



Ebook

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SUSE Manager for Retail: Transforming Point of Service

Introduction

You are ready to transform your point-of-service retail environment. But where do you begin? Regardless of your starting point, SUSE Manager for Retail will fit in, delivering security and centralized management – and serving as a pathway to modern technologies such as containers and edge computing.

If you manage a point-of-service (POS) retail infrastructure, you're accustomed to the challenges. On one hand, powerful new technologies present significant opportunities for cost efficiency, better oversight, and greater security. On the other hand, the prospect of the transition, and the complexity of reconfiguring a diverse hardware environment, can be intimidating.

For most organizations, the best way to get unstuck from the counterbalancing demands of the retail industry is to work with a complete solution that starts where you are now. SUSE Manager for Retail is an innovative, open source retail management solution that brings your POS devices into a single, unified environment, delivering all the benefits of state-

of-the-art IT with minimal disruption and maximum flexibility. Regardless of how your retail environment looks right now, with older hardware, hybrid configurations, or disparate technologies, SUSE Manager for Retail can modernize and secure your infrastructure from the core to the store and in the cloud.

Containers are a particularly important recent development in the retail space (see the box entitled "Why Containers?"). Although SUSE Manager for Retail is equally at home in virtual machine (VM) and bare-hardware settings, it has recently been modernized to help retail customers seamlessly embark on their container journey, enabling them to enjoy all the advantages containers bring to their environment.

Why Containers?

A VM is a complete guest operating system running on the host. An application in the VM thinks it is running on real hardware, but instead it is executing on a guest system that is running as a process on the host computer. A container, on the other hand, is not a separate operating system but is something more like a separate, isolated address space (Figure 1). The containers running on a host system share the host kernel and a portion of the host's resources, but they are isolated from each other. They behave as if they are separate systems.

Containers avoid the resource overhead of supporting multiple guest systems and are therefore more efficient than VMs. A container is also fast and easy to spin up when you need it. Containers are extremely portable. Dependencies are typically built into the container, which means the container is ready to work as soon as you launch it.

Containers have become popular in the retail space because of their security, low overhead, and portability. The container environment is ideal for rapid-orchestration scenarios and for deploying pre-built images designed for a single purpose.

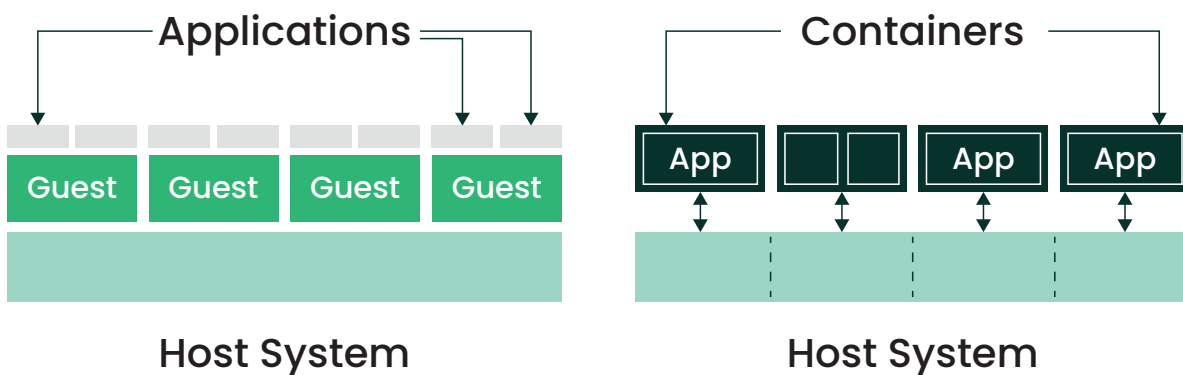


Figure 1: In a VM environment (left), applications run on a complete guest operating system that executes as a process on the host. In a container environment (right), applications run directly on the host, but within an isolated "container" with dedicated resources.

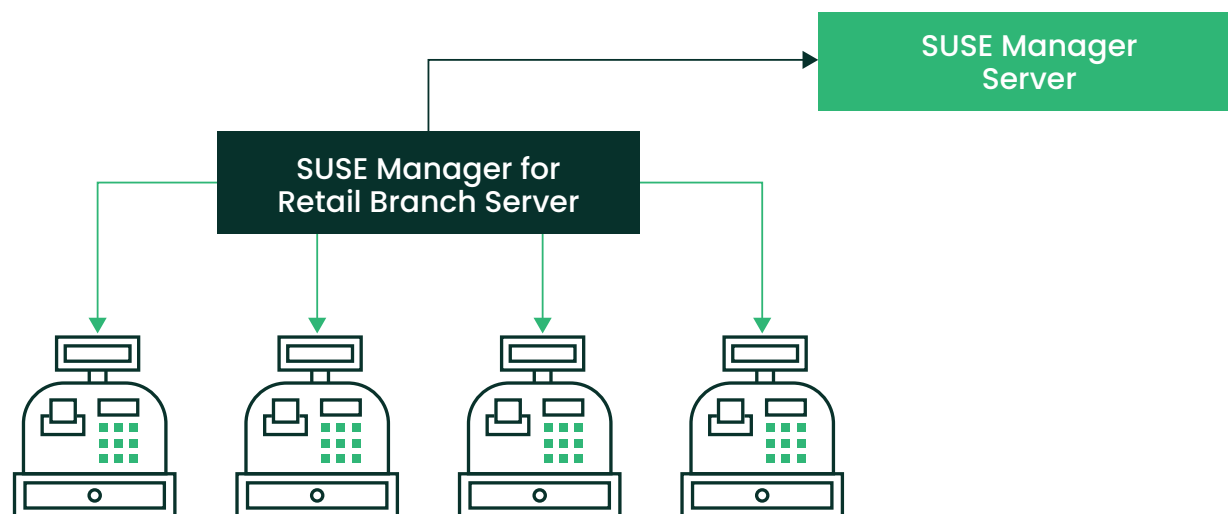


Figure 2: SUSE Manager for Retail offers lifecycle management, automated configuration, and compliance monitoring for POS devices. Your retail network can consist of a single branch office, or it can scale to thousands of nodes in multiple locations.

Inside SUSE Manager for retail

SUSE Manager for Retail manages your retail devices from a single console – giving you a single point of control (Figure 2). You can lock down security and monitor the health of your retail environment from a central location. SUSE Manager for Retail also provides lifecycle management, deploying new client systems and then managing and delivering updates to ensure the systems stay current with bug fixes and security patches. Another benefit is that SUSE Manager for Retail enforces compliance, checking for unauthorized changes that could lead to security issues or operational errors.

SUSE Manager for Retail uses salt to automate installation and remote execution for updates and configuration changes.

Define the configuration and salt will carry out the necessary steps. Declarative configuration with salt improves uniformity, which helps to reduce errors and prevent unseen security problems. You can predefine configurations for specific roles, build in best practices, and avoid reinventing the wheel every time you roll out a system or install an update.

Part of the power of SUSE Manager is its ability to adapt to your infrastructure as *it is right now*. You can use SUSE Manager for Retail to manage an eclectic assortment of POS terminals, kiosks, self-service devices, and reverse-vending systems. SUSE Manager supports client systems running on bare hardware, in a VM environment, or in a containerized setting. Both UEFI and legacy BIOS-based systems are supported. The range of supported hardware means there is a good

chance you'll find a configuration that will work for your systems without the need for expensive hardware upgrades.

SUSE Manager for Retail operates efficiently across a wide range of environments and service scenarios. You can use it for tight control over a single branch or department, or you can scale to multiple locations with thousands of nodes. Take advantage of configuration controls to manage differing network bandwidth constraints.

SUSE Manager for Retail is built for simple, secure management of all your Linux retail assets – whether in the data center or in the store. And the SUSE team is ready to help you design and deploy a configuration that is tuned to the contours of your POS landscape for today and into the future.

Working with containers

Containers let you encapsulate all the dependencies needed to run an application, which adds flexibility, improves portability, and greatly simplifies the rollout and upgrade process. Containers are also known for fast deployment, and containers improve security. The container support built into SUSE solutions is a game changer for many organizations.

Container solutions have received considerable attention recently in the retail space, and many retail organizations have been looking for a pathway to

implementing a containerized environment. SUSE Manager for Retail is designed to serve as an entry point for introducing containers into a retail setting. SUSE Manager for Retail offers a seamless solution for supporting containers, with an easy learning curve and minimal overhead.

The Rancher Prime platform works alongside SUSE Manager. While SUSE Manager for Retail manages the application-level retail environment, Rancher Prime implements and manages the Kubernetes container environment as shown in (Figure 3).

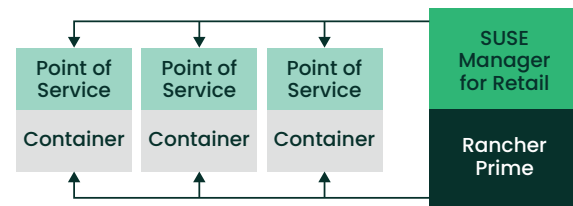


Figure 3: An integrated and simple solution for POS environments: SUSE Manager for Retail locks down client retail systems, and Rancher Prime administers the underlying container infrastructure.

Because the combination of SUSE Manager and Rancher Prime provide a clear path for transitioning to a containerized environment, you can make that transition whenever it works best for your organization. SUSE Manager for Retail also supports legacy systems running on bare metal and VMs, so you can migrate part of your infrastructure to containers and leave the rest in a traditional configuration until the time is right to change.

At the retail edge

SUSE Manager for Retail grows with you as your infrastructure evolves to encompass new technologies – such as edge computing. The goal of edge computing is to bring the compute resources closer to the devices that will access them. In the cloud age, many organizations place compute resources on an Internet-facing server that clients can access remotely. Edge computing takes the cloud concept and makes it local. In other words, you get the power of cloud technology with the simplicity and low-latency of local (or geographically close) compute resources.

The retail environment, which has always had the concept of a branch server managing a local network, is well-suited for edge scenarios. SUSE's Edge technology brings edge computing to the SUSE retail setting. SUSE's solution for retail at the edge includes SUSE Enterprise Linux Micro, an immutable version of SUSE Linux Enterprise optimized for container environments. The core components of SUSE's container toolkit also play a role, with Rancher Prime managing the Kubernetes container system and SUSE Manager for Retail administering SUSE Linux Micro, the POS devices, and the software.

Key to edge deployments are security concerns. SUSE NeuVector provides zero-trust container security. NeuVector enforces risk and vulnerability management, data protection, automated intru-

sion prevention, and policy management – all optimized for container environments at the edge.

SUSE's Edge solutions allow you to keep tight yet flexible control over your POS environment – even if your organization spans multiple locations. You can administer the network from a single remote location and still benefit from local operation at the edge. Provide the flexibility and convenience your customers desire and still enjoy the security and efficiency that your business needs with open source solutions from SUSE. Future-proof your IT operations from the core to the store with purpose-built solutions for exceptional customer experiences.

Start where you are

What are your goals for your retail environment? Are you seeking centralized management for a diverse assortment of devices? Are you looking for a roadmap to implementing containers? Are you exploring the benefits of recent innovations like edge computing?

Whatever your needs, SUSE is ready to help you remove the friction as you take your next steps with consolidating, securing, and extending your retail environment. Our team is ready to work with you to help future-proof your retail business.

Learn more at suse.com/retail or speak to your SUSE Account Executive today.



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