



Patching and Updating your VM SUSE Manager

Donald Vosburg, Sales Engineer, SUSE
dvosburg@suse.com

Why should I care?

I just clone my base VM image, and after that it is not my problem...

- ✓ Understand the lifecycle of the Linux you are deploying
- ✓ Security issues really do affect Linux VM instances
- ✓ You can see and fix security issues efficiently with SUSE Manager



IBM Support



Central Processor Unit (CPU) Architectural Design Flaws

1 question - 1 answered

Flash (Alert)

Abstract

IBM Security X-Force is aware of the CPU vulnerability disclosed by Google. In response to the disclosure of vulnerabilities, the IBM X-Force has raised the current internet threat level to AlertCon 2.

Content

IBM has been made aware of the CPU vulnerability disclosed by Google and is working across the ecosystem on remediations. The most immediate action you can take to protect yourself is to prevent execution of unauthorized software on any system that handles sensitive data and to continue to monitor the [PSIRT blog](#) for continuous updates as they become available.

We have the industry's most extensive capabilities, expertise and technologies to mitigate vulnerabilities, from chips, to operating systems, encryption, databases and applications, to one of the world's largest commercial cybersecurity businesses, which monitors 35B events per day for clients, and the industry's preeminent Research team. All are available to help you manage this situation.

In response to the disclosure of vulnerabilities in CPU Architecture disclosed by Google's Project Zero team, the IBM X-Force has raised the current internet threat level to AlertCon 2.

The vulnerabilities, CVE-2017-5715, CVE-2017-5753, CVE-2017-5754, involve an architectural feature built into CPUs to enhance system

Spectre ([CVE-2017-5753](#) and [CVE-2017-5715](#))

Spectre got its name from its root cause, speculative execution. As it is not easy to fix, its name implies that the researchers think it will haunt us for quite some time.

Spectre breaks the isolation between different applications, and allows an attacker to trick error-free programs into leaking their data.

Almost every system is affected by Spectre. More specifically, Spectre vulnerability has been verified on Intel, AMD, and ARM processors. Additional exploits for other architectures are also known to [exist](#). These include IBM System Z, POWER8 (Big Endian and Little Endian), and POWER9 (Little Endian).

SUSE Software-Defined Infrastructure and Application Delivery Approach



Infrastructure & Lifecycle Management

SUSE Manager

SUSE OpenStack Cloud Monitoring

Application Delivery



Container Management
SUSE CaaS Platform



Platform as a Service
SUSE Cloud Application Platform

Software-Defined Infrastructure



Private Cloud/IaaS
SUSE OpenStack Cloud



Compute
Virtual Machine & Container



Storage
SUSE Enterprise Storage



Networking
SDN and NFV



Operating System
SUSE Linux Enterprise Server



Public Cloud
SUSE Cloud Service Provider Program

Physical Infrastructure: Server, Switches, Storage



SUSE Manager

Available
on the Public
Cloud

Best-in-class open source infrastructure management solution designed to help your enterprise DevOps and IT Operations teams to:

- Optimize operations while reducing **costs**
- Reduce **complexity** and regain control of IT assets
- Ensure **compliance** with internal security policies and external regulations



Introducing SUSE Manager 3.2

Delivering new and enhanced features for managing across IoT, cloud and container infrastructures and provides three key benefits:


1. **Lower costs and simplify deployment while easily scaling larger environments** for Public Cloud infrastructures and Kubernetes deployments.
2. **Improve DevOps efficiency and meet compliance requirements** with a single tool to manage and maintain everything from your IoT edge devices to your containerized workloads.
3. **Easily manage large complex deployments** with new extended forms-based UI capabilities





Features and Benefits

What's new in SUSE Manager 3.2



**Be ready for
the future
(SLE 15,
latest Salt)**

**Easily manage
large environments
from the UI**

**Secure your images
and running
instances and
keep them
compliant**

Managing content & compliance in hybrid cloud & container infrastructures



- > Salt
- > Images
- > Patches
- > Software
- > Audit
- > Configuration
- > Schedule
- > Users
- > Admin
 - Setup Wizard
 - Organizations
 - Users
 - > Manager Configuration
 - > ISS Configuration
 - Task Schedules
 - Task Engine Status

Clear + Add products (4)

25 items per page

Items 1 - 1 of 1

Product Description	Arch	Channels
<input checked="" type="checkbox"/> v SUSE Linux Enterprise Server 15	x86_64	with recommended
<input checked="" type="checkbox"/> v Basesystem Module 15 recommended		
<input type="checkbox"/> > Desktop Applications Module 15		
<input type="checkbox"/> SUSE Linux Enterprise Live Patching 15		
<input checked="" type="checkbox"/> SUSE Manager Tools 15 recommended		
<input type="checkbox"/> Containers Module 15		
<input checked="" type="checkbox"/> > Server Applications Module 15 recommended		
<input type="checkbox"/> SUSE Cloud Application Platform Tools Module 15		

Refresh the product catalog from SUSE Customer Center

- Channels
- Channel Families
- Products
- Product Channels
- Subscriptions

Refresh

Selected products

- SUSE Linux Enterprise Server 15 [x86_64]
- Basesystem Module 15 [x86_64]
- SUSE Manager Tools 15 [x86_64]
- Server Applications Module 15 [x86_64]

Why aren't all SUSE products displayed in the list?

The products displayed on this list



/uju: 'ni/

Please welcome **Uyuni**,
the new upstream project for **SUSE Manager!**



<https://www.uyuni-project.org>



@UyuniProject



uyuni-announce+subscribe@opensuse.org

SUSE Manager 3.2 – What's in the GA release:

Be ready for the future with the latest package versions (Salt 2018.3.0 ready for Python 3, Spacewalk 2.8, PostgreSQL 9.6) and SLE 15 enablement

Easily manage large complex deployments with new extended forms-based UI capabilities, UI-based Salt configuration management, and improved action chains

- **Formulas with Forms** improved/extended to model even complex parameters (e.g. for user management) and fully API-enabled. *Allows clean separation of concerns between experts preparing secure organization defaults and day-to-day admins*
- **Salt states can now be created and edited completely from the UI**
- **Salt support action chains** (*update Salt through Salt, reboots, ...*)

SUSE Manager 3.2 – Soon after GA:

Easily manage large complex deployments with

- containerized proxies for flexible scale-out
- automated Prometheus/Grafana monitoring integration

Secure your images and running instances and keep them compliant

with integrated KIWI image building for Virtual Machines and physical installation images

SUSE Manager 3.2 – Later updates:

Easily manage large complex deployments with

- fully Salt-based provisioning (Saltboot)
- cross-system action chain orchestration
- ready-to use best practice templates (e.g. sapconf Formula)

Secure your images and running instances and keep them compliant

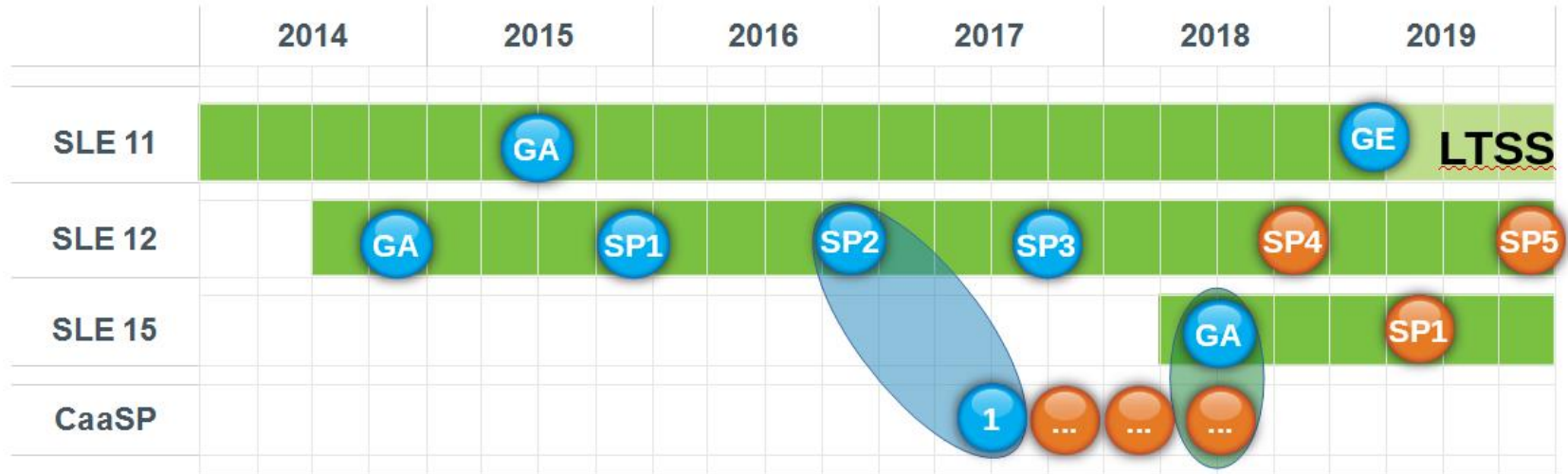
with completely modernized virtualization management
built right into SUSE Manager

SUSE Manager for Retail (ETA October 2018)

SUSE Manager – Unique Value Proposition

Value Proposition	Customer Benefit
Best Management tool for SUSE Linux Enterprise no matter where it is deployed - edge devices to the public cloud to your internal container infrastructure	Save on TCO compared to proprietary or open source “one size fits all” tools or required multiple tools to get the same functionality.
Only tool to allow online service pack migration even skipping a service pack	Use patch management tool through the complete lifecycle, not just for minor updates (e.g. with the ability to go from SP1 to SP3)
Lifecycle management for SUSE, Red Hat and CentOS*	Full lifecycle management including provisioning, configuration, patch management, unified compliance management and remediation of multiple Linux distributions from one tool.
Fully open source with no vendor lock-in	No risk of being left without an option if the vendor stops supporting you.
Includes support for powerful Salt remote execution and configuration monitoring & management framework	Accomplish all your automation and configuration management tasks with a single tool, including the capability to automatically detect and remediate configuration drift.
Flexibility to integrate 3rd party configuration management tools and service delivery frameworks.	“We adapt, you succeed” - APIs and services enable you to integrate SUSE Manager with your existing tools and processes.

Roadmap – Service Pack & Updates Delivery

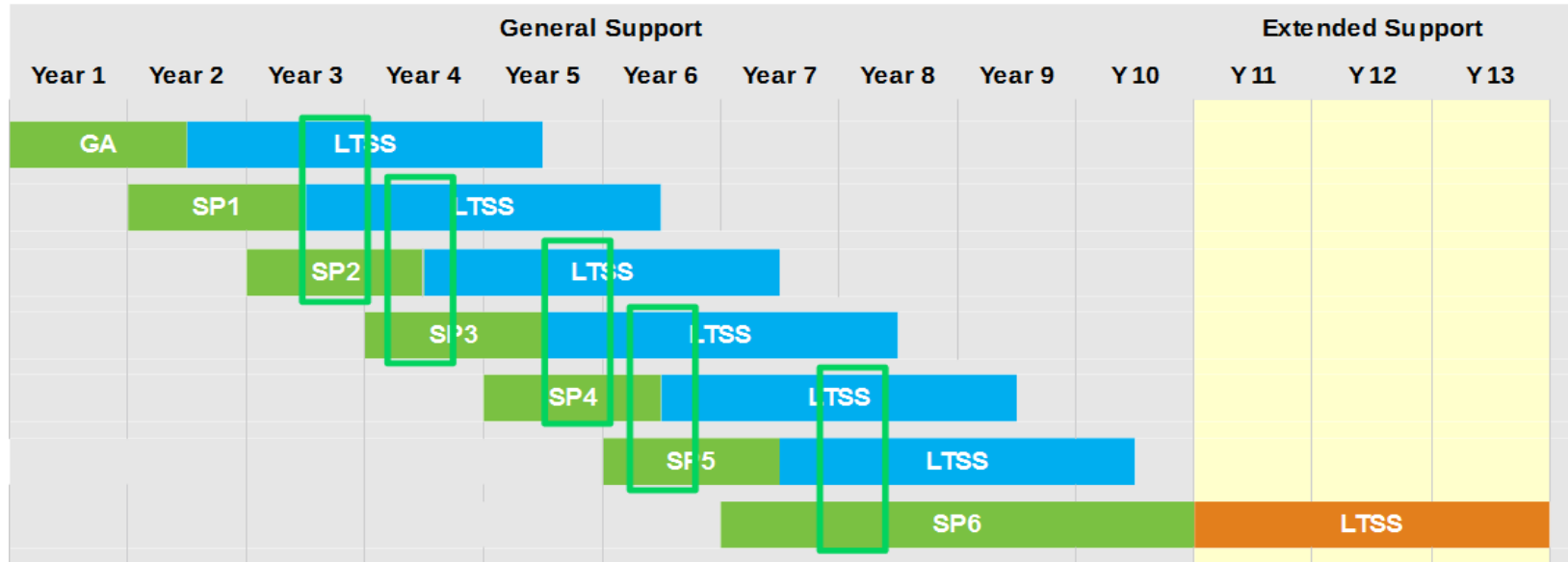


SUSE Linux Enterprise 15 - Multimodal delivery

Traditional: SUSE Linux Enterprise Server

Container: SUSE CaaS Platform

Lifecycle – SUSE Linux Enterprise Server



- Service Pack Overlap Support: 6 months
- Long Term Service Pack Support: up to 3 years after generic end of support
- Skip-a-service-pack support

Deployment Management & Image Building



Deployment Management

SUSE Manager,
SaltStack, Chef,
Ansible, Puppet



Image Building
SUSE Studio,
KIWI



Operating System

SUSE Linux Enterprise Server for z Systems and LinuxONE

- SUSE Manager

- Streamline patch management and secure your workloads to increase productivity
- Monitor configuration compliance with Salt
- Create workflow with Action Chains
- Optimize SUSE subscription usage
- Runs on and supported on LinuxONE and z Systems



Physical Infrastructure

Server, Switches, Storage, IBM Z and LinuxONE



SUSE Greenstack Solutions



Deployment Management

SUSE Manager,
SaltStack, Chef,
Ansible, Puppet



Virtualization
SUSE KVM for IBM z, z/VM



Private/Hybrid Cloud
SUSE OpenStack
Cloud for z



System Analysis

Machinery



Image Building
SUSE Studio,
KIWI



Container Engine and Management
SUSE Container-as-a-Service Platform,
Kubernetes, MicroOS, Salt, Container
Engines



Modules
Legacy,
Certifications,
Web & Scripting,
Toolchain, ASM, Public
Cloud, Containers



Operating System
SUSE Linux Enterprise Server for z Systems and LinuxONE

PaaS
SUSE Cloud
Application
Platform



Physical Infrastructure

Server, Switches, Storage, IBM Z and LinuxONE



Migrations

SUSE Linux Enterprise 12 SP3

Online Upgrade Paths

Option 1: one step migration (SP n → SP n+1)

- Standard online migration path supported since SLE 10
- SP3 follows the standard lifecycle and upgrade options
- Available via all tools, e.g. SUSE Manager, SMT, SCC

Option 2: skip two Service Packs (SP n → SP n+m)

- Provide tested, supported and maintained migration path from SLE 12 SP1 to SLE 12 SP3
- Available via all tools
- Exception: SLED / SLEWE

Migration Use Cases

- Media / Fully Offline
 - Boot DVD/USB stick (or ISO image) to upgrade without the need to connect to any repositories on the network
- Migration via SCC
 - The system, directly connected to SCC, is able to receive the new migration target and run the upgrade process
- SUSE Manager
 - System registered with SUSE Manager is ready to be migrated to the latest SP
- SMT
 - System registered with SMT is ready to be migrated to the latest SP
- 3rd Party Tools
 - Customers using 3rd party tools are enabled to receive information about the latest SP; access to this information is properly documented and easily accessible

What if I don't run SLES?

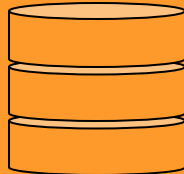
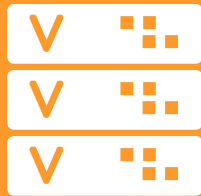
I have Red Hat and Red Hat only—I don't need anything from SUSE

- ✓ Sure you do: You need the management tool Red Hat didn't give their customers— Red Hat did open-source Spacewalk, but moved on to other things. SUSE turned it into SUSE Manager/Uyuni - with powerful new features.
- ✓ The thing is, Red Hat Network Satellite only manages Linux on physical and virtual machines—it doesn't manage those workloads in the cloud, and it doesn't manage those workloads on a wide variety of hardware platforms.
- ✓ SUSE Manager manages everything Linux, no matter where you choose to run your workloads or what you choose to run them on.
- ✓ SUSE Manager works with Red Hat Enterprise Linux, so even if you only ever use Red Hat, add it to your infrastructure to get a less-expensive tool that does more and doesn't limit your options.

SUSE Linux Enterprise 15

Building Bridges with **Multimodal OS**

Traditional
Infrastructure



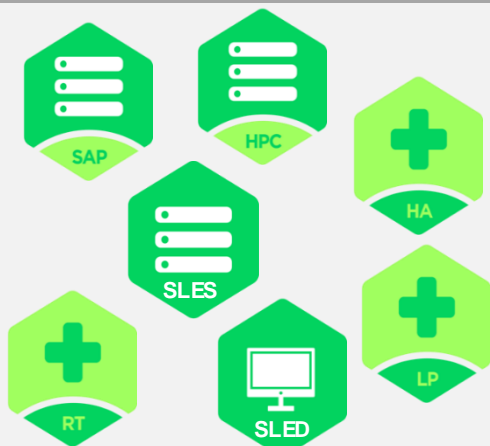
**SUSE Linux
Enterprise 15**



Software-
Defined
Infrastructure



Multimodal Architecture



SLE 15 Products



SUSE CaaS Platform



SUSE Cloud Application Platform

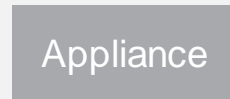
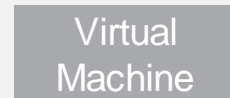


SUSE OpenStack Cloud



SUSE Enterprise Storage

SDI Products



Services

Traditional Infrastructure

Software-Defined Infrastructure (SDI)



Common Code Base

All Architectures (x86-64, Arm, POWER, IBMZ)

SUSE Linux Enterprise Server for z Systems and LinuxONE 15



Enterprise-class, highly reliable, scalable and secure open source server operating system, optimized for the IBM s390 architecture and the complete range of IBM Z and LinuxONE systems, and built to power physical, virtual and cloud-based mission-critical workloads

- **Lower total cost of ownership and accelerate innovation** through database consolidation and advanced virtualization
- **Boost performance and throughput** while increasing uptime and simplifying data center management
- **Improve operational efficiency** through a common code base that comes with integrated systems management tools unique to SUSE

What's New:

High performance and throughput with support for the latest technology advances in SIMD and SMT across IBM z13/14/L1 hardware

Increased security and data protection by supporting the latest cryptographic acceleration for secure-key operations and new hardware assists for fast data encryption

Enhanced virtualization capabilities to boost resource utilization using KVM and z/VM, giving you the ability to create several virtual machines that run on a single processor and handle multiple workloads

Advanced RAS capabilities that increase reliability and reduce costs, providing extra dimensions of availability and ensuring the highest levels of security

Improved operational efficiency with tools you won't find anywhere else and by taking advantage of the networking and communications features of OFED and HiperSockets.



We adapt. You succeed.