Data Sheet

SUSE Linux Enterprise Micro 5.0
Lightweight and Secure OS Platform for the Edge

Product Overview

SUSE Linux Enterprise Micro 5.0 is a lightweight immutable OS that's optimized for edge use cases - embedded devices, real time applications and industrial IoT. It leverages the enterprise-hardened technology components of SUSE Linux Enterprise and merges that with what developers want from a modern, immutable OS platform. As a result, you get an ultra-reliable infrastructure platform that is also simple to use and comes out-of-the-box with best-in-class compliance.

Furthermore, SUSE's flexible subscription model ensures enterprise assurance for any edge, embedded or IoT deployment without vendor lock-in. Using SUSE Linux Enterprise Micro, you can build and scale differentiating edge systems across a wide range of industries including aerospace, telecom, automotive, defense, healthcare, and manufacturing.

Key Benefits

Tiny Footprint, Enterprise-Grade. SLE Micro is designed with a very small footprint so it can be used in the most diverse edge applications – from industrial IoT to data center capable devices. SLE Micro smartly leverages SLE product family's common code base that has been enterprise hardened across industries over many years. As a result, the OS provides enterprise grade capabilities without compromising on quality or security.

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"Using SUSE Linux Enterprise Micro and the lightweight Kubernetes distribution K3s managed by Rancher, we are excited to implement a maintenance free infrastructure for innovative new cluster concepts for edge devices. With a decentralized approach, we are reducing operational expenses and modernizing application infrastructure by moving applications running on bare metal to a fully managed containerized stack using K3s."

Ottmar Amann
Software Systems, Corporate Research & Development
KRONES AG

Developers love SLE Micro. 100% open source and built using open standards, SLE Micro uses a modular architecture that maximizes developer agility and flexibility in edge use cases. Ease of use and ability to customize is baked in the design. You can easily customize SLE Micro for your specific application environments, build images, configure, deploy, update, and automate as per your needs.

Mission-Critical by Design. Edge applications are deployed in a wide range of environments that require high availability, remote monitoring, and infrequent changes to the infrastructure. Handling of updates is critical in such scenarios. SLE Micro is designed to provide an immutable infrastructure that is developer friendly and easy to manage. Transactional update design ensures the updates can be applied in a failsafe manner and when something goes wrong it is easy to rollback to a good configuration. In addition, with the assurance of industry's longest product lifecycle support, you can deploy systems that are designed to last a very long time.

Perfect for Containers. SLE Micro is built from ground up to support containers and microservices. Workloads are isolated from the core filesystem to guard against malicious applications compromising the system.

Key Features

Immutable OS. SLE Micro is a lightweight immutable OS that's optimized for edge use cases. Its immutable design ensures OS is not altered during runtime and runs reliably every single time.

Small Footprint and Modular Architecture. SLE Micro's tiny footprint is 3x smaller than SLES without compromising on enterprise-grade security or quality. SLE Micro's modular architecture maximizes developer agility and flexibility. You can start with just the

Linux kernel and add required modules to create a custom image (using KIWI, Open Build Service, and SUSE SolidDriver Program) that is tailored for your edge application. You have full control over the footprint of the OS image.

Security and Compliance.

- **Built-in security framework.** Includes fully supported security framework – SELinux with policies. SELinux provides a mechanism for supporting access control security policies, including United States Department of Defense-style mandatory access controls (MAC). Container runtime (podman) is adjusted to support auto-generation of SELinux policies for container workloads.
- **Secure updates.** Updates are always security signed and verified. Additionally, the updates are easy to rollback if an update fails or is not needed.
- **Certifications.** SLE Micro leverages SLE common code base, to provide FIPS 140-2, DISA SRG/STIG, integration with CIS and Common Criteria certified configurations.
- SUSE has over 25+ years of deep US Federal Government experience delivering core platform and collaboration technology for the public sector worldwide. SLE Micro, part of SLE product family, provides same level of security to meet the defense mission-critical requirements.

Long Term Support. SLE Micro is prepared to support long product lifecycles.

Aiming for Zero Maintenance. SLE Micro is built with the goal of zero maintenance. All routine maintenance functions like patches, updates, config changes are designed to be seamless for the system administrator.

Automate Deployments.

- You can provision and install OS image without reboot using YOMI or AutoYaST YOMI is the new installer introduced with SLE Micro. It is designed as a SaltStack state and uses YaML based configuration files that makes it easy to perform mass configurations.
- Use Ignition to automate the initial configuration.

Reliable Updates.

- **Secure download.** Updates are always downloaded using https.
- **Signed.** Packages and repositories are security signed – Intruder cannot exchange good, new packages with old or insecure packages.
- **Verified.** Packages are verified before usage. System is not updated if conflicts occur. Snapshots get immediately deleted if updates terminate with an error.
- **Transactional updates.** Each update is atomic and uses transactional update technology. Transactional updates along

with rollback provide a fail-safe environment. Using Btrfs with snapshots provides a very space efficient method. The updates are flexible - no new package format is necessary and no size limitation for partition or OS. The transactional update process also can be enhanced to perform additional tasks during installation of updates.

Health Check.

Built-in health checks ensure an optimized run time environment. Automated checks are done for errors during booting and snapshots. When error is detected, you have multiple options, such as rollback to working snapshot, reboot, or inform administrator. The health checks can also be easily extended by user supplied plugins and scripts. So, you can customize the health checks as per your needs.

Architectural Flexibility.

You have flexibility in choosing the right hardware platform for your edge applications. SLE Micro supports x86-64 as well as Arm 64bit architectures, so you can deploy edge applications with confidence across multiple architectures.

Real Time Support. Real time kernel is optional on x86-64. Real time kernel can be used for real time applications.

Containers. SLE Micro is built from ground up to support containers and microservices. All applications/workloads are run as containers and separated into dedicated containers. This provides several advantages – new installation of workloads can be done without reboot, atomic updates are easier to support (create new workload, kill old workload) and it is easy to rollback when an update or configuration change goes wrong. From security perspective, workloads are isolated from the core filesystem to guard against malicious applications compromising the system. Container runtime (podman) is adjusted to support auto-generation of SELinux policies for container workloads.

System Requirements

- Minimum: 1 GB RAM, 12 GB HDD
- Recommended: HDD 20GB for system + 40GB for storing containers

Note: RAM requirement depends on workloads.

Supported processor platforms

- x86-64 (Intel 64, AMD 64)
- AArch64 (Arm)

For detailed product specifications and system requirements, visit: https://www.suse.com/products/micro and https://documentation.suse.com/sle-micro/5.0

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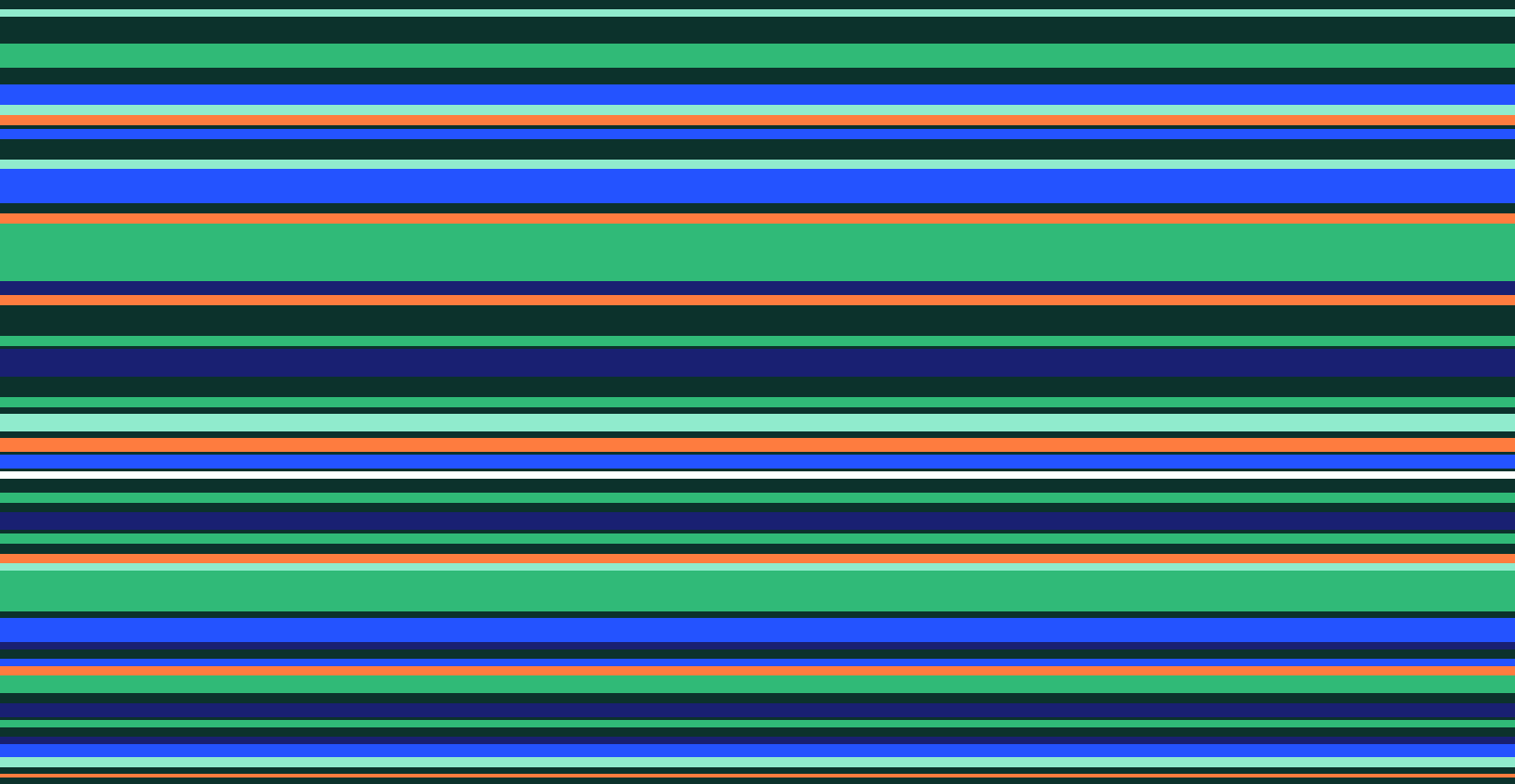

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