Platform Profile Selection (e.g. /sys/firmware/acpi/platform_profile)

On modern systems the platform performance, temperature, fan and other hardware related characteristics are often dynamically configurable. The platform configuration is often automatically adjusted to the current conditions by some automatic mechanism (which may very well live outside the kernel).

These auto platform adjustment mechanisms often can be configured with one of several platform profiles, with either a bias towards low power operation or towards performance.

The purpose of the platform_profile attribute is to offer a generic sysfs API for selecting the platform profile of these automatic mechanisms.

Note that this API is only for selecting the platform profile, it is NOT a goal of this API to allow monitoring the resulting performance characteristics. Monitoring performance is best done with device/vendor specific tools such as e.g. turbostat.

Specifically when selecting a high performance profile the actual achieved performance may be limited by various factors such as: the heat generated by other components, room temperature, free air flow at the bottom of a laptop, etc. It is explicitly NOT a goal of this API to let userspace know about any sub-optimal conditions which are impeding reaching the requested performance level.

Since numbers on their own cannot represent the multiple variables that a profile will adjust (power consumption, heat generation, etc) this API uses strings to describe the various profiles. To make sure that userspace gets a consistent experience the sysfs-platform_profile ABI document defines a fixed set of profile names. Drivers *must* map their internal profile representation onto this fixed set.

If there is no good match when mapping then a new profile name may be added. Drivers which wish to introduce new profile names must:

1. Explain why the existing profile names canot be used.
2. Add the new profile name, along with a clear description of the expected behaviour, to the sysfs-platform_profile ABI documentation.