Running PulseAudio as System-Wide Daemon

Starting with PulseAudio 0.9.3 the daemon can be run as a system-wide instance which than can be shared by multiple local users. We recommend running the PulseAudio daemon per-user, just like the traditional ESD sound daemon. In some situations however, such as embedded systems where no real notion of a user exists, it makes sense to use the system-wide mode.

Before you now go ahead and use it please read about what is wrong with system mode.

To run PulseAudio in system-wide mode, start it as `root` and pass the `--system` argument to it. It will then drop priviliges and change to the `pulse` UNIX user and group. The directory `/var/run/pulse/` is used as home directory. In this mode the module `module-native-protocol-unix` will automatically allow access to all members of the group `pulse-access`. All user/group names and paths can be changed by passing compile-time arguments to `configure`. The system user `pulse` and the groups `pulse` and `pulse-access` need to be created manually. On Debian this works like this:

```
addgroup --system pulse
adduser --system --ingroup pulse --home /var/run/pulse pulse
addgroup --system pulse-access

# Some distributions restrict access to the sound devices to a group audio
adduser pulse audio

# Add a user to the pulse-access group
adduser lennart pulse-access
```

The runtime directory `/var/run/pulse` is created automatically on daemon startup. This directory contains the .esd_auth file, which is the authentication cookie for esound. If you want to use esound without disabling authentication, create a symlink from this file in your home directory:

```
ln -sf /var/run/pulse/.esd_auth ~/.esd_auth
```

Please note that creating these groups/users is not necessary when running the PulseAudio in the traditional per-user setup

Running PulseAudio in system-wide mode has some limitations:

- All users with access to the sound server cann kill/modify all sinks/sources and streams of all other connected clients
- There is only a single namespace for cached sound samples, i.e. there can be only a single Gnome event sound profile active at the same time

It has some disadvantages:

- Worse security, because the user can now command a server app running under another user name. He could even load/unload modules from that sound server

- Settings like the stored volume levels managed by `module-volume-restore` are no longer per-user but system-wide

Read more about what is wrong with system mode.

If the system-wide mode is enabled it is advisable to disable module loading during runtime by passing `--disallow-module-loading` to the daemon, to inhibit the user from loading arbitrary modules with potentially vulnerable code into the daemon. However, this might break some modules like `module-hal-detect` which will load a sound driver module each time HAL signals that a new sound card became available in the system.