Results of Ballots on Registration and Approval of FCD 1539-2 (Varying Length Character Strings)

SUMMARY OF VOTING ON

Letter Ballot Reference No: SC22 N2877 Circulated by: JTC 1/SC22
Circulation Date: 1999-01-30 Closing Date: 1999-05-20

SUBJECT: Concurrent CD Registration and FCD Ballot for FCD 1539-2: Information technology - Programming languages, their environments and system software interfaces - Fortran, Part 2: Varying Length Character Strings (Revision of ISO/IEC IS 1539-2:1994)

The following responses have been received on the subject of registration:

"P" Members supporting registration without comment	14
"P" Members supporting registration with comment	0
"P" Members not supporting registration	0
"P" Members abstaining	2
"P" Members not voting	6
"O" Members supporting registration without comment	1
"O" Members abstaining	1

The following responses have been received on the subject of approval

"P" Members supporting approval without comment	11
"P" Members supporting approval with comment	3
"P" Members not supporting approval	0
"P" Members abstaining	2
"P" Members not voting	6
"O" Members supporting approval without comment	1
"O" Members abstaining	1

Secretariat Action:

FCD 1539-2 has been registered.

The comment accompanying the abstention vote from Australia was: "No technical expertise." The comment accompanying the abstention vote from Sweden was: "Abstention due to lack of expertise."

The comments accompanying the affirmative votes from Germany, Japan and the United Kingdom are attached.

WG5 is requested to prepare a Disposition of Comments Report and make a recommendation on the further processing of the FCD.

ISO/IEC JTC1/SC22 LETTER BALLOT SUMMARY
Registration Ballot

PROJECT NO: JTC 1.22.02.02

SUBJECT: Concurrent CD Registration and FCD Ballot for FCD 1539-2: Information technology - Programming languages, their environments and system software interfaces - Fortran, Part 2: Varying Length Character Strings (Revision of ISO/IEC IS 1539-2:1994)

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Circulated To: SC22 P, O, L

Circulated By: Secretariat

SUMMARY OF VOTING AND COMMENTS RECEIVED

	Approve	Disapprove	Abstain	Comments	Not Voting
'P' Members					
Australia	( )	( )	(X)	( )	( )
Austria	( )	( )	()	( )	(X)
Belgium	( )	( )	()	( )	(X)
Brazil	( )	( )	()	( )	(X)
Canada	( )	( )	(X)	(X)	( )
China	(X)	( )	()	( )	( )
Czech Republic	(X)	( )	()	( )	( )
Denmark	(X)	( )	()	( )	( )
Egypt	( )	( )	()	( )	(X)
Finland	(X)	( )	()	( )	( )
France	(X)	( )	()	( )	( )
Germany	(X)	( )	()	( )	( )
Ireland	(X)	( )	()	( )	( )
Japan	(X)	( )	()	( )	( )
Netherlands	(X)	( )	()	( )	( )
Norway	(X)	( )	()	( )	( )
Romania	(X)	( )	()	( )	( )
Russian Federation	( )	( )	()	( )	(X)
Slovenia	( )	( )	()	( )	(X)
UK	(X)	( )	()	( )	( )
Ukraine	(X)	( )	()	( )	( )
USA	(X)	( )	()	( )	( )
'O' Members Voting					
Korea Republic	(X)	( )	()	( )	( )
Sweden	( )	( )	(X)	(X)	( )

ISO/IEC JTC1/SC22 LETTER BALLOT SUMMARY
Approval Ballot

PROJECT NO: JTC 1.22.02.02

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SUMMARY OF VOTING AND COMMENTS RECEIVED

	Approve	Disapprove	Abstain	Comments	Not Voting
'P' Members					
Australia	( )	( )	(X)	(X)	( )
Austria	( )	( )	()	()	(X)
Belgium	( )	( )	()	()	(X)
Brazil	( )	( )	()	()	(X)
Canada	( )	( )	(X)	(X)	( )
China	(X)	( )	()	()	( )
Czech Republic	(X)	( )	()	()	( )
Denmark	(X)	( )	()	()	( )
Egypt	( )	( )	()	()	(X)
Finland	(X)	( )	()	()	( )
France	(X)	( )	()	()	( )
Germany	(X)	( )	()	(X)	( )
Ireland	(X)	( )	()	()	( )
Japan	(X)	( )	()	(X)	( )
Netherlands	(X)	( )	()	()	( )
Norway	(X)	( )	()	()	( )
Romania	(X)	( )	()	()	( )
Russian Federation	( )	( )	()	()	(X)
Slovenia	( )	( )	()	()	(X)
UK	(X)	( )	()	(X)	( )
Ukraine	(X)	( )	()	()	( )
USA	(X)	( )	()	()	( )
'O' Members Voting					
Korea Republic	(X)	( )	()	()	( )
Sweden	( )	( )	(X)	(X)	( )

German Comments

1. Memory management is an important usability factor for types with dynamic components (heap objects) and raises many real-life issues. Most importantly, a guarantee that a program will not run out of memory as long as it never requires more than, say, 80 or 90% of the total available memory at any one time, is of paramount importance in many applications (most notably, in operating and other real-time systems). In this context, it is important to realize that on virtually every computer today, whether it be a small PC or a high-performance computer for millions of dollars, it is very easy to access every physical memory location within seconds or minutes.

So far, the Fortran standard has not addressed the issue of memory management/garbage collection, and it will and cannot do so before the advent of Fortran 2000 - at least 12 years after Fortran 90 introduced heap objects. In Germany's view, this is detrimental to Fortran's acceptance and well-being.

Germany strongly believes that the Varying-Length Character Strings Standard should include a statement along the lines of:

"Implementations are urged to provide automatic garbage collection for temporary/intermediate string objects which become inaccessible during runtime."

The fact that a concept for construtors/destructors is currently being developed for Fortran 2000 gives hope that some of the problems arising from the lack of memory management will be solved in the future. However, this provides no consolation at this point in time.

2. The current ballot is on a revision of the original string standard called for by the new Fortran 95 standard. It is rather obvious that the data abstraction facilities that Fortran 90 set out to provide are still very much lacking even in Fortran 95.

Germany expects that the current, very minor revision will be followed by a major revision some time after the Fortran 2000 standard becomes available. This next revision will have to make profound changes in the interfaces of many operations, owing to the new OOP features and derived-type I/O facility of Fortran 2000.

Germany strongly recommends that the development body and everybody involved in the revision process of the MAIN Fortran standard (part 1) use the string module to evaluate and double-check all relevant Fortran 2000 concepts BEFORE the final contents of Fortran 2000 are decided. We all need illustrative examples as proof of concept for new features, and we should have a completely overhauled string standard using these new features by the end of this year.

The last comment does not refer directly to the standard's text itself; however, it may be of concern in practice.

3. The sample implementation requires that Corrigendum 1 of Fortran 95 be implemented so that derived-type assignment works as intended, e.g. if a derived type contains components of type string and an overloaded assignment is defined for that type.

Japanese comments

- Title page
  The title "Varying Length Character Strings" should be changed to "Varying length character strings".

- Page 1, "1.2 Changes from the previous version", 1st line of 2nd paragraph
  The last character "-" should be removed.

- Page 8, "3.4.7 LEN(string)", Argument
  The second statement "The argument is unchanged by the procedure." should be removed.

- Page 12, "3.6.1 GET", title
  In case the number of optional arguments is more than one, its notation (usage of [ ]) is different from the part 1. The same notation as the part 1 should be used.

  We found no good reason to change an (rigorously) incorrect form into another. This is not a part of syntactic specification, but just a title of a subclause.

- Page 14, "3.7.1 EXTRACT", "Result Characteristics"
  "Scalar of" should be changed to "Of".

- Page 14, "3.7.2", "INSERT", "Result Value", 3rd line
  "... than LEN(string, the value LEN(string)+1) is ..." should be changed to
  "... than LEN(string), the value LEN(string)+1 is ...".

- Page 15, "3.7.3 REMOVE", "Result Value", 3rd line
  "... than LEN(string, the ..." should be changed to
  "... than LEN(string), the ...".

- Page 15, "3.7.4 REPLACE", "Result Value (ii)", 5th line
  "... than LEN(string, the value" should be changed to
  "... than LEN(string), the value".

UK Comments

The UK approves the draft with comments as given below. (All are simple editorial corrections or are in the nature of clarifications).

page 1, section 1.1, line 3.
Change 'ISO/IEC 1539-1' to 'ISO/IEC 1539-1: 1997'.

page 2, end of section 1.2. Add new paragraph:

A program that conforms with 1539-2:1994 also conforms with this standard.

page 2, section 1.2, line 3.
Change 'to also' to 'also to'.

page 13, section 3.6.3, lines 4 and 6.
Change 'be be' to 'be'.

page 15, section 3.7.3, penultimate line.
Change 'LEN(string,' to 'LEN(string),'.

page 16, section 3.7.5, Action, lines 5-6.
Change the sentence 'If ... length' to

> If no character from <set> is found or <set> is of zero length, the whole string is returned in <word>, <string> is returned as zero length, and <separator> (if present) is returned as zero length.

and move it to follow the next sentence.

page 17, Annex A, line 1.
Change 'ftp.nag.co.uk/sc22wg5' to
'ftp.nag.co.uk/sc22wg5/ISO_VARYING_STRING'.

page 17, section B.1, Comments in the program, line 2.
Change 'terminated' to 'separated'.

page 18, section B.2, Comments in the program, line 9.
Align the final '!'.

page 19, section B.2, program.
Delete the three lines that refer to the variable record_count.