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applicable to many organizations (in the same industry), and hence are possibly not precisely what any specific individual organization needs. They address the broad consensus of the industry, from which there is usually deviation when you look at individual organizations whose needs range further.

Standardized Profiles are formal balloted documents. POSIX SPs are the subset of standardized profiles that pertain to the POSIX base standards. While not limited to just POSIX base standards, POSIX SPs nonetheless provide a distinctly POSIX-oriented view of the base standards.

An organization wishing to procure a "POSIX" based system, then, could first develop its own organization-specific profile, which it could base on POSIX-oriented industry-specific profiles (if available), which in turn could be based on POSIX SPs, which of course are based on the various POSIX base standards.

POSIX SPs provide an industry-neutral building block for creating industry specific profiles. The developers of POSIX SPs do not have to have knowledge of any particular industry. They furthermore help ensure coherence among the many base standards referenced, particularly among the various POSIX base standards. As such, probably, most POSIX SPs will be created by the IEEE POSIX working groups meeting concurrently with IEEE POSIX base standards working groups. Meeting concurrently at the same place helps ensure the coherence of the base standards and the harmony among the POSIX SPs.

## A.4 Special Rules for POSIX SPs

While no rules have yet been developed by IEEE for POSIX SPs, the remainder of this annex gives examples of what such rules might say and identifies some issues for which rules might be drafted.

The following criteria for calling a profile a POSIX SP were developed according to some general principles that have the aim of giving definite value to the word "POSIX" when used with regards to profiles. The general principles are:

(1) There is minimum content. Specifically, a POSIX SP must reference some part of the suite of POSIX base standards. (Which part specifically is contentious.)

(2) The POSIX SP must follow a specific approach to conformance (specifically the P1003.3.1 test methodology.)

(3) The POSIX SP must adhere to the POSIX Reference Model.

(4) There is maximum content; i.e., some consideration must be given to how the POSIX SP goes beyond the POSIX OSE as described in this guide.

(5) Exceptions to the previous principles are expected, requiring a rule-making and enforcement body to make those exception decisions.

POSIX SPs are Standardized Profiles that are related to "POSIX." This subclause specifies the rules that need to be followed that distinguish POSIX SPs from "Non-POSIX SPs".

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Each POSIX SP is based on, and shall include, one of the following two base standards sets:

(1) POSIX .1 {2}or POSIX. 2 (as verified by the P1003.3 methodology), or

(2) A particular subset of POSIX .1 {2}and P1003.4 that is being specified for a Minimal Realtime profile (as verified by the P1003.3 methodology.)

Additionally, each POSIX SP adheres to the structure defined by the POSIX OSE reference model.

An approved POSIX SP shall make reference only to base standards identified in this guide (1003.0) as being part of the POSIX OSE. Two specific exceptions to this general rule are allowed for as described here:

(1) Reference can be made to required base standards that are clearly outside of the scope of the POSIX OSE. Examples of the functionality that may require the use of this expedient are:

— Physical connectors

— Electrical characteristics

— Safety requirements

Such reference to items outside the scope of the POSIX OSE shall be justified on a case-by-case basis. It shall be accompanied by details of the body responsible for the distribution and maintenance of the referenced base standard.

(2) Reference can be made to required base standards that are being proposed for inclusion in a future version of the guide. Examples of this would be specification of a later version of a base standard that is already included within the POSIX OSE , or of an additional programming language base standard, not yet included within the POSIX OSE.

In such cases, the POSIX SP should be identified as a POSIX Preliminary SP and the specific references should be clearly noted and justified on a case by case basis.

A POSIX Preliminary Standardized Profile (POSIX Preliminary SP ) is a POSIX SP that satisfies all requirements of a POSIX SP except that it is not a subset of the POSIX OSE. [It therefore contains at least one standard or profile that is outside the POSIX OSE. It is expected that application would be made to POSIX. 0 to include the standard(s) or profile(s) in the POSIX OSE. ]

A further restriction of POSIX SP s is the necessity to (normatively) reference only standards that are recognized by the IEEE. This is limited to IEEE and ISO standards.

Approval of a POSIX SP shall not change the status of any documents referenced by it.

The development of a POSIX SP may indicate the need to modify or to add to the requirements specified in a base standard. In this case, it is necessary for the POSIX SP developer to liaise with the body responsible for that base standard so

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that the required changes may be made through established methods such as defect reporting, amendment procedures, or the introduction of new work.

## A.5 Other Issues

A significant number of issues remain to be addressed concerning the management of POSIX SP development. Some of the issues and the concerns are summarized here.

### Coherence

The insurance of coherence among the many base standards referenced by a profile has been found by profile writers to be an onerous task. The profile writer's burden could be eased significantly if base standards writers address coherence at the outset. Specifically, all the P1003.x base standards should be developed to maximize their coherence. This is seen as a management issue for D TCOS-SEC, the sponsoring body of the P1003.x standards.

### Conformance

The development of conformance statements and test methods for profiles is a significant challenge for profile writers. The challenge is most acute in the area of conformance of standards that are being developed outside of P1003. A premise for the profile writing rules associated with conformance must be that the profile writers are not really experts in the referenced standards. Profile writers (especially at this early period in their development) must not be overburdened with untested conformance writing rules. A possible solution is to create a new project under the auspices of P1003.3 to actually generate new test methods and actually write the necessary assertions for the first profile. (This approach was used also for the initial POSIX base standard.)

### Base Standards Working Groups

Because profile writers are in some sense the customers of base standards, it is important for base standards writers to address with priority and urgency the gaps identified in the development of POSIX SPs.

### Scope and Number of POSIX SPs

How many different POSIX SPs are appropriate and how broadly ranging should be their scope? Should POSIX SPs be rather narrowly focused, spanning just a few base standards, or should they address a large number of base standards?

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