ISO/IEC JTC 1/SC 32 N 1858

Date: 2009-04-15

REPLACES: —

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TITLE	Summary of Voting on 32N1819 CD 19763-5 Information technology - Metamodel framework for interoperability (MFI) Part 5: Metamodel for process model
SOURCE	SC32 Secretariat
PROJECT NUMBER	1.32.22.01.05.00
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ACTION ID.	FYI
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ISO/IEC JTC 1/SC 32 N1858

Summary of Voting on Document SC 32 N 1819

Title: Summary of Voting on 32N1819 CD 19763-5 Information technology - Metamodel framework for interoperability (MFI) Part 5: Metamodel for process model

Project: 1.32.22.01.05.00

"P" Member	Approval	Approval with Comments	Disapproval with Comments	Abstention with Comments
Australia			1	
Belgium				
Brazil				
Canada			1	
China	1			
Czech Republic	1			
Egypt				
Finland				
Germany				1
Japan			1	
Kazakhstan				
Korea, Republic of	1			
Portugal				
Sweden				
United Kingdom			1	
United States			1	
Total "P"	**3**	**0**	**5**	**1**
"O" Member				
Austria				
Denmark				
France				
Italy				
Netherlands, The				
Norway				
Russian Federation				
Switzerland				
Total "O"				

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COMMENTS:

Australia
No. See comments below:

Canada
No. See comments below:

Germany
Abstain. Lack of expertise and interest.

Japan
No. See comments below:

United Kingdom
No. See comments below:

United States
No. See comments below:

Template for comments and secretariat observations

Date:	Document:

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
AU01	General		ge	In preparing these comments, attention was paid to the following Japanese expert comments on WD2 of Part 5 http://metadata-standards.org/metadata-stds/Document-library/Documents-by-number/WG2-N1151-N1200/WG2-N1186-Comments-on-WD19763-5-081110.pdf This is referred to as **Reference 1** below. Note was also taken of the Roles, Goals, Process, Service thinking that appears to be influencing future directions for 19763. http://jtc1sc32.org/doc/N1751-1800/32N1776-WG2N1124-20080527-WangJian-RGPS.ppt This is referred to as **Reference 2** below. In particular, WD1 for 19763-7 for service registration suggests there will be a 19763-8 for role & goal registration.		
AU02	Document cover page		ed	Says "Part 3 : Metamodel for process model registration"	Should say "Part 5"	Done. Also see CA01.
AU03	5		ed	Conformance is Clause 5 in Part 5 but it is Clause 2 in Parts 1 to 4.	Conformance in Part 5 should be Clause 2, not Clause 5.	Done.
AU04	1 (Scope)		ge	Overview Point 2 on Page 2 of Japanese expert comments (see **Reference 1** cited earlier) "What is the difference between a process and a service?" is noted. Agree with WD1 on Part 7 (Service Registration) that a process is realised by one or more services. While it is currently noted on the WG2 website that Part 7 is accepted by WG2 but not approved by SC32, it is recommended Part 5 doesn't try to cover services as part of processes. Current scope statement *register...process models, including workflows, business processes, Web*	Preferred wording left up to authors. Might also explicitly add the clarification that processes may be implemented / realized via services, with Part 5 focusing on the registration of processes rather than services. The "handoff" between processes and services could be handled in more detail in Part 7 if it proceeds. Having worked out process registration	Made corresponding changes to the scope statement. In the scope of CD2, it is said that "*The metamodel specified in this part is intended to promote discovery and reuse of process models within/across process model repositories. It provides administrative information of*

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NOTE Columns 1, 2, 4, 5 are compulsory.

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				services, etc. could be seen as ambiguous. Part 5 should not cover web services but can cover the process models, workflows and business processes that underpin them. In particular business processes that take place over the web can involve a multitude of actors (humans and software) from a multitude of organizations so they can be complex and specialized compared with business processes more closely "contained" within organizations. It might therefore be appropriate to mention this type of process which is not so "contained" (which typically, but not always, is enabled via the web) but it shouldn't be referred to in short hand as "web services", which are only a means of realization of such processes. Might update Introduction as well.	and service registration a later edition might be able to set out a more common core for "process/service" registration – eg with more about a common framework for inputs, outputs, constraints etc. There seems to be enough difference in concepts, contexts and details, however, to keep separate – but linked – at this time. One implementation of one process could consist of multiple orchestrated services, and there can be different implementations of the same process, where two or more of the different implementations might actually use some services? Some of this complexity could be worked around by forcing "atomic processes" to be very fine grained and technical but it seems much better to have processes that are atomic from a business perspective, being able to be implemented by a number of services working together?	*process models which have been created with a specific process modeling language, including PSL, BPEL, OWL-S, etc.*". The relationship between this part and MFI-7(metamodel for service registration) is clarified in Clause5.2 as "*Service in MFI-7 can be used to realize Process. The relationship between MFI Process and MFI-7 means that a process can be realized by zero to many instances of Service and a service can achieve only one Process*." Also see CA07.
AU05	1 (Scope)		ge	Scope questions on Page 3 of Japanese expert comments (see **Reference 1** cited earlier) don't appear to have been addressed directly. As not all process are workflows it is assumed • Process on physical things • Process by human • State-transition process • Event driven process (the event is an Input?) can all be covered. However, the "practical value	If some of the dot points listed fall outside scope then within Clause 2 note them as explicitly excluded.	The scope of CD2 states that "T*he metamodel specified in this part is intended to promote discovery and reuse of process models within/across process model repositories. It provides administrative information of process models which have been created with a specific process modeling language, including Process Specification*

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				added" by applying Part 5 to the first two dot points may not be great.		*Language(PSL), Business Process Execution Language(BPEL), Web Ontology Language for Web Service(OWL-S), etc.*" It means that any process that is modeled with a specified language can be registered into a process registry based on part 5. In addition, The "practical value added" by applying "Process on physical things" and "Process by human" may not be great.
AU06	4.1	Figure 2	te	With goals possibly getting a "life of their own" under RGPS and Part 8 (see **Reference 2** cited earlier), is it still appropriate that a process realizes only one goal? Does it mean that sometimes it may be realizing a "composite goal"?		Since MFI-8 focuses on Role&Goal registration, CD2 of 19763-5 removes the definition and text of "Goal". But in 5.2, the relationship between Process and Goal is addressed. Also see CA27, CA41 and GB14.
AU07	3.2.2, 4.1 elsewhere		te	"Process" sometimes seems to be used as synonymous shorthand for "Process Model". Is it the intention of the authors that the two are the same? It could be suggested (and would be "common use"?) that the two are distinct. In fact, "process" might be seen as an abstract object that can be represented in concrete terms by a process model and "realized" through a specific execution of that process (eg using specific services).	If it is agreed (at least when expressed in English) there is a difference between "Process Model" and "modelled process" then refine the wording accordingly. For example, should 3.2.2 be "sub process model", should the boxes in the based model be "Process Model" rather than "Process" etc.	In 4.1 of CD2, process is defined as a set of activities and resources, organized according to constraints, which all participate in fulfilling a given purpose. Process model is defined as a specification that is the result of modeling one or more processes, adopting a specific process

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				If separation is accepted then a process can be modelled in several different ways so, in theory, the same "process" could be the subject of more than one registered process model, with each of those process models possibly, or possibly not, using the same process modelling language. If accepted as separate • A process doesn't have a modelType, a process model does • "Goal" might be expressed as the "Goal of the modelled process", rather than the "Goal of the process model", but the relationship shown in 4.1 still holds • Terms like "successful execution of the process model" (which appear in several places) are actually, eg, "successful execution of the modelled process"? In summary the process could be seen as the (subject) object modelled by the process model.	If for the purposes of this standard the two are seen as synonymous then this should be noted explicitly (eg as part of Clause 3).	modeling language to describe features of a process. It shows what the process does and how it is done. In addition, CD2 adds a new metaclass named "Process_Model", connecting "Process" to "Process_Modeling_Language". That is, Process_Model is a specification that is the result of modelling processes. Process_Modeling_Language specifies the modeling language that Process_Model uses to represent processes.
AU08	4.1		ed	***Process** is constrained by **Control_Constraint**. According the complexity of registered process models, two types of strategies are implies in Process Control Model.*	"implied" rather than "implies"	Accepted.
AU09	4.1	Figure 3	te	As each process must have one, and only one, control constraint it is assumed that this often an aggregation of multiple Conditions and possibly multiple Control_Constructs. The following doesn't seem clear from the UML or text • Does an Atomic_Process only require one condition (either a Precondition or a Postcondition), are both required, or are the	Provide clarification in Figure 3 and/or the associated text.	In CD1, Base Model and Process Control Model were defined to record basic structural and constraints of processes. But in CD2, there is only one metamodel by merging key metaclasses from CD1. Figure 2 in CD2 provides the

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				subtypes optional (eg there could be simply a non subtyped Condition)? • While it is stated that *As for **Atomic_Process**, **Condition** is the only mandatory constraint* should it also be "taken as read" that they cannot have a Control_Construct, or is that optional?		metamodel for process model registration, in which "Condition" is removed and the relevant relations are changed accordingly.
AU10	4.1		te	***Precondition** is referred to **Input** from Base Model to specify the information state that should be satisfied before execution.* Could such a Precondition refer to the event that triggers an atomic event driven process?		CD2 defines "Event" to record the event that triggers a process. It differs from Precondtion of a process.
AU11	4.1		ed	***Precondition** is referred to **Input** from Base Model to specify the information state that should be satisfied before execution* Is "should" used in the sense of "must" (obligatory) or another sense?	Tighten "should" to "must"?	Accepted. In Clause4.1, Precondition is defined as a kind of condition that must always be true just prior to the execution of a process in a formal specification.
AU12	4.1		ed	***Postcondition** is restricted to **Output** to represent desirable outcomes when process is completed successfully.* Is the word "desirable" required here? It is understandable that if the process does not complete successfully the specified Postcondition may not be achieved, but it is it possible that the process completes "successfully" without the "desirable" postcondition outcome being achieved? Possibly one element of the definition of "success" could be whether the postcondition is achieved, in which case the word "desirable" is not required.	Either delete the word "desirable" or explain more clearly the concept of *successful completion without achieving desirable outcomes*	Accepted. In Clause4.1, Postcondition is defined as a kind of condition that must always be true just after the execution of a process in a formal specification.

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AU13			ge	Possibly it is too late for consideration in working toward the first edition of Part 5 as an IS, but would there be value in adding an optional "Process Evolution" package along the line of the package for ontologies in Part 3 to track change over time in processes and subprocesses?		Considered for inclusion in future edition of this standard.
AU14	4.2		ed	The current WD for Part 7 uses the heading *Relationship between MFI service registration and other parts in MFI* for the equivalent Subclause. Should that be the case here? Especially as there is some mention of ontologies, even if Figure 4 makes no explicit reference to the relationship of Part 5 with Part 3 the text could note its possible relevance? For example, it could refer to Annex B as providing an illustration.		The heading of 5.2 (original 4.2 in CD1) is changed to "Relationship between MFI Process and the other parts in MFI". The relationships with part7 and part 3 are addressed in 5.2 respectively.
AU15	4.3.15		te	Case 2 in Annex A is very helpful in this regard. Should the "before" and "after" attributes be referenced in 4.3.15, at least as 0..*?		See 5.3.10 and Annex D in CD2. Add an attribute "componentType" to represent only one type code which specifies the order that its sub-processes follow within a composite process. Since different kinds of control constructs are expressed in different formats, Table D.3 in Annex D lists some candidates and the corresponding descriptions of them. Also see CA45.

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Canadian Comments on SC32 N1819 CD 19763-5

Date: 2009-11-17	Document:

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
CA01	Title page	Title	Ed	The title specifies 'Part 3' instead of 'Part 5'	Change '3' to '5'.	Done. Also see AU02.
CA02	Introduction	All	Ed	The Introduction needs some wordsmithing to use more natural English phrasing.	To be provided after other comments on the Introduction have been resolved.	The first paragraph in 1st CD has been deleted. Introduction in CD2 is rewritten, see document of the draft text of CD2 19763-5.
CA03	Introduction	Paras 1 and 3	Te	The Introduction references e-business and e-commerce, but nowhere in the document are there any references to the e-business standards developed by SC32 WG1. In particular, ISO/IEC 15944-2 specifies the Registration of e-business scenarios and their components as business objects. The scope of the present document is the registration of process models. While these may be applicable to e-business scenarios, they are also applicable in other contexts, so we should not tie this standard to e-business.	Either remove all reference e-business and e-commerce (preferred), or show how this standard relates to ISO/IEC 14662 and ISO/IEC 15944, especially part 2. Delete the first paragraph. Delete the first clause of paragraph 3, replacing it by: 'Various industrial consortia have contributed...'	
CA04	Introduction	Paras 3 & 4	Te	Clarify the message and intent of paras 3 and 4 of introduction e.g. use of the term unify.	The purpose should be to come up with a common set of semantics that will enable common understanding of the processes that have been defined using different methodologies.	
CA05	Introduction	Para 2	Te	The Introduction and scope both reference workflow, but the term is not used elsewhere in the document.	Either remove both references, or define the term and explain how this standard supports the registration of workflows.	In CD2, References to "workflow" are removed.
CA06	1. Scope	Para 1	Te	The Introduction and scope both reference workflow, but the term is not used elsewhere in the document.	Either remove both references, or define the term and explain how this standard supports the registration of workflows.	
CA07	1. Scope	Para 1	Te	At the end of the first paragraph there is a reference to	The relationship between part 5 and	The relationship between part 5 and

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				'Web Services', but there is also a proposal to create a separate part to register services.	the proposed new part needs to be clarified, and references to services appropriately positioned.	MFI-7(metamodel for service registration) is clarified in Clause 5.2 as "*Service in MFI-7 can be used to realize Process. The relationship between MFI Process and MFI-7 means that a process can be realized by zero to many instances of Service and a service can achieve only one Process*." Also see AU04 and JP003.
CA08	1. Scope	Figure 1	Te	It is not clear what constitutes a rectangle, dotted box (sometimes labeled) or what the purpose of the arrow and direction of the arrow means.	The legend of the diagram needs to be defined.	Figure 1 in1st CD has been totally changed. Figure 1 in CD2 shows the scope of part 5. And the corresponding legend is provided.
CA09	1. Scope	Figure 1	Te	Mappings need to be applied to achieve interoperability. While Fig 1 shows the usage of mapping, there is no place where an actual mapping instance can be registered	Specify how this part relates to 19763-4 part 4 Metamodel for Model Mapping, and update Fig 1 to include reference to MFI-4.	Relation with Part4. To be discussed later.
CA10	1. Scope	Figure 1	Te	Figure 1 shows how process models (but not their definition in a registry) may reference an Ontology registry, but there is no text describing how or why this might occur. Since this part is about the process model registry, does this even need to be mentioned?	Either add an explanation of the reference to Ontology registry, or remove it from Figure 1, and remove the reference to 19763-3 from clause 2 as well.	In Fig 1 in CD2, the reference to MFI-3 is deleted. The relationship between part5 and MFI-3 is explained in Clause 5.2, which states that "*The attribute "type" of Input and Output can be declared as the URI of registered Ontology_Atomic_Construct based on MFI Ontology Registration, which*

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						means that ontology and its constructs can be used annotated inputs and outputs of a process." Also see US03.
CA11	2 Normative references	19763-3	Te	Why does the reference to 19763-3 specify edition 1, while the references to 19763-1 and 19763-2 do not specify an edition.	Either consistently reference a specific edition or not, or explain the inconsistency. The proper way to reference a specific edition is by dated reference.	Accepted. CD2 uses a dated reference to 19763-3, seeing Clause 3.
CA12	2 Normative references	Missing reference	Te	Mappings need to be applied to achieve interoperability. While Fig 1 shows the usage of mapping, there is no place where an actual mapping instance can be registered	Add a normative reference to 19763-4 part 4 Metamodel for Model Mapping	Relation with Part4. To be discussed later.
CA13	3 Definitions	Missing terms	Te	The classes shown in Figures 2, 3 and 4 are specified in clause 4 and defined in terms of the metamodel. However, the concepts that these classes represent need to be defined in clause 3, in the same way that CD2 11179-3 now defines the concepts behind the classes in its metamodel.	Add terms and definitions for all the concepts represented by the metamodel. Terms which need to be defined include, but are not necessarily limited to: artifact (proposed elsewhere to be renamed 'resource'), atomic process, composite process, process, process modeling language, input, output, goal (proposed elsewhere to be renamed 'purpose'), constraint, artifact contraint (proposed elsewhere to be renamed 'resource constraint', control constraint, control construct, condition, precondition, postcondition, anyorder, split, choice, join, sequence.	In CD2, Clause 4.1 provides definitions of the following terms: process, process model, composite process, atomic process, composite process, precondition, postcondition, resource and event. Also see US09.
CA14	3.2.1	Process	Te	The definition does not clearly state what a process	Suggestion:	Accepted.

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		model		model is. Defining it as the result of process modelling is not useful. (Also, process modelling is not defined.)	Model of a process, showing what the process does, and possibly how it is done.	In CD2, 4.1.2 defines process model as "*a specification that is the result of modelling one or more processes, adopting a specific process modelling language to describe features of a process. It shows what the process does and how it is done*." Also see JP005.
CA15	3.2.2	Sub-process	Te	The definition is unclear. It refers to a composite process model. The terms 'process' and 'process model' seem to be used interchangeably. The semantics of each term needs to be clarified.	Suggestion: component process of a composite process. Note: a sub-process may be an atomic process, or a composite process.	Accepted. In CD2, 4.1.5 defines composite process as "*a process that consists of other processes.*"
CA16	3.3.5	PSL	Ed	PSL is defined by ISO 18629, but this is not mentioned.	Add a reference to ISO 18629 as a note to this definition.	Done. See Clause 3 "Normative references" in CD2.
CA17	4	All	Te	The presentation of the description of the model should be made consistent with that of 19763-2 and other parts of 19763, including the use of figures that show the attributes of each class, and consistent textual description. Note also that WG2 requested that the representation in 11179-3 Edition 3 be changed (see SC32 N1851a), and that 19763 and 11179 use a consistent representation.	Review the representations used in FCD3 19763-2 and CD2 11179-3, and determine what format to use for this part.	Accepted. Follow the representation used in FCD3 19763-2. Also see GB25.
CA18	4	All	Te	Do we need to model the state of process execution?	None provided.	See 5.3.1 and Annex D. The state of process is recorded as

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						follows: 4. stateType: typeCode [1..1] -Use: Optional -Description: A type code specifying the current state of a process. NOTE The code set of the state of a process should be defined by each MFI Process registry, seeing Table D.1 in Annex D.
CA19	4	All figures	Te	It is hard to understand the associations. Are they unidirectional, or bidirectional? If uni-directional, in which direction?	Clarify the associations.	In Fig. 2 and Fig.3 of CD2, for one-way association, arrows are added to specify the direction. And for bidirectional association, arrows are not needed. Also see US01.
CA20	4.1	Clause heading	Te	Registration is a procedure. This clause does not describe the registration procedure, so the term 'registration' does not belong in the clause heading. Also, the clause describes both the metamodel for process models, and the metamodel for process control models. These would be better split into separate clauses. Now that 19763-2 uses the term 'package', perhaps that term could be used here.	Rename clause 4.1 to one of: MFI metamodel for process models or: MFI package for process models or: MFI Process Model package Also use the chosen phrase in place of 'base model' throughout the document.	Accepted. Rename Clause 5.1 to "Overview of MFI Process" "MFI Process" is used throughout the document. Also see US04.

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MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
CA21	4.1	Para 1	Ed	With the split of clause 4.1 into two parts, the last sentence of para 1 is out of place. The first sentence of para 2 repeats what is relevant for this first split clause. A later paragraph repeats the rest.	Delete the last sentence of para 1: "In MFI Process registration..."	Done. Para1 in 5.1 is rewritten as "*MFI Process provides a generic facility to register administrative information of process models described by specific modeling languages. Figure 2 shows the metamodel for process model registration*. "
CA22	4.1	Figure 2	Te	The term registration does not belong in the figure title, for the same reason it does not belong in the clause title. 'Base model' is not a good term. It is not clear what is meant by 'Base'. Now that 19763-2 uses the term 'package', perhaps that term could be used here.	Rename the figure to one of: MFI metamodel for process models or: MFI package for process models or: MFI Process Model package Throughout the document, amend any reference to Base model accordingly.	Accepted. In CD1, Base Model and Process Control Model were defined to record basic structural and constraints of processes. But in CD2, there is only one metamodel by merging key metaclasses from CD1. Figure 2 in CD2 is renamed as "The metamodel for process model registration".
CA23	4.1	Figure 2	Te	The term 'Artifact' has connotations of something that is man-made. A more general term would be 'Resource'	Replace the class 'Artifact' by 'Resource' in Figure 2, and make corresponding changes throughout the document.	Accepted. "Artifact/artefact" is replaced by "Resource" throughout the document. The term "Resource" is defined in Clause 4 in CD2. Also see CA42 and CA43.
CA24	4.1	Figure 2	Te	Figure 2 does not actually include a Process Model as a class. Assuming we want to register more than one	Add a Process Model as a class, showing how it includes one or	Accepted.

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				Process Model in a registry, we need to be able to specify which Processes belong to which model.	more processes.	"Process_Model" is defined to designate a specification that is the result of modelling a process. See Figure 2 in CD2.
CA25	4.1	Figure 2	Te	Process_Modelling_Language is currently associated with a Process. Is that what we want? Once we add the Process_Model class, would it be better to associate Process_Modelling_language with the Process Model (implying that the whole model is specified in the same lanaguage), or do we want to retain the existing association, implying that different processes in one process model may be specified in different languages.	Decide which association is more useful, and make any required changes. Include a note about the implications of the decision taken.	CD2 adds a new metaclass named "Process_Model", connecting "Process" to "Process_Modeling_Language". That is, Process_Model is a specification that is the result of modelling processes, describing what the Process does and how it is done. Process_Modeling_Language specifies the modeling language that Process_Model uses to represent processes. Also see US05 and US06.
CA26	4.1	Para 2	Te	Rephrase the first sentence to reflect the change in name of the model.	Replace: 'As Figure 2 suggests, Base Model is...' By: The Process Model package is...'	Accepted. Clause 5.1 is rewritten to reflect the change in the revised metamodel,
CA27	4.1	Para 2	Te	The usage of the term 'Goal' is more commonly associated with high-level business objectives. It is suggested that the English language usage refer to 'purpose' of the process, i.e. more commonly understood as the objective of the process is to realize a purpose. Note that ISO 18269-1 uses the following definition of Process taken from ISO 15331-1:	Replace the text 'Goal states the purpose that should be achieved by fulfilling the process model…' with 'Purpose states the objective that should be achieved by fulfilling the process …'	Since MFI-8 focuses on Role&Goal registration, CD2 of 19763-5 removes the definition and text of "Goal". But in 5.2, the relationship between Process and Goal is addressed.

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				process structured set of activities involving various enterprise entities, that is designed and organised for a given purpose		Also see CA41, AU06 and GB14.
CA28	4.1	Para 2	Te	The last sentence beginning 'One referent instance...' is irrelevant. Even within a single process model we can expect that the output of one process is an input to another process.	Delete the sentence.	Accepted.
CA29	4.1	Figure 3	Ed	Insert a new clause heading in front of Figure 3. This should become 4.2 and subsequent clauses be renumbered.	New heading, one of: MFI Metamodel for process control models or: MFI package for process control models or: MFI Process Control Model package	In CD1, Base Model and Process Control Model were defined to record basic structural and constraints of processes. But in CD2, there is only one metamodel. So it is not necessary to insert a new clause, seeing the draft text of CD2 of 19763-5.
CA30	4.1	Figure 3	Te	The term 'registration 'does not belong in the figure title, for the same reason it does not belong in the clause title.	Rename the figure to one of: MFI Metamodel for process control models or: MFI package for process control models or: MFI Process Control Model package	
CA31	4.1	Figure 3	Te	The second paragraph below Figure 3 states:	Either Artifact_Constraint should be	In CD2, the "Artifact_Constraint" is

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				In general, **Artifact_Constraint** is used to record a relationship between **Artifact**s yet Figure shows Artifact_Constraint associated with a single Artifact.	associated with one or more Artifacts (i.e. change the multiplicity at Artifact to 1..*), Or Artifact_Constraint should be associated with a relationship between Artifacts. Or both.	removed. In CD2, the role that the original "Artifact_Constraint" plays is addressed by the association between Input and Output to specify the binding constraints that the output of one process can be treated as the input of another process. See 5.3.7 and 5.3.8 in CD2. Also see GB18.
CA32	4.1	Figure 3	Te	We question some of the cardinalities.	The model needs to be validated.	The metamodel is revised and the validation work is underway.
CA33	4.1	Last para	Te	The last paragraph of 4.1 refers to Information State, but this is not defined, nor is it specified where it resides.	None provided.	In 5.1 of CD2, the whole text is rewritten according to the changes of the metamodel. There is no information state in CD2.
CA34	4.2	Clause heading	Te	Clause 4.2 should be renamed, consistent with the renaming of clause 4.1. Figure 4 shows the relationship between MFI Core and some metaclasses in the Process Model package. Registration is a procedure which is not discussed in the clause, so the term does not belong in the clause title.	Suggestion: Relationship between MFI Core and MFI Process Model	Both the heading of Clause 5.2 and caption of Figure 3 are changed to "Relationship between MFI Process and the other parts of MFI", where the relationship between MFI Process and MFI Core, MFI Ontology registration, MFI-7 and MFI-8 are addressed respectively. However, The relationship between MFI-5 and MFI-2&4 will be confirmed after discussion on the relationship
CA35	4.2	Figure 4	Te	The Figure caption should be changed consistent with the change made to the clause heading.	See comment on change to clause 4.2 heading.	

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						between RGPS and MFI-2&4.
CA36	4.2	Figure 4	Te	In Sydney, it was stated that MFI-2 Core can only handle UML model components, but Fig 4 shows a Process as being sub-typed from ModelComponent of Part 2. Which is correct? Note: FCD3 19763-2 clause 4.2 defines UML [ISO/IEC 19501:2005] and MOF [ISO/IEC 19502:2005] terms, used in specifying the MFI model.	None provided.	Relation with Part 2. Need more discussion.
CA37	4.2	All	Te	Figure 4 shows only Artifact, Process and Process_Modelling_Language being sub-typed from classes in MFI Core. (1) Why is Artifact sub-typed from ModelClassifier instead of ModelComponent ? (2) Why are not all other metaclasses sub-typed from ModelComponent as well? ModelComponent is an Administered Item, allowing administrative information to be specified.	None provided.	Relation with Part 2. Need more discussion.
CA38	4.2	All	Te	Despite the use of 'Registration' in the name of this part of 19763, the registration process is not described.	Explain how the relationship with MFI Code supports the registration process.	Relation with Part 2. Need more discussion.
CA39	4.2	All	Te	We should allow users who want to register process models, but who do not need the complexity of MFI Core, to subtype the 19763-5 metaclasses directly from Administered_Item.	Provide an alternate registration package based directly on 11179-3. Add a reference to 11179-3 to support this. [Note: Using 11179-3 Edition 3 the subtyping should be from Registered_Item, allowing the user to choose when to use an Administered_Item versus an Attached_Item.]	In CD2, all the metaclasses will inherit Administratered_Item from MDR directly. See 5.3 in CD2. Also see JP004 and GB10.
CA40	4.3	All	Te	The clause heading 'MFI Process Registration' does not describe the content of the clause, which provides the	Either move the description closer to the figures in clause 4.1 (split into	"MFI Process" is used throughout the

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				description of the classes illustrated in clause 4.1.	two clauses by other comments), or split this clause into two to mirror the split of clause 4.1, and use clause heading that mirror those other clauses.	document.
CA41	4.3.1	Goal	Te	The usage of the term 'Goal' is more commonly associated with high-level business objectives. It is suggested that the English language usage refers to 'purpose' or 'objective' of the process, i.e. more commonly understood as the objective of the process is to realize a purpose. Note that ISO 18269-1 uses the following definition of Process taken from ISO 15331-1: **process** structured set of activities involving various enterprise entities, that is designed and organised for a given purpose 'addressing' would be better as 'documenting'. It is not obvious that the purpose is necessarily 'common'. It is the process that is intended to achieve the objective, not the process model.	Rename the class 'Goal' to 'Purpose'. Change the description from: Goal is a metaclass addressing the common purpose that a process model should achieve. To: Purpose is a metaclass documenting what the process should achieve.	Since MFI-8 focuses on Role&Goal registration, CD2 of 19763-5 removes the definition and text of "Goal". But in 5.2, the relationship between Process and Goal is addressed. Also see CA27, AU06 and GB14.
CA42	4.3.8	clause heading	Te	The term 'Artifact' has connotations of something that is man-made. A more generic term would be 'Resource'	Rename the clause to 'Resource'	Accepted. "Artifact/artefact" is replaced by "Resource" throughout the document. The term "Resource" is defined in Clause 4 in CD2. Also see CA23.
CA43	4.3.8	Definition	Te	The term 'Artifact' has connotations of something that is man-made. A more generic term would be 'Resource'	Reword the definition as: 'Resource is a metaclass designating a resource that participates as one or more Inputs and/or Outputs in the process model' Note the use of 'resource' within the	

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					definition of the Resource metaclass is acceptable because the metaclass represent the concept resource. In clause 3, the definition of the concept 'resource' should not refer to itself.	
CA44	4.3.9	Definition	Te	The definition of the Constraint metaclass references 'control constraint' and 'semantic constraint'. Control constraint is shown in Figure 3, but Semantic constraint is not. Is this synonymous with 'Artifact Constraint'?	Define the concepts 'control constraint' and 'semantic constraint' in clause 3. Clarify what is a 'semantic constraint' versus an 'artifact constraint'	The metaclass "Constraint" is removed in CD2.
CA45	4.3.15	Attributes	Te	The "attributes" that have been included are insufficient. For example, if process A "splits" into process B and C, then one has to be able to identify both Process B and C based on some precondition. Similarly the "join" process needs to be identify by a process ID and the precondition for the join established.	None provided.	See 5.3.10 and Annex D in CD2. Since different kinds of control constructs are expressed in different formats, Table D.3 in Annex D lists some candidates and the corresponding descriptions of them. Also see AU15 and JP020.
CA46	All	All	Te	We propose validating Part 5 using a candidate Process Model from IDEF0 (same as used in validating 19763-2 in Sydney Metadata Forum) to validate the registration using IDEF0 modelling paradigm of a process model.	To be provided to the BRM in Jeju.	Not finish yet. Need to discuss with Canada.
CA47	All	All	Te	We propose validating Part 5 using Clause 5.1 Business Requirements View and 5.2 Business Choreography View of UMM Meta model to map into Part 5, and to conduct gap analysis as to what metadata should be registered.	To be provided to the BRM in Jeju.	
CA48	All	All	Te	We propose validating Part 5 using the Transfrontier Movement of Waste model to validate another registration using UMM modeling paradigm of process	To be provided to the BRM in Jeju.	

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				model		
CA49	All	All	Te	We continue to review the document and may have additional comments to submit to the ballot resolution meeting.	To be submitted to the BRM in Jeju.	

END

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SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
001	JPN-P01-001		1-Major Technical	*General*	MFI Part5 should be able to register process models that are described in a state-transition and event-driven language, including Petri net, Hoar CSP model, UML sequence diagram and UML state machine diagram. Because they are practically used in industries and usually equivalent with a finite-state machine, and therefore, also with a Turing machine. It should be demonstrated if the current specification of CD 19763-5 can handle these process models.	Also see JP021 and JP022. Under preparation.
002	JPN-P01-002		1-Major Technical	*General*	It is not clear that MFI Part5 presuppose existence of a process model registry that can register process models fully If we looking at Figure 1, it seems yes because there is "Process model repository". But, it we look at the specifications of each metaclass at 4.3, there is no mechanism to link to a proper element in a process model repository.	MFI-5 assumes the process model to be registered has been created and stored in a specific process model repository. As the scope of CD2 states, *"The metamodel specified in this part is intended to promote discovery and reuse of process models within/across process model repositories. It provides administrative information of process models which have been created with a specific process modeling language, including PSL, BPEL, OWL-S, etc. Figure 1 shows the scope of this part.*"

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
003	JPN-P01-003		1-Major Technical	*General*	The scope of MFI Part5 needs to be re-investigated and clarified. Especially, it is necessary to avoid unnecessary duplication with and segregation from MFI Part7. From the point of MFI Part7, MFI Part5 is indispensable to MFI part7 to make semantic search of Web services possible. Except the objectives from MFI Part7, MFI Part5 seems to have no specific objectives. So, it is one possibility that MFI Par5 and Part7 will be merged into one part.	The scope of CD2 is rewritten. The relationship between part 5 and part 7 is provided in 5.2. That is, "*Service in MFI-7 can be used to realize Process. The relationship between MFI Process and MFI-7 means that a process can be realized by zero to many instances of Service and a service can achieve only one Process.*" Also see AU04 and CA07.
004	JPN-P01-004		1-Major Technical	*General*	"Process" and its subclasses are only subclasses of Administered Item. This is strange because Administered Item has a key role in MFI. At least, Constraint should also be a subclass of Administered Item.	In CD2, all the metaclasses will inherit Administratered_Item from MDR directly. See 5.3 in CD2.
005	JPN-P01-005		2-Minor Technical	*3.2.1 process model*	The definition makes little sense since process model is defined in terms of process modeling. What is process modeling?.	Accepted. In CD2, 4.1.2 defines process model as "*a specification that is the result of modelling one or more processes, adopting a specific process modelling language to describe features of a process. It shows what the process does and how it is done*."
006	JPN-P01-006		4-Minor Editorial	*3.3.3 MFI-3*	MFI-3 should be MFI Ontology registration to be consistent with ISO/IEC 19763-3: 2007.	Accepted. See 4.2 in CD2.
007	JPN-P01-007		4-Minor Editorial	*3.3.4 OWL-s*	OWL-"s" should be OWL-"S".	Accepted.

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
008	JPN-P01-008		2-Minor Technical	*4.3.2 Process*	Need a constraints that specifies bindings between Input/Output of a process and that of its parent process.	Add association “Links” from Output to Input to record the inputs of a process that are outputs of other processes. (Also see GB15) Specify the role “inner” and “outer” for Input/Output to record the binding of inputs(outputs) of a sub-process that are also the inputs(outputs) of its parent process.
009	JPN-P01-009		2-Minor Technical	*4.3.2 Process*	It is not clear what happens when a process have a input that does not satisfy its precondition. Is it out of the scope of MFI Part5?	If a process has a input that does not satisfy its precondition, it cannot executed till the precondition is satisfied.
010	JPN-P01-010		2-Minor Technical	*4.3.2 Process*	Since Process is a subclass of ModelComponent of MFI Part2, it needs to be clarified how the mandatory attribute "component type" of ModelComponent is specified in Process.	
011	JPN-P01-011		2-Minor Technical	*4.3.3 Process _Modelling _Language*	Since Process_Modelling_Language is a subclass of ModelSpecification of MFI Part2, it needs to be clarified how the mandatory attribute such as "format" of ModelSpecification is specified in Process _Modelling _Language.	
012	JPN-P01-012		2-Minor Technical	*4.3.4 Atomic_Proces*	The meaning "one-step execution" is unclear. More practical definition such as "process that does not have sub-process" would be better.	In Clause 4 of CD2, Atomic_Process is defined as “a process that does not have a sub-process”.

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
				s		
013	JPN-P01-013		2-Minor Technical	*4.3.8 Artifact*	Since Artifact is a subclass of ModelClassifier of MFI Part2, it needs to be clarified how the mandatory attribute "model type" of ModelClassifier is specified in Artifact.	
014	JPN-P01-014		2-Minor Technical	*4.3.10 Artifact* *_Constraint*	The constraints of artifacts as input are stated as Preconditions and the constraints of artifacts as output is stated as Postconditions. Artifact_Constraint do not seem necessary, in addition to Precondition and Postcondition.	"Artifact_Constraint" is removed in CD2. Precondition/Postcondition and the binding constraints between Input and Output can play the role that original "Artifact_Constraint" plays.
015	JPN-P01-015		2-Minor Technical	*4.3.12* *Condition*	"conditional state" should be "information space" since this CD 19763-5 cannot handle the notion "state".	The metaclass "Condition" is removed in CD2.
016	JPN-P01-016		2-Minor Technical	*4.3.13* *Precondition*	"information space and state" should be "information space" since Precondition is only used for constraints of input, which does not seem to have states.	In 4.1.6 of CD2, Precondition is redefined as a kind of condition that must always be true just prior to the execution of a process in a formal specification.
017	JPN-P01-017		2-Minor Technical	*4.3.13* *Precondition*	It needs to be clarified how a precondition can be specified? Is it out of the scope of MFI Part5?	How to specify a precondition for an input is out of the scope of MFI-5.
018	JPN-P01-018		2-Minor Technical	*4.3.14*	"information space and state" should be "information space" since Postcondition is only	In 4.1.6 of CD2, Postcondition is redefined as a kind of condition

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
				Postondition	used for constraints of output, which does not seem to have states.	that must always be true just after the execution of a process in a formal specification.
019	JPN-P01-019		2-Minor Technical	*4.3.14* *Postondition*	It needs to be clarified how a postcondistion can be specified? Is it out of the scope of MFI Part5?	How to specify a postcondition for an output is out of the scope of MFI-5.
020	JPN-P01-020		2-Minor Technical	*4.3.16* *AnyOrder* *4.3.17 Choice* *4.3.18 Join* *4.3.19* *Sequence* *4.3.20 Split*	Needs proper attributes as demonstrated in Annex A.	In CD2, the original five subclasses of Control_Construct are removed. Since different kinds of control constructs are expressed in different formats, Table D.3 in Annex D lists some candidates and the respective descriptions. See 5.3.10 and Annex D in CD2. Also see GB21.
021	JPN-P01-021		1-Major Technical	*Annex A* *Example*	Need an example that uses all the mataclasses of MFI Part5. Otherwise, it is not clear whether the mataclasses of this CD are necessary and sufficient. Especially, an example needs to demonstrate how Artifact_Constraint, Precondition and Postcondition are specified.	Under preparation.

SEQ #	Cmnt ID	See Also	Severity	Reference	Description	Addressed By
022	JPN-P01-022		1-Major Technical	*Annex A* *Example*	Need more examples that are described in langauges other than OWL-S. Otherwise, it is not clear whether the mataclasses of this CD are necessary and sufficient for process modeles expressed in other major languages.	Under preparation.
023	JPN-P01-023		3-Major Editorial	*Annex C* *OWL-S*	W3C Member Submission is just a member submission and not an W3C official specifications. The description should refer to DAML page at http://www.daml.org/services/owl-s/1.1/.	Accepted.

End of Paper

Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
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GB 01	General		ed	There are a number of areas where the English could be improved. For example, the use of "the" before "EB(E-Business)" at the beginning of the first sentence of the Introduction is not normal usage.		Accepted. See the documents of CD2.
GB 02	General		ed	Artefact/artifact is spelt inconsistently.	Use "artefact" consistently.	Done. “Artefact” and “artifact” have been changed to “Resource” throughout the document. See 5.3.12.
GB 03	Contents		ed	Although definitions and abbreviations may be numbered in the same way as subclauses, the ISO/IEC Directives make it clear that they should not be treated as such, and so should not be included in the table of Contents.	Remove subclauses of 3.2 and 3.3 from Contents.	In CD2, terms and definitions are provided in 4.1 and abbreviated terms are provided in 4.2. To keep consistency with others parts of MFI, CD2 removes the subclause of 4.2(original 3.3) from the content and keeps the subclause of 4.1(original 3.2).
GB 04	Introduction		ed	The use of time-based qualifiers such as "Today", "became" and "increasingly" has unwanted implications. How relevant are the comments when the standard is five years old?	Remove all time-based qualifiers.	Done. See the Introduction clause in CD2.
GB 05	1		ed	It is not clear which bits of the Scope clause refer to 19763 as a whole and which bits refer to part 5. It is similarly unclear whether Figure 1 illustrates only part 5, in which case the figure should be expanded to show the relationship to other parts, or whether it is such an expanded figure, in which case those elements that illustrate part 5 should be clearly identified.	Rewrite to make clear the relationship of Part 5 to the rest of 19763.	The scope is rewritten in CD2. The relationship between part 5 and the other parts of MFI is moved to 5.2.

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NOTE Columns 1, 2, 4, 5 are compulsory.

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 06	1		ed	The Scope clause refers to several other specifications, using abbreviations such as PSL, OWL-S and MFI-3, but does not locally explain the meanings of those abbreviations. The references to PSL and OWL are not so significant, since that have been identified in the (non-normative) introduction and are expanded in clause 3. However, the use of MFI-3 to refer to part 3 of 19763 is less satisfactory. The full reference to ISO/IEC 19763-3 should be used, the reference to the first edition omitted (unless the intention is to pick up something that was defined in that version of that standard and omitted from later versions) and "Specified" or "defined" should be used rather than the weaker "proposed". (But also see comment GB08 below).	Abbreviations used before Clause 3.3 should have their meanings explained.	Accepted. In CD2, the abbreviations used before Clause 4.2(Clause 3.3 in CD1) have been explained in the scope. “MFI Ontology Registration” is used as the abbreviation of 19763-3:2007 throughout the document, seeing 4.2 in CD2. Also see GB08.
GB 07	3.3.1		ed	The abbreviated term is inconsistent with the full name of the standard.	Amend abbreviated term to read "MFI Process Model registration" throughout.	Done. Amend the abbreviated term to read “MFI Process” throughout.
GB 08	3.3.3		ed	The abbreviated term is inconsistent with the terms defined in other clauses.	Amend abbreviated term to read "MFI Ontology registration" throughout.	Done. “MFI Ontology Registration” is used as the abbreviation of 19763-3:2007 throughout the document, seeing 4.2 in CD2. Also see GB06.
GB 09	4.1, 4.2	Figures 2, 3 and 4	te	The diagram notation is not defined. It appears to be using the UML package and class diagram notation, but which version is being used?	Specify the notation being used.	Done. See abbreviation term of UML in 4.2.

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Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 10	4.1, 4.2	Figures 2, 3 and 4	te	"Goal", "Input", "Output" and "Constraint" (and subclasses as appropriate) are subclasses of "Administered Item" by inheritance through the MFI Core. This appears to be incorrect.		In CD2, all the metaclasses will inherit Administratered_Item from MDR directly. See 5.3 in CD2. Also see CA39 and JP004.
GB 11	4.1	Figure 2	te	Some multiplicities are shown as "*" whereas elsewhere both "0..*" and "1..*" are used. It is unclear whether "*" represents "0..*" or "1..*".	Replace "*" with "0..*" or "1..*" as appropriate.	Done All the "*" in CD1 is replaced by "0..*" or "1..*" in CD2.
GB 12	4.1	Figure 2	ed	In this figure and Figures 3 and 4 attributes of the classes are not shown except for a single attribute of "Process".	Remove attribute.	Accepted. The attributes of the classes in Figure 2 (the metamodel of part 5)are removed. But the attributes of "Input" and "Output" in Figure 3(relationship between part5 and the rest parts of MFI) are kept to explicitly specify the relationship between part 5 and part 3.

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Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 13	4.1	Figures 2	te	The model shows that each process must have one or more inputs, with each input being a reference to an artefact. Not all process modelling notations mandate the concept of an input, but a common consideration when modelling processes is to recognise and record the event that triggers the process and these concepts are not included in the model. The event will often be an external event (such as 'customer places order') but internal events, which may be time based (such as 'time to pay staff') or conditional (such as 'stock level falls below reorder level'), may also be recognised and recorded.	Relax the mandatory nature of the need to record an input for a process and add in the ability to record events that trigger processes.	Accepted. In Figure 2 of CD2, 1) Process has zero to many Input. 2) Process can be triggered by zero to many Events.
GB 14	4.1	Figures 2	te	The model shows that each process must have one or more outputs, with each output being a reference to an artefact, and additionally each process must also have one and only one goal. Not all process modelling notations mandate the concepts of outputs and goals.	Relax the mandatory nature of the need to record both an output and a goal for a process.	Accepted. In Figure 2 of CD2, 1) Process has zero to many Output. 2) Goal Since MFI-8 focuses on Role&Goal registration, CD2 of 19763-5 removes the definition and text of "Goal". But in 5.2, the relationship between Process and Goal is addressed. Also see CA27, CA41 and Au06.
GB 15	4.1	Figures 2 and 3	te	Some process modelling notations (such as IDEF-0) have concepts which record inputs to a process that are outputs of other processes that act as constraints and/or mechanisms on the process. These concepts are not included in the model.	Include the 'constraint' and 'mechanism' concepts as additional optional inputs to a process.	In CD2, an association "Links" from Output to Input is added to record the inputs of a process that are outputs of other processes. Also see JP008.

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MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 16	4.1	Figures 2 and 3	te	Some process modelling notations include the concept of a processor of a processor (usually shown in swim lanes). This concept is not included in the model.	Include the 'processor' concept.	
GB 17	4.1	Figures 2 and 3	te	Some process modelling notations (such as Data Flow Diagrams) include the concept of a datastore (which may be a paper-file, a whole database, a table in a database, or a column in a table). This concept is not included in the model.	Include the 'datastore' concept.	Need discussion with UK. We think that “datastore” can be added as an attribute of “Resource” to record the provenance of the resource participating in a process.
GB 18	4.1	Figure 3	te	The model shows that each artefact must be constrained by one or more artefact constraints and that each process must be constrained by one or more control constraints. The names of "Artefact Constraint" and "Control Constraint" are inconsistent.	Rename "Control Constraint" as "Project Constraint".	Both “Artifact_Constraint” and “Control_Constraint” are removed from CD2. In CD2, constraints between artifacts are specified by the roles that Input/Output plays in different processes as well as the “links” association from Output to Input. Constraints between sub-processes of a composite process are recorded by Control_Construct. See figure 2 and clause 5.3 of CD2.

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1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 19	4.1	Figure 3	te	The model shows that each process must be constrained by one or more control/process constraints, with each control/process constraint being an aggregation of one or more conditions (where each condition is either a precondition or a post condition) and zero, one or more control constructs. When initially documenting a process a precondition and/or a post condition may not be identified, but the model requires that at least one condition is recorded.	Relax the mandatory nature of the need to record a constraint for a process.	Accepted. In Figure 2 of CD2, Process has zero to many Precondition/Postcondition.
GB 20	4.1	Figure 3	te	The model shows that each process must be constrained by one or more control/process constraints, with each control/process constraint being an aggregation of one or more conditions (where each condition is either a precondition or a post condition) and zero, one or more control constructs. Some process modelling notations also recognise the concept of an exit condition - a condition that will cause the process to stop executing prematurely. This concept is not included in the model.	Include the 'exit condition' concept.	Add an attribute “stateType” to Process. The value of the typeCode specifies the current state of a process. See 5.3.1. ***4. stateType:*** *typeCode [1..1]* ***-Use:*** Optional ***-Description:*** A type code specifying the current state of a process. Notice that the code set of the state of a process should be defined by each MFI Process registry, seeing Table D.1 in Annex D. The description of “Exit” defines that the corresponding exit condition should be provided explicated when it is used as the value of typeCode. Also see GB22.

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Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 21	4.1	Figure 3	te	The model shows that each process must be constrained by one or more control/process constraints, with each control/process constraint being an aggregation of one or more conditions and zero, one or more control constructs and with each control/process constraint must be for one and only one process. Control construct has subclasses of sequence, join, choice, split and anyOrder. These control constructs are not constraints on an individual process, but are descriptions of a dependency between two or more processes. The model cannot reflect this complexity.	Remodel this whole area to introduce the dependency concept and then to describe the dependency. The choice construct needs to record the guard conditions for the choice options.	In CD2, the original five subclasses of Control_Construct are removed. Since different kinds of control constructs are expressed in different formats, Table D.3 in Annex D lists some candidates and the respective descriptions. See Figure 2, clause 5.3.10 and Annex D in CD2. Also see JP020.

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MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 22	4.1	Figure 3	te	Some process modelling notations also include the concept of a pause between processes. Indeed, some notations even include different classes of pause. The model does not include these concepts.	Add the pause concept to the model.	Add an attribute "stateType" to Process. The value of the typeCode specifies the current state of a process. See 5.3.1. ***4. stateType:*** *typeCode [1..1]* ***-Use:*** Optional ***-Description:*** A type code specifying the current state of a process. Notice that the code set of the state of a process should be defined by each MFI Process registry, seeing Table D.1 in Annex D. In Table D.1, "Pause" defines that the condition for pausing a process and restarting the paused process should be specified respectively when it is used as the value of typeCode. See 5.3.1. Also see GB20.
GB 23	4.1		te	Within the descriptive text there are many implied constraints that are not formally specified in Clause 4.3.	Include the formal specification of all constraints in Clause 4.3.	Accepted. See 5.3 of CD2.
GB 24	4.2	Figure 4	ed	The name of the "ModelSpecification" class should be italicised.		Figure 3 of CD2 (original Figure 4 of CD1) has been changed. Italicised metaclass is from part 2. Need discussion with Part2.

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Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 25	4.3		ed	The layout of the class specifications differs from that used in other parts of this standard.	Adopt a common layout for class specifications across all parts of the 19763 standard.	Accepted. Follow the representation used in FCD3 19763-2. Also see CA17.
GB 26	4.3		te	Not all references are shown in the class specifications, for example Goal (Clause 4.3.1) should include a specification of a reference to the Process class..	Add the missing reference specifications.	Accepted. See 5.3 of CD2.
GB 27	4.3.2		te	In the description of the "URI" and "name" attributes the term "process model" is used, whereas "process" would be more appropriate.	Delete "model" in both cases.	Accepted. See 5.3.1 of CD2. ***1. URI:*** *String [1..1]* ***-Use:*** Mandatory ***-Description:*** URI where a process exists ***2. name:*** *String [1..1]* ***-Use:*** Mandatory ***-Description:*** Name of a process.
GB 28	4.3.2		te	Some process modelling notations allocate a number to a process as well as a name. An optional "number" attribute will be need to cope with this.	Add an optional "number" attribute.	Accepted. See 5.3.1 in CD2. ***3. orderNumber:*** *Integer [1..1]* ***-Use:*** Optional ***-Description:*** A number allocating to a process to identify a process

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MB[1]	**Clause No./ Subclause No./ Annex** (e.g. 3.1)	**Paragraph/ Figure/Table /Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 29	4.3.2		te	In the description of the "type" attribute the valid values are given as "0" and "1". "C" and "A" would be more meaningful valid values. This may require a change of datatype from Boolean to String.	Amend the valid values.	Accepted. See 5.3.1 in CD2.
GB 30	4.3.2		te	In the description of the "hasInput" and "hasOutput" references the input and output are described as 'messages'. But the Input and Output classes in turn reference the Artefact class, and not all artefacts will be messages.	Reword to remove the word 'message'.	Accepted. See 5.3.1 in CD2. 4. hasInput: Input [0..*] -Use: Optional -Description: Input that will be transferred by a process. 5. hasOutput: Output [0..*] -Use: Optional -Description: Output that is generated as the results after executing the process.
GB 31	4.3.3	Constraints	ed	Typo - "name" is miss spelt as "namel"	Correct	Accepted.
GB 32	4.3.6, 4.3.7		te	See comment above re 'messages'.	Reword to remove the word 'message'.	Accepted. See 5.3.7 and 5.3.8 in CD2.
GB 33	4.3.11		te	The "constrainedBy" reference is named from the wrong end. This reference constrains a process.	Rename.	The metaclass "Control_Constraint" is removed in CD2. See Figure 1 in CD2.

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Template for comments and secretariat observations

Date: 25 March 2009	Document: **ISO/IEC CD 19763-5**

1	2	(3)	4	5	(6)	(7)
MB[1]	**Clause No. / Subclause No. / Annex** (e.g. 3.1)	**Paragraph / Figure / Table / Note** (e.g. Table 1)	**Type of com-ment**[2]	**Comment (justification for change) by the MB**	**Proposed change by the MB**	**Secretariat observations** on each comment submitted
GB 34	Annexes A and B	Figures 5, 6, 7 and 8	ed	These figures are inappropriately numbered - see clauses 5.2.6 and 6.6.5.3 of Part 2 of the ISO/IEC Directives, "Rules for the structure and drafting of international standards".	Renumber as Figures A-1, A-2, A-3 and B-1 respectively.	Accepted.
GB 35	Annex C	Table 1	te	This list should also include Data Flow Diagrams, IDEF-0 and Rummler-Brache style Swim Lane Diagrams.	Add additional entries.	Accepted. See Annex C of CD2.

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Comments on CD Text For: ISO/IEC CD 19763-5 Information technology — Metamodel for process model registration	Date: 2009-03-04	Document: **SC32/N1819**

0	1	2	(3)	4	5	(6)	(7)
#	**NB** [1]	**Clause No./ Subclause No./ Annex**	**Paragraph/ Figure/Table/ Note #**	**Com-ment type** [2]	**Comment (justification for change) by the NB**	**Proposed change by the NB**	**Secretariat observations** on each comment submitted
1	US	Throughout	Figures	te	On the figures, it is hard to tell which end is the direction of the reference	Show direction arrowheads on the associations.	In Fig. 2 and Fig.3 of CD2, for one-way association, arrows are added to specify the direction. And for bidirectional association, arrows are not needed. Also see CA19.
2	US	Clause 4.1	Figure 2	te	It is not clear what the scope is for the class "Artifact"	Clarify whether same instance of Artifact can be referred to by any processes in the registry.	"Artifact/artefact" is replaced by "Resource" throughout the document. The term "Resource" is defined in Clause 4 in CD2. Also see CA42 and CA43. In Figure 2 of CD2, both Input and Output of Process can refer to zero to many Resource. In 5.1(original 4.1 of CD1), it states that the same instance of Resource can be referred to by Input or Output of any processes in the registry.
3	US	Clause 1 and 4	Figure 1	te	Figure 1 shows there is some kind of reference into the Ontology Registry. The document does not explain what is this doing. What is the purpose? Clause 4 does not explain how those references are made.	Provide explanation in Clause 1. In Clause 4 call out the part(s) of the model that are intended to reference into Ontology Registry.	In Fig 1 in CD2, the reference to MFI-3 is deleted. The relationship between part5 and part 3 is explained in Clause 5.2, which states that "*The attribute "type" of Input and Output can be declared as the URI of registered Ontology_Atomic_Construct based on MFI Ontology Registration, which means that*

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0	1	2	(3)	4	5	(6)	(7)
#	**NB** [1]	**Clause No./ Subclause No./ Annex**	**Paragraph/ Figure/Table/ Note #**	**Com-ment type** [2]	**Comment (justification for change) by the NB**	**Proposed change by the NB**	**Secretariat observations** on each comment submitted
							ontology and its constructs can be used annotated inputs and outputs of a process." Also see CA10.
4	US			te	The heading for Clause 4 and Caption for Figure 2 are misleading.	Figure 2 title should be "Base model of MFI process metamodel". Clause 4 heading should be "Structure of MFI process registration metamodel".	Accepted. 4.2 defines "MFI Process" as the abbreviated terms of ISO/IEC 19763-5. This term is used throughout the document. The heading for Clause 5 is changed to "Structure of MFI Process". The caption of Figure 2 is changed to "The metamodel for process model registration".
5	US	Throughout	Figure 2 & 4	te	Figure 4 shows how to register a process, but this Part is process model registration. It is not clear whether the intent is to register a process or a process model. This has an impact on the meaning of the association between Process and Process_Modelling_Language in Figure 2.	If the intent is to separate process from process model, then it needs to be explained. If the class named process is meant to be process model, then the class needs to be renamed.	CD2 adds a new metaclass named "Process_Model", connecting "Process" to "Process_Modeling_Language". That is, Process_Model is a specification that is the result of modelling processes, describing what the Process does and how it is done. Process_Modeling_Language specifies the modeling language that Process_Model uses to represent processes. Also see CA25.
6	US	Clause 4.3.2 and throughout	Figure 2 & 4	te	If you have a process, then you could have multiple languages associated, but if a process model, it makes sense to have one.	Clarify the intent.	

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Comments on CD Text For: ISO/IEC CD 19763-5 Information technology — Metamodel for process model registration	Date: 2009-03-04	Document: **SC32/N1819**

0	1	2	(3)	4	5	(6)	(7)
#	**NB** [1]	**Clause No./ Subclause No./ Annex**	**Paragraph/ Figure/Table/ Note #**	**Com-ment type** [2]	**Comment (justification for change) by the NB**	**Proposed change by the NB**	**Secretariat observations** on each comment submitted
7	US	Clause 4.1	Figure 2	te	On the aggregation relation (consists of) between Process and Composite_Process, it says a process can be part of one and only one composite. It appears to us that a process does not have to be part of a composite and a process can be part of many composites.	Change the cardinality to 0..many	Accepted. In CD2, a composite process can consist of one to many processes, may it be either atomic or composite. And a process can be a part of zero to many composite processes
8	US		Figure 3	te	There are not definitions in clause 3 for terms including: process, goal, input, output, artifact, artifact constraint, control constraint, and condition.	Provide definitions for these and other terms.	In CD2, Clause 4.1 provides definitions of the following terms: process, process model, composite process, atomic process, composite process, precondition, postcondition, resource and event. Also see CA13.
9	US	Clause 4	Figure 3	te	How are multiple Contol_Constructs to be combined into a single Control_Constraint?	Clarify in Clause 4.	See 5.3.10 of CD2. Control_Construct is a metaclass designating constraint relationship between sub-processes within a composite process. It has an attribute “componentType” to represent only one type code which specifies the order that its sub-processes follow. This simplifies the content of composite process as well as the registration of processes. Notice that the code set of control construct should be defined by each MFI Process registry, seeing

0	1	2	(3)	4	5	(6)	(7)
#	**NB** [1]	**Clause No./ Subclause No./ Annex**	**Paragraph/ Figure/Table/ Note #**	**Com-ment type** [2]	**Comment (justification for change) by the NB**	**Proposed change by the NB**	**Secretariat observations** on each comment submitted
							Table D.3 in Annex D.
10	US		Figure 3	te	We note that cardinality on the aggregation under Control_Constraint is 1, we hope that the definitions clarify why that is so.	Depending on definition, may need to change cardinality.	"Control_Constraint" is removed from CD2. Constraints between sub-processes of a composite process are recorded by Control_Construct. See figure 2 and clause 5.3 of CD2.
11	US	Annex C		te	The references for the process modelling languages listed in Annex C are incomplete.	Create a bibliography and put in full references for each listed modelling language into the bibliography. Use the most recent reference possible.	Accepted. Create a bibliography and put some references for the listed modelling languages. The rest is referred to clause 3 in CD2.
12	US	Clause 4.3.3 and Annex A	Figure 7	te	Specification of the model type in the Process_Model_Language class needs to be more specific.	Refine the Process_Modeling_Language in Clause 4.3.3 to include the attribute "version" of the process modelling language.	Accepted. See 5.3.3 of CD2.