ISO/IEC JTC 1/SC 22/WG 5 **Fortran** **Convenorship: BSI (United Kingdom)**

Document type: Other document (Open)

Title: Responses to comments in the vote on PDTS 18508

Status:

Date of document: 2015-08-09

Expected action: INFO

Email of secretary:

Committee URL: http://isotc.iso.org/livelink/livelink/open/jtc1sc22wg5

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
GB1	2	Introduction	5	ed	The content of the TS should not be added to the full Fortran language until it there is evidence that it can be implemented to work portably and reliably on most of the parallel systems used by the Fortran community. *This comment does not reflect all opinion in the BSI panel but it is strongly held by some members.*	Change "in the next revision" to "in a future revision".	This change is not accepted, but progress has been made towards the objective of resolving the underlying problems during the integration of the features into the next version of the Fortran standard.
DE1	[p9:3]	5.1	para 1	ed	improve clarity: "both sibling and ancestor" may be misunderstood.	replace "both sibling and ancestor" by "either sibling or ancestor"	Agreed, without "either" in new text.
GB2	27	5.2		ed	"default-initialized", with hyphen, is a defined term	Change "default initialized" to "default-initialized".	Agreed.
DE2	[p10:17+]	5.3	para 3	ge	the paragraph appears somewhat redundant against [p10:27-28].	Delete [p10:17-18]. In [p10:27+] replace first sentence by "A codimension-decl in a *coarray-association* associates a coarray with an established coarray identified by *coselector-name* during the execution of the block."	This change is not accepted. We feel that the extra precision in the sentence is valuable. However, it would be better if the sentence were moved to the start of paragraph 5, "A *codimension-decl …*".
DE3	[p10:19+]	5.3	para 4	ge	The first sentence of the paragraph states incorrectly what is stated correctly in the second sentence.	Delete [p10:19-20].	Agreed.
DE4	[p10:37+]	5.3	para 8	te	In [p10:37-38], "of the current team" appears unnecessarily strict, since the later text only prescribes synchronization across the specified team.	Replace the second and third sentence in para 8 [p10:37-40] by "All active images of the team containing the executing image that is identified by *team-variable* shall execute the same CHANGE TEAM statement. When this CHANGE TEAM statement is executed, there is an implicit synchronization of all these images. "	This change is not accepted. It was intended that a single CHANGE TEAM construct should fully control the change of execution.
DE5	[p11:13] [p11:17]	5.4	para 3, 4	ed	the mainline standard ISO/IEC 1539-1 has "the image index" in this context, which seems clearer.	Replace "an image index" by "the image index", twice.	Agreed. We note that the first line of 6.6 in ISO/IEC 1539-1 contains the words "the image index".
JP1	p.11, line 12	5.4		ed	The definition of "ancestor team" should be in "3 Terms and definitions".		We do not think that this change is needed. ISO/IEC 1539-1 uses the adjective "ancestor" for components and

---

1 **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)
2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

Page 1 of 6

							Date:2015-07-29	Document:		Project:

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]		Comments		Proposed change		Observations of the secretariat
										modules without a definition in Clause 3.
JP2	p.13, line 6	5.5		te		Explanation in the case of an error condition of detection of a failed image is missing in this paragraph.				We do not think that a change is needed. It is made clear that the synchronization is of active images and there is more explanation in Clause 6.4.
JP3	p.16, line 20	6.4		ed		typo		Replace "image image" with "image".		Agreed.
GB3	6, 7	7.2		te		"Each component is fully default initialized.". This unnecessarily excludes the possibility that an implementation might use an allocatable component. There is no technical reason to forbid that.		Change "Each component" to "Each non-allocatable component". Also change "default initialized" to "default-initialized".		Agreed, without hyphen in "non-allocatable".
GB4	8	7.2		ed		The count of an event variable is part of its value. This is not clear from the text.		Change "An event variable has a count that" to "The value of an event variable includes its event count, which"		Agreed.
GB5	15	7.2		ed		Clause 7.2 does not make it clear that the updates to an event variable have their effects in a sequence even when the statements are not ordered. An explicit statement is needed to avoid possible confusion.		Add a new paragraph after line 26: "During execution of the program the event count of an event variable is changed only by execution of EVENT POST and EVENT WAIT statements. Each such change in the event count is associated with the unique statement execution that caused it to change; that is, the updates to the event count are sequentially consistent. Except as otherwise stated, this does not imply any ordering to the statements causing the changes to the event count."		We have chosen to add a new paragraph at the end of Clause 7.1: "Segments ordered by EVENT POST and EVENT WAIT are included in the partial order specified in subclause 2.3.5 of ISO/IEC 1539-1:2010."
GB6	2-4	7.3		ed		This paragraph is saying nothing that cannot be deduced from the rules on segments.		Delete the paragraph: "If the segment … processor dependent".		Agreed.
GB7	4+	7.3		te		It is the intention of the event feature that after posting an event, an image can continue to execute without waiting for an EVENT WAIT statement to execute on the image of the event variable. The example in Clause A.3.1 relies on this assumption. This should be made definitive.		Add a new paragraph at the end of Clause 7.3: "The completion of an EVENT POST statement does not depend on the execution of a matching EVENT WAIT statement." Delete NOTE 7.2.		Agreed, with "matching" replaced by "corresponding".
GB8	21-24	7.4		te		This paragraph does not explain which		Replace the paragraph at page 18, lines 21-24 by		Agreed.

1 **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)
2 **Type of comment:**   **ge** = general   **te** = technical   **ed** = editorial

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
					segments preceding executions of EVENT POST statements for an event variable precede the segment following the execution of an EVENT WAIT statement. We need some language to "use up" EVENT POSTings in EVENT WAITings.	"An EVENT POST statement execution is initially "unsatisfied". Successful execution of an EVENT WAIT statement with a threshold of k satisfies the first k unsatisfied EVENT POST statement executions for that event variable. This EVENT WAIT statement execution causes the segment following the EVENT WAIT statement execution to succeed the segments preceding those k EVENT POST statement executions."	
GB9	25	7.4		ed	The statement "A failed image might cause an error condition for an EVENT WAIT statement" is vague and unhelpful. It has no place in a standard.	The sentence should be amplified or deleted.	We agree with deletion.
GB10	25+4-25+7	7.4		te	NOTE 7.4 is not adequately supported by normative text, and is unsuitable as a note. If this point is to be made, it should be in normative text.	Replace the last sentence of the new paragraph above by "This EVENT WAIT statement execution causes the segment following the EVENT WAIT statement execution to succeed the segments preceding all the satisfied EVENT POST statement executions (including the k EVENT POST statement executions satisfied by this EVENT WAIT statement execution).". Also delete NOTE 7.4.	Agree to delete NOTE 7.4, but acceptance of GB8 makes the new text unnecessary.
JP4	p.18, line 20	7.4		te	It is not defined what the value of count becomes if an error occurs in execution of EVENT WAIT statement.	Add a definition like "If an error condition occurs, the count is processor dependent."	Agreed, and we think that an EVENT POST statement should be similar. In the third para.of 7.3, replace "the count does not change" by "the value of count of the event variable is processor dependent." Add extra para. after the list in 7.4: " If an error condition occurs, the value of the count of the event variable becomes processor dependent." Add extra item in the list in 9.11: "the value of the count of the event variable in an EVENT WAIT or EVENT POST statement when there is an error condition (8.5.2b)."
DE6	[p20:8-9]	8.3	para 2	te	This restriction appears arbitrary, unnecessary, and confusing, especially when considering NOTE 8.4.	Delete [p20:8-9]	We do not think that this change is desirable. An implementation may be able to take advantage of A being a coarray, in which case the restriction is

---

1 **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)
2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
							needed.
DE7	[p20:10-12]	8.3	para 3	ge	The second sentence of the paragraph appears superfluous since [p20:4] already says that the same statement must be executed to invoke the collective.	Delete [p20:10-12]: "If the STAT ... team."	We do not think that this change is desirable. An optional argument might be present in one execution of a statement and not present in another execution of the same statement.
JP5	p.20, line 8	8.3		te	The A argument of collective subroutines should be a coarray or a subobject of it, so that a processor does not need to implement another communication mechanism for noncoarrays than that for coarrays.		We do not think that this change is desirable. Temporary coarrays may be used by the implementation, so another communication mechanism is not necessary. WG5 has discussed this issue and decided that it is desirable to provide the extra generality of allowing arguments that are not coarrays.
JP6	p.26, line 38-43	8.4		te	The definition of the term "image-dependent" is not stated. This is the only place it appears.	Replace the following: "If it is a scalar, the computed value is equal to a processor-dependent and image-dependent approximation to the sum of the values of A on all images in the current team. If it is an array it shall have the same shape on all images in the current team and each element of the computed value is equal to a processor-dependent and image-dependent approximation to the sum of all corresponding elements of A on the images in the current team." with the following: "If it is a scalar, the computed value is equal to a processor-dependent approximation to the sum of the values of A on all images in the current team. If RESULT_IMAGE is present, the computed value can depend on the image that the RESULT_IMAGE specifies; otherwise, the computed value is the same on all images in the current team. If it is an array it shall have the same shape on all images in the current team and each element of the computed value is equal to a processor-	Agreed.

1   **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by ******)
2   **Type of comment:**   **ge** = general   **te** = technical   **ed** = editorial

Date:2015-07-29	Document:	Project:

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]		Comments	Proposed change	Observations of the secretariat
						dependent approximation to the sum of all corresponding elements of A on the images in the current team. If RESULT_IMAGE is present, each element of the computed value can depend on the image that the RESULT_IMAGE specifies; otherwise, each element of the computed value is the same on all images in the current team."		
GB11		8.4.1 to 8.4.8		te		The FETCH versions of the intrinsic procedures should be rolled up with the corresponding atomic logical procedures. This would reduce the number of intrinsics by four at the expense of requiring the STAT= keyword to be specified when STAT= but not OLD= is required.	Change the specification of ATOMIC_ADD to ATOMIC_ADD (ATOM, VALUE [, OLD, STAT]) and similarly for ATOMIC_AND, ATOMIC_OR and ATOMIC_XOR.	We do not think that this change is desirable. Having separate names will be clearer and less error prone for users.
GB12		8.4.1 to 8.4.9, 8.4.15		te		For consistency with other intrinsic procedures and statements with a STAT= keyword, keyword ERRMSG should be added.	Add optional keyword ERRMSG to the ten procedures specified, as for CO_BROADCAST etc.	We do not think that this change is desirable. The benefit is not sufficient to justify the work involved.
GB13	18	8.4.15		ed		typo	Change "no error conditions occurs" to "no error condition occurs".	Agreed.
GB14	19	8.4.15		te		It is inappropriate for COUNT to be set to 0 in the event of an error. It should be set to a value such as -1 or -HUGE (COUNT).	Change "Otherwise, it is assigned the value 0" to "Otherwise, it is assigned the value -1" or alternative.	Agreed, with the value -1.
GB15	22-27	8.4.15		te		The first example is correct only if there have been no successful posts or waits in preceding segments and there are no posts or waits in an unordered segments that might affect the value. A similar change makes the second example correct if the query is made on EVENT instead of EVENT[2]. There are uncertainties associated with querying the value of a remote event variable that are inappropriate in a simple example.	Line 22: After "posts or waits" add "in preceding segments, and for which there are no posts or waits in an unordered segment". Line 25: Change "EVENT[2]" to "EVENT". Line 26: After "specification" add "in preceding segments, and for which there are no posts or waits in an unordered segment". Line 27: Change "EVENT[2]" to "EVENT".	Agreed. Furthermore, we would like to disallow the event variable being coindexed, for consistency with EVENT WAIT. Add the edit for line 15: Before "It" add "It shall not be coindexed."
JP7	p.27, line 17	8.4.15		ed	typo		Replace "that that" with "than that".	Agreed.
DE8	[p30:39+]	8.5.2	para 3	ge	The text should provide details on the way the		Add a para 4	Agreed.

1   **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)
2   **Type of comment:**   **ge** = general   **te** = technical   **ed** = editorial

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
					result is modified.	"The result is the image index in the specified team."	
DE9	[p31:3]	8.5.3	para 1	ed	The word "modified" appears unsuitable, apart from being repetitive.	In line 3, replace "modified" by "extended"	Agreed.
DE10	[p31:4]	8.5.3	para 1	ge	"a modified result" is incorrect because MOVE_ALLOC is a subroutine.	In line 4, replace "a modified result" by "modified semantics of execution"	Agreed.
DE11	[p31:39+]	8.5.4	para 3	ge	The text should provide details on the way the result is modified.	Add a para 4 "The result is the number of images in the specified team."	Agreed.
GB16	page 51 lines 47-52	A.3.2			The EVENT QUERY statement at line 47 and the test on its STAT value at line 48 is no longer needed with the removal of the concept of stalled images. There is no harm in creating a work item for an image that might have been detected as failed because it can be treated later in exactly the same way as if the image had failed during work on it. Also, the comment should refer to the master loop and there is no need to mention stalling.	Replace lines 47-52 by: work_item[i] = create_work_item(kk) EVENT POST (submit[i],STAT=status) ! If image i has failed, the failure will be handled on ! the next iteration of the master loop.	Agreed, with these additional edits. Replace lines 13 and 14 by "IF(IMAGE_STATUS(i)== STAT_FAILED_IMAGE) CYCLE" Replace lines 24 and 25 by "IF(IMAGE_STATUS(i)== STAT_FAILED_IMAGE) THEN"