Template for comments and secretariat observations

	Date:2018-06-16	Document:	Project:

MB/NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
** 001		02		Ed	ISO 9899 is at the FDIS stage.	Please update the references throughout the document.	Declined - the Working Group wishes to refer to 9899:2011 at this time. Paper 18-213.
** 002		03		Ed		Please use the following introductory text: For the purposes of this document, the following terms and definitions apply. ISO and IEC maintain terminological databases for use in standardization at the following addresses: — ISO Online browsing platform: available at https://www.iso.org/obp — IEC Electropedia: available at http://www.electropedia.org/	This comment was accepted and processed as paper 18-214.
GB 003	page 18	03.112.04		ed	Clarification: It was not intended that a generic in an intrinsic module should be classed as module procedure	Insert "specific" before "procedure provided by an intrinsic module". See also edit to subclause 15.2.2.2.	This comment was accepted and processed as paper 18-170.
US 004	[28]	04.01.3 "Assumed Syntax Rules"	P1/P2	ed	This comment applies to paragraphs 1 and 2	Merge paragraphs 1 and 2	The editor accepted this suggestion, with modification. See 18-229r1.
US 005	[29]	04.02 "Conformance"	P2/P3	ed	This comment applies to paragraphs 2 and 3	Merge paragraphs 2 and 3	The editor declined this suggestion. See 18-229r1.
** 006		05.04.3.2		Ed	ISO/IEC Directives, Part 2, 2016, 22.3.3: "Hanging paragraphs" such as those shown in	Please add an extra subclause "General" to avoid hanging paragraphs throughout the document.	This comment was accepted and processed as paper 18-

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					Figure 4 shall be avoided since reference to them is ambiguous.	For example: in 5.4.1.1 and 5.4.3.2.1.	215r1.
US 007	[67-68]	07.04.4.4 "Collating sequence"	P2/P3	ed	This comment applies to paragraphs 2 and 3	Merge paragraphs 2 and 3	The editor declined this suggestion – see 18-229r1.
DE 008		08.05.8.7		te	The bounds of assumed-rank entities with the POINTER or ALLOCATABLE attribute are unspecified. From 18.5.3 para 3, one gets the impression that this case should be treated the same way as for deferred-shape arrays, but the corresponding section 8.5.8.4 does not apply for the assumed-rank case. Also note that while 11.1.10.1 (C1155) implies that an assumed-rank entity can have the POINTER or ALLOCATABLE attribute, this is not explicitly stated anywhere.	Section 8.5.8.7 "Assumed-rank entity", add a new para 2: "An assumed-rank entity may have the POINTER or ALLOCATABLE attribute. If its effective argument has the same attribute and is an allocated allocatable array or an associated array pointer, its bounds, and hence its shape, are those of the effective argument."	This comment was accepted with modifications and processed as paper 18-172.

DE 009		08.05.8.7	para 1	te	Constraint C837 appears to not exclude the following:
					REAL, ALLOCATABLE :: A(..)
					REAL, POINTER :: B(..)
					REAL, TARGET :: BT(:,:)
					IF (RANK(A) == 2 .AND. RANK(B) == 2) THEN
					  B => BT
					  ALLOCATE(A(2,2))
					END IF
					I assume that the above pointer assignments and allocations should be limited to appear within a non-default block of a SELECT RANK construct. With the proposed change in place, this would still be permitted due to 11.1.10.3 para 1.
						Section 8.5.8.7 "Assumed-rank entity", in C837 replace
						"in a designator or expression except"
						by
						"in a designator, in an expression, as an allocate-object, as a data-pointer, or as a data-pointer-object, except"
							This comment was declined, as C837 covers the cases that should be forbidden already. See paper 18-174.

GB 010	page 164	10.01.11	para 2	ed	There is a formatting error in paragraph 2. Paragraph 2 continues after the numbered list and the text does not become a new paragraph.	Remove label "3" and renumber the following paragraphs.	This comment was accepted. See 18-229r1.
GB	page 164	10.01.11	para 2/3	ed	Clarification: The text ", and where any final	Delete ", and where any final subroutine that is	This comment was accepted

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011					subroutine that is invoked is pure" is redundant and potentially confusing since this situation cannot occur (ref C1583).	invoked is pure".	and processed as paper 18-178.
US 012	[164]	10.01.11 "Specification expression"	P2/P3	ed	This is the case where a sentence is split across two paragraphs. This comment applies to paragraphs 2 and 3	Merge paragraphs 2 and 3.	This comment was accepted. See 18-229r1.
GB 013	page 166	10.01.12	para 1 item (6)	ed	Functions GET_TEAM and TEAM_NUMBER should be added to the list of exceptions since the function value is not constant.	Insert "GET_TEAM," after "COMMAND_ARGUMENT_COUNT," and insert "TEAM_NUMBER," after "NUM_IMAGES,".	This comment was accepted and processed as paper 18-106.
US 014	[166]	10.01.12 Constant Expression	P1, List item (6)	ed	A needed edit was left out of F2018, as expressed in 18-106	Insert "GET_TEAM" and "TEAM_NUMBER" alphabetically in the list of intrinsic functions for which references are not allowed in a constant expression.	This comment was accepted and processed as paper 18-106.
US 015	[160]	10.01.6.1 "Definitions"	P2/P3	ed	This comment applies to paragraphs 2 and 3	Merge paragraphs 2 and 3	The editor declined this suggestion. Paragraph 3 is not related to how or whether "a function defines the unary operation" but is an additional requirement on its usage. As such, it is clearer stated separately. 18-229r1
US 016	[160/161]	10.01.6.1 "Definitions"	P5/P6	ed	This comment applies to paragraphs 5 and 6	Merge paragraphs 5 and 6	The editor declined this suggestion. Paragraph 6 is not related to how or whether "a function defines the binary operation" but is an additional requirement on its usage. As such, it is clearer stated separately. 18-229r1
US	[162/163]	10.01.9.2	P3/P4	ed	This comment applies to paragraphs 3 and 4	Merge paragraphs 3 and 4	The editor accepted this

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017		"Type, type parameters and shape of a primary"					suggestion, with modification. See 18-229r1.
US 018	[170/171]	10.02.1.4 "Defined assignment statement"	P2/P3	ed	This comment applies to paragraphs 2 and 3	Merge paragraphs 2 and 3	The editor declined this suggestion. See 18-229r1.
US 019	[176]	10.02.3.2 "Interpretation of masked array assignments"	P3/P4	ed	The paragraph break makes the reference "/mask-expression/" ambiguous. Without the paragraph break, there is no ambiguity. This comment applies to paragraphs 3 and 4	Merge paragraphs 3 and 4	This comment was accepted with modification. See 18-229r1.
GB 020	pages 199-200	11.01.10.1	para 1	ed	Specifying a rank that is not supported by the processor in a <select-rank-case-stmt> is harmless because the statement would not be reached. It should be allowed so that a program can be written that is portable to a processor that does support the rank.	In constraint C1151 delete "and less than or equal to the maximum possible rank of selector". After paragraph 2 insert a new paragraph 3: The <scalar-int-constant-expr> in a <select-rank-case-stmt> may have a value greater than the maximum possible rank of selector; in this case, its block will never be executed."	This comment was accepted, along with noting that it is a technical change.18-185.
GB 021	page 192	11.01.7.5	para 2	ed	There is a typographical error in the third line from the bottom of the page.	After "PROTECTED, SAVE" insert a comma.	This comment was accepted and processed as paper 18-192.
US 022	[197]	11.01.9.2 "Execution of a SELECT CASE construct"	P1/P2	ed	This comment applies to paragraphs 1 and 2	Merge paragraphs 1 and 2	The editor declined this suggestion. See 18-229r1.
JP01 023	[207:4]	11.06.1	3	ed	A FORM TEAM statement includes the effect of executing a SYNC MEMORY statement for the following reasons.	Delete "FORM TEAM" from the sentence "All image control statements except CRITICAL, END CRITICAL, EVENT POST, EVENT WAIT, FORM TEAM, LOCK, and UNLOCK include the effect of	This comment was accepted with significant modifications and processed as paper 18-180r1.

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					The effects of executing a SYNC MEMORY statement are to divide the execution sequence on the executing image into two segments, which is common among all image control statements, and ensure the order of memory operations by the executing image before and after the SYNC MEMORY statement. According to the fourth sentence of paragraph 5 in clause 11.6.9 (page 213, line 15), "The segments that executed before the FORM TEAM statement on an active image of this team precede the segments that execute after the FORM TEAM statement on another active image of this team. " This sentence means that execution of a FORM TEAM statement makes the segments that executed before the statement on all active images of the current team precede the segments that execute after the statement on all active images of this team. Since segment ordering ensures memory operation order, a FORM TEAM statement includes the effect of executing a SYNC MEMORY statement. (A FORM TEAM statement virtually includes the effect of executing a SYNC ALL statement, which includes the effect of executing a SYNC MEMORY statement.)	executing a SYNC MEMORY statement (11.6.5).".	
JP02 024	[207:4]	11.06.1	3	ed	A CRITICAL statement seems to virtually include the effect of executing a SYNC MEMORY statement for the following reasons. In the case that image M executes a CRITICAL construct, image M shall not commence any memory operation in the segment corresponding to the CRITICAL construct before image M executes the CRITICAL statement.	Delete "CRITICAL" from the sentence "All image control statements except CRITICAL, END CRITICAL, EVENT POST, EVENT WAIT, FORM TEAM, LOCK, and UNLOCK include the effect of executing a SYNC MEMORY statement (11.6.5).".	This comment was accepted with modifications and processed as paper 18-180r1.

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					According to the fifth sentence of paragraph 3 in clause 11.1.6 (p. 187, line 26) , "Otherwise, if image M completes execution of the construct by failing, and image T is the next to execute the construct, the previous segment on image M precedes the segment on image T." This sentence means that a processor practically has to make all memory operations in the segments before the CRITICAL statement on image M precede any memory operation in the segment corresponding to the CRITICAL construct on image M, because when an image fails is generally unpredictable in advance and it will be impossible to complete delayed memory operations by a failed image in general. Therefore, a processor shall virtually ensure the order of memory operations before and after a CIRITICAL statement by the image that executes the CRITICAL statement. This means that a CRITICAL statement virtually includes the effect of executing a SYNC MEMORY statement.		
JP03 025	[215:35] [216:6] [216:27] [216:34]	11.06.11	3, 5, 9, 10	ed	The descriptions of the value of the *stat-variable* are not consistent between the paragraphs: - a processor-dependent positive value (in paragraphs 3 and 5) - a processor-dependent positive integer value (in paragraph 9) - a processor-dependent value (in paragraph 10)	These descriptions should be unified (at least, "positive" should be explicitly stated) unless there are special intentions.	This comment was accepted and processed as paper 18-201.
GB 026	page 266	13.03.1	constraint C1302	ed	The list of edit descriptors for which an optional comma may be omitted after a P edit descriptor which is shown in 13.3.1 is not consistent with the list in 13.8.5. This appears to be an oversight.	In constraint C1302, after "ES," add "EX,".	This comment was accepted and processed as paper 18-181.
GB 027	page 269	13.04	para 5	ed	Edit descriptor EX has inadvertently been omitted from the list of descriptors which relate to a real	After "ES," insert "EX,".	This comment was accepted and processed as paper 18-

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					variable.		182.
GB 028	page 271	13.07.2.1	para 1 item (3)	ed	Correction:The present wording is incorrect for negative zero (if the processor distinguishes between positive and negative zero).	Change "positive or zero" to "nonnegative".	This comment was accepted and processed as paper 18-188.
GB 029	page 272	13.07.2.3.1	para 1	ed	As for 13.4 above.	After "ES," insert "EX," twice.	This comment was accepted and processed as paper 18-183.
GB 030	Page 273	13.07.2.3.2	para 7	ed	Clarification: The description of a hexadecimal-significand input field does not account for trailing blanks.	In the sentence beginning "Embedded blanks", following "number", insert "; trailing blanks are ignored".	This comment was accepted and processed as paper 18-186.
US 031	[273/274]	13.07.2.3.3 "E and D editing"	P4/P5	ed	This comment applies to paragraphs 4 and 5	Merge paragraphs 4 and 5	The editor declined the proposed change but made a different one. See 18-229r1.
US 032	[274/275]	13.07.2.3.4 "EN Editing"	P5/P6	ed	This comment applies to paragraphs 5 and 6	Merge paragraphs 5 and 6	The editor declined the proposed change but made a different one. See 18-229r1.
US 033	[275/276]	13.07.2.3.5 "ES editing"	P5/P6	ed	This comment applies to paragraphs 5 and 6	Merge paragraphs 5 and 6	The editor declined the proposed change but made a different one. See 18-229r1.
US 034	[276]	13.07.2.3.6 "EX editing"	P5/P6	ed	This comment applies to paragraphs 5 and 6	Merge paragraphs 5 and 6	The editor declined the proposed change but made a different one. See 18-229r1
GB 035	page 282	13.08.4	para 3	ed	The sign edit mode affects also list-directed and namelist editing. Hence the first sentence is incorrect. It is also redundant since the edit mode is properly specified elsewhere. For clarification it should be stated that sign mode descriptors are permitted on input but have no effect.	Delete the sentence "The SS, SP, and S edit descriptors affect only I, F, E, EN, ES, D, and G editing during the execution of an output statement". In the second sentence, between "and S edit descriptors" and "have no effect" insert "are permitted but".	PL22.3 disagrees with this change because it would be inconsistent with other edit descriptors, where we simply state that they have no effect on either input or output (such as P editing), and because adding the phrase is a matter of style not correctness. See

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							paper 18-209.
GB 036	page 283	13.08.7	para 1	ed	As for 13.4 above.	After "ES," insert "EX,".	This comment was accepted and processed as paper 18-207.
GB 037	page 283	13.08.8	para 2	ed	The decimal edit mode affects also list-directed and namelist editing. Hence the second sentence is incorrect. It is also redundant since the edit mode is properly specified elsewhere. Further, "EX" is missing from the list.	Delete the sentence "The decimal edit mode affects only D, E, EN, ES, F, and G editing.".	This comment was declined; however, other edits in this area were found to be necessary. See paper 18-209.
GB 038	page 299	15.02.2.2	para 3	ed	As for subclause 3.112.4 above.	After "A module procedure is" insert "a specific procedure provided by an intrinsic module or", making the whole paragraph read "A module procedure is a specific procedure provided by an intrinsic module or a procedure that is defined by a module subprogram."	This comment was accepted with modifications. 18-170.
US 039	[320]	15.05.2.11 Sequence association	Following paragraph 4	ed	A needed edit was left out of F2018, as expressed in 18-107r1	insert a new paragraph: "If an assumed-type dummy argument is an assumed-size array and the actual argument is scalar, the dummy array has exactly one element. Otherwise, an assumed-type assumed-size dummy array has the same number of elements as the actual argument."	This comment was declined as being redundant with the existing p4. 18-169.
US 040	[320]	15.05.2.11 Sequence association	P1, first sentence	ed	A needed edit was left out of F2018, as expressed in 18-107r1	after "represents an element sequence if" change "it" to "the dummy argument is not assumed-type and the actual argument". {If the dummy argument is assumed-type, we don't have traditional sequence association - especially in the case of character, otherwise we get a divide by NaN trying to calculate the number of elements.}	This comment was declined because assumed-type is meant to be usable with sequence association. 18-169.
US 041	[316]	15.05.2.4 Ordinary dummy	P13	ed	A needed edit was left out of F2018, as expressed in 18-107r1	rewrite:	This comment was accepted with modification and

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		variable				- split the first sentence into a separate paragraph - replace the rest with a new paragraph "If the actual argument is a noncoindexed scalar, the corresponding dummy argument shall be scalar unless \begin{itemise} \item the actual argument is default character, of type character with the C character kind (18.2.2), or is an element or substring of an element of an array that is not an assumed-shape, pointer, or polymorphic array, \item the dummy argument has assumed rank, or \item the dummy argument is an assumed-type assumed-size array. \end{itemise}	processed as paper 18-169.

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						{Allow scalar to associate with an assumptive dummy.}			
GB 042	page 328	15.06.2.1	para 6	ed	The restriction defined in subclause 18.3.7 para 2 item (6) does not appear in the constraints on interoperable procedure interfaces in subclause 15.6.2.1.		After constraint C1556 add a new constraint: C1556a If <proc-language-binding-spec> is specified for a procedure, each dummy argument of type CHARACTER with the ALLOCATABLE or POINTER attributes shall have deferred character length."		This comment was accepted with modification and processed as paper 18-175r1.
GB 043	page 416	16.09.155 RANDOM_INIT	paras 3 & 4	te	Subclause 16.7, para 4 says "It is processor dependent whether each image uses a separate random number generator, or if some or all images use common random number generators." We believe that the reason for this wording is to allow implementations to use a separate seed on each image, a single seed on each set of images (perhaps those on single nodes) or a single seed on all images (perhaps on a shared-memory machine with a modest number of images). The present wording for IMAGE_DISTINCT makes sense only for the case of a separate seed on each image - which image of a set sharing a seed calls RANDOM_INIT has no bearing. Does a single call of RANDOM_INIT initialize all the seeds? The current wording suggests that only one seed is initialized. Subclause 16.7, para 4 also says "If RANDOM_INIT or RANDOM_SEED is called in a segment A, and RANDOM_INIT, RANDOM_SEED, or RANDOM_NUMBER is called in segment B, then segments A and B shall be ordered." If only one seed is initialized, the calls must be in a CRITICAL construct or its equivalent, which would be very inefficient. It would be much better to say that a single call initializes all the seeds and that it does not matter which image makes the call.		In the description of the REPEATABLE argument, in the third sentence delete "from the same image". In the description of the IMAGE_DISTINCT argument, delete the third and fourth sentences, ("If it has the value true ... RANDOM_INIT.") and replace them by "If it has the value true, the seeds on the images of the current team that use separate random number generators and on the sets of images of the current team that use common random number generators are set to values that are all different. If it has the value false, these seeds are all set to the same value". In paragraph 4 (Example) replace the sentence by "The following statement initializes the pseudorandom number generator so that all the seeds are different:"		After extensive discussion, the description for RANDOM_INIT has been completely rewritten and all the ambiguities cleared up. See paper 18-205r3
GB 044	page 416	16.09.155 RANDOM_INIT	REPEAT-ABLE	ed	In the definition of argument REPEATABLE, the last sentence says "If it has the value false, the seed is set to a processor-dependent, unpredictably different value on each call." The		In line 4 of the definition delete "unpredictably".		This comment is moot as the description has been extensively revised and the problem word no longer

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		18-205r3			inclusion of the word "unpredictably" has the effect of forbidding a vendor from documenting how their pseudorandom number generator works. We believe that this was not intended.		appears. See paper 18-205r3.
GB 045	page 416	16.09.155 RANDOM_INIT	REPEAT-ABLE	ed	In the current definition, it is unclear whether the value of the seed is the same only for the current execution or is repeatable over different runs on the same processor with the same number of images. We think the latter was intended, which is very useful when testing or verifying code.	At the end of the third sentence, add "on the same processor and the number of images is the same".	The description of RANDOM_INIT has been extensively revised to clarify this point. See paper 18-205r3.
DE 046		16.09.197	para 5	te	The behaviour of UCOBOUND inside a CHANGE TEAM construct, when applied to a coarray established in an ancestor team, is not in line with that of other intrinsics like NUM_IMAGES(), which by default refer to the current team. For paper https://j3-fortran.org/doc/year/17/17-206.txt that included this topic, the rejection was justified with the argument that there are implementation difficulties. However, given that establishment of coarrays is a non-static concept (in the case of dummy coarray arguments, establishment may change when the procedure starts execution – see 5.4.8 para 5) it seems that the current definition is not correct, apart from breaking composability.	Introduction, para 2, page xx, heading "Changes to features previously described by ISO/IEC TS 18508:2015:" add text at the end of the bullet: "The intrinsic function UCOBOUND produces a final upper cobound that is always relative to the current team." In subclause 16.9.197 para 5, replace "team current when COARRAY was established" with "current team" so that the complete sentence reads: "The final upper cobound is the final cosubscript in the cosubscript list for the coarray that selects the image whose index is equal to the number of images in the current team."	This comment was accepted and processed as paper 18-199.
GB 047	page 435	16.09.197 UCOBOUND	para 5	te	UCOBOUND returns a misleading result for any coarray that was established outside the team. The final upper cobound returned by UCOBOUND should be the largest value that the final cosubscript can have in a valid set of cosubscripts. We require the correct value to be produced by NUM_IMAGES, so should do the same here. The change does not affect the efficiency of CHANGE TEAM or the mapping of a cosubscript list to an image index.	Change "the team current when COARRAY was established" to "the current team".	This comment was accepted, with an additional edit, and processed as paper 18-199.
GB 048	page 390	16.09.97 IMAGE_INDE	para 2	ed	Correction. IMAGE_INDEX cannot be an inquiry function, which would be allowed in a constant	Change "Inquiry function" to "Transformational function".	This comment was accepted, with an additional edit, and

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		X			expression, because its value depends on the number of images in the current team (or a team specified by TEAM or TEAM_NUMBER). For example, if X is declared thus REAL X[*] IMAGE_INDEX(X,[18]) has the value 18 if the number of images in the team is more than 17, and zero otherwise.		processed as paper 18-176.
GB 049	page 390	16.09.97 IMAGE_INDE X	para 6	ed	Clarification. Subclause 5.3.4 requires that an image index be not greater than the number of images in a team.	After "on any image" add ", provided the number of images is at least 213"	This comment was accepted and processed as paper 18-177.
GB 050	page 443	17.01	para 2		IEEE_SUPPORT_FLAG, and IEEE_SUPPORT_HALTING are incorrectly described as inquiry functions. Also add a clarification and remove tautologous text.	After "Which other exceptions are supported" insert "in the scoping unit". Delete the first two instances of "inquiry". Delete "and return true from IEEE_SUPPORT_FLAG(IEEE_UNDERFLOW, X)". Delete "and return true from the corresponding inquiry function". Delete "and return true from IEEE_SUPPORT_HALTING(FLAG)".	This comment was accepted with modifications and processed as paper 18-189.
GB 051	443	17.01	para 4	ed	Correct the wording for support of rounding modes and remove redundant text.	Delete "and return true from IEEE_SUPPORT_DATATYPE(X) (17.11.48)". Delete "and return true from the corresponding inquiry function". After "In the case of IEEE_ROUNDING," change "return true for" to "support".	This comment was accepted with modifications and processed as paper 18-190.
GB 052	446	17.03	para 10	ed	The second sentence "The inquiry function … supported" is already stated (and more correctly after the proposed edit above) in subclause 17.1 paragraph 2.	Delete the sentence ""The inquiry function … supported.".	This comment was accepted and processed as paper 18-191.
GB 053	447	17.04	para 4	ed	Support for rounding is already covered in subclause 17.1 paragraph 4.	Delete the sentence ""The inquiry function IEEE_SUPPORT_ROUNDING… mode.".	This comment was accepted and processed as paper 18-195.
GB	447	17.04	para 4	ed	Correction: IEEE rounding modes are separate	Delete the sentence, "The inquiry function	This comment was accepted

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MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
054					from I/O rounding modes.	IEEE_SUPPORT_IO… 2011.".	and processed as paper 18-195.
GB 055	448	17.06	para 1	ed	The function of IEEE_SUPPORT_HALTING has already been described in subclause 17.1 paragraph 2.	Delete the sentence, "The inquiry function IEEE_SUPPORT_HALTING… available.".	This comment was accepted and processed as paper 18-196.
GB 056	pages 490-491	18.03.7	paras 5 to 7 and NOTE 18.22	ed	The term "simply contiguous dummy variable" is undefined. Moreover as described in NOTE 18.22 it is inconsistent with the current standard.	In paragraph 5 change "simply contiguous dummy argument" to "dummy argument which has the CONTIGUOUS attribute or is an assumed-length CHARACTER array and not a pointer, assumed-shape, or assumed-rank,". Make the same change in paragraph 6. Delete paragraph 7. Delete NOTE 18.22 Add a new NOTE 18.22: "If an interoperable C procedure whose Fortran interface has a dummy argument which has the CONTIGUOUS attribute or is an assumed-length CHARACTER array and not a pointer, assumed-shape, or assumed-rank, is invoked from C, the invoking routine is responsible for the contents of the C descriptor which therefore might not describe a contiguous data object."	This comment was accepted with modifications and processed as paper 18-210r2.
GB 057	page 492	18.05.3	para 2	ed	Correction. The definition of "base_addr" is self-contradictory. The value of an object can be defined simultaneously to be a null pointer and not a null pointer.	In the description of base_addr change "null pointer. If the object has zero size" to "null pointer; otherwise, if the object has zero size".	This comment was accepted and processed as paper 18-200.
GB 058	page 492	18.05.3	para 2	ed	Correction. The definition of "version" is incomplete. It does not allow for different procedures in a program being processed with different versions, nor for a structure being defined by Fortran.	Delete the description of version, i.e. "The value is equal … descriptor was established." and replace it by "If the descriptor was established in a C function, it is the value of CFI_VERSION in ISO_Fortran_binding.h when that source file was translated. Otherwise, it is the version of ISO_Fortran_binding.h with which the descriptor established by Fortran is compatible.".	This comment was accepted with modifications and processed as paper 18-211.
GB 059	page 494	18.05.4	para 8	ed	Clarification. The term "intrinsic type" is not defined in the C standard. More precise wording is	Change "Otherwise, the value for an intrinsic type shall be positive." to "Otherwise, the value of a	This comment was accepted and processed as paper 18-

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					proposed.	macro listed in Table 18.4 is positive."	202.
JP04 060	[498:29]	18.05.5.5	2	ed	The underlined part of the following restriction can be misunderstood to mean that the first parameter "dv" of CFI_establish must not be used as a C actual argument associated with a Fortran dummy argument, which seems contrary to the descriptions in *Case (i)* and *Case (ii)* in paragraph 5 **Examples** (page 499). "It shall not have the same value as either a C formal parameter that corresponds to a Fortran actual argument or <u>a C actual argument that corresponds to a Fortran dummy argument."</u>	It should be clearly described that a pointer to a C descriptor established by CFI_establish can be a C actual argument associated with a Fortran dummy argument.	The restriction is in the present tense and does not refer to possible uses during later execution. No change is needed. See paper 18-203.
GB 061	page 498	18.05.5.5	para 2	ed	Correction. A type cannot be equal to a macro but it can have the value of a type code, which we believe is what was intended.	In the definition of parameter "type" change "shall be one of" to "shall have the value of one of".	This comment was accepted with modifications and processed as paper 18-179r1.
GB 062	page 498	18.05.5.5	para 2	te	As defined, "type" does not cover all possible interoperable types.	In the definition of parameter "type", after "18.4" insert "or a positive value corresponding to an interoperable C type".	This comment was accepted with modifications and processed as paper 18-179r1.
GB 063	page 499	18.05.5.5	para 2	ed	Typographical error.	In the definition of parameter "elem_len", change "the type" to "type" in code font.	This comment was accepted and processed as paper 18-193.
JP05 064	[500:23]	18.05.5.7	2	ed	The underlined part of the following restriction can be misunderstood to mean that the first parameter "result" of CFI_section must not become a C actual argument associated with a Fortran dummy argument if the attribute member of the target of "result" does not have the value CFI_attribute_pointer, which seems contrary to the example in C.12.12. "If the value of result is the same as either a C formal parameter that corresponds to a Fortran actual argument or <u>a C actual argument that corresponds to a Fortran dummy argument, the attribute member shall have the value</u>	It should be clearly described that a pointer to a C descriptor updated by CFI_section whose attribute member does not have the value CFI_attribute_pointer can be a C actual argument associated with a Fortran dummy argument.	The restriction is in the present tense and does not refer to possible uses during later execution. No change is needed. See paper 18-203.

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					CFI_attribute_pointer." In the example in paragraph 1 of C.12.12 (page 608-609), the value of the first argument "&array" of CFI_section is the same as that of the C actual argument that corresponds to the Fortran dummy argument of the subroutine set_all, and the attribute member of the C descriptor "array" has the value CFI_attribute_other, not CFI_attribute_pointer.		
JP06 065	[531:18]	A.2	1	ed	There is a typo in the third item: the value of a reference to to a coindexed object on a failed image (5.3.6);	Delete one "to" from the sentence.	This comment was accepted and processed as paper 18-121r1.
JP07 066	[532:42]	A.2	1	ed	The following item is missing: whether the processor has the ability to detect that an image has failed (11.5, 16.10.2.26);	It should be added.	This comment was accepted with modifications and processed as paper 18-184.
US 067	[531]	A.2 Processor dependencies	P1, bullet (4)	ed	Double "to" in: "value of a reference to to a coindexed object on a failed image (5.3.6);" From paper 18-121r1	replace "to to" with "to".	This comment was accepted and processed as paper 18-121r1.
US 068	[535]	A.2 Processor dependencies	P1, bullet(15)	ed	Double "the" in: "the computed value of the the intrinsic subroutine CO_REDUCE (16.9.49) and the intrinsic subroutine CO_SUM (16.9.50);" From paper 18-121r1	replace "the the" with "the".	This comment was accepted and processed as paper 18-121r1.
GB 069	page 543	C.1	para 1	ed	In the bullet point beginning "All transformational functions", references to functions from the modules IEEE_ARITHMETIC and IEEE_EXCEPTIONS are inappropriate. Some of them were mis-characterized in Fortran 2003 as inquiry functions and were re-classified as transformational functions in Fortran 2008 Technical Corrigendum 4. Allowing these transformational functions in constant and specification expressions involved no change to the language because they were previously inquiry functions and therefore allowed	In the bullet point beginning "All transformational functions" change "modules… modules" to "module", delete the following "IEEE_ARITHMETIC… and," making the whole bullet point read: "All transformational functions from the intrinsic module ISO_C_BINDING can be used in specification expressions."	This comment was accepted and processed as paper 18-198.

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					in such expressions. In Fortran 2003, it was unstated whether the functions in ISO_C_BINDING were pure or not (pure function references being permitted in specification expressions). This issue was not addressed until Fortran 2008. So this reference is correct.		
JP10 070	[584:15]	C.10.03	1	ed	The dummy argument "callback" is not declared in the subroutine "forward_invoke".	The following statement should be added in the specification-part of the subroutine: `TYPE(callback_record),POINTER :: callback`	This comment was accepted and processed as paper 18-208.
JP08 071	[559:12]	C.6.08	2	ed	The closing parenthesis is missing in the following statement: images_spare = MAX (INT (0.01*NUM_IMAGES ()), 0, MIN (NUM_IMAGES () - 10, 1)	It should be: images_spare = MAX (INT (0.01*NUM_IMAGES ()), 0, MIN (NUM_IMAGES () - 10, 1))	This comment was accepted and processed as paper 18-194.
JP09 072	[559:42] [560:9]	C.6.08	2	ed	The statements "EXIT simulation" on the 3rd line from the bottom of p.559 and on the 9th line of p.560 violate the restriction C1167 because they belong to the CHANGE TEAM construct.	A GOTO statement branching to the statement "END TEAM simulation" can be used instead. In the latter case, "EXIT iter" can also be used alternatively.	This comment was accepted and processed as paper 18-204r1. EXIT will now be permitted in a CHANGE TEAM or CRITICAL construct.
** 073		Contents		Ed		Please remove the clauses in Annexes. ISO only keeps the Annex titles in the Table of contents.	This comment was accepted and processed as paper 18-216.
** 074		Foreword		Ed		Please use the following Foreword. ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with	This comment was accepted and processed as paper 18-217.

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						particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives). Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents). Any trade name used in this document is information given for the convenience of	

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						users and does not constitute an endorsement.	

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This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 22, *Programming languages, their environments and system software interfaces.*

This fourth edition cancels and replaces the third edition (ISO 1539-1:2010), which has been technically revised. It also incorporates the Technical Corrigenda ISO/IEC 1539-1:2010/Cor. 1:2012, ISO/IEC 1539-1:2010/Cor. 2:2013, ISO/IEC 1539-1:2010/Cor. 3:2014, and ISO/IEC 1539-1:2010/Cor. 4:2016. The main changes compared to the previous edition are as follows:

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						be found on the ISO website.	
** 075		General		Ed	References must be presented as follows: ISO/IEC *number*:*year*, *clause* Not "(sub)clause *number* of ISO/IEC *number*.*year*"	Please change all the references throughout the document. And please also remove "Clause" or "subclause" in references.	This comment was accepted and processed as paper 18-218.
** 076		General		Ed		Please change "2017" to "2018" in the headers and footers.	This comment was accepted and processed as paper 18-219.
** 077		General		Ed	ISO/IEC Directives, Part 2, 2016, 24.3: "Within a given clause or subclause, notes shall be numbered sequentially. The numbering restarts at each new subdivision. A single note in a subdivision need not be numbered."	Please remove the numbers in the Notes	This comment was accepted and processed as paper 18-220r1.
** 078		General		Ed	"shall" is used to express a requirement "should" is used to express a recommendation "may" is used to express a permission "can" is used to express a possibility ISO/IEC Directives, Part 2, 2016, Clause 7	Please check all provisions to ensure that verbal forms are used correctly Verbal forms can also affect certain parts of the document (i.e. Notes cannot contain requirements)	This comment was accepted and processed as paper 18-221.
** 079		General		Ed		Please remove blank pages in the body of the text and between Annexes. The only blank pages allowed are after the front matter so that the "Scope" page is on an odd page, and one after the Bibliography so the last page of the document is an even number.	This comment was accepted and processed as paper 18-222.
** 080		General		Ed	"could", "might", "have to" and the future tense are to be avoided in ISO publications	Please review these as appropriate in the document. (for information "must" may only be used to express an external constraint)	This comment was accepted and processed as paper 18-223.
US 081	[xx]	Introduction	P3/P4	ed	The DIS often breaks paragraphs at the end of a list. Paper 18-137 lists the inappropriate breaks. The balance of the edits are from that paper. Additional comments on specific line items are listed in this column.	Merge paragraphs 3 and 4	The editor declined this suggestion. See 18-229r1.

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GB 082	page xviii	Introduction	para 2	ed	The requirement that the DIM argument to THIS_IMAGE be of default kind has been dropped but this is not mentioned amongst the changes described in the Introduction	Under bullet point "Intrinsic procedures and modules", following the sentence "In references to the intrinsic functions ALL, ANY, … a present optional dummy argument.", add a new sentence "The actual argument DIM to THIS_IMAGE is no longer required to be of default kind.".	This comment was declined as the existing text already covers this case. "Integer and logical arguments to intrinsic procedures and intrinsic module procedures that were previously required to be of default kind no longer have that requirement, except for RANDOM_SEED." Paper 18-206
GB 083	page xix	Introduction	para 2	ed	The addition of a new interoperable type is not mentioned in the introduction.	Under bullet point "Features previously described by ISO/IEC TS 29113:2012", following the sentence "The FPTR argument to C_F_PROCPOINTER ... pointer." add a new sentence "There is a new interoperable type C_PTRDIFF_T.".	This comment was accepted with modifications and processed as paper 18-171.
** 084		List of tables 18-				Please remove the list of tables.	This comment was accepted and processed as paper 18-224.

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