Recent Updates to UPS
LArSoft Coordination Meeting
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The problem we're fixing

Up through version 5.x, `ups` has used the system's kernel version as part of its identification of the operating system and version: the *flavor*. This yields UPS flavors like:

OS	UPS flavor
SLF6	Linux64bit+2.6-2.12
SL7	Linux64bit+3.10-2.17
macOS Sierra	Darwin64bit+16.7.0

The kernel version is not really relevant, and can cause trouble:

- if the machine has an "unusual" kernel version, or
- if you're running in a container (where the kernel is supplied by the host, not the container)

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The solution

The solution is to *ignore the kernel version* when doing comparisions on Linux systems. We also decorate the flavor to include the result of `lsb_release -a`. This is implemented in `ups 6.x`.

Example: We build SLF6 products with flavor `Linux64bit+2.6-2.12`. On a machine with an "unusual kernel", `ups flavor -4` might report `Linux64bit+3.10-2.12` or `Linux64bit+3.18-2.12`.

With the new ups, the `setup` facility will match this *ignoring the kernel version*, and so it will find the `Linux64bit+2.6-2.12` product, as we want it to.

Furthermore, we make use of the fact that ups already has a smart algorithm for matching *parts* of flavor names. This gives us a mechanism to handle a (potential) future collision, if it happens that two different Linux releases that are not compatible use the same `glibc` version.

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The solution (continued)

If there is a future collision, we can release products with the longer form of their flavor, and that longer form will match preferentially to the shorter form.

On Darwin-based systems, there is no change to the matching policy, because none is needed.

We have also proposed that the `lsb-core` RPM be included in all Fermilab installations of Scientific Linux, so that we can rely upon it in support scripts.

Note that `cetbuildtools`, `mrb`, `cetpkgsupport` have been updated to deal with this.

Anything that explicitly uses `ups flavor` will need to be checked: use `ups flavor -4` instead to get the same answer, if needed.

All details at: https://cdcvs.fnal.gov/redmine/projects/ups/wiki/Linux_Flavor_Change_Proposal.

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