

## SGFS Issues List

Subject: Issues List for future development of ISO/IEC TR 10000

Date: June 1992

Standing document: SGFS SD-7

This is a progression of documents SGFS N432 (Issues List for future development of ISO/IEC TR 10000-1, issues 1-14) and SGFS N439 (SGFS Subgroup Meeting Issues List, issues renumbered from 1-13 to 15-27) with respect to outstanding issues for the development of TR 10000. The issues considered to be still open are in chapter 1, the closed issues in chapter 2.

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## **Chapter 1: Open Issues**

### **Issue 2 Protocol profile testing methodology**

[Original source: SGFS/N230]

N179 SC21 liaison statement

Superseded by later developments:

N213 Confirms that SC21 WG1 will address this subject in ISO/IEC 9646.

N233 Confirms that SGFS accepts this.

N435 (SC21 N6191) indicates that when ISO/IEC 9646-6 reaches DIS status in 1992, amendments will be needed to remove material on profile conformance from TR 10000. S-liaisons with SC21 WG1 will contribute directly to the development of ISO/IEC 9646.

Query: Should only protocol profiles be considered?

N349 indicates that TR 10183 covers implementation testing methodology for ODA Profiles, and TR 10000-1.2 refers to this.

Testing methodology for other classes of F-profile and for R-profiles has not yet been raised in any contributions to SGFS.

This issue remains OPEN until adequate reference to stable ISO/IEC 9646 text can be made.

#### Updates after the June 1992 SGFS Meeting

N587 SC21 N7074: Liaison Statement on Conformance Testing

N594 SC18 N3595: Liaison Statement on Standardization of Profile Test Specifications

This issue remains OPEN until adequate reference to stable ISO/IEC 9646 text can be made.

### **Issue 4 Conformance**

[Original source: SGFS/N230]

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N238 Issues raised by SC21 WG1 (ref to N213)

N288 –N292 Output documents from Nov 1990 Ad Hoc SGFS meeting.

This topic, along with issues 2 and 10, is now the responsibility of SC21 WG1 and is being progressed there with the assistance of direct S-liaison activity. See N435 for current SC21 position. This will, when the associated work in ISO/IEC 9646 is stable, result in the editing of clauses 6 and 8, and the removal of Annex C from TR 10000-1. The issue therefore remains OPEN.

### Updates after the June 1992 SGFS Meeting

N587 SC21 N7074: Liaison Statement on Conformance Testing

N594 SC18 N3595: Liaison Statement on Standardization of Profile Test Specifications

This issue remains OPEN until adequate reference to stable ISO/IEC 9646 text can be made.

### **Issue 7.2 ISPs not exclusively the responsibility of JTC1.** [Original source: SGFS/N230]

N391 Liaison statement to TC 46

N392 Liaison statement to TC 184

N412 Report of SWG meeting, Geneva June 1991

Awaiting agreement of relevant TCs. Amendment of TR 10000-1 and -2 will be required and also possibly the addition of extra part(s) to TR 10000. This issue remains OPEN.

### Updates after the June 1992 SGFS Meeting

New text has been produced for the procedures document. Comment from Member Bodies and Liaison Organizations is awaited. The issue remains OPEN.

### **Issue 9 Changes to incorporate ODA.** [Original source: SGFS/N230]

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### N206 Liaison statement from SC18

This text relates to the addition of ODA profile methodology to TR 10000-1, and was developed through N349; see N390 for the resulting editing instructions and N431 for additional editor's notes.

There is a remaining issue here, regarding the terminology used in the DISPs for FOD profiles (see SGFS N419 through N424). It concerns the use of the term "Document Application Profile" (DAP) which is defined in ISO/IEC 8613-1, and its relationship to the term "Profile" as defined in TR 10000-1 3.1.2. DAP is also referenced in TR 10000-1 8.3.2, in accordance with SGFS N390 editing instructions.

Taking the explanation given in N420, the review report for PDISP 10610-1, an ISP is the specification of an FODxx Profile, which may contain more than one DAP - in the case in question, two DAPs, one using ODIF encoding, and one using ODL encoding, as specified in DISP 10610-1 clause 8, and reiterated in the final paragraph of clause 1. However, the DISP has been entitled "Document Application Profile" - i.e. not indicating that it includes two DAPs - a usage which is in agreement with TR 10000-1 8.3.2. Either the DISP needs to be retitled "Document Application Profiles", and the wording of TR 10000-1 adapted, or the use of the term DAP has to be refined (in conjunction with CCITT, who are jointly responsible for ISO/IEC 8613 and the T.41x series of recommendations).

This issue therefore remains OPEN while TR 10000-1.2 is being progressed.

### Updates after the June 1992 SGFS Meeting

#### N594 SC18 N3595: Liaison Statement on Standardization of Profile Test Specifications

The issue remains OPEN.

### **Issue 10 PICS Proforma instructions and Annex C of TR 10000-1.** [Original source: SGFS/N230]

#### N214 Catalogue of PICS proforma notations

#### N289 Position statement on PICS proforma notations (from Nov 1990 ad hoc SGFS meeting)

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superseded by later developments:

N381 (=SC21 N6160) Catalogue of PICS proforma notations.

N435 (=SC21 N6191) Liaison statement to SGFS on Profile Conformance.

This topic is now the responsibility of SC21 WG1, and is being progressed there with the assistance of direct S-liaison activity. This will, when the associated work in ISO/IEC 9646 is stable, result in the editing of clauses 6 and 8, and the removal of Annex C from TR 10000-1. The issue therefore remains OPEN.

### Updates after the June 1992 SGFS Meeting

N587 SC21 N7074: Liaison Statement on Conformance Testing

N594 SC18 N3595: Liaison Statement on Standardization of Profile Test Specifications

This issue remains OPEN until adequate reference to stable ISO/IEC 9646 text can be made.

## **Issue 12    Profile qualifiers and orthogonal functions.**

[Original source: SGFS/N432, June 1991]

N335 EWOS request for discussion.

N393 Request to SGFS NBs and LOs for input on this subject.

This issue remains OPEN.

### Updates after the June 1992 SGFS Meeting

N538 EWOS Liaison to SGFS on Extensions to the TR 10000 Taxonomy for Managed Object Profiles

N596 Summary of comments on DTR 10000-2.2

N615 Request for comments on profile attributes

This issue remains OPEN.

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### **Issue 13 Registered objects.**

[Original source: SGFS/N432, June 1991]

N340 EWOS proposal regarding the relationship of ISPs to Registration Authorities, specifically in the context of Virtual terminal profiles.

N396 Request to SC21, SC18 and CS/ITTF for comment.

This issue has been taken into account in the editing of TR 10000-1.2 (see N390 item 6). However, responses to N396 are awaited, and these may impact the final resolution of this point. This issue therefore remains OPEN.

#### Updates after the June 1992 SGFS Meeting

N586 SC21 N7197: Response from SC21 on Registration and ISPs

N589 SC21 N7163: Registration of Document Types/Information Objects

N612 Liaison Statement to SC21 and S-Liaison Organizations regarding the use of ISPs as Registration Agents

Documents N586 and N589 raise some points. The issue remains therefore OPEN.

### **Issue 15 Terminology: choice between AEP and OSE.**

[Original source: SGFS/N439, November 1991]

OSE is used (even cited) by N402 and hence supported by resolution 11 from JTC1.

Resolution 18 uses the term AEP.

Take both terms, and see how far we can come.

Should the definition be in TR 10000-1 or in the OSE part of TR 10000? Assumption: 'or' in OSE definition (TSG-1, pg 57) should be read as an 'inclusive or' or as 'and/or'. Clearly not the intention that the 'or' implies multiple types of Open System Environments.

The following definition for AEP (based on the TSG-1 definition) is used: "The specification of a complete and coherent subset of the Open System Environment, together with the identification of the applicable classes, subsets, options and parameters of the referenced standards, necessary to support a class of applications".

Rationale for changes:

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the definition of OSE is sufficient comprehensive to provide a unique, global concept, of which there can only be one - hence "the", not "an";  
expand "options and parameters" to read "identification of the applicable classes, subsets, options and parameters of the referenced standards" - this picks up the generic definition of "Profile" in TR 10000 and shows that AEP is one member of the class of "Profile";  
delete final part "for interoperability ..." since these terms are already included in the OSE definition already referenced.

Action: Implement proposed text in TR 10000-1.3.  
Status: Closed

## Updates after the June 1992 SGFS Meeting

Reopen the issue.

Question: what is an AEP, and how does it relate to the structure of TR 10000?  
Note that TR 10000 goes beyond the scope of TSG-1 which was focused on portability. Should AEP be mentioned in TR 10000-1 or only in TR 10000-3?

Action: Investigate, Regional Workshops to come with proposals, project editors to produce first version.  
Status: OPEN.

## **Issue 18    Subsetting and Options.**

[Original source: SGFS/N439, November 1991]

Should it be allowed that profiles define subsets from base standards that are not defined by the group that defined the original base standard?  
Subsetting seems to be more a problem of the base standards rather than of the profiles. Requirements for subsetting a base standard can result from the development of a profile; the actual subsetting should be done by the 'owner' of the base standard.

N437, items 5 and 7 apply to this issue. Also Annex A of TR 10000 should be considered.

Subsetting of profiles as opposed to subsetting of base standard should be investigated. This issue also applies to options.

Implementor defined options issue.

A document should be considered with guidelines for standards writers indicating what consequences there are when their base standards are included in profiles.

Action: Review the examples on "Conflicting Options" in Annex B.  
Status: Open

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### Updates after the June 1992 SGFS Meeting

#### N582 - Issue 4 (France)

This seems to be more a problem of conformance. When the conformance clause is not clearly stated for a standard, the profiling of this standard becomes more difficult and the subsetting of base standards has no guiding principle. See also issue 21.

#### N591 - Issue 4 (USA)

All ISPs **must** satisfy **all** relevant conformance requirements of **all** standards referenced normatively (see TR 10000). If the referenced standards do not contain appropriate conformance statements, or contain conflicting requirements, this is a defect in the standards and should be corrected.

Status: OPEN.

### **Issue 19 Taxonomy.**

[Original source: SGFS/N439, November 1991]

It is observed that a taxonomy for OSE is less stable than an OSI taxonomy. Work is underway on the development of an OSE taxonomy. EWOS has proposed a taxonomy (ETG 12, SGFS N337) and is awaiting some response. TSG-1 report has also some references to taxonomy (Annex C TSG-1 report).

It is noted that there is no editor for TR 10000-3.

Action 1: SGFS likes to be kept informed about developments by its members in the area of the taxonomy for OSE.

Status: Open

### Updates after the June 1992 SGFS Meeting

Mr. Fritz Schultz will be the project editor for TR 10000-3.

#### N591 - Issue 5 (USA)

The U.S. feels that the adoption of any taxonomy for OSE profiles is (very) premature at this time. Many questions must be answered before a final taxonomy is selected.

Primary among the issues to be addressed is a clear statement of the purpose to be served by a taxonomy of profiles for OSE. Definition of the problem addressed by the taxonomy, and discussion of available

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alternatives, should precede any selection. It is a distinct possibility that more than one alternative taxonomy may be needed. It is also not clear that the taxonomy needs to be normative in any sense. It's most useful role may be in providing guidance, or as labelling device giving a rough indication of the content or scope of a profile.

Premature adoption of a taxonomy could result in substantial and unnecessary constraint on efforts to create profiles addressing user requirements.

The U.S. suggests that adoption of a single concept for a taxonomy at this time could discourage (or prematurely terminate) a necessary and appropriate period of experimentation required to more fully understand profiles and the profiling process.

The OSI taxonomy is fixed in TR 10000-2, the OSE taxonomy will be done in TR 10000-3.

Status: OPEN.

### **Issue 21 Conformance testing.**

[Original source: SGFS/N439, November 1991]

Are ISO 9646 and/or IEEE 1003.3 applicable to OSE?

It is noted that base standards, other than those written by SC6 and SC21 need to have conformity clauses suitable for profiling. In general, SCs need to be aware of the fact their base standards may be referenced by a profile.

Action: SGFS to forward a liaison statement to the appropriate group on this issue.

Status: Open

### Updates after the June 1992 SGFS Meeting

N582 - Issue 7 (France)

We believe this is an issue on Conformance, and not on conformance testing.

A clear conformance clause is of great help in profiling a standard, since it provides the definition of minimal content of a profile (i.e. what is mandatory in the base standard), as well as an inventory of what is optional.

In any case, the profiling of a base standard is an exercise in defining what subsets are meaningful and best suited for resulting in successful

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products. It is a difficult exercise that must be done in close liaison with the USERS.

### N591 - Issue 7 (USA)

[...] The U.S. will study the issue further, and will submit a final position at a later time.

Status:OPEN.

## Chapter 2: Closed Issues

### Issue 1 **Distinction between base standards and ISP and/or acceptance of standards as profiles.**

[Original source: SGFS/N230]

N181 Canada comments, P2.

See item 8 below, since this text in N181 relates to Application contexts.

N148 UK comments, editorial 5

All comments were successfully resolved in editing the text of TR 10000-1 : 1990.

N156 PAGODA

This text relates to the addition of ODA profile methodology to TR 10000-1, - see item 9 below.

As there are no remaining identified problems, this issue is CLOSED.

### Issue 3 **One or more taxonomies?**

[Original source: SGFS/N230]

SGFS Plenary/Chairman

No specific document referenced; however, this is assumed to refer to the extension of TR 10000-2 taxonomy to cover profiles from outside JTC1. This is covered under item 7 below. The issue is therefore CLOSED.

### Issue 5 **Multiple ISPs.**

[Original source: SGFS/N230]

N148 FR comments, general 2

N177 DK Comments

Query: Is it a procedural problem?

This point concerns the over-elaborate use of separate parts of ISPs, especially

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in the context of T-profiles. A paragraph urging caution was inserted into TR 10000-1 8.2, and subsequent use of the multi-part structure in ISPs 10608 and 10609 has been accepted. This issue is therefore CLOSED.

### **Issue 6      Complexity of profiles based on upper layer standards and relationship to the functions as defined by "service providers".** [Original source: SGFS/N230]

N153 EWOS

The issue described here does not appear to match any points raised in the quoted EWOS contribution. The issue is therefore CLOSED.

There was one outstanding issue in N153 recorded in N191, the disposition of comments on DTR 10000-1, but this related to the problem of writing generic statements about profiles in TR 10000-1. This no longer appears to be an issue, or if it is, it will be addressed when OSI-specific material is specifically identified as such in TR 10000-1.3.

### **Issue 7      Extension of the scope of TR 10000.** [Original source: SGFS/N230]

Possible candidates:

- Operating systems
- Application of specific ISPs

This breaks down into two separate topics: Issues 7.1 and 7.2.  
The original issue 7 is CLOSED.

### **Issue 7.1      Profiles for the Open System Environment.** [Original source: SGFS/N230]

N337 EWOS: Extension of TR 10000 for OSE

N355 SC22 WG15: Proposal for OSE Profiles

N364 Belgian comments on the scope of TR 10000

N374 BSI support for extension of scope of TR 10000

N402 The Way Ahead

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Progressed during the Authorised Sub-group meeting, October 1991. See output documents, including first working draft of TR 10000-1.3. This issue remains OPEN.

### Updates after the June 1992 SGFS Meeting

Subsumed by the issues from the Authorised Sub-group meeting, October 1991 (issues 15 and following).  
This issue is CLOSED.

## **Issue 8      The Applications Context issue.** [Original source: SGFS/N230]

N233 Part C: Relation of ISPs to Application Context

In N181, Canada raised the proposal that TR 10000 should reference application-context-definitions as well as the base standards for A- and B-profiles. The June 1990 SGFS meeting in Tokyo proposed text for TR 10000-1 clause 6.3.2 in a liaison statement to SC21 WG6 for the attention of the uLA Rapporteur (N233). As far as can be seen, no response was received from SC21 on this subject (in fact, no copy of N233 can be found in the SC21 document register, so the lack of any response may be due to an administrative error somewhere), and no proposal for updating TR 10000-1 was made on this subject at Berlin, June 1991. The proposal in N233 therefore remains the current position, and the Editor of TR 10000-1 seeks advice from SGFS as to whether this text should be incorporated in TR 10000-1.2.

This issue therefore remains OPEN

### Updates after the June 1992 SGFS Meeting

The text has been included in TR 10000-1.2. Issue is CLOSED.

## **Issue 11      Common partial profiles.** [Original source: SGFS/N432, June 1991]

N331 Upper layers

EWOS expects the S-liaisons to contribute a Common Upper Layers Requirements ISP as indicated in the referenced document. Item 4 of N390 gave editing instructions related to this for TR 10000-1. This issue remains OPEN

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while TR 10000-1.2 progresses, and until such a PDISP is submitted, reviewed and balloted.

N339 Lower Layers

Item 5 of N390 gave editing instructions related to this for TR 10000-1. This part of the issue is therefore CLOSED.

### **Issue 14    ISP text structure.**

[Original source: SGFS/N432, June 1991]

N297 CCITT comments on DISPs

N389 SGFS Additional guidance to developers of ISPs

N297 was reviewed in June 1991, and three points were made in the output document N389; the third of these was included in the edit of TR 10000-1.2 according to item 9 of N390. These specific comments on ISP text having been resolved, this issue is therefore CLOSED.

### **Issue 16    New Functionality.**

[Original source: SGFS/N439, November 1991]

Should a profile be allowed to define new functionality (which is for example special for a specific application area) in a profile? Can functionality be specified in the profile without that functionality being specified (and needed) elsewhere?

Annex A (TSG-1) is relevant, as well as N437 item 3 and 4.

SC24 seems to have profiles which define such additional functionality. It is noted that a profile may require functionality that is not specified in a base standard, does not 'naturally' fit in an existing base standard, but that will never warrant a complete base standard on its own (the 'grey area' problem).

Current understanding: new functionality should be added to the base standards.

Action 1: send an informal liaison statement to SC24.

Action 2:     Review the examples on "Grey Areas of New Functionality" in Annex A.

Status:        Open

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Profiles should only define new functionality by combining functionality from the referenced base standards or ISPs. No new functionality should be defined in the profile itself. Text to this effect is included in TR 10000-1.2.

Status:CLOSED.

### Issue 17      **Gaps.**

[Original source: SGFS/N439, November 1991]

What is a gap? How should gaps be identified? Can an profile that identifies gaps (has gaps) become ratified? See also TR 10000-1, section 6.1 which (seems to) define how this should be done.

N437 item 3 and 4 apply to gaps (Gaps are functional requirements in the domain of the standardized profile that are not met by approved standards).

Gaps can be (should be?) classified: either the bit that is missing makes to whole profile useless or only a small piece of functionality is missing but the 'gross' functionality of the profile is still useful. In the first case probably NWI proposals should be created, in the other case something less drastic is needed??

Suggestion: let the submitter of the profile assess the gap. When gaps are identified, they should not be filled by specifications in the profile.

Gaps could be identified in an informal annex.

Profiles can be defined in 2 parts: first part which defines the functional requirements addressed by the profile, the second part defines the mapping of the functionality to the base standards; the ratification of the 2 parts should be handled in a consistent way, but could be separate.

General agreement: the ISPs should only contain the accepted parts, the rest should go into informative annexes.

=====  
Discussion of the issue of non-existing Base Standards ('gaps') needed in ISP definitions.

First a collection of individual positions taken and comments given during the discussion are presented (these are not consensus positions):

ISPs should not include vendor or consortia specifications, or Public Specifications. Also entries like 'user selected' or 'vendor defined' should be avoided.

Gaps in the inventory of Base Standards have different sizes and weight:  
    central to the ISPs intended functionality  
    minor to the ISPs intended functionality

gaps which have associated standardization work to fill them  
gaps without work on them

very small gaps in Base Standards for provision of 'glue'.

To preserve the tightness of ISPs and their verification, ISPs need to be precise and fully defined, without references to non-existing Base Standards.

There is value in the identification of gaps in context with a specific Profile, because this can lead to standardization efforts to cover the gaps. Also the Profiles purpose becomes more explicit if gaps are described.

OSI ISPs have gaps today, they are just left out of the document for later work.

OSE ISPs with gaps would be kept as PDISPs or DISPs until completed. OSE ISPs will never be complete due to technology progress and changes in user requirements. Therefore SGFS may have to stay out of ISPs for OSE.

There is time pressure. OSE Profiles will have a shorter life time (2-4 years) until reworked.

ISPs could have a set of complete definitions in the normative part. Also there could be an informative part with context and known gaps.

Even if incomplete Profiles are defined, their stable part can be recorded as a core Profile. For the complete specification, a taxonomy entry could be made early on, but without any specific specification yet.

Second: A proposed wording for the bullet under discussion follows:

3.1.2 Profile: A set of one or more base standards .....

6.1 During development of Profiles, functionality may be required which is not yet covered by base standards or Profiles. In this case a Profile can refer to missing standards in an informative part, but its normative part shall refer only to existing base standards and ISPs. If in the future a more extensive Profile is envisaged, a placeholder can be entered in the Taxonomy.

=====  
Action 1: Result should go into TR 10000.

Action 2: Richard Lloyd to review text for section 6.1

Status: Open

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N582 - Issue 3 (France)

[...] If a (missing) base standard is not under development, a liaison should be sent by SGFS to the relevant standards body (SC, TC) if identified,

stating the need for the base standard in the area and encouraging the standards body to work on the subject. [...] The relevant standards body should then inform SGFS of the progress of standardization in the area, and of its completion. [...]

**N591 - Issue 3 (USA)**

One purpose of identifying gaps in profiles is to define areas of needed standards activities. Gaps should be identified by describing the missing functionality, not by identifying the non-standard solution which may include more or less functionality than is necessary and/or may describe an arbitrary or overly restrictive solution. Examples of any documents that address the missing functionality may be identified to assist in the development of these new standards.

The US comment is in line with the updates made to TR 10000-1.2 and TR 10000-1.3.

Status: CLOSED.

**Issue 20 Base Standards.**

[Original source: SGFS/N439, November 1991]

Para 4 (section 6.1): need more words to extend the concept of Base Standard (the definition is recursive). The emphasis will be on profiles referencing other profiles rather than base standards.

One of the problems seems to be that the definition of base standards (3.1.5) includes Trs.

Action 1: Review clauses 3.1.5, 6.1 and A.4.3 for acceptability of this solution;

Action 2: Incorporate in TR 10000-1.3.

Status: Open

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There is a conclusion reached on the reference issue of Trs in ISPs (see N610). Text is incorporated in TR 10000-1.2 and TR 10000-1.3.

The definition of Base Standard will be updated (in TR 10000-1.3) to read: "a term applied to an approved International Standard or CCITT recommendation when used in the definition of a Profile".

Status: CLOSED.

**Issue 22 Trivial Conformance.**

[Original source: SGFS/N439, November 1991]

In the process of converting a base standard from a large monolithic one to one suitable for profiling, you may encounter situations where trivial conformance is possible but was not desired originally.

Action: Review the examples on "Partitioning of Base Standards" in Annex C.

Status: Open

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##### N537 - Issue 8 (EWOS)

The experience of OSI profile work has been that problems of the nature described in Annex C occur when particular decisions on conformance classes are taken when a base standard is initially written, and these do not turn out in practice to be the correct choices. The answer to this, as with the Gaps issue, is to return to the base standard and either remove completely, or reorganise the statements on conformance. [...]

##### N582 - Issue 8 (France)

It may well happen that in some cases, subsetting the base standard will result in having a small (or maybe even non-existent) "mandatory" core set of features. This should not be a problem in itself, as long as the profiles make sense from the point of view of user needs.

Status: CLOSED.

#### **Issue 23 Indirect Reference of Profiles.**

[Original source: SGFS/N439, November 1991]

When referencing profiles from other profiles problems may occur (when profile-1 references profile-2 and profile-3, and profiles 2 and 3 both reference the same base standards with conflicting options ....).

Action: Review the examples on "Explicit Undefined Functionality" in Annex D.

Status: Open

#### Updates after the June 1992 SGFS Meeting

The described situation leads to an ISP defect which should be fixed.

Status: CLOSED.

**Issue 24 The Usage of the Word 'Framework'.**

[Original source: SGFS/N439, November 1991]

Originally the word framework was used in the general sense. Currently the word has a more specific meaning.

Proposal 1: replace 'framework' by 'general principles'.

Proposal 2: explain exactly the meaning of the word.

Framework is used in 3 different places in the document with 2 different meanings.

Proposal 3: retain framework in the title (it is referenced elsewhere), remove the word from clause 7.

The NWI (Ref. JTC1 N1534) to create a model and framework for AEP may be relevant, as well as US contribution N437.

Action: Incorporate in TR 10000-1.3, and review text.

Status: CLOSED.

**Issue 25 JTC1 Resolution 18 - B) : Interaction with User Groups.**

[Original source: SGFS/N439, November 1991]

How should this be done? Is it needed now? Would it confuse the process? Are users not yet represented in SGFS? Is this a task for the National Member bodies? Or the S-liaisons?

Either in a explanatory report or in the profile it should be documented how the user requirements are taken into account, and how this process was implemented.

Action: SGFS is asked to member bodies and other organizations to have a process to represent user requirements and to translate them into technical requirements.

Status: CLOSED.

**Issue 26 The Structure of TR 10000.**

[Original source: SGFS/N439, November 1991]

The current proposal (in line with N402) is to have a part 1 with the generalized concepts of profiling, and subsequent parts that are application area specific:

Part 1: General + OSE scope

Part 2: OSI - OSI specifics + OSI taxonomy

Part 3: AEP - AEP specifics + AEP taxonomy (or taxonomies)

Part x: CIM - CIM specifics + CIM taxonomy  
Part y: Banking - .....  
Action: Review  
Status: Closed

Updates after the June 1992 SGFS Meeting

A new proposal is worked out (see N608 rev 1). It is left to the project editors of TR 10000-1 and TR 10000-3 to implement the proposal.

Status: CLOSED.

**Issue 27      Definition of OSI Profile.**  
[Original source: SGFS/N439, November 1991]

It is recognized that more types of profiles can be identified than the only OSI type of profile in the current version of TR 10000-1. It may be useful (and natural) to adapt the definition of OSI profile to reflect this new situation.

Action: New text to be introduced in TR 10000-1.3.  
Status: Open

Updates after the June 1992 SGFS Meeting

Text is included in TR 10000-1.3.

Status: CLOSED.

Annex A: Examples on "Grey Areas of New Functionality" (Donn Terry).  
Preliminary (incomplete) version.

The current TR 10000 explicitly disallows introducing "new functionality" in a profile.

There are two problems with this concept, and there needs to be a means to address each of them:

1. There is functionality that is not naturally within scope of any one of the referenced base standards (or even one which might hypothetically exist) because it deals with concepts that exist only when the universe of discourse includes several standards.
2. There is functionality that is specification of such things as new symbolic constants or other parameters which apply specifically when the profile is in use, but not when the same base standards happen be on a common system.

Some examples of the first class are:

Requirements for interoperability of files between languages. A profile which calls out more than one language must address the issue of how the languages might interoperate (or at least say that they do not). However, it is not necessary to specify very much about how the interoperation is accomplished. Rather it is simply necessary to specify the OBSERVABLE behaviour \_\_from the point of view of each language\_\_. Going any further would specify the implementation, which should be irrelevant.

A statement of this kind is not even meaningful in the language standards of today because in general they ignore the existence of other languages (for very good reasons). Extending the scope of the language standard to talk about other languages leads to the issue of "which other languages?" (of the 20 or so standardized in SC22, plus many more standardized in specific application domains, some of which SC22 may not even be aware of). It also could easily lead to having pair-wise interfaces between each pair, which is both an engineering nightmare and unnecessary.

A statement requiring such interoperability might be considered "new functionality".

Window systems have the characteristic that at times an application needs

to be notified of a change of state of a window under its control that is not due to any action taken by the application. (Specifically, when the window is uncovered by the window manager.)

Many operating systems do not provide a mechanism for asynchronously notifying the application of such an event, but when present that mechanism is preferred.

The standard for the window system cannot assume that such a mechanism is available, either in its language-independent form or in the language binding. It is only when the window system is described together with an OS that provides such a mechanism that it is meaningful to talk about such a mechanism.

Is it appropriate to describe the relationship between the OS and the windows system in the profile (in such a way that semantics are provided), when the profile is the first document where the universe of discourse includes both functionalities.

(This is similar to the "files" problem above, but involves no data interchange!)

[This does bring to mind the possibility that there may need to be a "OS binding", in the same sense as a language binding, when a set of functionality is attached to a specific OS. If this is the case there will have to be significant work figuring out exactly what that means.]

Some examples of the second class are:

Identification: the negotiation for what features are present and the like occurs at compile time for application portability, and the application needs means of inquiring which options and which profiles are present. Mechanisms for such inquiry are provided in the standard, but there needs to be a means to add the appropriate constants necessary to request and interpret such information.

Is this "new functionality"?

ISO 9945-1 provides a "signal" mechanism, where a process can be informed of an outside event. One of the possible signals deals with changes in state of other related processes. It is possible to control exactly which processes can create signals to the "master" process from within the master process by passing a flag to the signal handling mechanism.

This flag is only meaningful for the one signal type associated with other processes, but it is possible (syntactically) to provide it with any signal.

Currently the standard is silent as to what happens if the flag is passed to any other but that one signal (presuming that a correct program would never do that).

Is it new functionality to specify that providing that flag for other signals is ignored?

Is it new functionality to specify that it generates an error?

Is giving the flag a meaning for some other signal new functionality?

Is giving a new flag constant (and a meaning) new functionality?

[Probably the latter are, but exactly where is the line?]

Annex B: Examples on "Conflicting Options" (Donn Terry).  
Preliminary (incomplete) version.

When more than one profile specifies an option in a standard, it is possible that they may do so in such a way as to make irreconcilable requirements on (potentially) the same system.

Some mechanism is needed to address this possibility.

Some examples:

POSIX provides a means to read a directory in a file system. There are (at least) two distinct ways that could be implemented, and the standard explicitly acknowledges both of them, giving explicit guidance as to the consequences (or lack there of) of certain choices by the implementor. This was specifically intended to give freedom to the implementor in his mechanism of implementation, and it is expected that any well-written application would be immune to the difference.

It is conceivable that a profile may wish to specify exactly one of these choices, either to enhance importability of applications that (improperly) assume that a specific choice was made, or for some sound technical reason.

For most purposes the decision of the implementor as to which of the mechanisms he uses is permanently single valued (due to the nature of the technology), and it is impractical to require both in a profile.

Two profiles which conflict on this issue will not be able to coexist on the same system.

POSIX specifies that either of two error behaviours are acceptable when a read or write operation is interrupted due to an external event.

In one instance it returns an indication of an error, and all the data is lost.

In another alternative, it returns as much data as was read (or the count of data actually written).

It is conceivable that a profile with a goal of compatibility with existing systems might choose either value (depending on the systems of interest), or that one or the other values may be required based on engineering issues. (Error might be appropriate when the exact amount of data transferred cannot be determined,

which does occur.)

A profile which requires one of these behaviours cannot exist comfortably with one that requires the other. In this case the base standard could be extended to require inquiry and/or specification of the behaviour, but to do so would require changes to all applications which conformed to either profile (when the base standard was extended). (Specifying conflicting default values for the option would have the same effect.)

There are many other situations where a choice must be made by the vendor which may limit the set of profiles that the implementation can conform to, and which may in fact be inappropriate for specification by profile writers.

(Note: there are clearly examples of things that should not be specified in profiles, things that should (which the base standard should make into clear options), and ones for which the engineering decisions are not initially clearcut.)

Annex C: Examples on "Partitioning of Base Standards" (Donn Terry).  
Preliminary (incomplete) version.

This is an example of a situation encountered when a standard is divided into options to support profiling.

The current POSIX standard (9945-1) has a very small number of identified options, with the bulk of the document mandatory.

The "realtime" groups are requesting the ability to refer to some subset of this large functionality.

To do this, these groups wish to partition (in a mathematical sense of "partition") the functionality into a number of fairly small sets, so they can be selected for profiling individually. The cut lines in some cases go through a single interface (e.g. read/write without pipes).

However, any one of these partitions, taken alone, is of negligible interest to the user of 9945-1. In general, it takes a significant fraction of the total capability of 9945-1 to assure application portability within a single application domain. However, depending on the application domains in question, the portions required can be (nearly) disjoint.

This then leads to a question: is there a way of having 9945-1 (or any standard) "profile" itself so that it has the following characteristics:

1. The subset necessary to claim conformance to the standard is a significant fraction of the total (and represents the usual way in which the standard, alone, is used).
2. Profiles may use other subsets (as defined by options), and use rather small fractions of it, but not imply conformance to the base standard by that usage alone.
3. Conformance to some (uninteresting) lowest common denominator does not imply conformance to the base standard.

It is also desirable to avoid divergence of the specification, and to avoid creating large numbers of subsets. Thus the concept of copying the standard and customizing it for a particular profile seems very unattractive.

An example:

Real time imbedded systems have a bona-fide need for systems which are significantly less than 9945-1 for their specialized needs. Insisting that they

provide unused functionality is impractical. (They have significant memory constraints; many successful commercial RT operating systems are <4K bytes.)

There is a need for a minimal profile which includes a subset of the POSIX read/write and some process management interfaces.

There is also a need for a minimal profile which includes the same subset of read/write, and NO process management, but including the "threads" capability. (Threads represent multitasking in a single address space, processes imply different address spaces and other separated resources).

This leaves a situation where the minimal intersection is read/write, which by itself is so minimal as to be useless. No practical profile would ever be so minimal as to use just the minimal core, but the intersection is minimal.

The goal is to indicate that the minimal possible profile is not just the lowest common denominator which arises from the partitioning.

In addition, 9945-1 has come to represent a significant level of portability. By introducing subsets that can weaken the user expectation of what 9945-1 provides to them, the credibility of that standard is weakened.

Other large monolithic base standards would appear to have a similar problem, and this could affect the credibility of the whole standards process.

There is an implied guarantee of application portability created by an API standard. This guarantee is what gives the standard its value. From the perspective of a general user (not one using one of the specialized profiles), the minimal level is approximately equal to the current standard. It is desirable to keep this implied guarantee while still allowing "subsets" for other well-considered profiles.

A solution to this problem is desired as part of the extensions of TR 10000 to OSE.

Currently, clause 6.3.1 (c) would appear to prohibit any solution along these lines.

One solution (assuming it were permitted by TR 10000) might be a conformance clause might be along the lines of the following:

An implementation claiming conformance to this standard shall provide all the following options:

LIST

An approved profile may refer to a smaller number of these options.

Note: an implementation which provides which provides less than the minimum defined above may be considered as conforming with such a profile, but shall not be considered as conforming with this standard.

Annex D: Examples on "Explicit Undefined Functionality in Base Standards" (Donn Terry).

Preliminary (incomplete) version.

Many SC22 (and other) standards leave certain areas that naturally fall within their scope of interest in some way "undefined", because it is not believed to matter to application portability. These areas are either implicitly identified by silence, or are explicitly identified by the use of such words as "if", "may", "unspecified" or "undefined", each of which carries a precise and subtly different meaning.

It is possible that due either to historical precedent or due to lack of perfect foresight on the part of base standards writers that some of these instances may be a place where a profile writer wishes to specify a behaviour.

Some of these behaviours fall into the "new functionality" arena, and thus should be considered in that topic. However, some do not deal with new functionality at all, but nevertheless do not either deal with options that were intended by the base standards developers.

Some examples:

POSIX provides a means to read a directory in a file system. There are (at least) two distinct ways that could be implemented, and the standard explicitly acknowledges both of them, giving explicit guidance as to the consequences (or lack there of) of certain choices by the implementor. This was specifically intended to give freedom to the implementor in his mechanism of implementation, and it is expected that any well-written application would be immune to the difference.

It is conceivable that a profile may wish to specify exactly one of these choices, either to enhance importability of applications that (improperly) assume that a specific choice was made, or for some sound technical reason.

For most purposes the decision of the implementor as to which of the mechanisms he uses is permanently single valued (due to the nature of the technology), and it is impractical to require both in a profile.

Is it appropriate for a profile to require one or the other behaviours? An ISP?

POSIX provides the ability to lock regions of a file, either for reading or read/write. It is possible also to interrogate for the first lock that is blocking an attempt to create a new lock.

It is reasonable to ask "is the lock read?" or "is the lock read/write?", and this is provided. However, in examining the matrix of possible inputs (as specified by POSIX), it is legal to attempt this operation with a request for a type of "unlocked".

This then asks the question "what does this mean?"

If a profile writer were to find a use for this, could a specific meaning be specified?

The answer to this may vary with the selected meaning. Which of the following are new functionality?

The operation is explicitly defined as being an error.

If the operation is specified as being equivalent to an existing operation, is that new functionality? (For this example, it might be specified as exactly the same as asking for a read lock.)

If the operation is something new, but is fully describable in terms of the existing functionality. (For this example, it might be specified as returning the first byte that is not locked (that is, the end of the first locked region, if it is at the beginning of the region of interest).)

If the operation is "just a little" beyond this. (For this example, it might return the number of unlocked bytes instead of the location.)

(To my view, the third and fourth should be disallowed, but the first two are not clear to me as to what should be done.)