

Upgrading SUSE Linux Micro from Previous Releases

WHAT?

This document offers a comprehensive guide to upgrading SUSE Linux Micro from previous versions to the latest version, detailing the preparatory steps, upgrade process, and potential rollback options.

WHY?

You want to have the new release of SUSE Linux Micro.

EFFORT

It takes approximately 20 minutes to read the article.

GOAL

A new running release of SUSE Linux Micro.

REQUIREMENTS

- A registered SLE Micro version 5.5 or 6.0
- NetworkManager as the network managing service

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1 Introduction to the upgrade procedure

SUSE supports upgrades between two releases of SUSE Linux Micro. Whether it is better to upgrade or perform a fresh installation depends on your specific scenario. While upgrades involve less work, fresh installations ensure you benefit from all the new features of a release, such as disk layout changes, specific filesystem features, and other improvements. To get the most out of your system, SUSE therefore recommends fresh installations in most scenarios.

SUSE releases a new version of SUSE Linux Micro twice a year and the product comes with 4 years of general support (for details regarding SUSE Linux Micro lifecycle, refer to <https://www.suse.com/lifecycle>).

SUSE Linux Micro uses *transactional updates* to upgrade from one version to the next. This has the following advantages:

- Canceling is possible until you reboot your system.
- Simple recovery if there is an error.
- Possible “rollback” via system tools—no backup or restore needed.
- Use of all active repositories.

2 Preparing SUSE Linux Micro for upgrade

Before you start the upgrade procedure of SUSE Linux Micro, you need to perform checks as described in this section.

2.1 Identify the SUSE Linux Micro version

To check the SUSE Linux Micro version, view the file `/etc/os-release`. Machine-readable XML output is available with `zypper`:

```
> sudo zypper --no-remote --no-refresh --xmlout --non-interactive products
-i

<?xml version='1.0'?>
<stream>
<message type="info">Ignoring repository 'SLE-Micro-5.5-Debuginfo-Pool' because of 'no-remote' option.</message>
```

```
<message type="info">Ignoring repository 'SLE-Micro-5.5-Debuginfo-Updates' because of
'no-remote' option.</message>
<message type="info">Ignoring repository 'SLE-Micro-5.5-Pool' because of 'no-remote'
option.</message>
<message type="info">Ignoring repository 'SLE-Micro-5.5-Source-Pool' because of 'no-
remote' option.</message>
<message type="info">Ignoring repository 'SLE-Micro-5.5-Updates' because of 'no-remote'
option.</message>
<message type="info">Loading repository data...</message>
<message type="info">Reading installed packages...</message>
<product-list>
<product name="SLE-Micro" version="5.5" release="1" epoch="0" arch="x86_64" vendor="SUSE"
summary="SUSE Linux Enterprise Micro 5.5" repo="@System" productline="SLE-Micro"
registerrelease="" shortname="SUSE Linux Enterprise Micro" flavor="" isbase="true"
installed="true"><endoflife time_t="1809043200" text="2027-04-30T00:00:00Z"/
><registerflavor/><description>SUSE Linux Enterprise Micro 5.5</description></product>
</product-list>
</stream>
```

2.2 Read the release notes

Find a list of all changes, new features, and known issues in the [release notes \(https://www.suse.com/releasenotes/\)](https://www.suse.com/releasenotes/).

The release notes usually only contain the changes between two subsequent releases.

Check the release notes to see whether:

- your hardware needs special considerations
- any used software packages have changed significantly
- special precautions are necessary for your installation

2.3 Register the machine

On registration, the system receives repositories from the SUSE Customer Center (see <https://scc.suse.com/>) or a local registration proxy like SMT. The repository names map to specific URIs in the customer center. To list all available repositories on your system, use **zypper** as follows:

```
# zypper repos -u
```

This gives you a list of all available repositories on your system. Each repository is listed by its alias, name and whether it is enabled and will be refreshed. The option `-u` also gives you the URI from where it originated.

To register your machine, run the `transactional-update` command as follows:

```
> sudo transactional-update register -r REGCODE
```

To check your locally installed products and their status, use the following command:

```
# SUSEConnect -s
```

2.4 Update the system

Upgrading the system is only supported from the most recent patch level. Make sure the latest system updates are installed by running:

```
> sudo transactional-update patch
```

2.5 Make a backup

Before upgrading, back up your data by copying the existing configuration files to a separate medium (such as tape device or removable hard disk). This primarily applies to files stored in `/etc` and some directories and files in `/var` and `/opt`. You may also want to write the user data in `/home` (the `HOME` directories) to a backup medium.

Back up all data as `root`. Only `root` has sufficient permissions for all local files.

2.6 Check disk size

Software tends to grow from version to version. Therefore, take a look at the available partition space before updating. If you suspect you are running short of disk space, back up your data before increasing the available space by resizing partitions, for example. There is no general rule regarding how much space each partition should have. Space requirements depend on your particular partitioning profile and the software selected.

On a Btrfs file system, the output of `df` can be misleading, because in addition to the space the raw data allocates, a Btrfs file system also allocates and uses space for metadata.

Consequently, a Btrfs file system may report being out of space even though it seems that plenty of space is still available. In that case, all space allocated for the metadata is used up.

Make sure there is enough free space as the root file system uses Btrfs and might consume a significant amount of space. Check the available space on all mounted partitions. In the worst case, an upgrade needs as much disk space as the current root file system (without `/.snapshot`) for a new snapshot.

The following recommendations have been proven:

- For all file systems, including Btrfs, you need enough free disk space to download and install big RPMs. The space of old RPMs is only freed after new RPMs are installed.
- For Btrfs with snapshots, ensure you have at least as much free space as your current installation requires. We recommend having twice as much free space as the current installation. If you do not have enough free space, you can try to delete old snapshots with `snapper`:

```
> sudo snapper list  
> sudo snapper delete NUMBER
```

However, this may not help in all cases. Before migration, most snapshots occupy only little space.

2.7 Shut down virtual machine guests

If your machine serves as a VM Host Server for KVM, make sure to properly shut down all running VM Guests prior to the update. Otherwise, you may not be able to access the guests after the update.

3 Upgrading to a new release

Before starting the upgrade procedure, make sure the following requirements are met:

Internet connection

Make sure that your machine has a network connection throughout the entire upgrade process.

SLE Micro 5.5 or 6.0

The upgrade to 6.1 is possible only from the 5.5 or 6.0 versions.

To start the upgrade process, proceed as follows:

1. Run the command:

```
> sudo transactional-update migration
```

Invoking the command creates a new snapshot and refreshes the repositories.

2. Enter the number of the migration target.
3. A list of packages to be changed is displayed. Press y to continue.
4. If the process completes successfully, reboot your machine:

```
> sudo reboot
```



Note: Failed upgrade

If the upgrade procedure fails, you can roll back your system to a previous snapshot. Refer to the [rollback procedure \(https://documentation.suse.com/smart/systems-management/html/transactional-updates-marble/index.html#tr-up-rollback\)](https://documentation.suse.com/smart/systems-management/html/transactional-updates-marble/index.html#tr-up-rollback).

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