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Comments on ISO TC97/SC22 N261 - First Working Draft on Guidelines for Language Bindings

BSI IST/5/11 fully supports the ISO TC97/SC22/WG11 efforts to produce guidelines for language bindings, and finds document ISO TC97/SC22 N261 excellent in general. When the document has been revised and refined, IST/5/11 will support its distribution to ISO TC97/SC21 & SC22 and their working groups, and will promote adherence to the guidelines by all appropriate standardisation committees.

Specific IST/5/11 comments on the document are as follows:

Page	Section	Comment
4-5	1.3	Some references require updating before final publication of the document
6-7	1.4	The glossary of terms and abbreviations should be reviewed/amended/extended in the light of experience before final publication
10	2.2	The phrase "offer a large number of user choices" was felt to require clarification
14	2.6	The WG11 work-items on common language-independent data types and procedure calling mechanisms could be stressed here (and on pp 10 & 19)
15	3.1	GUIDELINE 2: If any extensions to a language are necessary to implement a binding, they should be designed or approved by the language committee. Typo: "responsibility"
16	3.1	GUIDELINE 4: WG11 should address the problem of bringing this to the attention of the various committees concerned
17	3.2	GUIDELINE 6: Does not say what it means (and what it says is not necessarily desirable!) - perhaps "Different language bindings to a system facility should not be the cause of substantial differences in program structure" ? (to quote the discussion)
18	3.2	The last sentence is true more generally - GKS is not the only exception to guideline 7
19	3.3	GUIDELINES 8/9: Adherence to these guidelines is not always felt possible; concrete descriptions of data types and parameters are sometimes needed
20	3.4.2	The need for lists of language-specific issues must be brought to the attention of language committees

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21	3.4.2.1	GUIDELINE 11: A method of avoiding name-clashes is needed for some languages; the name of a system function must not clash with a name in a binding to a different system facility
23	3.4.2.3	GUIDELINE 20: Hear, hear! Attention to the use of "function" and "subroutine" procedures also needed
23	3.4.2.3	GUIDELINE 21: Clarification is needed that this applies "dynamically" rather than "statically", e.g in Fortran it should be possible to write

```
          SUBROUTINE  S(A,N)
          REAL  A(N)
```

without an error arising if N is zero (though use of any element of A should be an error, of course), but

```
          REAL  X(0)
```

does not seem useful for any purpose whatsoever

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24	3.4.2.3	GUIDELINE 22: Why 30? "external identifier" needs to be defined on page 6. Should punctuation symbols be significant to the spelling of the name or not? At least one such symbol should be significant. Should the case of letters be significant or not? If case is not normally significant in identifiers in the language, external identifiers may have to appear in string quotes or be somehow distinguished
25	3.4.2.4	GUIDELINE 23: The group have reservations about this guideline. A binding may reasonably adhere to an intermediate "level" of a language standard
30	3.4.2.4	GUIDELINE 38: Amplification/clarification required
30	3.4.2.4	GUIDELINE 39: "Implementation dependent" should be replaced by "Implementation-defined" (see e.g. the Pascal standard, ISO 7185-1983, for definitions). Use of implementation-dependent features virtually guarantees non-portability
32	3.4.2.4	GUIDELINE 46: "system facility" should be inserted before "data types"
32	3.4.2.4	GUIDELINE 47, bullet 3: Does the "schema" refer to the "set of contents" in the introduction? Typo: "The schema should have"

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35	3.4.5	GUIDELINE 55: Good programming practice in Pascal, Ada etc calls for maximum use of <u>locality</u>; such declarations could well appear near the start of a procedure or module text rather than the program
40	Annex A	Typos: "Fol<u>l</u>owing" ; "Figure 5" -> "<u>Figure 1</u>"
41-43	Annex A	The examples should be checked for correctness and adherence to the latest language standards
all	all	The document would benefit from provision of more examples throughout
all	all	The reproduction quality of the group's copies was poor - doubtless they were copies of a copy of a copy ... of the original. Given the great number of stages of transmission in the author -> national body -> ISO -> national body -> reader process, the original needs to be the best and blackest possible