S0F000SWW | 7S0FCTO1WW |
| RH00563F5 | S0NX | 7S0F000TWW | 7S0F000TWW | 7S0FCTO1WW |
| RH00564 | B1X9 | 01PG267 | 01PG267 | 5731RHL |
| RH00564F3 | B1XA | 01PG268 | 01PG268 | 5731RHL |
| RH00564F5 | B1XB | 01PG269 | 01PG269 | 5731RHL |
| RH00565 | B1XC | 01PG270 | 01PG270 | 5731RHL |
| RH00565F3 | B1XD | 01PG271 | 01PG271 | 5731RHL |
| RH00565F5 | B1XE | 01PG272 | 01PG272 | 5731RHL |
| RH00583 | B1XM | 01PG279 | 01PG279 | 5731RHL |
| RH00583F3 | B1XN | 01PG280 | 01PG280 | 5731RHL |
| RH00763 | B1LR | 01CW992 | 01CW992 | 5731RHL |
| RH00763F3 | B1LS | 01CW993 | 01CW993 | 5731RHL |
| RH00764 | B1LP | 01CW990 | 01CW990 | 5731RHL |
| RH00764F3 | B1LQ | 01CW991 | 01CW991 | 5731RHL |
| RH00767 | B1LV | 01CW996 | 01CW996 | 5731RHL |
| RH00767F3 | B1LW | 01CW997 | 01CW997 | 5731RHL |
| RH00768 | B1LT | 01CW994 | 01CW994 | 5731RHL |
| RH00768F3 | B1LU | 01CW995 | 01CW995 | 5731RHL |
| RS00036 | 2102 | 00YH848 | 00YH880 | 5731RHL |
| RS00036F3 | 2103 | 00YH849 | 00YH881 | 5731RHL |
| RS00037 | 2104 | 00YH850 | 00YH882 | 5731RHL |
| RS00037F3 | 2105 | 00YH851 | 00YH883 | 5731RHL |
| RS00038 | B1LZ | 01KT977 | 01KT977 | 5731RHL |
| RS00038F3 | B1M0 | 01KT978 | 01KT978 | 5731RHL |
| RS00137 | S1ZH | 02YD067 | 02YD067 | 5731RHL |
| RS00137F3 | S1ZJ | 02YD068 | 02YD068 | 5731RHL |
| RS00138 | S1ZK | 02YD069 | 02YD069 | 5731RHL |
| RS00138F3 | S1ZL | 02YD070 | 02YD070 | 5731RHL |
| RS00139 | S1ZM | 02YD071 | 02YD071 | 5731RHL |
| RS00139F3 | S1ZN | 02YD072 | 02YD072 | 5731RHL |
| RS00140 | S1ZP | 02YD073 | 02YD073 | 5731RHL |
| RS00140F3 | S1ZQ | 02YD074 | 02YD074 | 5731RHL |
| RS0112235 | 2106 | 00YH842 | 00YH874 | 5731RHL |
| RS0112235F3 | 2107 | 00YH843 | 00YH875 | 5731RHL |
| RS0116327 | 2112 | 00YH844 | 00YH876 | 5731RHL |
| RS0116327F3 | 2113 | 00YH845 | 00YH877 | 5731RHL |
| RS0143423 | 2110 | 00YH846 | 00YH878 | 5731RHL |

| Red Hat part number | Lenovo feature code | US/CA/AP SEO | EMEA/LA SEO | PID / CTO |
|---|---|---|---|---|
| RS0143423F3 | 2111 | 00YH847 | 00YH879 | 5731RHL |
| RS0149526 | 2108 | 00YH840 | 00YH872 | 5731RHL |
| RS0149526F3 | 2109 | 00YH841 | 00YH873 | 5731RHL |
| RS0191579 | B1LX | 01CW998 | 01CW998 | 5731RHL |
| RS0191579F3 | B1LY | 01CW999 | 01CW999 | 5731RHL |
| RV00085 | S1ZD | 02YD063 | 02YD063 | 5731RHL |
| RV00085F3 | S1ZE | 02YD064 | 02YD064 | 5731RHL |
| RV00086 | S1ZF | 02YD065 | 02YD065 | 5731RHL |
| RV00086F3 | S1ZG | 02YD066 | 02YD066 | 5731RHL |
| RV0213787 | 2053 | 00YH522 | 00YH719 | 5731RHL |
| RV0213787F3 | 2054 | 00YH523 | 00YH720 | 5731RHL |
| RV0216914 | S0P1 | 7S0F000XWW | 7S0F000XWW | 7S0FCTO1WW |
| RV0216914F3 | S0P2 | 7S0F000YWW | 7S0F000YWW | 7S0FCTO1WW |
| RV0216914F5 | S0P3 | 7S0F000ZWW | 7S0F000ZWW | 7S0FCTO1WW |
| RV0236407 | 2055 | 00YH520 | 00YH717 | 5731RHL |
| RV0236407F3 | 2056 | 00YH521 | 00YH718 | 5731RHL |
| RV0243858 | S0P4 | 7S0F0010WW | 7S0F0010WW | 7S0FCTO1WW |
| RV0243858F3 | S0P5 | 7S0F0011WW | 7S0F0011WW | 7S0FCTO1WW |
| RV0243858F5 | S0P6 | 7S0F0012WW | 7S0F0012WW | 7S0FCTO1WW |

## Subscription FAQ

Additional information about subscriptions.

1. **Q: What types of Red Hat subscriptions does Lenovo offer?**

    **A:** Lenovo offers OEM subscriptions and Resell subscriptions for Red Hat Linux, Hypervisor, HPC, SAP, OpenShift, OpenStack, Ansible, Ceph, Gluster and Hyperconverged. "OEM" subscriptions come with industry leading 24x7 support from Lenovo offering a single point to call for any hardware or software issues. Please refer to the product list found in this document.

2. **Q: How is Red Hat Enterprise Linux sold?**

    **A:** Red Hat subscriptions are sold in 1, 3 and 5-year options. These are not "licenses" but are subscriptions that provide access to all software downloads, patches, upgrades, etc. and the ability to contact Lenovo or Red Hat for support. Support will be either 10x5 or 24x7 terms. Subscriptions are delivered from Lenovo to the customer.

3. **Q: How are the Red Hat subscriptions delivered?**

    **A:** Red Hat subscription keys are inventoried by Lenovo and delivered via the Lenovo Key Management System (LKMS). Customers are sent an Authorization Code used to register the purchase on the LKMS. The actual subscription keys are then emailed to the customer to register at the customer's Red Hat Network user account.

4. **Q: Can I reassign a Red Hat subscription in the case of new hardware or a disaster recovery scenario?**

    **A:** Yes, Red Hat subscriptions can be reassigned to a new server by changing the server on the customer's Red Hat Network account.

## Lenovo compatibility

The Lenovo Server Operating System Interoperability Guide (OSIG) is a comprehensive source of information about operating system compatibility with Lenovo servers. It includes servers in the ThinkSystem, ThinkAgile, System x, ThinkServer, NeXtScale, Flex System and BladeCenter product families and covers servers that are currently supported by Lenovo under warranty.

For more information, please visit the OSIG page: http://lenovopress.com/osig. Use the dropdown menus to filter and finetune your search. In each of the search results, the support statement column contains clickable links that opens a popup window with details about the support.

For Lenovo option compatibility, the Lenovo ServerProven program validates selected products for compatibility with all Lenovo ThinkSystem servers. Through the ServerProven Program, Lenovo works with industry leaders to test their equipment with Lenovo products.

For compatibility information, please visit: http://static.lenovo.com/us/en/serverproven/index.shtml. For more details, please click on the Lenovo product. For compatibility with OS, please click on the green + button to expand the section.

## XClarity Integrator

Lenovo XClarity Integrator enables XClarity Administrator to integrate into your existing IT applications, providing the functionality you need to manage Lenovo infrastructure right in the console of the software tools that you already use. XClarity Administrator is a centralized resource management solution that reduces complexity, speeds response, and enhances the availability of Lenovo ThinkSystem infrastructure and ThinkAgile solutions.

For more information on XClarity Administrator, see the Lenovo Press product guide:
https://lenovopress.com/tips1200-lenovo-xclarity-administrator

## Support from Lenovo

Lenovo Support provides comprehensive, single-source support for a wide range of server operating systems including Red Hat Enterprise Linux. Lenovo provides 24x7x365 service for critical problems, and support during business hours for noncritical problems. If live phone help is unavailable during those service windows, responses are provided within 2 hours.

For more information on Red Hat Linux support, see the following Lenovo support page:
https://datacentersupport.lenovo.com/us/en/solutions/ht507838

## Engineered solutions and Reference architectures

Lenovo publishes several *engineered solutions* using Red Hat products. These are typically accompanied by detailed Reference Architectures posted on the Lenovo Press web site.

Through the Intel Select Solution program, Lenovo offers a growing portfolio of high availability Red Hat solutions featuring the robust ThinkSystem SR630 and SR650 servers. These offerings combine high-performance and cost-effective server platforms with Red Hat software. Some of the Reference Architectures are also Intel Select Solutions.

Recently published Reference Architectures include the following:

- **Red Hat OpenStack Platform** - lenovopress.com/lp0762. This reference architecture was updated to include Red Hat OpenStack 13 – the long term supported release.
- **Red Hat Ceph Storage** - lenovopress.com/lp1147. This is a new reference architecture for Ceph storage, which gives customers access to unified, scalable storage with block, file, and object access.
- **Red Hat OpenShift Container Platform** - lenovopress.com/lp0968. This reference architecture was updated for both second-generation Intel Xeon Scalable processors and Intel Select programs. OpenShift provides container-based workloads on an OpenStack platform.
- **Red Hat Hyperconverged Infrastructure for Virtualization** - lenovopress.com/lp1148. This is a new reference architecture for hyper-convergence on Red Hat's virtualization and distributed storage technologies. The solution allows customers to execute VMs on servers and use local drives for distributed, redundant storage. While it is similar to Nutanix and vSAN, the Red Hat solution is KVM-based in combination with Gluster distributed storage and is driven by Red Hat Ansible Automation. Red Hat Hyperconverged Infrastructure is positioned to serve as highly available basis for deployment and management of Red Hat and Lenovo's solutions.
- **Lenovo Open Cloud** - lenovopress.com/lp1149. This is a new reference architecture which describes Lenovo's first infrastructure as code (IaC) solution which reduces cost, speeds deployment, and reduces risk by removing errors and security issues. It means that Lenovo Open Cloud can be used to plan infrastructure deployment using NetBox DCIM, automatically discover, configure and manage the HW using Lenovo XClarity and Confluent, deploy other infrastructure platforms such as an OpenStack, Ceph or OpenShift clusters, and manage the platform end-to-end using Red Hat Satellite, Ansible Tower and CloudForms reducing the usual effort of days to mere hours. It allows customers to modify deployed clusters by adding newly discovered servers and to, just as easily, tear down the cluster and redeploy it for another purpose. Lenovo Open Cloud can even deploy itself via a bootstrapping process.
- **OpenStack for Service Providers** - lenovopress.com/lp0913. This is an update to our "Telco" reference architecture for Red Hat OpenStack 13, the first vertical on top of Lenovo Open Cloud. The RA update includes performance measurements for our tuned NFVi stack on ThinkSystem servers.

## Related product families

Product families related to this document are the following:

- Red Hat Enterprise Linux
- Red Hat Alliance

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