

Adopting for SUSE Linux Enterprise 16

Key differences between SUSE Linux Enterprise 15 and 16

WHAT?

This article describes the key differences between SLE 15 and 16.

WHY?

This article helps you evaluate an upgrade to SLE 16.

EFFORT

Approximately 10 minutes reading time.

GOAL

Understand how to best adopt SLE 16.

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1 Minimum CPU architecture support

	AMD64/Intel 64 (x86-64)	IBM POWER (ppc64le)	IBM Z (s390x)	Arm (AArch64)
SLES 15	x86-64-v1	POWER8	z12	ARMv8.0-A
SLES 16	x86-64-v2 ^{1, 2}	POWER10 ³	z14	ARMv8.0-A

¹ To improve overall performance, SLES 16 also delivers some shared libraries optimized for x86-64-v3. These libraries will be installed and used automatically on systems supporting v3. You can tell a package was optimized if its name includes the string `x86_42_v3`.

² SLES 16 removes 32-bit application support. The Linux kernel can still enable 32-bit system calls by installing the `grub2-compat-ia32` package from the SUSE Package Hub.

³ SLES 16 can be run on Power9 but SUSE supports only Power10 and above.

2 Versioning and release cycle

- SLE 15 uses Service Packs (SPs) for annual updates, such as SP1, SP2, SP3, SP4, SP5, SP6, and SP7, which is the last SP released for SLE 15.
- SLE 16 introduces a new naming schema for versions, using minor releases like 16.0, 16.1, instead of SPs. Releases are scheduled annually and always in November. The initial release, 16.0, is planned for November 2025.

3 Lifecycle

- SUSE Linux Enterprise Server 15 has general support for 1.5 years per Service Pack (with exceptions) and offers various extended support options like LTSS (Long Term Service Pack Support) and ESPOS (Extended Service Pack Overlap Support). Total support for SLE 15 covers up to 13

years (10 years general support + 3 years LTSS). SLES 15 SP7 general support is until 2031-07-31, with LTSS until 2034-07-31 and LTSS Core until 2037-12-31. SUSE Linux Enterprise Server for SAP applications 15 SPs has a total support period of 4.5 years.

- SLES 16 is ready for the future beyond 2038. General Support is expected to end in November 2035, with LTSS and Extreme LTSS beyond 2040. SUSE Linux Enterprise Server for SAP applications 16 has general support for 1.5 years plus 3 years extended support.

4 Systems management

- In SLE 15 and earlier, YaST was used for installation, configuration and systems management. Unattended and scripted installation was performed by AutoYaST.
- In SLE 16, systems management sees significant changes:
 - Installation (including unattended) transitions to Agama. Agama is a new installer with a Web-based front-end, command-line interface, and API for integration. It focuses on the installation in favor of software configuration management (SCM) tools. Agama supports repeated configuration import.
 - Configuration management uses Salt and Ansible via SUSE Multi-Linux Manager. This supports customers with ready-to-run automation.
 - Remote management is handled by Cockpit, a Web-based front-end for 1:1 management.

These changes in SLE 16 aim to provide better integration with Salt and Ansible, allow remote installation via a Web browser, and offer different interfaces (Web, CLI, HTTP API) for controlling the process.

5 Security framework

- SLE 15 uses AppArmor by default. SELinux is shipped without policies.
- SLE 16 ships SELinux with policies for over 400 modules by default, confining almost the whole system. Parts of the system can run unconfined if desired. SUSE Linux Enterprise Server for SAP applications 16 has improved workload isolation with SELinux, providing isolation for data and data flows, and for containers.

6 Networking stack

- SLE 15 used `wicked` and `NetworkManager`.
- SLE 16 focuses on a single stack using `NetworkManager`.

7 Deployment

- SLE 15 offered ready-to-run images for virtual machines or public clouds and installation media for manual deployment with `YaST` or automated with `AutoYaST`. It used a special installation environment with `linuxrc`-driven configuration. `AutoYaST` profile import was a one-off task only.
- SLE 16 uses ready-to-run images for virtual machines or public clouds, and manual/automated deployment with `Agama`. The `Agama` installer is accessible via a Web interface, command line or HTTP API. `Agama` allows repeated configuration import. It uses a standard live medium with `dracut`, `systemd`, and `NetworkManager` and provides a backward-compatibility layer with selected `linuxrc` options.

8 Init system

- SLE 15 used `systemd` with native units and compatibility for 3rd party SysV init scripts.
- SLE 16 completes the transition from SysV init and uses `systemd` native units exclusively.

9 Default OS configuration

- In SLE 15, the default OS configuration was primarily in `/etc`.
- In SLE 16, defaults are in `/usr` and `/etc` is for customization. This separation of vendor-provided defaults and administrator customization allows easier updates and — optionally — read-only `/usr` file system.

10 /tmp uses tmpfs

- In SLE 15 /tmp was a regular folder or partition. In the default configuration with Btrfs as root file system, it was a Btrfs subvolume.
- In SLE 16, /tmp uses the tmpfs file system, which stores data in physical RAM and/or swap space, making it very fast for read and write operations.



Important: /tmp is no longer persistent

On tmpfs, the content of /tmp is not persistent between reboots. If you have applications that write persistent data to /tmp, adopt them to use a different location such as /var/cache.



Important: Do not oversize /tmp

Oversizing tmpfs file system instances beyond the the sum of physical RAM and swap space of a system can lead to deadlock situations where the system becomes unresponsive due to insufficient available memory.

11 Desktop environment

- SLE 15 used GNOME as the default desktop environment. SUSE Linux Enterprise Desktop and SUSE Linux Enterprise Workstation Extension shared desktop productivity tools.
- SLE 16 uses a minimal GNOME desktop. This helps minimize the security surface. SUSE Linux Enterprise Desktop is not planned for 16.0.

12 Modernized High Availability stack

	SLE HA 15	SLE HA 16
Pacemaker	version 2	version 3
Corosync	version 2	version 3

	SLE HA 15	SLE HA 16
Distributed file system	OCFS2, GFS2 (read-only)	GFS2 (fully supported)
Fence agents	All agents in a single package	Agents packaged separately

13 Removed technology


SLE 16 removes certain technologies to reduce the OS footprint and the security attack vector:

- System: 32-bit application support is removed. The Linux kernel can still enable 32-bit system calls by installing the `grub2-compat-ia32` package from the SUSE Package Hub.
- System: SysV init scripts are removed; use native `systemd` units instead.
- Network: **wicked** is removed in favor of NetworkManager.
- Network: NIS is no longer used; choose LDAP instead.
- Network: The ISC DHCP server was removed in favor of the more modern Kea DHCP.
- Windows Subsystem for Linux: Support for WSL1 was removed in favor of WSL2, offering a full Linux kernel with complete system call compatibility.

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