

Universal Solution for Retail

Tired of getting tangled in the details? SUSE® Manager for Retail keeps your retail infrastructure safe, up-to-date and compliant with maximum security and minimum TCO.

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SUSE Manager for Retail is an open source infrastructure management solution that is optimized and tailored for the retail industry. You can use SUSE Manager for Retail to deploy and manage point-of-service terminals, kiosks, self-service systems and reverse-vending systems, as well as other Linux-based assets within your infrastructure.

SUSE Manager for Retail provides a single user interface for handling tasks such as:

- *Creating Linux client images that are optimized for retail applications, including support for secure payments protocols.*
- *Deploying system images in a wide range of retail scenarios, from remote provisioning to broadband connections.*
- *Keeping legacy retail hardware in operation even when the system resources are too limited to support other operating systems.*
- *Automatically updating or patching all retail terminals from one central location.*
- *Detecting non-compliant systems or unauthorized changes to systems within the retail environment.*

SUSE Manager for Retail can reduce costs, streamline operations, increase flexibility, enhance reliability and improve uptime for the complete lifecycle of your retail infrastructure.

System Architecture

At the core of the SUSE Manager for Retail environment is Linux—a secure and stable open source operating system used by thousands of large organizations for mission-critical tasks. Linux is designed to keep kernel and user processes strongly separated, which leads to stability and a natural resistance to intrusion and malware.

Linux is also easy to mold and modify for specialized use. SUSE Linux Enterprise Point of Service (SLEPOS) is a Linux-based, point-of-service designed to serve as a retail client within the

SUSE Manager for Retail environment. SLEPOS is engineered to achieve tight security with minimal footprint and maximum security and performance. SLEPOS uses the versatile SUSE Linux Enterprise operating system as a base platform. The default version of SLEPOS integrates several retail-specific services and standards with world-class, open source security tools for VPN, secure shell, firewall and more.

SLEPOS supports retailers to comply with the Payment Card Industry Data Security Standard (PCI DSS). Because SLEPOS is Linux, you can add additional applications as needed, build custom applications or create a custom system image to automate installation for a large number of devices. You can install SLEPOS on a dedicated POS device or on any standard PC. Minimal SLEPOS images require as little as 512 MB of RAM, which means SLEPOS can extend the life of older point-of-service (POS) systems.

See the architecture of a typical SUSE Manager for Retail network shown in Figure 1 on the following page. The retail devices are organized into branches. Each branch represents a local office or retail outlet at a single location.

The environment consists of:

- *SLEPOS retail client systems*
- *A SUSE Manager for Retail branch server operating at each branch location*
- *A SUSE Manager server to deploy and oversee the complete environment*

Also, shown in Figure 1 are the SUSE Customer Center, an online service that helps you manage subscriptions and offers an interface with SUSE support resources and the subscription management tool, a proxy system for the SUSE Customer Center with repository and registration targets.

The SUSE Manager server enables an administrator operating from the main office to view the status of any POS system on the network. The administrator can provision new systems, control software updates and monitor all systems for compliance with security standards. All the systems shown in the figure are open source, which means you'll never suffer from the vendor lock-in associated with proprietary software systems.

The complete infrastructure shown in the figure could be as small as a single local shop or it could consist of thousands of POS systems in multiple remote locations.

SUSE Manager for Retail Network

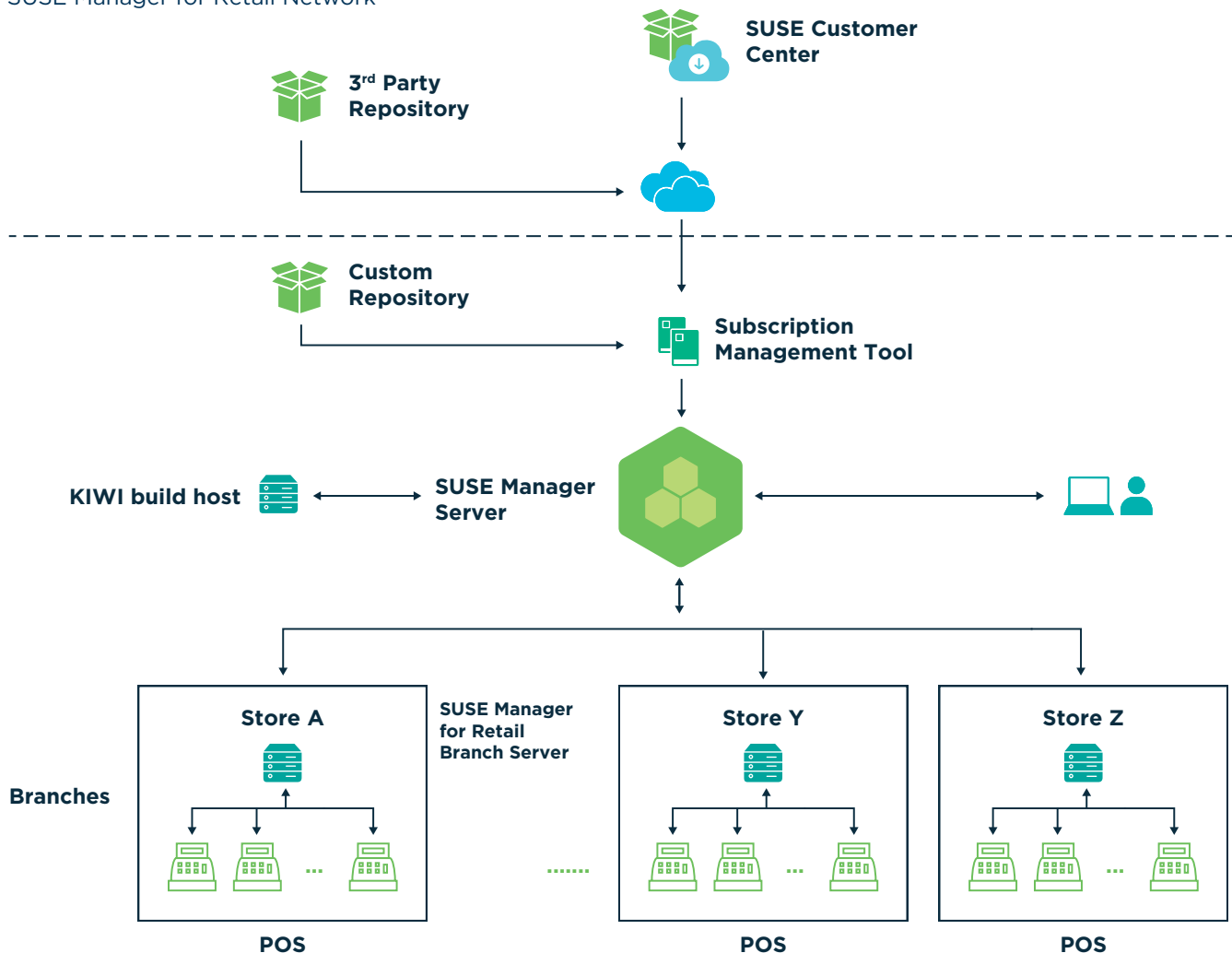


Figure 1. The architecture of a typical SUSE Manager for Retail network.

SUSE Manager Server

The SUSE Manager Server, which usually runs in the main office behind a firewall, is at the center of the SUSE retail management infrastructure. The SUSE Manager Server controls the creation of client images, software distribution to the terminals, update procedures and compliance checks.

The SUSE Manager Server is a component of the main SUSE Manager product used for managing Linux systems in enterprise environments. For the retail edition, SUSE includes additional functionality needed for managing retail branch servers and clients.

The upstream project for SUSE Manager, called Uyuni, is publicly developed on GitHub, with frequent releases and solid, automated testing. Although, Uyuni is not commercially supported by SUSE and does not receive the same rigid QA and product lifecycle guarantees, it is a full version of the software. Unlike other vendors whose commercial products heavily rely on extra features not available in the basic, open source version, SUSE keeps the full feature set available in the community edition.

Branch Server

The branch server of a SUSE Manager for Retail installation runs inside a store, controlling all the retail terminals within a local environment. The SUSE Manager for Retail branch server is a technical equivalent of the standard SUSE Manager Proxy Server, with enhanced functionality for the retail environment. The branch server acts as a multipurpose server system for the local network. You can use the branch server to manage PXE remote boot for POS clients, as well as to provide DHCP, DNS, FTP and other services for the branch. The branch server can also act as an image cache, Salt broker and proxy server for remote package updates.

Maintaining a server at the local level lowers the overall bandwidth needs of the retail IT network (which may very well be scattered across hundreds or thousands of kilometers), lightens the processing load on the SUSE Manager server and generally speeds up operations.

The branch server:

- *Manages the synchronized distribution of terminal system images and software updates to all the retail terminals in the same store environment.*
- *Provides the network boot and system management infrastructure for retail terminals.*

- *Serves as a generic system platform for in-store applications, such as database systems, and as a back end for POS applications.*

Powerful Image Building for Retail Terminals

Daily operations in modern retail stores might appear to be a pretty small set of standard procedures. IT managers of those stores, however, know all too well that reality is often very different. Corporate acquisitions or changing hardware suppliers might result in an assortment of different terminals that require different hardware drivers or boot procedures. Suburban stores with bad internet connectivity might need different software update procedures from those in large urban centers. International companies might need different software localizations and different payment systems for different locations.

System administrators of retail chains often have to install many different software images in the terminals on their network. SUSE Manager for Retail makes it easy to customize and adapt system images.

The SUSE Manager Server sets up an instance of the open source KIWI image builder. You can use KIWI to create software images for POS clients and other Linux systems. KIWI lets you create as many image templates as you need to handle standard configurations and then customize the images as necessary to accommodate local conditions or specific design requirements. SUSE Manager for Retail augments KIWI with an easy-to-use interface for centralized management and administration of POS images. SUSE Manager for Retail also ships with a collection of pre-configured image templates.

KIWI Image Builder

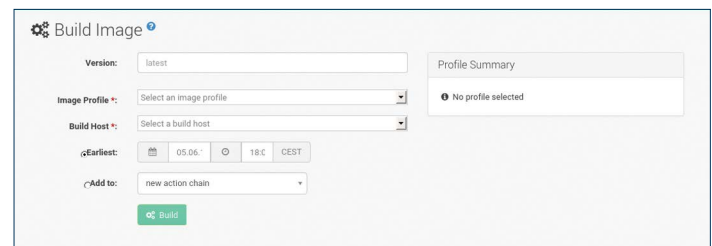


Figure 2. The SUSE Manager Server sets up an instance of the open source KIWI image builder.

User Interfaces

The web-based user interface of SUSE Manager for Retail enables users to move easily among all tasks while keeping a clear view of network resources. A sidebar menu gives constant access to all the high-level functions and components of your network, and it is possible to see the network itself with clusters of stores grouped and connected as they actually are.

SUSE Manager for Retail User Interface

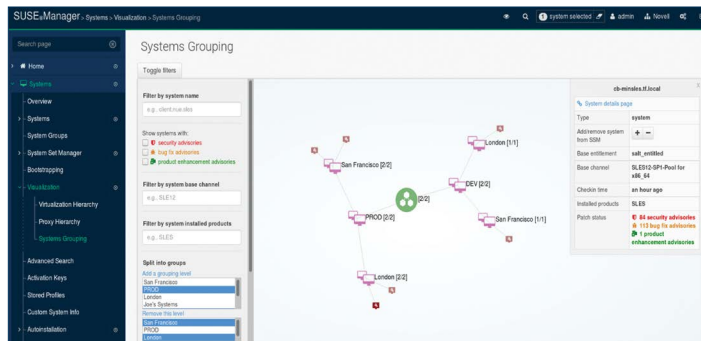


Figure 3.

You can also access a context-sensitive legend for the symbols used by SUSE Manager, breadcrumb navigation, buttons to quickly go back to the top of each window and a dedicated search box for the menu sidebar.

Once you have completed the initial configuration, the System Set Manager (SSM) provides an efficient way to administer many systems simultaneously. After you have selected the systems on which you want to work, the main SSM window gives you quick access (through one set of tabs) to all the controls you need to apply configuration states, schedule patch updates, group or migrate systems and much more.

For those who prefer to work without the web interface, the server command-line tool “spacecmd” offers access to all of the functions of SUSE Manager through a terminal window and supports scripting.

Flexible, Scalable and Efficient

The flexible and efficient SUSE Manager for Retail adapts easily to your needs. Whether you manage a small shop with five POS terminals or a large chain with a thousand branches, SUSE

Manager for Retail will help you configure, administer and expand your infrastructure as your business grows and changes.

You can manage different departments or companies within the same infrastructure—each with different IT requirements. The main administrator can delegate different tasks to different users; you can subdivide the network and provide separate administrators for each subgroup. Or, you can give different admins responsibility for different tasks, such as key activation, images, configuration and software channels.

SUSE Manager for Retail enables you to automate rollout for new branch servers or retail clients using the Salt configuration management system (see the box titled “About Salt”). With the SUSE Manager for Retail web interface, administrators without advanced scripting skills can specify complex system configurations using Salt Formulas and Action Chains.

SUSE Manager for Retail also enables you to manage software updates across the infrastructure in a secure and systematic way. You can configure a software channel for each device type or use case and automate updates through the channel, ensuring that no device receives software from an unauthorized source.

SUSE Manager for Retail isn’t limited to managing devices for retail operations. You can use SUSE Manager for Retail to manage your entire Linux infrastructure, from point-of-sale terminals, to servers, to Linux workstations.

SUSE Manager for Retail Setup

Administrative Roles:	<input checked="" type="checkbox"/> SUSE Manager Administrator
	<input checked="" type="checkbox"/> Organization Administrator
Roles:	<input checked="" type="checkbox"/> Activation Key Administrator - [Admin Access]
	<input checked="" type="checkbox"/> Image Administrator - [Admin Access]
	<input checked="" type="checkbox"/> Configuration Administrator - [Admin Access]
	<input checked="" type="checkbox"/> Channel Administrator - [Admin Access]
	<input checked="" type="checkbox"/> System Group Administrator - [Admin Access]
	Above roles are granted via the Organization Administrator role.
Read-only API user:	<input type="checkbox"/>
	Read-only API users are forbidden from the SUSE Manager web interface.

Figure 4.

About Salt

SUSE Manager for Retail controls all its branch servers and retail terminals by means of the powerful Salt configuration management system. Salt enables you to define a complete configuration for a client system in a descriptive format. A client agent, known as a Salt “minion,” can obtain this information from the Salt master without the need for additional configuration. If the client cannot run an agent, Salt is capable of acting in “agentless” mode, sending Salt-equivalent commands through an SSH connection. The ability to operate in agent or agentless mode is an important benefit for a diverse retail network.

Through the web interface SUSE Manager for Retail, the administrator creates Salt Formulas and Action Chains via simple web forms. Salt Formulas are collections of Salt state files that can describe complex system configurations using parameters that make them reusable for similar but not identical systems. Action chains are sequences of Salt instructions that are executable as if they were a single command. Examples of chainable actions include rebooting the system (even in the middle of a series of configuration steps!), installing or updating software packages and building system images.

Compliance

SUSE Manager for Retail includes tools for managing compliance with internal company policies, as well as external regulations. Use SUSE Manager for Retail to create an inventory of all the systems you want to manage. Once that inventory is available, SUSE Manager for Retail continuously monitors all its clients and reports on any deviation from current patch level or any other compliance requirement.

SUSE Manager for Retail also supports automatic, system-wide configuration of vulnerability scans, using either Common Vulnerabilities and Exposures (CVE) lists or the OpenSCAP framework. You can search for CVE numbers in all patches released by SUSE or generate custom reports of all the machines affected by a specific CVE. You can view the status of all of your Linux-based POSes and other assets at any time and quickly identify the ones that need attention. This feature makes it possible to quickly detect “shadow IT” systems installed or reconfigured without central authorization.

SUSE Manager for Retail System Currency Report

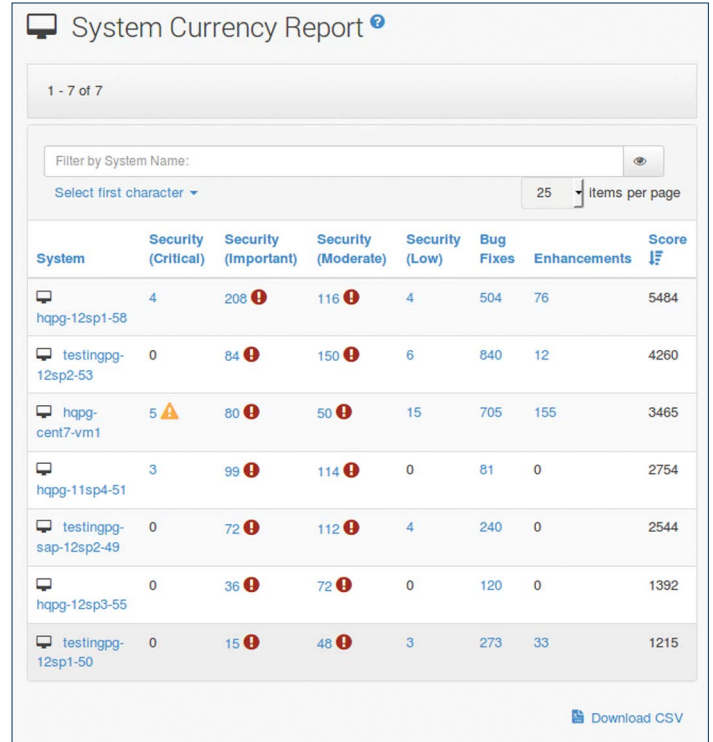


Figure 5.

Conclusion

SUSE Manager for Retail 3.2 is a fully open source solution, optimized and tailored for controlling the whole lifecycle of retail clients from one interface. Administrators can automatically provision, configure, update and monitor every Linux client from centrally managed software sources. SUSE Manager for Retail also enables you to create pre-configured client configurations and customize them as necessary for flexible and efficient rollout of new systems.

SUSE Manager for Retail will help you improve the uptime, compliance and quality of service levels for your retail infrastructure, while preventing lock-in and reducing total cost of ownership.

And SUSE Manager for Retail isn't limited to point-of-service retail environments: you can manage your other Linux assets within the same convenient user interface.

System Requirements

Supported Processor Platforms: Multi-core 64-bit CPU (x86-64; IBM z Systems and LinuxONE; IBM POWER8 or POWER9 processor-based server in Little Endian mode)

RAM: Minimum 4GB for test, 16GB for base installation, 32GB for a production server

Disk Space: Minimum 100GB for root partition; Minimum 50GB for /var/lib/pgsql; Minimum 50GB per SUSE product and 200GB per Red Hat product for /var/pacewalk

To Learn More About SUSE Manager

For detailed product specifications and system requirements, please visit suse.com/products/suse-manager-retail/.

For Uyuni details and development, visit uyuni-project.org.

Additional contact information and office locations:
www.suse.com

www.suse.com

