zUSERGroup Montreal

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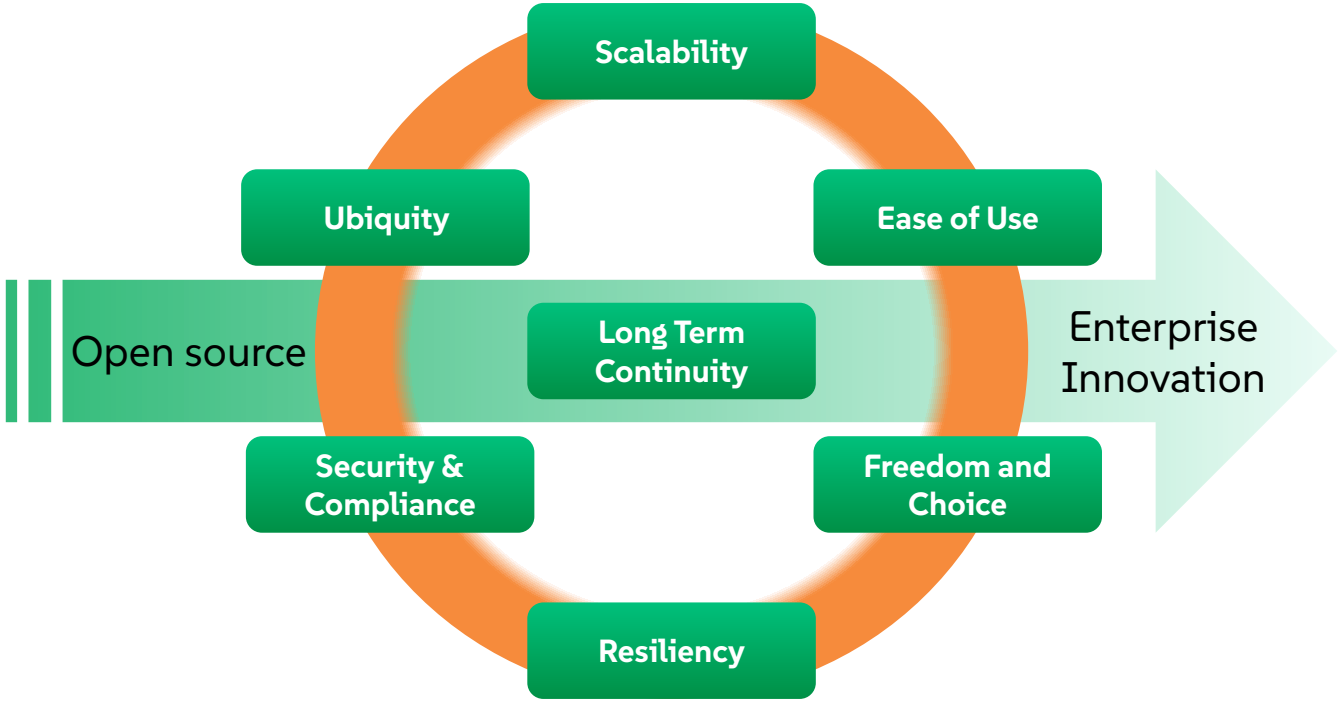
Agenda

- SUSE Linux Enterprise Server 16.0 introduction
  - Systems Management - Agama, Cockpit, Ansible
  - Notable details
- Multi-architecture management with SUSE Multi-Linux Manager
  - Quick UI walkthrough
  - Pinpoint vulnerable systems using CVE Audit
  - Patching with Content Lifecycle Management

SUSE

Enterprise Innovation, Powered by SUSE Linux



SUSE Linux Enterprise Server

SUSE Multi-Linux Support

SUSE Multi-Linux Manager

SUSE Linux Enterprise Server for SAP® applications

SUSE Rancher for SAP® applications

SUSE

SLES 16.0 introduction

High Level Comparison from 15 to 16

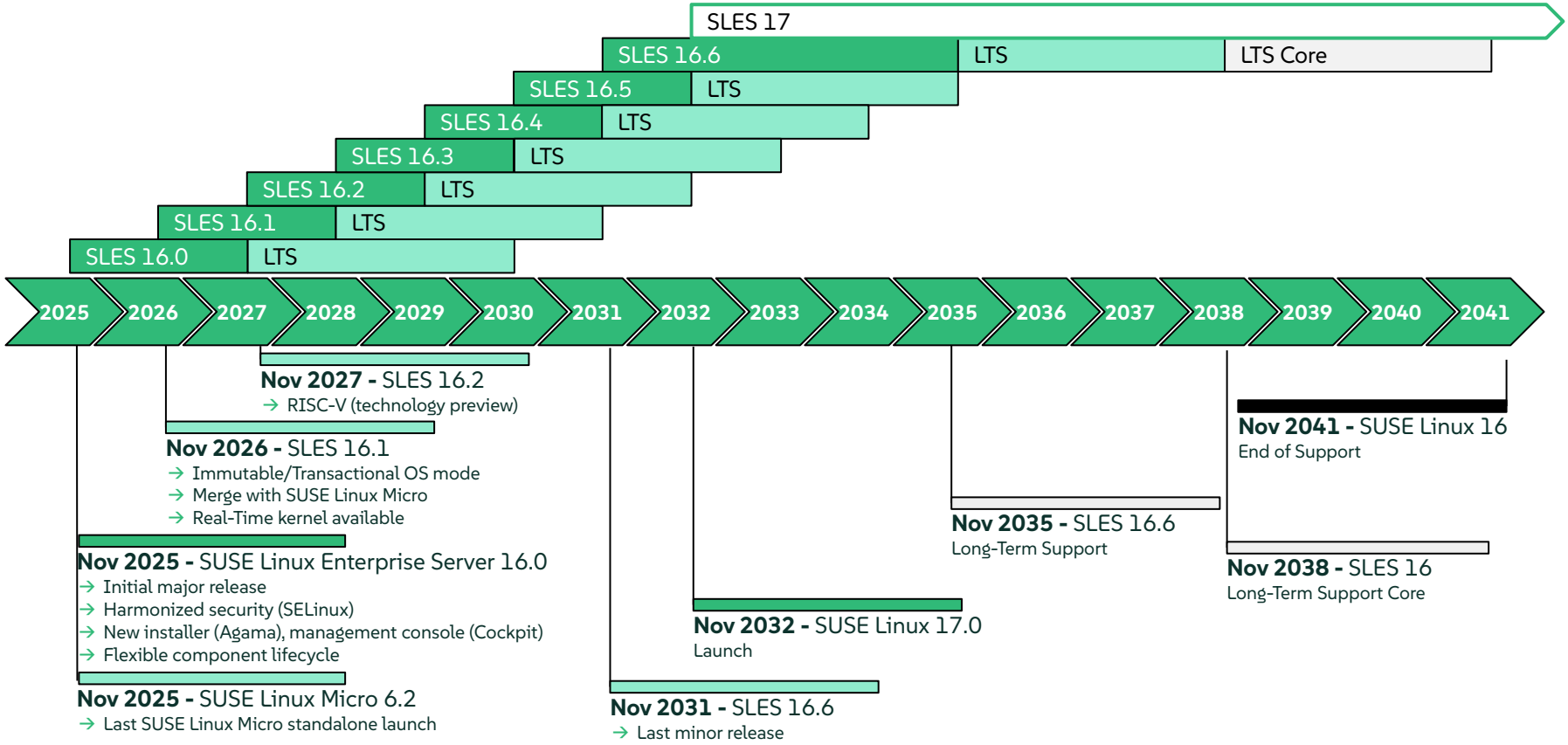
What stays the same?

- Workloads: Custom workloads (package, tarball etc), container, VM
- SLES: General purpose OS
- SLES for SAP applications: OS optimized for SAP workloads
- SLES for SAP includes SLES and SLE High Availability extension
- HW architectures:
  - SLES: Arm64, Power64, System Z (64-bit), x86-64
  - SLES for SAP: Power64, x86-64

What's changing?

- Extended Lifecycle:
  - SLES: general support for **2 years**; followed by optional 3 years LTS
  - SLES for SAP: **5 years** for each minor release - general support for **2 years** plus 3 years LTS included
- Versioning: **Minor releases** (16.0, 16.1) instead of SPs
  - Naming change, not a technology change
- Yearly releases always in **November**
- Ready for the future - beyond 2038
- Technology changes - modernizing stack to address customer challenges

SUSE Linux Enterprise 16 Life Cycle



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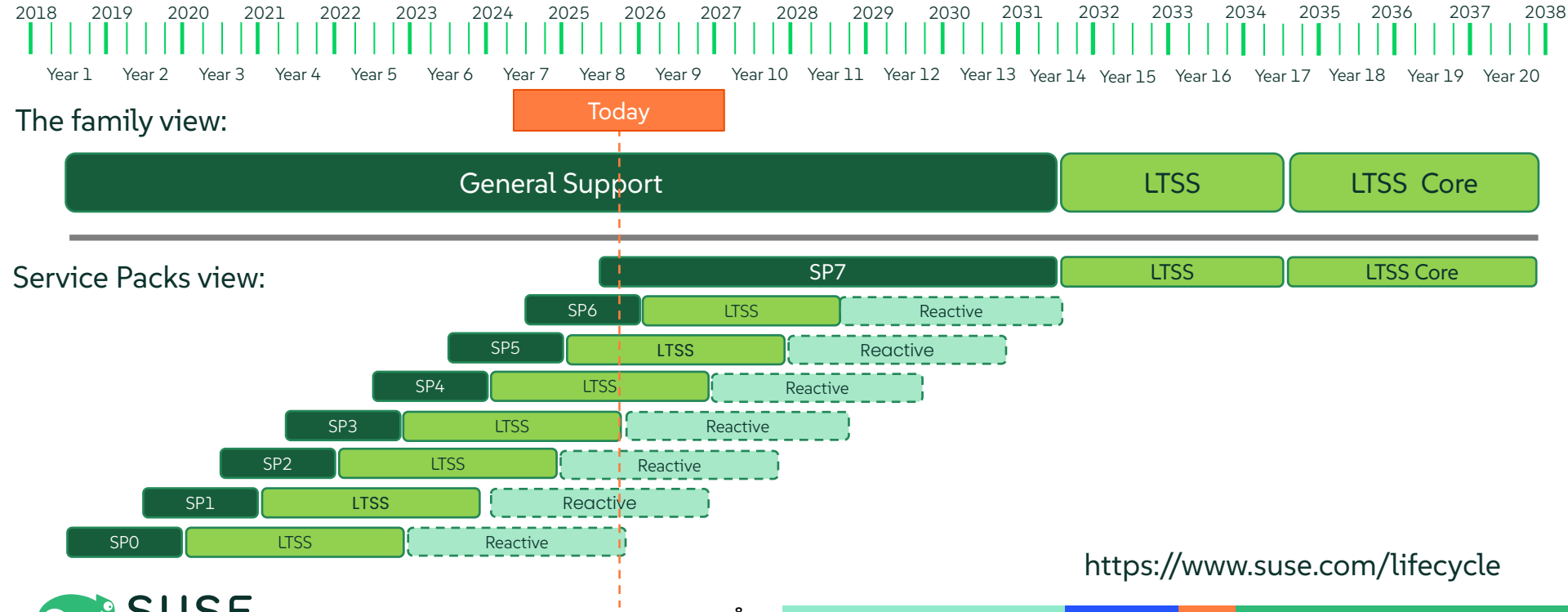
SUSE Linux Enterprise 15 Life Cycle

The longest ever SLE family, no competition in Enterprise Linux world



https://www.suse.com/lifecycle

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System Management

Systems Management

YAST in SLES 15 and earlier:

- Installation, unattended and scripted installation, configuration, systems management, command line, first boot configuration, ...

SLES 16

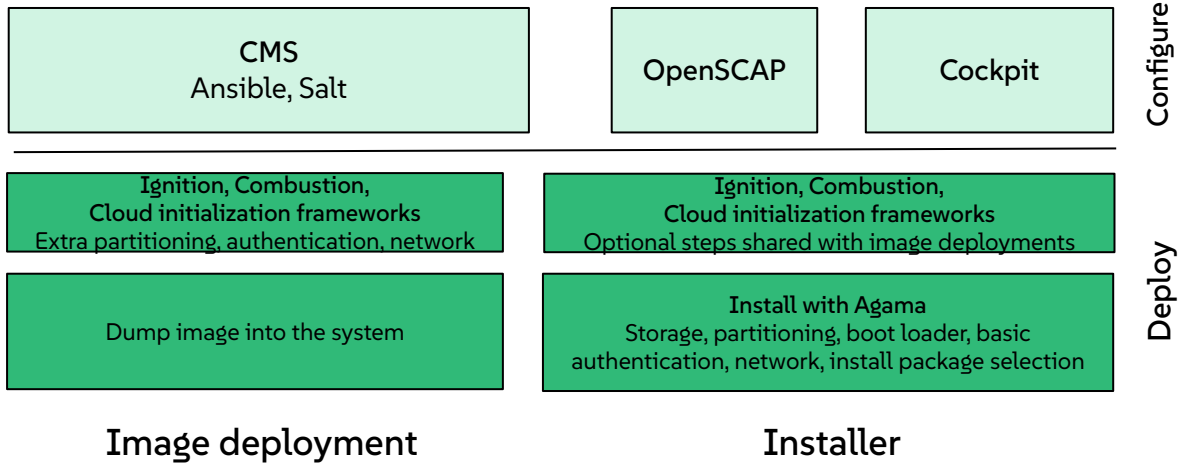
- Installation (incl. unattended) → Agama
- Remote management → Cockpit
- Configuration management → Ansible

Systems management

Instead of a single framework like YaST, SLES 16 has specific tools for the job

- Agama as installer
- Cockpit for 1:1 management
- Ansible and salt for configuration management

These changes add more flexibility and compatibility that will make installations and automation integrate more cleanly with modern practices.



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Agama: The Future of SUSE Installation

Modern & Accessible

- Access from any browser, on any device
- Easily install and configure systems from anywhere
- Modern, intuitive, clean, and user-friendly design

Built for Today's Workloads

- API-driven: seamless integration with automation tools
- Modular architecture is easier to extend and maintain
- Reusing stable and proven components to access the system

Secure & Stable

- Rust-based, engineered for memory safety and security
- Modern codebase means fewer crashes and vulnerabilities
- Quicker updates and bug fixes for a reliable product

Cockpit for Easy Remote Management

Web-Based & Remote First

- Intuitive, modern web UI accessible from any device
- Easily manage servers from a central location
- Manage systems without installing local software

Designed for Modern Workflows

- See system state in real-time, no need to refresh
- Full command-line access directly from the browser
- Use Cockpit alongside existing tools like Ansible or SSH
- Modular & extendable: add functionality with a growing list of plugins

Simplified & Secure

- Easy for new and experienced admins alike
- Works with existing security and permissions, no new layer
- Minimal resource usage when not in use
- New features and bug fixes released frequently

Ansible - choice for configuration management

- Configuration Management in SLES 16:
  - Ansible - part of SLES 16
  - Salt - supported with SUSE Multi-Linux Manager
- Ansible delivered with ready to run automation scripts (roles/playbooks) for day 1 and day 2 automation, including:
  - Deploy applications
  - Setup of SAP HA cluster
- SUSE Multi-Linux Manager will continue to:
  - Improve existing Ansible integration
  - Support salt

Supported components:

- Ansible Engine: The core automation engine
- Linux System Roles: Utilize standardized roles for consistent OS-level configuration
- SAP-Specific Automation: Simplify the deployment and management of SAP landscapes
- SLES-Specific Tasks: Automate essential SUSE tasks like system registration and managing SUSE modules using dedicated Ansible content

SUSE

Notable details

Core Software Updates

- kernel 6.12
- glibc 2.40
- systemd 257
- bash 5.2.37
- util-linux 2.41.1
- coreutils 9.6
- grep 3.11
- tar 1.35
- gzip 1.13
- openssl 3.5.0
- openssh 9.9
- firewalld 2.1.2
- cronie 1.7.2
- vim 9.1
- python 3.13
- perl 5.42
- networkmanager 1.52
- grub2 2.12

Complete list in
SUSE Customer Center:

https://scc.suse.com/packages

Improved handling of configuration files

Also known as “hermetic-usr” or “UsrEtc”

- Configuration files placement:
  - So far: most in /etc/example.conf
    - Admin makes changes - and distributor makes critical changes
    - Update: RPM creates example.conf.rpmsave/rpmnew
      - Admin needs to manually resolve
      - Ignoring leads to lost config and security problems, unbootable system
  - With 16 in general:
    - /usr for defaults as provided with distributor packages
    - /etc/example.conf.d/*.conf for customization of the provided defaults
- Separation of SUSE deliverables from local customization allows easier updates
  - No rpmsave/rpmnew files, both SUSE and admin configuration stay
  - Makes image updates (without rpm) possible
- Packages affected include sshd, sudo

Architecture Level Set

Tuning and minimal requirement of supported 64-bit CPUs

	Intel / AMD (x86-64)	Arm (aarch64)	IBM Z (s390x)	IBM Power (ppc64le)
SLE 15	x86-64-v1	Armv8.0-A	z12	Power8
SLE 16	Using x86-64-v2, prepare to run x86-64-v3*	Armv8.0-A	z14	Power9**

* On x86-64, SLES 16 delivers v3 optimized versions of some shared libraries (naming scheme: *libfoo*-x86_64_v3). These will be installed and used automatically on systems supporting v3.
** On IBM Power, SUSE enables execution on Power9 but supports only Power10 and above.

Modernize IT operations with an agentic AI-ready Linux

Benefits of an AI-driven Linux

Embed intelligence with a built-in AI-ready Linux

- Minimize operational cost.
- AI-enabled local administration.

AI-enhanced insights, visibility & auditing with AI-correlation

- Faster troubleshooting.
- Next generation compliance.

Keep your Sovereignty for AI

- Avoid AI lock-in with AI provider choice.
- LLM choice support.
- Supporting agentic AI emerging standards.

Available for SUSE Linux Enterprise Server 16*
SUSE Linux intelligence
supporting next agentic AI standards with Model Context Protocol (MCP) host and server implementation

*Availability after SLES 16.0 GA as technology preview

For additional information

- SUSE Linux Enterprise Server 16
  - AI-ready linux
- SUSE Linux Enterprise Server 16 documentation
  - SUSE Linux Enterprise Server 16.0 Release Notes
  - Key Technical Differences Between SLE 15 and SUSE Linux 16
  - IBM Z-specific changes (s390x)
  - IBM Z: Installing SUSE Linux Enterprise Server Manually Using Agama
- BLOG: Introduction to Ansible Linux System Roles on SLES 16

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Multi-architecture management with SUSE Multi-Linux Manager

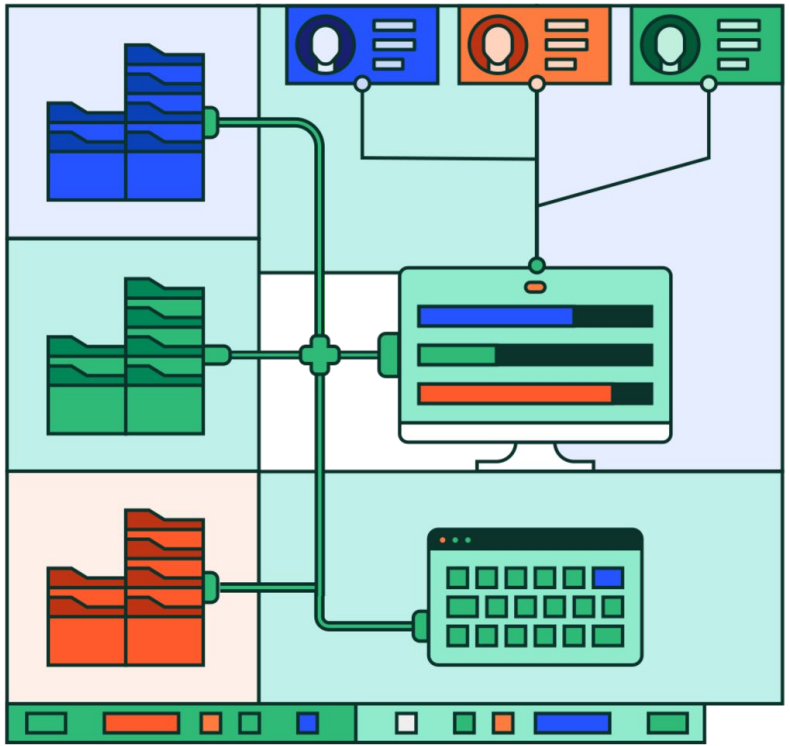
Challenges

Some challenges organizations face:

- Vast infrastructure to manage with little resources.
- Different teams have different technical needs, a too rigid standard hinders innovation and slows change and too loose increase management complexity.
- Security needs visibility and control, vulnerabilities are discovered and we have to act without delay otherwise the risk can be too great.
- Changing vendors cannot happen overnight, too much dependency on a single vendor can let us exposed to increasing costs and disruptive changes.
- ...

SUSE Multi-Linux Manager: What it is

True open source infrastructure management solution designed to simplify and secure your entire mixed Linux environment – at the core, on the edge or in the cloud.



SUSE Multi-Linux Manager

Our Mission

Deploy

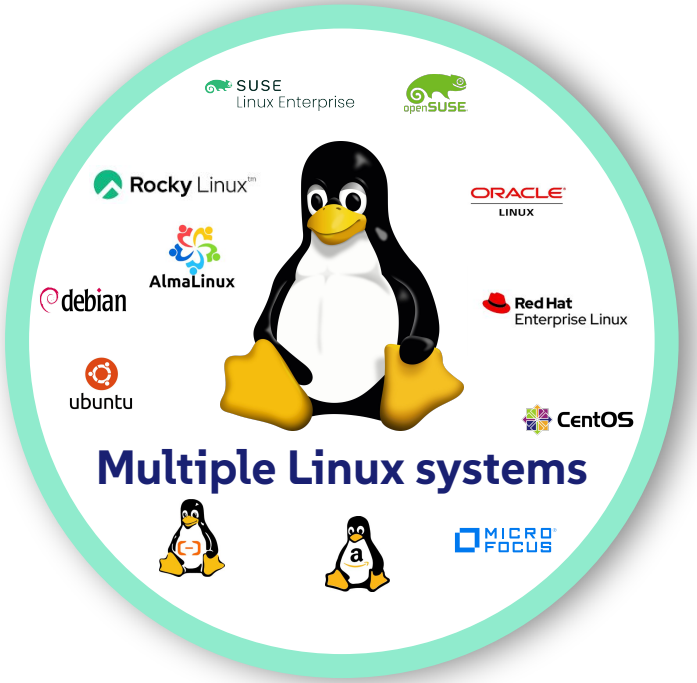
Manage

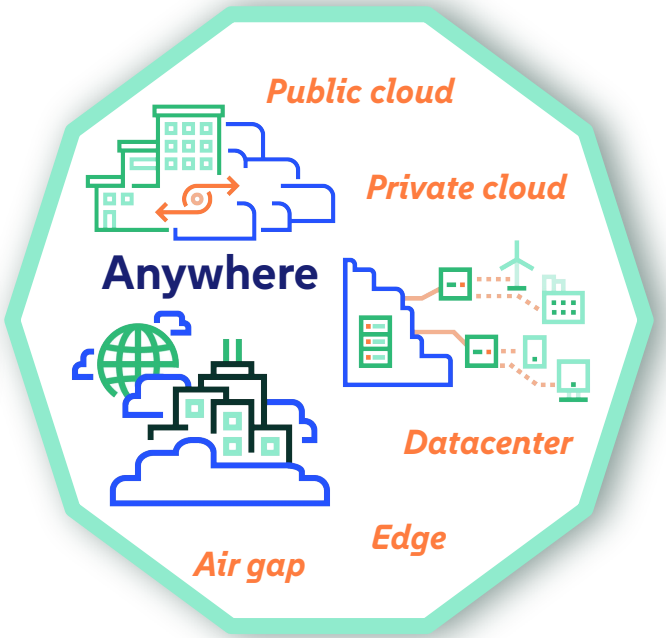
Secure

Audit

Upgrade

Monitor





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Manage anywhere with SUSE Multi-Linux Manager

Powerful content control and system management, wherever deployment needs to be strategically done – across hypervisors, clouds, or architectures

On-premises

- Physical or virtual workloads
- x86_64, aarch64, POWER or zSystems Mainframe

Public Cloud

- Virtual host gatherers for AWS, Azure, GCE, VMware, Nutanix
- File-based virtual host gatherer for other clouds

Hybrid cloud

Multi cloud

Private cloud

SUSE Manager works the same everywhere

SUSE Multi-Linux Manager at scale

Scale easily

10

SAP

"Help, my SAP goes HANA!"

From critical systems to huge distributed Edge deployments

100K

Retail / Edge / IoT

"From Brick & Mortar to Sensors & Beacons"

Yearly

"These critical systems are patched once a year"

Avoiding the paradox of patching

Monthly

"Now we patch systems every month"

"We test patches in the lab for critical systems before applying in prod"

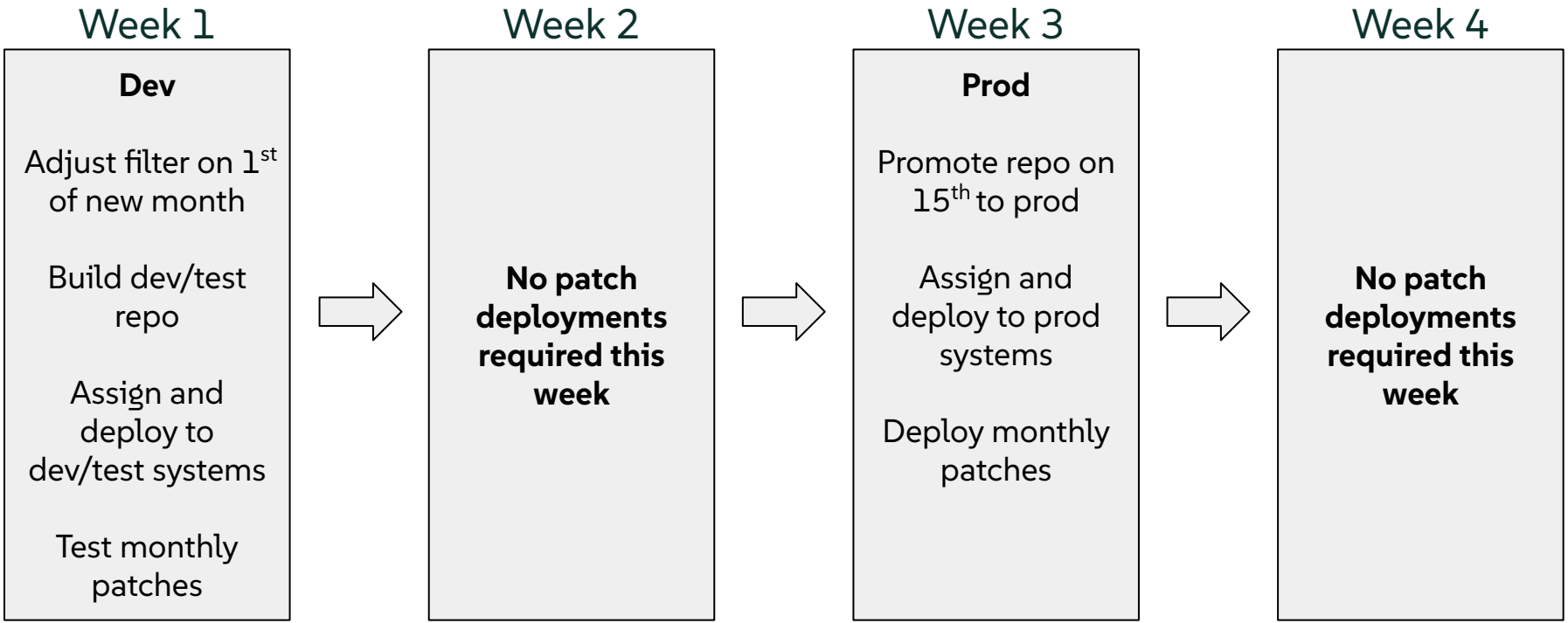
SUSE Multi-Linux Manager Content Lifecycle Management

Control how, what and when content goes into your systems

- Move packages across multiple stages with UI-based CLM
- Customize and test packages before updating production systems
- Control content with granular filters & projects
- Deploy Dev, QA and Production systems with to support your growth

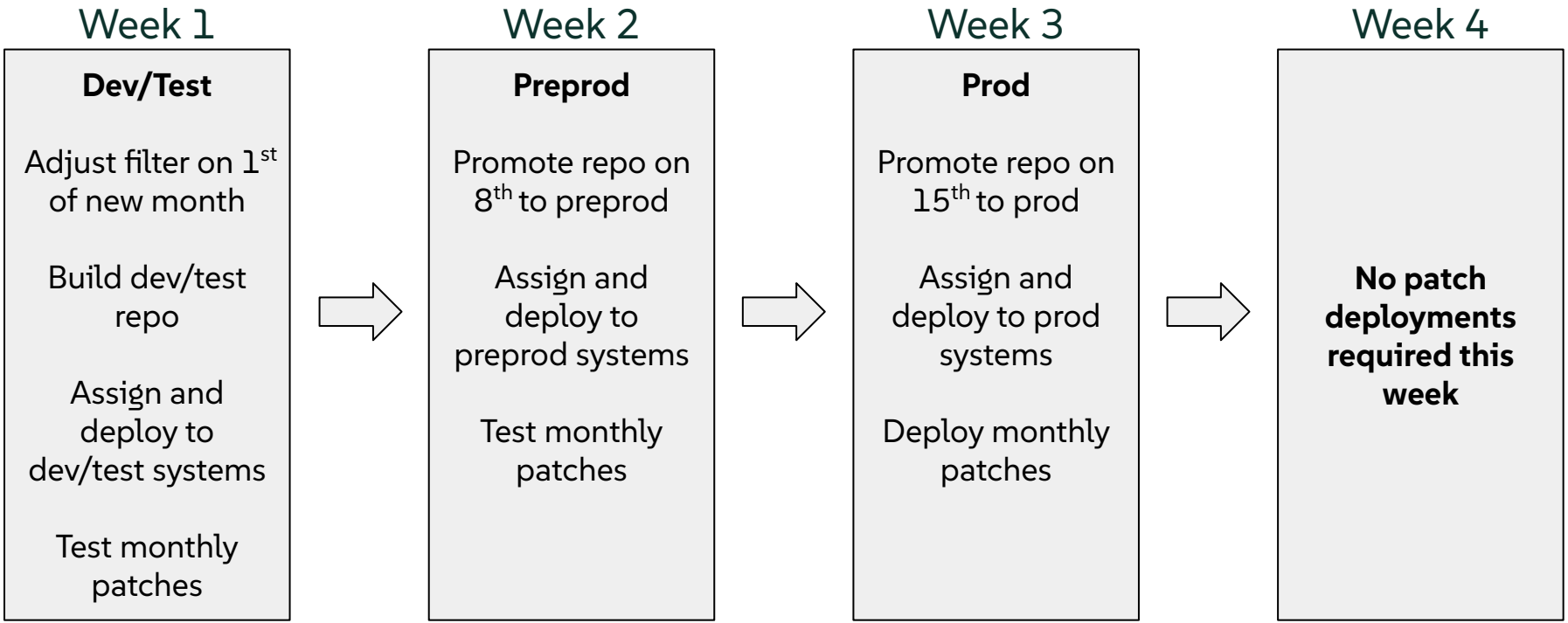
Example monthly patching cycle with 2 environments

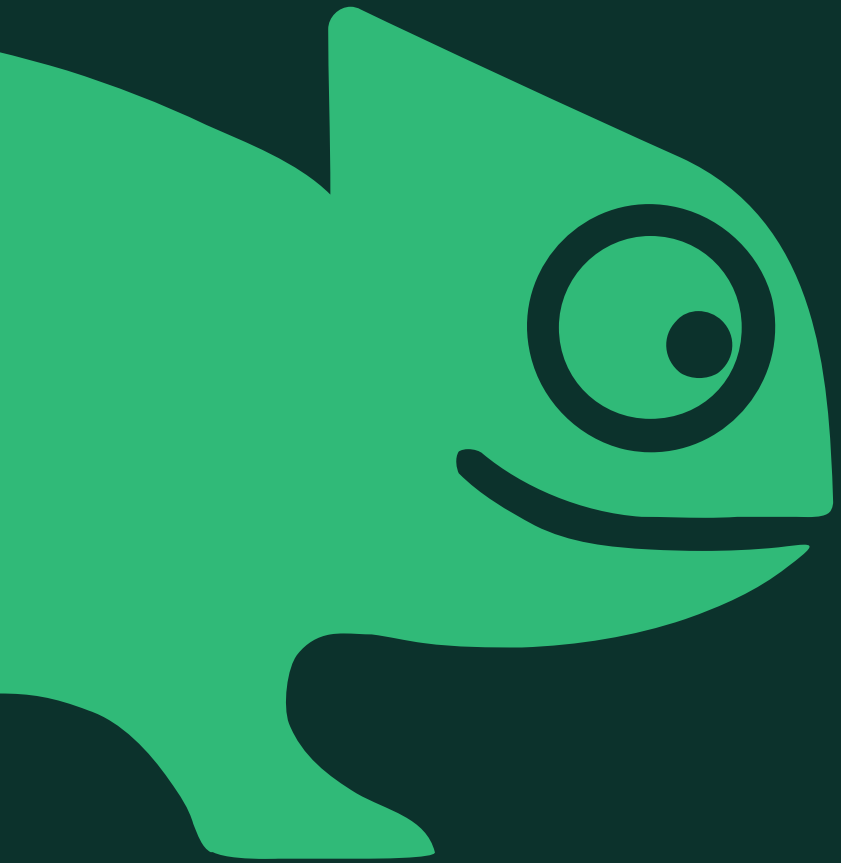
Using Content Lifecycle Management in SUSE Multi-Linux Manager



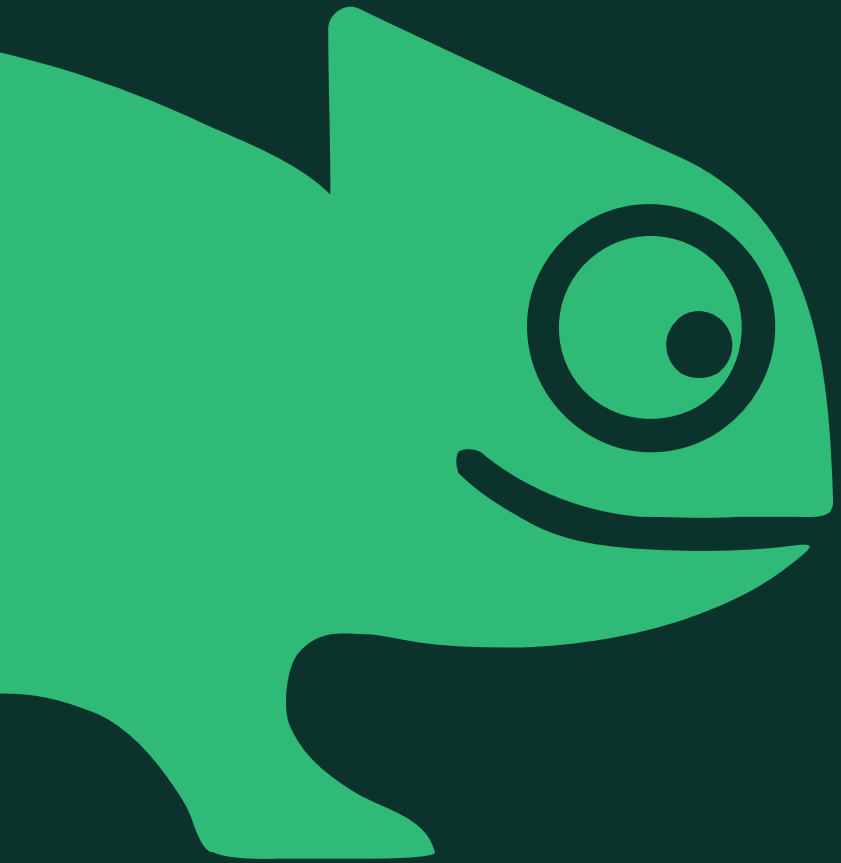
Example monthly patching cycle with 3 environments

Using Content Lifecycle Management in SUSE Multi-Linux Manager





Demo



Action item:

Attend a free SUSE Multi-Linux Hands-on Workshop.

Find this and other free workshops at SUSE Events


SUSE