SUSE® Linux Enterprise Server 12 SP2

What's new?

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Agenda

- General Information
- Getting to SP2
- New and Improved Pieces of SP2
  - Key features
  - Upgrades and changes
- Looking Forward: SLES 12 SP3
General Information
SUSE® Linux Enterprise Server 12
Life Cycle

13-year lifecycle
• 10 years general support
• 3 years extended support

Long Term Service Pack Support (LTSS)
• Available for all versions, including GA
• Up to 3 years extended support

Different Lifecycle for Desktop and Modules.
Not committed.
Subject to change.
SUSE Linux Enterprise 12 SP2

Scope

Refresh release
- Kernel version upgrade
- Significant Hardware Enablement

Certifications
- ISV certifications remain
- Stability of userland APIs and ABIs: core libraries and system compiler remain backward compatible
- FIPS: do not touch certified security modules (except Kernel)
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Security Certification

- Remain compliant with NIST SP 800-131a
- Re-certify for FIPS 140-2 on z System and Intel 64 / AMD64, at least for Kernel, OpenSSL, and OpenSSH
- Keep internal security standards and processes established for the Common Criteria Certification of 12
Getting To Service Pack 2
SUSE Linux Enterprise 12 SP2
Upgrade options

**Offline** upgrade (via media):
- SLES 11 SP4
- SLES 12 GA
- SLES 12 SP1

**Online** upgrade:
- SLES 12 GA
- SLES 12 SP1

*Any other combination is unfortunately not supported.*

*An Upgrade with the packages from the Certification Module active requires manual interaction*
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Online upgrade paths

One step migration (SP n → SP n+1)
• Standard online migration path supported since SLE 10.
• SP2 follows the standards.
• Option available via all tools (e.g. YaST2, zypper, SUSE Manager, etc.)

Skipping a Service Pack (SP n → SP n+2)
• Provide fully tested, supported and maintain migration path from SLE 12 GA to SLE 12 SP2.
• Exception: SLED
• Option available via all tools (e.g. YaST2, zypper, SUSE Manager, etc.)
New And Improved
SUSE Linux Enterprise 12 SP2

Key Features

Key features of SUSE Linux Enterprise 12 SP2:

- Kernel: 4.4 (includes backports from 4.5+)
- New technologies: NVDIMM, OmniPATH, Data Plane Development Kit with openVSwitch
- XEN 4.7 (included in kernel-default now)
- TPM 2.0
- Desktop Update: GNOME 3.20
- Hardware support following customer needs
- Driver Updates
- Stability of APIs and ABIs
NVDimm support

- **Libnvdimm** kernel subsystem, using NFIT tables provided by ACPI 6 compliant platforms
- **NFIT**: “nvdimm bus" with the core and registers memory devices
- Introduces several new drivers, e.g. PEM, BLK
- **DAX** supported with PEM, XFS as well as ext4
  No BtrFS support
- **Nvml** library [suite] included to allow applications to access nvdimm infrastructure (via DAX)
- **Libndctl** as userspace management library
- **NOTE**: While it looks good and stable, this is still a TechPreview!
Intel OmniPath

- Next generation fabric
- General support added to the OFED packages
- Graphical Interface available (opa-fmgui)
Data Plane Development Kit

- libraries, drivers and APIs for user space fast packet processing
  - Reduce number of cpu cycles used for sending/receiving packets

- Required for SDN
  - Allows development of fast package capture tools
  - NOT a networking stack, but could be used to create one

- Integration into openVSwitch done
New platform: AArch64

- AArch64 supported for selected hardware
- Currently only available for OEMs
- Nearly on par with other platforms regarding supported packages
New Module: HPC

- Upcoming new module coming with SLE 12 SP2
- Contains packages useful for High Performance Scenarios
- Still growing
- No packages were removed from core media
Updates And Changes
SUSE Linux Enterprise 12 SP2
Upgrades (selection)

- **SystemD** upgraded to v228
  - We still use wicked, not systemd-networkd
  - Some changes in the handling of sysv-initscripts, mostly transparent;
    Exception: systemctl daemon-reload now required
- **glibc** upgraded to v2.22
  - Backward compatible
- **gcc runtime** libraries upgrade
  gcc6 available in the Toolchain Module
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Upgrades (cont.)

- **Coreutils** upgrade to 8.25
  - Some behavior changes
- **Openssh** upgrade to 7.2
  - upstream default set-up more restrictive now, but for compatibility we relaxed this
- Other upgrades (selection):
  Mesa (11.2), icewm (1.3.12), XVnc (1.6), cmake (3.5), apache (2.4.20), Firefox (45.x), samba (4.4), OFED packages,
  ...and everything close to the kernel (e.g. kdump, kexec-tools) where required
- Regcodes readable from USB-stick
Looking Forward
SUSE Linux Enterprise Server 12 SP3

Scope

Consolidation release
• Stability of APIs and ABIs
• No Kernel version change

Expand leadership areas of SUSE Linux Enterprise

Hardware support
• Follow customer needs
• Incremental, non-intrusive changes on all architectures
  • x86-64, IBM zSystems, IBM Power8, ARM

Selective Driver Updates
FCS Q3 2017

Tentative
SUSE Linux Enterprise 12 SPs

Public Betas

**SUSE** became even more *open* with SLE 12 SP2 by having public Betas

→ We are again planning *public betas* for SUSE Linux Enterprise 12 SP3

→ If you want to join, have a look at

https://www.suse.com/support/beta-program