NAME

systemd-gpt-auto-generator − Generator for automatically discovering and mounting root, /home and /srv partitions, as well as discovering and enabling swap partitions, based on GPT partition type GUIDs.

SYNOPSIS

/lib/systemd/system−generators/systemd−gpt−auto−generator

DESCRIPTION

systemd−gpt−auto−generator is a unit generator that automatically discovers root, /home, /srv and swap partitions and creates mount and swap units for them, based on the partition type GUIDs of GUID partition tables (GPT), see **UEFI Specification**[1], chapter 5. It implements the **Discoverable Partitions Specification**[2]. Note that this generator has no effect on non−GPT systems, or where the directories under the mount points are already non−empty. Also, on systems where the units are explicitly configured (for example, listed in **fstab(5)**), the units this generator creates are overridden, but additional implicit dependencies might be created.

This generator will only look for root partitions on the same physical disk the EFI System Partition (ESP) is located on. It will only look for the other partitions on the same physical disk the root file system is located on. These partitions will not be searched for on systems where the root file system is distributed on multiple disks, for example via btrfs RAID.

systemd−gpt−auto−generator is useful for centralizing file system configuration in the partition table and making configuration in /etc/fstab unnecessary.

This generator looks for the partitions based on their partition type GUID. The following partition type GUIDs are identified:

Table 1. Partition Type GUIDs

Partition Type GUID	**Name**	**Explanation**
44479540−f297−41b2−9af7−d131d5f0458a	Root Partition (x86)	On 32−bit x86 systems, the first x86 root partition on the disk the EFI ESP is located on is mounted to the root directory /.
4f68bce3−e8cd−4db1−96e7−fbcaf984b709	Root Partition (x86−64)	On 64−bit x86 systems, the first x86−64 root partition on the disk the EFI ESP is located on is mounted to the root directory /.
69dad710−2ce4−4e3c−b16c−21a1d49abed3	Root Partition (32−bit ARM)	On 32−bit ARM systems, the first ARM root partition on the disk the EFI ESP is located on is mounted to the root directory /.
b921b045−1df0−41c3−af44−4c6f280d3fae	Root Partition (64−bit ARM)	On 64−bit ARM systems, the first ARM root partition on the disk the EFI ESP is located on is mounted to the root directory /.
993d8d3d−f80e−4225−855a−9daf8ed7ea97	Root Partition (Itanium/IA−64)	On Itanium systems, the first Itanium root partition on the disk the EFI ESP is located on is mounted to the root directory /.
933ac7e1−2eb4−4f13−b844−0e14e2aef915	Home Partition	The first home partition on the disk the root partition is located on is mounted to /home.
3b8f8425−20e0−4f3b−907f−1a25a76f98e8	Server Data Partition	The first server data partition on the disk the root partition is located on is mounted to /srv.
0657fd6d−a4ab−43c4−84e5−0933c84b4f4f	Swap	All swap partitions located on the disk the root partition is located on are enabled.
c12a7328−f81f−11d2−ba4b−00a0c93ec93b	EFI System Partition (ESP)	The first ESP located on the disk the root partition is located on is mounted to /boot or /efi, see below.

This generator understands the following attribute flags for partitions:

Table 2. Partition Attributes

Name	Value	Applicable to	Explanation
GPT_FLAG_READ_ONLY	0x1000000000000000	/, /srv, /home	Partition is mounted read−only
GPT_FLAG_NO_AUTO	0x8000000000000000	/, /srv, /home	Partition is not mounted automatically
GPT_FLAG_NO_BLOCK_IO_PROTOCOL	0x0000000000000002	ESP	Partition is not mounted automatically

The /home and /srv partitions may be encrypted in LUKS format. In this case, a device mapper device is set up under the names /dev/mapper/home and /dev/mapper/srv. Note that this might create conflicts if the same partition is listed in /etc/crypttab with a different device mapper device name.

Mount and automount units for the EFI System Partition (ESP) are generated on EFI systems. The ESP is mounted to /boot, unless a mount point directory /efi exists, in which case it is mounted there. Since this generator creates an automount unit, the mount will only be activated on−demand, when accessed. On systems where /boot (or /efi if it exists) is an explicitly configured mount (for example, listed in **fstab(5)**) or where the /boot (or /efi) mount point is non−empty, no mount units are generated.

When using this generator in conjunction with btrfs file systems, make sure to set the correct default subvolumes on them, using **btrfs subvolume set−default**.

systemd−gpt−auto−generator implements **systemd.generator(7)**.

SEE ALSO

systemd(1), **systemd.mount(5)**, **systemd.swap(5)**, **systemd-fstab-generator(8)**, **systemd-cryptsetup@.service**(8), **cryptsetup(8)**, **fstab(5)**, **btrfs(8)**

NOTES

1. UEFI Specification
   http://www.uefi.org/specifications
2. Discoverable Partitions Specification
   https://www.freedesktop.org/wiki/Specifications/DiscoverablePartitionsSpec/