UK Submission for Linux Study Group Meeting

A standard is a contract between vendors and customers. It sets a floor under the facilities that a vendor must provide and a ceiling on the features which customers can reliably expect. It emphatically does not prohibit vendors from adding extensions which improve on the standard, nor does it mandate that a standards-compliant environment is the only one which can be supported.

In the past there existed several competing standards bodies for Unix-derived and Unix-like operating systems. This competition among standards sowed confusion and doubt and served to fragment and reduce the market for these operating systems. The Austin Group's achievement in harmonizing Posix and Unix standards has greatly reduced the past harmful competition through incompatibility. A new project for removing conflicts and increasing commonality between these standards and Linux would further benefit the user community. It would be undesirable for two ISO standards to specify different behaviour for the same interfaces.

Linux is not the only Open Source operating system which is substantially compatible with Posix; FreeBSD and additional BSD variants are widely used. We think that the existence of ISO standards relating to common practice in these Open Source operating systems would add value to the commercial market for these products, because some government and corporate procurement guidelines mandate compliance with standards and also because it increases the opportunity for vendors to market shrink-wrapped applications.

Any action by JTC1 or SC22 which would appear to emphasise the difference between Posix on the one hand and Linux, FreeBSD, or similar operating systems on the other, would be detrimental to vendors and users of these systems. Any action by JTC1 or SC22 which appeared to mandate a divergence between an ISO standard and the mainstream of Open Source operating system standards would immediately render the ISO version irrelevant.

The Open Source community already has a vigorous, albeit somewhat informal, process for creating consensus-based standards. Any new Working Group must join in these efforts with whole-hearted cooperation. As a practical matter, all relevant base documents come from this community and their expertise is vital for future maintenance and development of such a standard. If JTC1 or SC22 is to act in this space it will need to reach consensus of all parties to be successful.

An initial iteration may well take the form of an LSB document submitted through the PAS process for adoption as an ISO standard. However, future maintenance of the standard must include active participation by both the Open Source community and members of any Working Group. Without involvement on an ongoing basis, national

bodies will lack the expertise to review and comment on future versions under ballot. JTC1 directives on fast-track approval of standards specify:

> 13.13 If the proposed standard is accepted and published, its maintenance will be handled by JTC1.

The Austin Group is a successful model of how a WG using JTC1 process can cooperate with another standards group and a commercial consortium to produce a standard in a timely manner. Members of the Open Source/Linux community have been active in these efforts, and future participation should be encouraged. The Austin Group philosophy of "write once, adopt everywhere", delivering vendor-neutral specifications endorsed by all participating standards bodies, should emphatically be continued into any project involving Linux. ISO representatives should cooperate with other technical experts (from the Free Standards Group or other organisations) to develop standards with identical normative content, only differing in their title pages and administrative process for adoption.

Standards efforts already underway in the Linux world have a wider scope than Posix -- wider even than Linux itself, in fact, since some vendors implement Linux compatibility in non-Linux operating systems. Some aspects of Linux standardisation include user interfaces and desktop objects, areas on which the Posix documents are silent. It is not urgent for JTC1 to endorse the complete range of Linux standards immediately. The perceived benefit of an ISO standard is its stability, based on international consensus, which may take time to develop.

It is the position of the UK that if JTC1 decides to pursue wider standardization of operating system interfaces, a single Working Group under SC22 should have responsibility for the full range of effort. Either a new work project can be initiated for WG15 or a new WG can be chartered to succeed it. The Austin Group has a proven track record in achieving consensus for harmonized standards and should be included in future endeavours.

There are numerous topics on which an SC22 Working Group could start a project. If Application Binary Interfaces are to be part of this effort, then one subject where early efforts could profitably be focused is a standardised development toolkit for building portable shrink-wrapped binary applications. Another area it is important to concentrate on is the removal of conflicts between those interfaces specified by Linux standards and those already specified by ISO standards. This could result in extending current ISO standards with stable interfaces coming from Open Source experience. Compromise is a necessary part of building consensus to a level where standards become a reliable basis for commerce.