

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
IE3	3	GT	0		too many editorial notes to suggest document is coherent and complete in itself				
CAN	3	GT	0		One of the major ambiguities about architecture is about the scope of the real world that the architectural model describes. In practice one would talk about enterprise-wide architecture (as implicit in the TOGAF ADM cycle) similar to town planning and building code) and solution architecture, also called engineering or high level design of one identified system	This distinction is required for meaningful work in SC7, where most of the current standards are solution specific, not enterprise-wide. Even the ODP approach leans towards solution specific techniques. To be a viable effort, then this effort has to be enterprise-wide.			
IE3	34	GT	0		Since the stupid application refuses to accept my ballot comments, I will submit them manually.	Fix the problems in the stuff I'm sending to R. Hillard and M. Zaman [Editor: see IE3-38 and IE3-39]			
IE3	47	GT	0		See attached file	See attached file [Editor: see file 33151500024-IEEEP42010D6-Mycomments.pdf]			
IE3	48	GT	0		See attached file, this one in xls format	See attached file, this one in xls format [Editor: see IE3 47]			
IE3	100	GT	0		i agree with all comments submitted by James Ivers. so,p please consider me part of the Ivers-Block.	[Editor: see IE3-53 to IE3-99]			
IE3	138	GT	0		My comments are being automatically labeled "Need not be satisfied". That is not my intent. I believe both comments 1 and 2 must be satisfied if my vote is to be changed to indicate my approval of this draft	Both comments 1 and 2 must be satisfied to gain my approval [Editor: see IE3-136 and IE3-137]			
IE3	142	GT	0		LG02: In its preparation of this draft standard, the 42010 working group has shown exemplary care and skill with a difficult topic. This draft is much better than the typical systems and software engineering draft standard that I review. So, congratulations. Nevertheless, the draft would benefit from the suggested changes.	None.			
IE3		GT	0		General -- The description of the Architectural Design Process (clause 6.4.3 of IEEE 15288-2008) states that one of the process outcomes is an "implementable set of system element descriptions that satisfy the requirements for the system." IEEE P42010 does not expand on the process that transforms requirements specifications into system element descriptions.	With IEEE 15288-2008 (and IEEE 12207-2008) and the process orientation central to the family of software engineering standards, IEEE P42010 should start from the process description found in 15288's clause 6.4.3 and then elaborate on how and with what substance the architecture description comes into existence. Instead of a (by now superceded) product-only orientation, the normative parts of the 42010 standard should combine process and product orientations.			

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IE3		GT	0		General – There is a lack of terminology (or concept) harmonization between 42010 and 15288. For example, compare the broad definition of "stakeholder requirement" in clause 6.4.1 of IEEE 15288-2008 and the use of stakeholder "concern" in clause 4.2.2 of IEEE P42010 (not to mention "system concern" in clause 3.16 of IEEE P42010).	For my recommended change, see my following comment, "General -- Another example of the lack of concept harmonization...."			
CAN	1	GT	0		Canada supported the fasttrack of IEEE 1471 understanding that this was the quickest way to open an architecture area of work in SC7. However it expected that the first new document would be some form of framework for futurer work, not a rehash of 1471	Canada expected something more closely aligned with the initial objectives of the IEEE APG, and the Open Group Architecture Framework ADM. That is a Framework Document A workunit (process) definition document for enterprise wide architecture A workproduct definition document for enterprise-wide architecture A deliverable definition document for enterprise-wide architecture As for solution level achitecture, Canada expected a series of amendments to existing documents properly positioning and describing solution architecture workunits and workproducts.			
SC5	1	GE	0		These comments include a portion of the minutes of the last meeting of TC184/SC5/WG1 and a synopsis of concerns from WG1 participants that are attached to the transmiting email.	see attachments. [Editor: see WG1_Paris_Minutes_Notes.doc and 42010WD4 Comment Note_RM.doc]			
SWE	1	GT	0		There may be errors in this document	Document and disposition when found			
CAN	2	GT	0		The document is written entirely as if "architecture" was something that exist in the universe of discourse (a part of the real world), whereas the accepted definitions (including TOGAF's) make it a kind of model of the real world, generally a high level model.	Therefore the term Architecture Description as used in the document is generally incorrect and or inconsistent. The term is essentially useless, ar the term architecture, and/or architectural models, has all the required semantics, and "documentation of architectural models" can be used to discuss workproducts.			

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SWE	68	GT	0		There is a general tendency in this IS not to make a clear distinction between the system and its architecture when discussing the elements of AD:s and the various elements necessary required to arrive at them. In order to percieve the architecture of a system, an architecture viewpoint is needed. If one used any other type of viewpoint, one would likely not see expressions of architecture in the resulting view. Removing the Arch qualifier from the text induces the risk of readers of the IS to "forget" the Arch aspect, thus promoting the belief that applying a generic "separation of concerns" approach when describing systems will automatically render architectural insight.	Consider using the Architecture qualifier mor readily throughout the IS.			
INCOSE	2	TH	1		The definitions in Clause 3 make it clear that ISO is advocating that a system's architecture is distinct from the description of that architecture; this is made clear in A.5. There is limited utility in making this distinction (in the context of engineering of a system). See comments against 3.4 and 4.2.3, para 5 below.	Add following paragraph to Clause 1 "This International Standard distinguishes an architecture description, which is a work product, from the architecture of a system, which is a conceptual model of that system, useful for answering some questions about the system."			
SWE	26	GT	1		Need to declare that systems in this IS are man-made systems IN NORMATIVE TEXT.	Add def of System or Sol in clause 3. Ref to 15288.			
INCOSE	3	E	1.1	1	simplify sentence	delete 'facilitating' and replace by 'its'			
INCOSE	4	E	1.1	1	"elements" does not convey the strategic nature of this standard	conventions instead of elements			
INCOSE	5	TL	1.1	2	Strictly WPs are outputs of processes	software architecting processes [or alternatively activities]			
INCOSE	6	TL	1.1	2	The lists here and at sub-clause 4.4 should be made more consistent. A distinction could be made between what ADs do (directly) and the engineering and management activities they support (see also the users of the standard listed in 1.3). The list in 1.1 mixes these interpretations of purpose (what is needed in ADs and why they are needed).	Review the two lists and make the list in 1.1 more about the purpose of the standard, which is to improve the practice of architectural description which has the purpose of improving the execution of various engineering and management disciplines.			
SWE	10	TL	1.1	2	Term Work Product lacks definition. All elements of an AD are WPs See ISO/IEC 24744 for definition Other sources: OMG Software and Systems Engineering Meta Model 2 (Formal/08-04-02)	Define or consider replacing with another term, such as artifact.			
SWE	19	TL	1.1	Bullet 4+5	Consider merging 4&5 and referencing LC	- support the effective utilization of a system by planning, managing, and executing the activities of its life cycle;			

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IE3	9	E	1.1		I'm not sure that "architecting" is a word (it bothers me every time I see it in print). An architect (civil) once told me that "architects practice architonics in developing the architecture". This is consistent with a couple of dictionaries I've checked (Websters, Oxford). The term is used all over the web but that's hardly a recommendation.				
IE3	19	E	1.1	1	On page 1, in subclause 1.1, 1st paragraph, 1st sentence: Simplify the wording. Replace "through facilitating standardization of" with "by standardizing".	Change sentence to the following: "This International Standard enables the expression, communication and review of architectures of systems and thereby lays a foundation for quality and cost improvements by standardizing elements and practices for architecture description."			
IE3	43	TH	1.1		Asserts "This International Standard is applicable to architecture descriptions of systems including software systems. Architecture descriptions are work products of system and software architecting." while nothing in clause 4, 5, or 6 cover specifics of Software Architectural Design as defined in IS 12207 7.1.3 Software Architectural Design	"This International Standard is applicable to architecture descriptions of systems. Architecture descriptions are work products of system architecting."			
IE3	53	TH	1.1		Bullets 7 & 9 are oddly phrased and are weak. 9 in particular is rarely the purpose; that's more the academic's area of interest. I see nothing in the standard supporting 7 (requirements aren't described in the AD)	Remove both.			
IE3	102	GT	1.1		Conformance required conorming to the provisions of the architecture description rather then the conformance clause. Consider this variation of the generally accepted practice of having a conformance clause, reading the entire clause on architecture description does not, concisely and explicitly, describe what is required for conformance.	Add a conformance clause and state explicitly what is required for conformance without the details of the clause on architecture description. If the clause is not added with useful conformance statements, vote will be changed to "disapprove."			
IE3	106	GT	1.1		Clause 1.1, 4.4, etc. There is no reference to the use of architecture model as a runtime representation of a system as used in the context of dynamic architectures and self-adaptive systems [e.g., P. Oreizy and R. N. Taylor, "On the role of software architectures in runtime system reconfiguration", IEEE Software, 145(5), 1998, 137-145].	Is this out of scope of the standard?			
IE3	124	GT	1.1		The scope of the standard is very broad (man-made systems, including... facilities, materials and naturally occuring entities...). Since this standard is basically made by software architects for software systems, the scope and target are not in harmony.				

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IE3	147	E	1.1		Sect 1.1 "This International Standard is also applicable to the use of architecture frameworks for the development of architecture descriptions". This sentence is not clear. How is a _framework_ itself usable in the development of a description document. Elaborate or be more specific. I can understand that a given implemented framework, already implemented and documented elsewhere, might be of interest with respect to the architecture of a new system, and in the arch descr of this new system, I can refer to that already existing framework, and refer to the documentation of that framework. I suggest it is not the _framework itself_ that is directly used/useful in the development of the arch desc doc for the new system.	Clarify or eliminate this reference specifically to a separate arch framework.			
SWE	18	TL	1.1 and throughout	2 etc.	All specific references to SW can go away. This IS uses a definition of system which includes software.	Remove all redundandt references to SW.			
USA	4	TL	1.3	1.3	In section 1.3, the standard defines systems, software, and software-intensive systems in ways that are usable and valuable.	I would therefore recommend, since the Introduction for the standard indicates it is also applicable to SoS, that the standard include some discussion of that term in this section. Since the term "SoS" is probably not in an international standard (yet), using the DoD "SE for SoS Guide" is probably a suitable reference. The definition the standard uses (that SoS is an "aggregate" of systems), is not very complete.			
INCOSE	7	TH	1.3	2	The definition of system used here (i.e. man-made systems) may be unnecessarily restrictive. It excludes natural systems (such as tsunamis) for which ADs could be conceived. The definition is also arguably too concrete a definition of a system, which could also be thought of as a conceptual model of a collection of entities, i.e. a way of thinking about a set of elements.	Retain the definitions for consistency with ISO15288 but append a sentence to the 1st para of 1.3: "The standard can also be applied to natural systems and conceptual systems."			
INCOSE	8	E	1.3	6	systems life cycle does not require s as either plural (or possessive)	system life cycle			
INCOSE	9	E	1.3	10	use the same form of presentation as in the following bullet, i.e. definition of the class followed by its members	those who oversee and evaluate systems and their development (such as, chief information officers, auditors, independent assessors); and			

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ES	1	E	1.3	Page 2, line 10	The TM symbol should only appear once, the first time the trademarked name appears. Same for the © symbol. And in case they appear, the corresponding acknowledgement should be mentioned (e.g., IEEE Std. 1471 is a Trade mark of XXX in US and in other countries..")	Leave the TM and © symbols just in the first occurrence of the terms under trademark or copyright. Include acks. In case of doubt, follow the ISO guidelines for editors. (BTW, can a IEEE Std be under trademark?)			
INCOSE	10	TL	1.3	second bullet list	chief information officers are overseers to one type of system (information systems)	include examples to broaden this such as chief designer, chief engineering, design authority			
CAN	4	TH	1.3		Definig the scope of architecture in terms of specific views is dangerous, incomplete and incorrect. Especially if it drags in the scope water systems!	The scope of architectural models within Information technology is made of IT-based systems, or the IT-based subsystem of larger systems. The systems of interest have always been identified in the industry (TOGAF, ZACHMAN, etc.) as The Business System The Information System (Application & Information) The Technology System			
IE3	32	GT	1.3		The phrasing in the bullet makes the placement of "naturally occurring entities" in a sentence starting with "systems that are man-made" confusing. Is this meant to list the possible types of components of the system? Are the items that are listed the items being configured?	Rephrase this bullet so it is more clear.			
IE3	54	E	1.3		Bullet 3: neither reference is appropriate. citing previous versions of the same document misleads the reader. it's simply the definition put forward by the current document. it's also odd that this term does not appear in section 3 of this document.	Remove references.			
IE3	55	TH	1.3		Bullet 1 (second list): describe and document make sense (though the distinction isn't clear--also applies to 3.1); create is over-stated. This standard is about describing, not creation. create should be removed to avoid setting false expectations.	Remove create.			
IE3	105	TH	1.3		Researchers in the domain of software architecting are not included as principal users of the standard.	"Researchers can use the standard as a common vocabulary for expressing their research discoveries related to novel methods or techniques that enable or improve architecting."			
IE3	139	GT	1.3		A reference to the previous version of the same standard (ISO/IEC 42010:2007) should be avoided, as that standard may be withdrawn when the new version has been approved.	Define the term i this International Standard			

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IE3	144	E	1.3		<p>LG04: in 5.2.2, IEEE Std 12207-2008 contrasts a "standalone software product or service" with "a software system" or "a software product or service that is an element of a larger system." One can conclude from this that, within the context of a 12207 life cycle, some software products are not software systems and not elements of a larger system. And, that agrees with common sense about what software and systems are.</p> <p>In 42010, 1.3, the explanation of "the term 'system'" in the second paragraph is not consistent with the distinction in 12207. The language in this paragraph will be controversial. And it's unnecessary. A small change can remove the potential problems.</p>	<p>In subclause 1.3, the second paragraph, after "This IS applies to the AD of systems" add "with the following domains:". Delete "The term "system" in this IS covers:". At the end of the second paragraph, before "The principal users of this IS comprise..." in the third paragraph, add the new sentence "This IS may be applied to the AD of a standalone software product or service also."</p>			
INCOSE	11	TL	1.3		<p>It is clear from Figure 1 and the definition of "architecture" in sub-clause 3.2 that it is assumed that a system consists of, or pertains to, multiple elements (cf 4.2.1, para 2). It would be helpful to spell out the assumptions that are being made about systems and their constituent elements. A key question is whether this standard is primarily about systems that don't yet exist (as opposed to capturing the architectures for pre-existing systems).</p>	<p>Expand A.2 to include fundamental characteristics of a system, notably that a system is an existing or planned set of elements that have a collective purpose. The stakeholder concerns about a system of interest are closely tied to the system's purpose and environment.</p>			
SWE	20	TL	1.3		<p>List of principal users: List in order of importance, don't start off with architects...</p>	<p>List in order of importance: clients, acquirers, users and operators...</p>			
SWE	21	TL	1.3		<p>Architects... use LCM rather than arbitrary stages or activities</p>	<p>Refer to LC stages/processes/activities.</p>			
SWE	22	TL	1.3		<p>System stakeholder - Examples in brackets need to include other roles than technical and development oriented. See 15288 for inspiration. Architecture stakeholders may be a more limited set.</p>	<p>Consider adding roles pertaining to LC stages Operation and Disposal.</p>			
INCOSE	61	TL	1.4		<p>Additional limitation. This not a process. It does not describe how to build an develop an architecture description, nor the order in which work products should be prepared.</p>	<p>This International Standard does not prescribe a specific process or methodology to be used in producing architecture descriptions.</p>			
IE3	103	GT	2	NOTE 2	<p>Delete comment 2 as incorrect and inappropriate. Replace with the following: Conformance required conforming to the provisions of the architecture description rather than the conformance clause is not feasible because of the extensive content of Clause 5. Reading the entire clause on architecture description does not, concisely and explicitly, describe what is required for conformance.</p>	<p>Sate explicitly what is required for conformance without the details of the clause on architecture description. If the content of the conformance clause is not made more explicit to sta concisely the conformance requirements, the vote will be changed to "disapprove."</p>			

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IE3	10	TH	2		Add a conformance point for predefined (or stand-alone, or library) architecture viewpoints. Being able to claim conformance to this standard for a "reusable" asset, will promote the community to define and share such assets. It requires no addition of requirements, as requirements on any viewpoint are already specified in 5.4.	Add: an architecture viewpoint conforms to this standard if it satisfies the requirements of 5.4			
IE3	11	TH	2		Add a conformance point for Architecture Description Languages. Most architects use one or more ADLs. It seems this concept is ripe for standardization and falls within the scope of this standard.	Add a definition of ADL in clause 3. Introduce the notion conceptually in clause 4. Specify requirements on a conforming ADL in clause 5, along the lines of: An ADL shall identify the concerns it is able to address, typical stakeholders of that ADL, the types of models which may be produced with that ADL, and the syntax and semantic specifications of all ADL constructs.			
IE3	143	E	2		LG03: 6.2 simply defines conformity conditions. The content would be more appropriate in clause 2.	Move 6.2 (see below) and delete label 6.1 in clause 6 (because there is no 6.2 now). Divide clause 2 into three subclasses: 2 Conformance 2.1 AD conformance: 2.1.1 "An AD conforms to this IS if that description meets the requirements listed in clause 5." 2.1.2 "An AD conforms to an AF when: <add remainder of 6.2 here>" 2.2 AF conformance: "An AF conforms to this IS if that framework meets the requirements listed in clause 6."			
IE3	145	TH	2		LG05: No single change that I proposed is important enough to make it a standalone criterion for a yes vote. However, jointly, they show opportunities for improving this draft. I would like to see the discussions of conformance and the field of application improved.	Explicitly allow a claim that an AD (or a related AF) of a software product or service that is not a system conforms to this standard. And/or... Consolidate conformance guidance within a single clause.			
SWE	23	TL	2		Clause 3 is normative in ISO stds. Should this be mentioned in Clause 2?	Consider referring to definitions in clause 3 as conformance points.			
SWE	24	E	2		For clarity, add "Clause" to each numeric reference in paragraph	Add "Clause" to each numeric reference in paragraph			
CAN	8	E	3	Normative Reference	The normative reference clause is missing	It is essential to stabilize concepts and terminology to use concepts, terms and definitions from other standards as much as possible			
IE3	109	GT	3		Architectural style/pattern is a generally accepted concept in the architecture community which is directly related to the description of architecture. However, the concept is not mentioned in the standard.	A refinement of the concept of viewpoint (a la Architecture Rationale) may be the place to include the concept of architectural style.			

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IE3	132	E	3		Subsections do not follow listing format of the rest of the document				
INCOSE	12	TH	3		The standard refers to the job function or role of architect (and also Architect) without defining it. Most designers of systems are engaged in the activities in this IS to some extent without being designated an architect, are they not then compliant with its provisions. Better to remove the designation of architect from the standard. 15288 and 12207 avoid reference to the performing role.	remove the five references to architect/Architect			
IE3	49	E	3.1		Architecting also involves communicating an architecture in which the architecture description aides.	insert "communicating" after documenting in line 2			
INCOSE	13	TL	3.1		As per 3.9, it is particular concerns architecting... use LCM rather than arbitrary stages or activities	continue the definition with "according to a set of architecture-related concerns"			
SWE	27	TL	3.1		Arch Viewpoints are constructs relating to (or serving) the creation of AD:s. Their relationships to the Arch itself is not deliberated in this IS. Thus, for clarity, these should be termed Arch Descr Viewpoints.	architecting: The LCM of arhitecture			
SWE	42		3.1		The definition of architecture includes the principles used in its creation and evolution. What this means is that not every system has an architecture. Only those systems that include their principles of definition have architectures. It makes sense that every system has an architecture whether documented or not, whether good or bad. Putting criteria of goodness in the definition excludes a great many systems from having architectures.	Change the term defined to "Architecture Description Viewpoint".			
IE3	56	TH	3.2						
INCOSE	18	E	3.2			Remove the last clause. its elements			
SC5	2	TH	3.2		As we try to apply the 42010 notion of an AD we are continually running into the conflict associated with distinctions between our notions of Type I and Type II architecture. This definition just makes the distinctions more confusing. The "principles guiding system design and evolution" are orthogonal to the "conception of a system in its environment embodied in elements, their relationships to each other and to the environment". The latter specifies "a system" while the former may be used to specify many systems. These are different architectural constructs and should have different definitions.	3.2 architecture fundamental conception of a system in its environment embodied in elements, their relationships to each other and to the environment (See comment on 3.6 below for use of the last phrse of the current definition.)			

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SWE	25	TH	3.2		<p>Arch is a fundamental conception... Arch is a "inherent" property of a system (HAS). ADs capture these properties thru a process of perception (internalisation) and description (externalisation) performed by people, involving their cognitive capabilities, such as conception. Systems can similarly be viewed as expressions of "inherent" properties of physical things (e.g. products), i.e. such systems are conceptions also. The problem is that the definition classifies Arch as conceptual wrt systems, i.e. on a different level of abstraction from system and environment.</p>	Fundamental properties of a system			
SWE	28	TH	3.2		<p>Take out the last part of the sentence (... , and principles...). Replace with statement of purpose of architecture</p>	<p>...so that the (emergent) system properties, behaviour and interaction w sufficiently satisfies stakeholders concerns. Alt. ...such that the system can achieve stated purposes.</p> <p>NOTE Concerns may include that the systems arch is based on principles...</p>			
SWE	29	TH	3.2		<p>This is as definition of Systems Arch (A of a S). Compare to def 3.11 environment (of a system)</p>	architecture (of a system)			
SWE	31	TH	3.2		<p>Any AD is a snapshot of the system's Arch at some point in time.</p>	Add ...at a particular time...			
IE3	107	TH	3.3		<p>The concept of "Architecture-related concern" as used in, among others, the definition of Architectural decision, and later in Figure 2, is not defined. Annex A.3 presents a definition of architecture related concern as being a subset of system concerns. More generally, the term concern is used in multiple ways: "concern", "system concern", "stakeholder concern", "architecture related concern", ... This is confusing.</p>	Add the following definition to section 3: architecture related concerns are the subset of system concerns which drive the architecture and its description			

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IE3	150	E	3.4		Defn of Architectural Description as a "collection of work products used to describe an architecture." The IEEE introduction to this standard states that the Arch Desc is "a work product". I believe that logically speaking there is one Arch Desc work product for a given system, describing one architecture. While there may be several models used and referenced in one Arch Description work product (and Section A.5 complicates matters by explaining how models themselves can be work products), that is not a good reason to refer to multiple work products for the Arch Description as a whole. In addition, Clause 5.1, pg 13 first sentence reinforces the perception of inclusion of parts and referenced material into one complete work product. Furthermore, see pg 8, para 2: "An architecture description is a work product capturing one architecture for a system of interest."	Change definition of Architectural Description in this clause to refer to a single work product.			
INCOSE	19	TL	3.4		The definition does not add value (to the plain English meaning of the term). The definition could more usefully be based on the argument that since an architecture pertains to a system and its environment and an AD describes the architecture, then the AD also describes some characteristics of the system (it is in this sense that the system "is the subject of an architectural description" as stated in 3.17). Also, whether it is one work product or a collection is somewhat irrelevant at this stage (collating work products is work).	Change definition to "architectural description: work product used to describe the environment for the system of interest, to identify its stakeholders and their concerns, to describe the architecture elements and to offer rationales for architecture decisions"			
INCOSE	20	E	3.4		As any work product that is descriptive of an architecture qualifies under this definition - completeness is NOT implied and may or may not have been intended.	None			
INCOSE	21	TL	3.4		Definition of Architecture Description. There is no definition or list of what are work products, as such it would be useful to provide a list to clarify what are work products, e.g. "collection of work products used to describe an architecture e.g. views, view points and models."	collection of work products used to describe an architecture. Examples of work products include views, view points and models.			
SWE	33	TH	3.4		See SWE-10 ref 1.1	Define Work Product			
SWE	3	TL	3.5	NOTE	...identified stakeholders, identified concerns... etc.	...descriptions of identified stakeholders and indentified concerns,... etc			

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IE3	57	TH	3.5		This is either much broader than I would expect or unclear. I would interpret this definition to mean that (e.g.) the AD version number is an architecture element. I think a more conventional use of "architecture element" would focus on the constructs found in models rather than constructs of the document itself (which could include absurd things like section headers or hyperlinks).	Provide a more explicit, constrained definition.			
INCOSE	22	TL	3.5		To avoid confusion the term 'Architecture Element' should be used explicitly in the definition 3.2 assuming that the same meaning was intended in both uses of the term element. However, this begs the question of whether this is the element itself or the description of that element. If the latter was intended, a more precise term would be 'AD element'.	Add 'architecture' before 'element' in 3.2			
INCOSE	23	E	3.5		Referring to Figure 2, it would be helpful if this definition was constrained to the atomic building blocks of ADs, those that come from model elements. An AD describes stakeholders, concerns and rationales as well as views that are ultimately constructed from these model elements. An important distinction between models and views is that models do not have to be directly related to stakeholder concerns.	Replace definition with "architecture element: architecture model entity or relation"			
SWE	2	TH	3.5		Architecture element. A construct in an AD is an element of that AD. Naming it an Architecture description element is more conclusive.	Change term defined to: Architecture description element.			
SWE	34	TH	3.5		Architecture element We must separate AE:s from ADE:s	Change to "Arch Description Element"			
INCOSE	24	E	3.6		The two examples seem unnecessary - a more representative set of examples is given in 4.5, para 3. In the UK, TOGAF is now probably the leading AF.	Delete examples			
INCOSE	25	TL	3.6		Definition of Architecture Framework. Include in the definition that the different domains and stakeholder communities can be categorised as: -Open Source or Consortia-developed frameworks -Commercial frameworks -Defense industry frameworks -Government frameworks	Definition of Architecture Framework. conventions and common practices for architecture description established within a specific domain or stakeholder community. Typical domains and stakeholder communities can be categorised as: -Open Source or Consortia-developed frameworks -Commercial frameworks -Defense industry frameworks -Government frameworks			

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SC5	3	TH	3.6		Following the prior comment regrading 3.2, the notion of principles and guidance belongs here.	3.6 architecture framework conventions and common practices for architecture description established within a specific domain or stakeholder community that are principles to guide system design and development			
SC5	4	TH	3.6		For WG1 the notion of architecture framework is not specific to a domain or stakeholder community. ISO 15704 is an architecture framework for enterprise architectures in any domain or user community. Some architecture frameworks are specific, often termed "reference architectures", but unless there is some need to retain the specificity in the definition it should be dropped. If it must be retained to meet the intention of 42010 then it should be made clear why such retention is necessary.	3.6 architecture framework conventions and common practices for architecture description that are principles to guide system design and development			
SWE	35	TL	3.6		Notion of "domain" and "stakeholder community" not clear.	Define and consider adding to Fig 4			
SWE	36	TH	3.6		Definition relates to Arch Description FW:s. WG42 has a purpose to establish a "arch belief system", e.g. by providing support for the discrimination between types of AFW:s.	change "title" to Architecture Description Framework. Examples may have to go or rationale provided why these are good examples of ADF:s.			
IE3	58	TH	3.7		This definition is not informative. Boxes and lines are used in many models but shouldn't satisfy this definition without semantics.	Provide a more useful definition.			
INCOSE	26	E	3.7		Introduction of architecture elements, suggests that models are not the atomic entities within an AD.	Reword "architecture model: work product, consisting of architecture elements, from which architecture views are composed"			
INCOSE	27	TL	3.7		Definition of Architecture Models. It would be useful to provide examples of types of models to put the definitions into some context, e.g. Conceptual / Business / Enterprise Model; Logical / System Model; Physical / Technology Model. Once the different types of models are understood, then model correspondence and model correspondence rules becomes clearer. It is noted that these are sometimes termed Architecture Views and Note 3 in Section 4.2.3 refers to business views, physical views and technical views.				

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SWE	37	TH	3.7		"Composed from" is difficult to understand - explain. In the previous version, the relationship was "coposed of", i.e. an aggregation, possibly without transformation of "model matter". The new relationship suggests transformation, i.e. a view has "substance in its own right", thus it is possibly a special case of model.	Clarify! If necessary, bring up the "Uber-model"-discussion w TC184 and/or the delineation between Arch Analysis Models vs Arch Description (or Communication) Models, as suggested by JM.			
INCOSE	62	TH	3.7 and 3.9		Definition of Architecture Models and Architecture Views. The document uses the terms models and views loosely and this leads to potential confusion. 3.7 Architecture Model – work product from which architecture views are composed. 3.9 Architecture Views – work product representing a system from the perspective of an architecture-related concerns. Figure 2 Conceptual Model of Architecture Description and Figure 4 Architecture Frameworks indicate that an Architecture View is composed from one or more Architecture Models. A.4 para 4 "A view is a model covering the system from the perspective of a related set of concerns. A view is composed of architecture models..." A.5 para 6 "...there are three kinds of models which occur as work products: - An architecture description is a work product which is a model of the architecture; ... - An architecture view is a work product [ISO 15504] which is a model;.... - An architecture model is a work product which is a model."				
IE3	110	TH	3.8		In Fig. 3 an Architecture Rationale justifies 0 to n Architecture Decision. This contradicts the definition of architecture rationale (3.8)	Change the cardinality in Fig. 3 (in the role of Architecture Rationale justifies Architecture Decision) to 1..n			
SWE	38	TH	3.8		Assuming SWE-28 is accepted, take care of "cut out" part of 3.2	Add ...and the principles guiding them.			
SWE	39	TH	3.8		Consider SQUARE decision-making model - interperatation and analysis....	Consider reusing concepts used in SQUARE for 3.8 and 4.2.5.			
INCOSE	28	TH	3.9		This definition could be a misleading starting point for the reader since it could be read as architecture-related concerns in general or totality. Each view relates to particular concerns.	particular architecture-related concerns			
SWE	40	TH	3.9		Representing vs expressing (expression of) See 1.1 scope..., first bullet Expr (concrete), repr (abstract) Ref OMG SBVR chap 8	Ensure consistent use of these terms.			

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SWE	41		3.9		The view is about the architecture of the system.	Change to ...representing the architecture of a system...			
INCOSE	14	TL	3.11		Add the life cycle to the note (which then lead neatly into the next definition)and influences of the system during its life cycle			
SWE	43	E	3.12		human-made	man-made			
IE3	59	TH	3.13		This definition should convey something about the meaning of the relation.	Provide a more useful definition.			
IE3	121	TH	3.13		Is it explicitly a 'relation on two more' or is it better to use between	Relation between two or more architectural models			
INCOSE	15	E	3.13		style suggestion	replace [relation on] by [relationship between]			
IE3	60	TH	3.14		A bit confusing. I think it's supposed to mean something like "requirements on relations among architectural models that are satisfied by documented model correspondences." I think; in particular, it's the "enforced on a model correspondence" that's problematic. Among other things, a rule could easily affect many correspondences.	Provide a more useful definition.			
IE3	137	TH	3.16		Insufficient definition for usage in normative part of standard. This is not an editorial comment; it is a technical comment, because the current usage of variations of the term <concern> in the normative part of the proposed standard goes beyond this definition, making proper technical interpretation of those variations difficult or impossible. Clarification is provided in Annex A, which is only informative. Clarification is required in the definitions in Section 3. [Editor: see attachment 3321200024-Concerns.doc]	I recommend that three terms be defined: 1.Concern (or Stakeholder Concern) 2.System concern 3.Architecture-relevant concern The definitions should make explicit (and thereby preserve and clarify) the relationship described in Annex A: {{Stakeholder} Concern} "{ {System concern} "{ {Architecture-relevant concern}			
INCOSE	16	TH	3.16		Definition of Architecture-related concerns. The document makes extensive mention of architecture-related concerns and this term is used in various figures, however the Terms and Definitions only included the definition of System Concerns. For example can all "System Concerns" become "Architecture-related Concerns"? This needs to be explained.				
IE3	61	E	3.17		"in the context of this International Standard" doesn't belong in the definition. It can be cleanly removed.	Remove the phrase.			
INCOSE	17	E	3.17		system of interest is a hyphenated compound noun in ISO/IEC 15288. For consistency change this throughout this IS	"system-of-interest" throughout the text			

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ES	2	TH	4	figures 1, 2, 3, 4	Most of the multiplicities in the association ends of the figures are missing. They are important because otherwise the default multiplicity (1) is assumed. Alternatively, maybe not all associations are navigable in both directions?	Include multiplicities in ALL association ends which are navigable. Non-navigability should be specified, too.			
ES	7	TH	4	figures 1, 2, 3, 4	Using verbs as association end names in UML associations is confusing, and not a common practice. The recommended practice is to use names for association end names, and verbs for association names (at the end of the day, association ends are features owned by of classifier at the other end, i.e., they are like "attributes"). UML also allows to omit association end names, and in this case the name of the association will be the name of the Classifier at the other end, but uncapitalized. Please note that the current use of association end names is not fully aligned with OCL, for instance, so that no OCL constraints could be properly specified, or they will be meaningless. In summary, the current way in which the UML is used is not completely correct, and therefore either the proper convention should be followed, or the document should not say that the diagram is drawn using the Unified Modeling Notation, as it currently says.	Use names for association end names, and verbs for asstion names. For example, the two associations between "Architecture-related concern" and "Architecture decision" can be named "pertains to" and "raises" if required. Alternatively, association end names "pertainedConcern" and "raisedConcern" can be used in that side. In the other side "owner" and "causingDecision" can be used. See Figure below with a proposal for Figure 1 of the document using this convention. If this comment is not accepted, then the sentence saying that the diagram is written using the UML should be removed!			
IE3	41	E	4	figures 1, 2, 3, 4	The informative notes to Figures 1 to 4 mention "Uniform Modeling Language." This term is a registered trademark of Obect Management Group (OMG). Please address other possible instances of trademark usage in the informative note in 4.5. References to commercial equipment or products in a standard shall be generic and shall not include trademarks or other proprietary designations.	Where a sole source exists for essential equipment or materials, it is permissible to supply the name of the trademark owner in a footnote. The proper use guidelines for trademarks shall be determined by the trademark owner. For example, follow OMG's trademark usage guidelines, which can be found at < http://www.omg.org/legal/tm_guidelines.htm >. Also, per IEEE style, the WG shall add the following footnote, where appropriate, in the body of the document: "This information is given for the convenience of users of this standard and does not constitute an endorsement by the IEEE of these products. Equivalent products may be used if they can be shown to lead to the same results."			

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IE3	108	TH	4	figure 2 and 4	In the conceptual model of AD (Fig.2), model correspondence rules are part of the AD. In the conceptual model of architecture frameworks (Fig. 4) the rules are part of the architecture framework. This seems to be inconsistent.	An association between Model Correspondence Rule and Architecture Description in Figure 4 would resolve this problem.			
USA	6	GE	4	figures 2 and 4	Figures 2 and 4 should be harmonized graphically. The same basic pattern should be used in both places, and then the addition of the Architecture Framework entity on Figure 4 will be more meaningful and less confusing.				
INCOSE	31	E	4.1	2	The rationale for separating some notes into Annex A is not understood.	Either the pertinent content of Annex A should be merged into the notes within Clause 4 or vice versa.			
IE3	119	TH	4.2	figures 1 and 2	The term "system" in fig 1 is the same as "system of interest" in fig 2.	Section 3 defines "system of interest". We propose to use the same term in fig 1.			
IE3	133	E	4.2		Figure 1, Figure 2: "system" vs "system of interest"	Use one and the same name for the concept			
INCOSE	32	E	4.2		Is it ISO convention to reference the (first?) use of the terms and definitions in parenthesis? It looks odd and seems unnecessary.				
SWE	53	TH	4.2.1	4	"The architecture of a system is a conception of that system in relation to its environment"	The architecture of a system is a conception of key properties of that system and of its relation to the environment, primarily relating to the emergent properties and behavior of the system.			
INCOSE	64	E	4.2.1	5	Other systems will usually be in the environment of the System of Interest. Those systems have owners that may therefore be stakeholders for the System of Interest.	Suggest adding sentence "The environment for the System of Interest may contain other systems."			
INCOSE	65	TL	4.2.1	6	The term "fundamental" in definition 3.2 needs explanation here; this is a critical point that helps to distinguish an architecture from a design. The description should indicate how one might test whether an AD has omitted a fundamental aspect of the system. One approach to saying some aspect is fundamental is to say that the understanding of the system will be significantly reduced if it is omitted. The term "fundamental" introduces subjectivity into the definition but it is nonetheless a crucial part of the definition and understanding of what an architecture is.	Add further explanation in A.2. The term 'fundamental' should perhaps be the aspects of the system that have a major influence on fulfilling the purpose of the system and addressing the principal stakeholder concerns (based on the aspects of its environment that relates to its operational use). "An architecture includes everything it needs to fulfil its purpose and nothing that it doesn't need."			

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INCOSE	66	TH	4.2.1	7	This statement is too strong as it is not logically deducible from the definition (and contradicted by Figure 2). Whether it is correct depends upon what is meant by "fundamental". A difficulty here is that the language used is based on an assumption (which will be false in many cases) that the system already exists. It is possible that an existing system might have more than one conceptual architecture (since what is regarded as fundamental is subjective) but it is difficult to make that argument for a future system that is being conceived. In that case, a more likely situation is that more than one system could be built for which the fundamental conception is the same (since an AD cannot be exhaustive).	Change to "The definition of architecture (3.2) does not rule out the possibility that a system might have more than one architecture. Also there may be more than one system having the same architecture".			
INCOSE	30	TH	4.2.1	figure 1	Whilst Figure 1 does not appear to be incorrect, in places it conveys little beyond logical association. More association text (proposed here in {}) would help establish this rather important mental image early in the flow of rationale. Getting this right conveys cardinal elements of the ontology observed throughout the standard..	System {conceived through} Architecture System {influenced by} Stakeholder System {conceived through} Architecture Stakeholder {concerned with} System Purpose {defines intent for} System Architecture {represents organizational and rationale of} System Architecture Description {enables communication of} Architecture			
SWE	6	TH	4.2.1	figure 1	The relationship between System and Architecture is described using the verb HAS. HAS usually indicates a "part-of" relationship. This causes problems if S and A are at different levels of abstraction.	Either remove the word "conception" from arch def (3.2) or elevate terms System and Environment to the conceptual level.			
SWE	11	TH	4.2.1	figure 1	If Arch is (a conception of) key properties of a system, then there could be properties of the system which do not pertain to its architecture. These may, however, need to be captured and described. The notion of Systems Description, as a pendant to AD may be useful to add, either to Fig 1 or as a discussion in an annex.	Consider adding SD as an element in Fig 1. Consider discussing relationship of ADs to SDs in Annex ?			
ES	3	E	4.2.1	figure 1	The note associated to Figure 1 includes a reference ([14]). This contravenes the ISO editorial guidelines				
IE3	33	GT	4.2.1	figure 1	The note says that it is written using UML notation, but a "has" relationship is shown symbolically, not with text. It is also missing cardinality annotations.	Update to use standard symbolic notation and include cardinality.			
IE3	42	GT	4.2.1	figure 1	Addition of multiplicity on associations would add clarity				

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IE3	62	TH	4.2.1	figure 1	Figure 1: The lack of multiplicities in the diagram and the discrepancies between the diagram and the text is a problem. A metamodel should not be ambiguous. Clearly a system has 1..* stakeholders. Does a system have 1 or 1..* architectures? I would think the latter, but it's not clear in the diagram (though NOTE 3 would indicate that I'm right, Figure 2 contradicts that statement). Every end of every relation should be explicit. The role name from system to environment (situated in) does not encompass the text accompanying the diagram (acts upon) or the definition in 3.11 (influences).	Revise the figure.			
INCOSE	63	E	4.2.1	figure 1	For consistency the term "System" should be "System of Interest" (3.17)	Change "System" to "System of Interest"			
ES	4	E	4.2.1	NOTE 1	The explanation of stakeholders provided by the note can be more effective if given together with the definition of stakeholder	Move NOTE 1 to 3.15			
IE3	20	TH	4.2.1	NOTE 3	A system has at least one conceivable architecture. The statement here that any system may have no conceivable architecture is inconsistent with figure 1 on page 6 and figure 2 on page 8.	Delete NOTE 3.			
IE3	122	TH	4.2.1	NOTE 3	The text in note 3 is inconsistent with Figure 2. In particular, the relation between the System of Interest concept and Architecture concept in Figure 2 has a cardinality of 1 at the end of the Architecture concept. We are convinced that the figure is correct, i.e. every architectural description has an architecture. But it may have no, one or more architectural descriptions.	A consequence of the definition of architecture is that for any system there is at least one architecture, and no, one or more conceivable architectural descriptions.			
IE3	63	E	4.2.1	NOTE 4	What should a reader take away from this? It doesn't seem to add anything.	Remove.			
SWE	5	TL	4.2.1	NOTE 4	In ISO stds clause 3 is normative, ie for conformacne the user of the standard is required to adopt the definitions provided. Since all three concepts listed are (in principle) defined in clause 3, the note is incorrect. E.g.: The IS claims not to place requirements on the concept of architecture, however it must by definition be regarded as a conception, ie a cognitive entity.	Change the claim to: "Other than the definitions, there are no requirements..."			
CAN	5	TH	4.2.1		the term system is not completely defines. The first paragraph of page 6 misses on aspect	a system is a set of components organized to fulfill one or more purpose. The set of components, and the organized aspects are the foundation for modeling (therefore architecting) systems.			

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CAN	6	TH	4.2.1		conception. Defining architecture as a "conception" without defining conception is useless. Again simpler and exact definitions exists. This definition also give the impression architecture is conceptual.				
IE3	120	TH	4.2.1	figure 1	Figure 1 has no multiplicities. This is inconsistent with the style of the other conceptual models in the standard, all having these multiplicities.	Add multiplicities to fig. 1			
INCOSE	67	E	4.2.1		tautology - man-made systems come from intention	delete "for which it is intended"			
INCOSE	68	TL	4.2.1		Each association in Figure 1 has a new para, except the first two. The sentence 'A system has stakeholders' does not follow this style.	new para to convey same level of precedence			
INCOSE	71	TL	4.2.2	1	Presumably the nature of the concern that a stakeholder has with respect to a system may be dependent on usage scenarios (not the sense used in Appendix B); if so, this suggests that models that reflect these concerns may also be scenario-dependent. Then scenarios become essential ingredients for describing the architecture of the system.	Add note reflecting this point			
INCOSE	72	E	4.2.2	2	The note could be extended to point out that concerns may come from constraints on the system or emergent properties expected of the system. Such concerns may be associated with assurance authorities which are stakeholders that have responsibility for monitoring the final system relative to these concerns.	Extend note			
INCOSE	73	E	4.2.2	2	The note could be extended to point out that concerns may also be related to life-cycle processes (rather than the system itself), e.g. quality is a generic concern.	Extend note			
INCOSE	74	E	4.2.2	3	By using the term "name" the note confuses the concern with the description of that concern.	Replace "names" by "reflects"			
INCOSE	69	TL	4.2.2	EXAMPLE	(ii) is not a goal but a constrain or solution restriction (a particular form of requirement)	replace goal by constraint			
INCOSE	70	TL	4.2.2	NOTE	Does the reader unfamiliar with this use of the term transparencies have to buy ISO/IEC 10746 to grasp this example	perhaps an i.e. to explain the term			

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IE3	64	TH	4.2.2		"A concern names an area of interest" This notion of concern is much vaguer than would be helpful. A concern that "the system should respond in a timely manner" is not actionable. Timely for some is 2-3 seconds; for others, it's 20-30 ms. The standard should at least encourage (requiring is problematic) a more rigorous, more specific expression of concerns. This should be addressed here an in terms of much better examples in the annexes. While a viewpoint must remain reasonably vague on concerns (given a lack of system of interest), there should be a requirement to refine concerns in the AD.	Recommend (if not require) actionable, less ambiguous description of concerns in an AD.			
IE3	118	TH	4.2.2		Title: This section is not about stakeholders, but about their concerns.	Change the title to "Concerns"			
IE3	135	TH	4.2.2		pp. 7: The example is artificial. What does it mean "The system shall be blue"??	Possible alternative: "Consider the statement: (i) When a user starts a new interaction, the system shall show a window to enter the user's password. (ii) Only users with the right permissions should be able to use the system. Although (i) is a requirement and (ii) is a goal, both statements pertain to the same system concern which could be named Authentication."			
INCOSE	75	E	4.2.2		Could add an additional note that use of an Architecture Framework makes it easier to select corresponding stakeholders, concerns and viewpoints as much of this is pre-defined.	Add note			
INCOSE	76	E	4.2.2		Which system concerns are architecture concerns?	Replace last sentence by "Some of these concerns are fundamental and therefore pertain to the system's architecture."			
INCOSE	82	TH	4.2.3	1	Figure 2 provides a useful summary of the terms used in clauses 5 and 6 (together with their relationships). Figure 2 is accurate in the context of forward architecting (a future system only has the one architecture by which it was conceived with no need to make a distinction between an architecture and its description) but not necessarily in other contexts.	Further qualification may be needed on the applicability of this standard			
SWE	54	E	4.2.3	1	"Figure 2 presents these concepts..." This sentence is key to understanding the scope of this IS. Since Fig 2 will often be cited or copied, it would be beneficial if this sentence followed directly below the figure, giving it a chance to accompany the figure when that single page is copied from the standard.	Move sentence to next page, directly below Note 1.			

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INCOSE	83	E	4.2.3	3	The term 'metamodel' should not be encouraged for what is essentially a conceptual reference model. Ontology is referred to several times in the draft standard (e.g. in the introduction) but not specifically linked to Figure 2 - that seems a more precise description of the figure.	Say 'inaccurately referred to'.			
INCOSE	84	E	4.2.3	3	"An architecture description is a work product capturing one architecture for a system of interest." Figure 2 implies that this is "the one", which is not quite the same as "one".	Accepting that the system has a single architecture, at least conceptually, suggest: "An architecture description is a work product capturing the architecture for a system of interest sufficiently to address the concerns of the explicitly identified stakeholders for whose benefit it is generated".			
INCOSE	85	TH	4.2.3	5	ISO follows IEEE-1471 in advocating that a system's architecture is distinct from the description of that architecture. There is no reason to make this bold assertion in this standard. There is limited utility in making this distinction (in the context of forward engineering of a system). The main reason is that the principal purpose of an architecture is to inform others and this cannot be done without an architectural description. Putting this differently an architecture without an architectural description is valueless.	The standard would be more coherent if it took the opposite position, that there is no value in distinguishing between the architecture and an AD (see comments above relating to inconsistencies in current definitions).			
SWE	55	TL	4.2.3	5	"Each viewpoint frames one or more architecture-related concerns. A concern could be framed by more than one viewpoint." See SWE-14	Each viewpoint addresses one or more architecture-related concerns. A concern can be addressed by more than one viewpoint.			
INCOSE	86	E	4.2.3	8	The words "frames" and "framed" are used here in relation to viewpoints framing one or more concerns. The words "addresses" or "relates to" denote a relationship without implying much else. If more is meant by "frames" then it should be explained.	Explain meaning of "frames" - or use "addresses".			
SWE	12	TL	4.2.3	figure 2	Cardinality from Arch model to Arch viewpoint should be 1..*	Add ".*"			
SWE	13	TH	4.2.3	figure 2	Consider breaking out a part of Arch viewpoint called Arch Model Type (Meta model). See 42N0054 for rationale and proposal.	Add a box below Arch Viewpoint labeled Arch Model Type, as suggested in 42N0054.			

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SWE	14	GT	4.2.3	figure 2	Use of verbs: used, framed Use of nouns: representation, expression These words are not defined in the IS and may cause problems when interpreting or translating. Framed is illustrative - not good in normative, better use "addressed by" Rep and Expr not unambiguous. (Comp w OMG Abstract vs Concrete syntax, Common logic...)	E.g.: Replace "Framed" with "addressed by" in relation Concerns-Arch Viewpoints.			
IE3		GT	4.2.3	figure 2	General – Another example of the lack of concept harmonization between 42010 and 15288... IEEE 15288-2008 makes a distinction between stakeholder requirements (clause 6.4.1) and system requirements (clause 6.4.2). This distinction – important as it is for the matter at hand - is not found in figure 2 of IEEE P42010. (Also keep in mind the very first sentence of 15288's description of the Architectural Design Process: "The purpose of the Architectural Design Process is to synthesize a solution that satisfies system requirements." System requirements!! Nothing stakeholder requirements directly.)	Apparently, the "harmonization" of 42010 with 15288 has been interpreted in a very narrow sense, to remove any outright contradiction but nothing more. Please reflect on the broad thrust of IEEE 15288-2008 and elaborate on this thrust in a revised P42010. If unresolved, this particular matter of stakeholder vs. system should be enough by itself to discard the present version of IEEE P42010 altogether.			
USA	5	TL	4.2.3	figure 2	With respect to Figure 2 (cited in section 4.2.3), per note 3 on p.6, the arc between System of Interest and Architecture should probably be "1..*" instead of "has 1". A system of interest can have more than one architecture.	The arc between System of Interest and Architecture should probably be "1..*" instead of "has 1".			
SWE	9	TH	4.2.3	figure 2	Use of UML and diamonds... The diamonds do not agree with the cardinalities and/or explanatory text.	Remove diamonds!			
IE3	21	TH	4.2.3	figure 2	A viewpoint may be applicable to more than one view. Here the figure indicates that a viewpoint governs only 1 view. If the intent is really only 1 view, then the wording of the definition of "architecture viewpoint" on page 4 should be revised. The definition says a viewpoint is a "work product establishing the conventions for ... architecture views ..." (i.e., plural views). Also, the last paragraph of subclause 4.2.3, on page 9, contains the sentence "An architecture viewpoint establishes the conventions for ... architecture views ..." (i.e., plural views).	Change "governs 1" on the relationship between Architecture Viewpoint and Architecture View in figure 2 to "governs 1..*"			

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IE3	65	TH	4.2.3	figure 2	Figure 2, like Figure 1, lacks multiplicities and has several inconsistencies with accompanying text. There are many examples here, not all of which are noted. This diagram needs a feature by feature review. Some examples include (1) System of interest --> 1 architecture contradicts NOTE 3 on p 6; (2) concern --> (1?) viewpoint contradicts p9; (3) model --> 1 viewpoint & model --> 1..* view create a problem together since view --> viewpoint. This should imply that model --> 1..* viewpoint; (4) model correspondence rule --> ? model correspondence; I would think 0..*; (5) why is there no relation between viewpoint and model correspondence rule? 5.7.3 makes me think there should be (which I agree with). Multiplicities on relation ends on AD are more problematic. Of course a stakeholder might be interested in multiple ADs, but that's not that helpful for this standard. An explicit statement of scope to that effect would help clarify what the metamodel is and is not meant to convey.	Revise the figure.			
IE3	116	TH	4.2.3	figure 2	Figure 2: The concepts "model correspondence (MC)" and "model correspondence rule (MCR)" are of a much lower level of abstraction than the other concepts in this figure. MC and MCR are detailed aspects of "architecture model", and hence should be better described in a separate figure.	Provide a separate figure that zooms in on architecture model and introduce the concepts "model correspondence", "model correspondence rule" there. This approach is also taken in figure 3, that zooms in on architecture rationale. Also relate MR and MRC to the concept "architecture element".			
INCOSE	77	TL	4.2.3	figure 2	The concept 'Architectural Decision' is important enough to be included in this diagram.	Add 'Architectural Decision' to top right of Figure 2 and add relationships - 'shapes' with 'Architecture' - 'documented by' with 'Rationale'			
INCOSE	78	TL	4.2.3	figure 2	4.2.2. acknowledges that Stakeholders concerns MAY relate to architecture (so there could be some system stakeholders worth identifying at the outset that don't have any concerns relevant to the stage of the life-cycle at which the AD is being produced).	Change Figure 2 to read Stakeholder has "0..*" Architecture-related concerns Ditto Figure 4			

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INCOSE	29	TL	4.2.3	figure 2	If Figure 2 relates to the AD of a single system, it appears strange to include model correspondence rules explicitly. This might be better placed as an optional part of the definition of a Viewpoint (since, as explained in A.4, the purpose of defining viewpoints is to establish consistent practices within an organisation or project). Note 1 in 5.7.3 also suggests this. Making this change would have the advantage that the conceptual model of an Architecture Framework depicted in Figure 4 would show that one of the advantages of constructing an AD from an AF rather than directly from this standard is that the model correspondence rules are pre-defined.	Remove the element "Model Correspondence Rule" (and all associations with this element) from Figure 2 and make this point in 4.2.4			
INCOSE	79	TL	4.2.3	figure 2	Whilst a System may have a single "conceptual" architecture, it is contended that any architecture may have "0..*" architectural descriptions, taking into account that systems have a lifecycle. Three specific cases: a) the architecture has not been described. b) a new stakeholder emerges with one or more new architecturally related concerns. Once these are addressed there are two different descriptions. c) stakeholders fall into 2 or more groups with minimal common concerns, and it is useful to generate two, or more distinct work products. The problem is that Figure 2 is presenting a steady state picture for something which is evolving as it exists with a lifecycle. Is there a valid notion of "a complete architectural description" - which contain all the information necessary to address all known stakeholder concerns? This addresses cases a, b and c, by permitting (0..*) incomplete ADs at any time, and flipping to 1 complete AD whenever completeness is achieved.	Either:- rename/redefine Architectural Description as "Complete Architectural Description" and change "described by" to "fully described by", or change to "described by 0..* Architectural Descriptions"			

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SC5	7	TH	4.2.3	figure 2	The confusion that this drawing creates has only been made worse by the inclusion of more entities. Depicting conceptual models with nested relationships and dependencies as flat data models is never going to add clarity for the concepts themselves or the myriad relationships between them. It renders the ontology for architecture that you are trying to build into taxonomy for a XML based exchange of architecture information devoid of the necessary semantics. If that is the intent, then keep it as is and be content with being relegated to that usage. Otherwise, clearly note the figure as illustrative and informational rather than definitive and normative.	Modify the Note with Figure 2 to read, "The figure is an informative illustration for a possible class diagram using the notation of the Unified Modeling Language [14]." Also change the word "depicts" in the last paragraph of section 4.2.3, after the change above, to "illustrates".			
INCOSE	80	TL	4.2.3	NOTE 1	Figure 2 is new so it cannot sometimes have been referred to.	Replace with 'can be seen as'			
IE3	26	E	4.2.3	NOTE 2	On page 8, in NOTE 2: "IS" (for International Standard) is an abbreviation that is not defined within the document.	Replace "IS" with "International Standard".			
INCOSE	81	TL	4.2.3	NOTE 3	Say more about this since it is rather important to the conformance or non-conformance of architecture frameworks. Insert a middle sentence.	A system has an architecture that is holistic and the parts of this are typically described as views according to regions of stakeholder concern . Thus ...			
CAN	7	TH	4.2.3		Another confusion such a document show clarify is the definition of views, which is used with different meaning in different context.	View has two meaning: One is the view as the expression of what the modeler sees from his viepoint. With a sufficient number of viewpoints, a complete model of the system under study can be made.(TR9007,ODP) the second is a selection and rearrangement of the components of the base model to fit a particular purpose or audience. For instance the communication or the security view in TOGAF. This definition is an adaptation of the concepts of views in the database world. Both concepts are essential to architectural wordl and should be defined and used.			

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IE3	52	GT	4.2.3		Figure and text suggests only one architecture description (product) is associated with only one architecture (conceptualization) of a system of interest. Numerous studies and experience suggest that multiple conceptualizations are possible for the same system for different purposes. Since the architecture description is a product, it would have to address all these, and the standard makes a case that all of these must be integrated into a single product, which may not be desirable.	Multiple architectural descriptions possible for one architecture. Elaborate the case for why there is only one conceptual architecture to ensure that users will understand how to structure their architectural descriptions.			
IE3	66	TH	4.2.3		The last sentence describes a relationship not directly present in Figure 2--that views address (a verb also missing from the diagram) concerns.	Reword the sentence to reflect Figure 2.			
INCOSE	87	e	4.2.3		capture sounds predatory	that records			
SC5	5	TL	4.2.3		The text beginning at "An architecture description is a work...", through the end of NOTE 2 should be at the end of section 4.2.1	Move the text, "An arcitecture description is a work....are the subject of this IS." to thened of section 4.2.1 and adjust the NOTE identifier from 2 to 5.			
SC5	6	TH	4.2.3		Place the information about Figure 2 at the end of the section rather than at the beginning so the main content of the section regarding views and viewpoints comes before the figure and its presentation.	Move the text, "Figure 2 depicts...metamodel of architecture description." to the end of section 4.2.3 and adjust the NOTE identifier from 1 to 2 and make the existing NOTE 3 identifier NOTE 1.			
INCOSE	88	TL	4.2.4	1	The issue is re-use of a model rather than redundancy. The statement may be logically correct but does not bring out the importance that one model can serve more than one view.	to enable re-use of models			
SWE	56	TL	4.2.4	1	"An architecture model may participate in multiple views..." In light of the change described in SWE-46, perhaps "contibute to" is more suitable	An architecture model may contribute to multiple views			
INCOSE	89	TL	4.2.4		With respect to models and correspondences, there is an interesting and related term from DODAF, which is Integrated Architecture. Integrated Architecture is where architecture data elements are uniquely identified and consistently used across all products and views within the architecture. There is value in having an integrated architecture; however the term is not mentioned in this standard although the NOTE in 5.6 alludes to an Integrated Architecture.				
SWE	7	TL	4.2.5	bullet 2	...behaviour of architecture elements... By def 3.5 architecture elements are parts of Ads. Descriptions (and/or conceptions) have no behaviour.	Remove ...or behaviour...			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
ES	5	E	4.2.5	figure 3	Cardinalities should be written as 0..* and not 0..n which is more common practice in UML.	Change 0..n to 0..*			
ES	6	E	4.2.5	figure 3	It is not clear from the Figure (and the model depicted by the figure) the navigability from some concepts to others. For instance, there are two relations between "Architecture-related concern" and "Architecture decision". Navigation from the latter to the former is clear because the two association end have names in the opposite side ("pertains to" and "raises"). However, it is not clear whether the relations are navigable from "Architecture-related concern" to "Architecture decision", and how to differentiate which association we are using to refer to in each case. There is also one cardinality specified for one of them, but not for the other. According to UML, this means cardinality 1.	Use association end names in ALL associations. (BTW, it is always better to use names as association end names, and verbs as association names. This is what may be causing many problems -- see our comment ES 7 below)			
IE3	67	TH	4.2.5	figure 3	Figure 3: more multiplicity concerns. (1) What rationale doesn't justify a decision? (2) What decision affects no elements? (3) What decision affects no concerns? (4) Why wouldn't a concern be raised by multiple decisions?	Revise the figure.			
CAN	9	E	4.2.5	NOTE 1	UML	Use the ISO number (19501 for UML 1 Or 19505 for UML2, and put in the normative references.			
INCOSE	90	TL	4.2.5		decisions can sometimes map simply to concerns	there is frequently no simple mapping between the two.			
SWE	45	TH	4.2.5		Consider SQUARE decision-making model - interperatation and analysis.... See SWE-38.	Consider reusing concepts used in SQUARE for 3.8 and 4.2.5.			
INCOSE	33	TL	4.3	3	This paragraph classes with 15288, 12207, 15504 where process, and more specifically life cycle process, is the generic term for units of transformation action/work product delivery, the actual titles in descending magnitude are process, activity, task.	Replace 'life cycle activities' with 'life cycle processes' (twice); and replace 'multiple activities' with 'activity and task detail'.			
INCOSE	34	TL	4.3	3	Surely this standard should be making a stronger recommendation here?	Change 2nd sentence to "If a life cycle model is used, this standard recommends that an architectural description should be an explicit work product from the execution of the life cycle model and the life cycle model should clearly identify how each of the elements (views and models) in a conforming architectural description is to be produced".			

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INCOSE	35	TH	4.3	2	To this point in the text nothing has been said about how detailed an architecture description/models might be. This leaves open the possible interpretation that architecting is not conducted at subordinate levels of design detail (and even worse that there is no architecture). Extend to second sentence to make this point.	... of the life cycle, and also at subordinate levels of system detail.			
IE3	45	TH	4.3		For organizations conforming to 15288/12207, this standard does not provide the necessary details to complete System Engineering Architectural Design Process or Software Architectural Design Process. In fact this standard does not recognize that life cycle processes exist as shown in "4.3 Architecture-related activities in the life cycle Therefore, a system's architecture potentially influences processes throughout the system's life cycle."	4.3 Architecture-related activities in the life cycle processes Therefore, a system's architecture process potentially influences system life cycle processes throughout the life cycle.			
USA	1	TH	4.4		add item link use of architecture to safety	q) to provide a common way to identify the system of interest for system safety and reliability reviews.			
INCOSE	36	TL	4.4		What has guided this order. Could there be a more obvious or even declared logic (or maybe a disclaimer of 'in no particular order of precedence'). Since this list of uses is at the heart of the rationale for having the standard in the first place it seem worth presenting the list (which looks comprehensive) to good effect.				
INCOSE	37	E	4.4		The following additional bullet points are suggested - To document principles and constraints to guide future change - To document the architectural decisions together with their rationales and implications As a comment, there is quite a lot of repetition in the list and it would merit better organisation.	Add additional bullets to list			
SWE	57	TL	4.5	figure 4	Terms "domain" and "stakeholder community" See SWE-35	Consider adding to Fig 4			
SWE	59	TH	4.5	figure 4	The relationship between AD and Model Correspondence Rule from Fig 2 is not depicted in Fig 4, while all other relations are.	Add relation			
SWE	60	TH	4.5	figure 4	The layout of Fig 4 could be improved. See proposal in 42N0055.	Redraw according to proposition in 42N0055.			

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IE3	22	TH	4.5	figure 4	A viewpoint may be applicable to more than one view. Here the figure indicates that a viewpoint governs only 1 view. If the intent is really only 1 view, then the wording of the definition of "architecture viewpoint" on page 4 should be revised. The definition says a viewpoint is a "work product establishing the conventions for ... architecture views ..." (i.e., plural views). Also, the last paragraph of subclause 4.2.3, on page 9, contains the sentence "An architecture viewpoint establishes the conventions for ... architecture views ..." (i.e., plural views).	Change "governs 1" on the relationship between Architecture Viewpoint and Architecture View in figure 4 to "governs 1..*"			
IE3	68	TH	4.5	figure 4	Figure 4 has the same problems as Figure 2. Also missing information found in Figure 2 (relation between AD and model correspondence rule). The repetition here is unfortunate. It would be better to either have one figure that includes everything or have the second figure only show the additions (framework + its relations).	Revise the figure.			
SC5	8	TH	4.5	figure 4	If Figure 2 is supposed to be a metamodel of architecture description then this figure is a massive meta-confussion for us. It is possible that the software orientation of JTC1 is pushing the notion of framework toward "programming framework" for which the figure seems perhaps more appropriate, but that is certainly not the orientation of WG1. There is some discussion of this figure in the attached meeting minutes. The basic problem is that there are at least two notions of architecture being represented, our Type I and Type II distinction, and they conflict with each other in the depiction. Please see the figure by MW in the minutes.	Remove Figure 4 and the reference to it at the end of section 4.5			

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IE3	151	GT	4.5	NOTE	The "4+1 Viewpoint" is listed as an "architecture method" and also included in the encompassing statement as an architecture framework. I think "architectural method" is not a very precise classification of the "4+1 Viewpoint", it is an analytic tool or a standard for a description. But it is even farther away from being an architecture framework. Because there is no place within this document for elaboration upon an architectural "method", it might be better not to try to qualify ther "4+1 Viewpoint" as such here in this document. And if it must remain in this NOTE in the context of complete architectural frameworks, perhaps it should be qualified as a limited or partial architecture framework.	Reconsider the inclusion of "4+1 Viewpoint" in this list of complete architecture frameworks, and also reconsider the unqualified use of the term "architecture method", which is not the topic of this standard.			
INCOSE	38	TL	4.5		One of the things that distinguishes an AF from a generic AD is the inclusion of model correspondence rules (as shown in Figure 4). Sometimes these are encoded within a framework metamodel (cf 6.1, para 3).	This should be explained here and 5.7.3 note 3 amended to state that this is one benefit of using an Architecture Framework			
SWE	8	GT	5		This IS mixes different levels of abstraction with problematic concequences, eg. statements about Arch are mixed with statemets about Ads, causing inconsistencies / incoherence. See SWE-25.	Review IS wrt this issue and make suitable corrections.			
IE3			5		IEEE 15288-2008 highlights the "system element descriptions" (as defined in that standard) that are an outcome of the architectural design process. Clause 5 of the present IEEE P42010 does not elaborate on the !substance! of these descriptions – clause 5 is all about form, no substance. Now, the form addressed in clause 5 undoubtedly fits the system element descriptions, however, without substance any form is just fluff. What is the substance of the system element descriptions? To what extent should the interfaces between the elements be covered in the architectural description? And so on.	Complement clause 5 with an additional, normative clause that describes the substance of the major elements of architecture, probably broken down by certain classes of systems. For inspiration from a different field, the authors may want to look at "The Elements of Style", by Strunk & White.			
IE3			5		Also under the heading Clause 5: All Form, No Substance – IEEE 12207-2008 presents a Detailed Design Process next to an Architectural Design Process. Clause 5 of P42010 is not specific enough for the reader to decide what kind of "detailed" software design information does NOT belong in an architectural description.	IF an architectural design description may contain EVERYTHING design, let P42010 say so with reference to 15288 AND to clauses 7.1.3 and 7.1.4 of 12207. IF an architectural description should NOT contain certain detailed design information, let P42010 be specific on limits and exclusions – again, with reference to 15288 and 12207.			

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IE3	37	TH	5, 6		Every AD should be required to have an AF. The AF encapsulates the Stakeholders, Concerns, Viewpoints and View Correspondence Rules for that AD (as well as resolving any AF integration concerns). This simplifies presentation and conceptually retrofits the description of an AF consistently into the Ontology. The various diagrams and text in preceding clauses would also have to change.	Update metamodel, description and conformance section for ADs to require that every AD has exactly 1 (conforming) AF.			
SWE	15	TH	5.1	c)	Clause 5.4 starts with "An architecture description shall identify each architecture viewpoint...", which corresponds to the relation identifies in Fig 2. However, 5.1 c) proposes that VPs be defined in ADs.	Change to ...identification of each...			
SWE	16	TL	5.1	d)	Rel SWE-14 and SWE-15, use of "identified" is preferred over "used".	Change to ...each architecture viewpoint identified.			
SWE	46	TL	5.1	d)	"an architecture view and its architecture models..." The use of "its" seems to be a residual from when Views were said to be "composed of" models. Now that Views are "composed from models", the View can no longer claim possession of those models. The latter serve as a basis, and may well be transformed into model matter specific to the view.	Change to ...an architecture view and related architecture models...			
INCOSE	91	TH	5.1, 5.3	b)	5.1 b) Identification of the system stakeholders and their architecture-related concerns. 5.3 An architecture description shall identify the stakeholders that have architecture-related concerns. This comment is related to review comment against clause 3.16, which relates to the difference between System Concerns and architecture-related concerns. Do stakeholders have system concerns, or architecture-related concerns? Later in 5.3 the "following architecture-related concerns shall be considered.... – the purposes of the system, etc" this seems to establish what is the minimum set of architecture-related concerns. However having had the whole of 5.3 discussing architecture-related concerns, NOTE 2, then states that the standard "does not prescribe the granularity of system concerns;"				
INCOSE	40	TL	5.2	3	organization and project are not mutually exclusive	and/or			
INCOSE	39	TL	5.2	NOTE 1	See better the Generic Work Product characteristics of 15504 Part 6.	... and ISO/IEC 15504 Part 6 Annex B.1).			

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IE3	126	E	5.2		The abbreviation AD is undefined and inconsistently used.	Add the abbreviation in the beginning of the document,.			
INCOSE	41	TL	5.2		NOTE 1 has an undefined abbreviation "AD", which is architecture description (defined later in 6.2). It should be spelt out in full since it is the first time it is used. Note that the use of abbreviations only in 5.2 NOTE 1 and 6.2 seems unnecessary and inconsistent since these are the only parts of the standard that use the abbreviation.	Examples of identifying and supplementary information in an architecture description are:			
IE3	149	E	5.3	4	Clause 5.3, para 4, bullet 4: "At a minimum, the following architecture-related concerns shall be considered and identified in the architecture description as applicable: - the potential risks of the system to its stakeholders throughout its life cycle." This is worded in an overly broad manner, and might be misinterpreted, despite the usage of the term "architecture-related concerns" in the beginning of the sentence. "Potential risks of the system" is overly broad, and by itself covers more than the risks associated with the (described) architecture. I believe in an architecture description it is reasonable to list or discuss those risks associated with (ideally addressed by) the chosen architecture. There are other places in which to document other risks.	Consider replacing "the potential risks of the system" with "the risks associated with the described architecture".			
INCOSE	42	TL	5.3	first bullets	There is an attractive symmetry to the presentation but the pair associations imply relationships seen in particular classes of life cycle model or product/service domains.	List each of the stakeholder classes individually			
INCOSE	43	TH	5.3	NOTE 2	No hint is offered regarding how classes of stakeholder are formed. What logic, practice or custom might be employed to bound a stakeholder class and achieve a useful cohesion? Saying that someone else will tell you somewhere else may be a forlorn hope, and anyway why not prescribe some requirement in this IS to establish sound practice for this? This NOTE is an opt-out from establishing important criteria that should govern stakeholder classes, and thus viewpoints, and in turn the cardinal structure of architecture frameworks (which can be seen as wayward on this matter!). A TH issue is buried in this NOTE	[provide some normative provisions on this issue or some robust guidance]			
INCOSE	44	TL	5.3	NOTE 2	Architecture frameworks also have a role to play here	Append "...and in the definition of Architecture Frameworks"			

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IE3	24	E	5.3		On page 13, in subclause 5.3, 2nd sentence: The "as applicable" at the end of the sentence leaves a vagueness in the guidance here. I believe the intent is not to allow variation in the consideration of the stakeholders listed here but to require that they are all considered and as a result deemed applicable or not applicable to the particular architecture description being constructed.	Change the sentence to the following: "At a minimum, the following stakeholders shall be considered and identified in the architecture description as applicable or not applicable."			
IE3	25	E	5.3		On page 13, in subclause 5.3, 4th sentence: The "as applicable" at the end of the sentence leaves a vagueness in the guidance here. I believe the intent is not to allow variation in the consideration of the concerns listed here but to require that they are all considered and as a result deemed applicable or not applicable to the particular architecture description being constructed.	Change the sentence to the following: "At a minimum, the following architecture-related concerns shall be considered and identified in the architecture description as applicable or not applicable."			
IE3	69	TH	5.3		There are two uses of "shall be considered" in this section. This is not an enforceable requirement. Essentially, these two points could as easily be notes or "should"s.	Change these to notes.			
IE3	70	TH	5.3		Note 2 is too weak. See earlier comment regarding need for more explicit concerns than are mentioned in the standard in an AD.	Provide stronger guidance, even if only as a recommendation.			
SWE	47	TL	5.4	a)	Use of verb framed. See SWE-14.	Change toaddressed by...			
INCOSE	45	TL	5.4	bullet list	completeness is not covered in 5.7	move parenthesis to follow after consistency only			
INCOSE	46	E	5.4	c)	not c) in text				
SWE	30	E	5.4	c)	ref to c) is wrong.	change to b)			
SWE	44	TH	5.4	c)	Consider breaking out a part of Arch viewpoint called Arch Model Type (Meta model). See 42N0054 for rationale and proposal. See SWE-13.	Create another Level 2 heading called AMT. Place relevant content there.			
IE3	130	E	5.4	c)	"c)" in the middle of the text of section should be	"b)"			
INCOSE	92	TL	5.4	c)	The line item self references, i.e. "...identified in c)." Need to determine which line item is meant to be referenced.				
SWE	49	TL	5.4	last	Use of verb framed. See SWE-14.	Change toaddressed by...			
IE3	114	TH	5.4		Item c). It is confusing to include "rules and constraints" in the documentation of a viewpoint, without explicitly stating how these rules and constraints relate to "model correspondence rules".	Replace item "c) for each type of architecture model identified;" in "c) the languages, notations, modelling techniques, analytical methods or other operations to be used;" or explicitly relate the constraints and rules to the model correspondence rules.			
IE3	141	E	5.4		LG01: 5.4 c) refers to itself by mistake.	Change "for each type of architecture model identified in c)," to "for each type of architecture model identified in b);"			

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IE3	146	GT	5.4		Reference to "c)" appears to be in error. Looks like it should be "b)".				
INCOSE	47	TL	5.4		Consistency and completeness are mentioned, but not sufficiency. To what level of detail, for example; e.g. to the point of systems element specification to other designers.				
SC5	9	TH	5.4		In bullet item c) the reference should be to b) not c). Also the list can not be mandatory and unqualified - some of them may not be appropriate for a particular specification.	c) for each type of architecture model identified in b), as appropriate the languages...used;			
SC5	10	GT	5.4		Because the term "type" is so overloaded when talking about modelling, we prefer to use the phrase "kind of model" rather than "type of model"	Change all usage of "type of model" or "model type" to "kind of model" unless a specifically named type is being referenced.			
SWE	48	TL	5.4		"...each type of architecture model used in this viewpoint;" The relation used in Fig 2 is "governs". Thinking about it, the model is really being used in construcing the view, not in the	Change to "...each type of architecture model governed by this viewpoint;"			
INCOSE	50	TL	5.5	2, 3	A measure of overlap and repetition in paragraph 2 and 3.	Delete paragraph 3 and replace "be governed by" with "comply with".			
IE3	113	TH	5.5	c)	Item c). The term "configuration control information" is not explained nor defined. It is unclear what it means.	Clearly define what is meant by the term or remove item c).			
INCOSE	48	TL	5.5	e)	Notes refers to paragraph they follow, thus delete self reference	Delete "item e)"			
SWE	50	TL	5.5	last	"An architecture description may include information not part of any architecture view." This is made clear already in the beginning of 5, where 6 categories of AD content is listed, one of which is the view(s). If this message needs to be repeated here, put it all in a note!	Move into the note following the paragraph or delete with note.			
INCOSE	49	TL	5.5	NOTE 2	Introducing the term "Separate" raises more questions than are answered. Should the term be "Specific" and would an example of where this applies help the note?	For example,			
IE3	23	TH	5.5		On page 14, in subclause 5.5, 1st sentence: This sentence seems to imply that there should be exactly one view for each viewpoint. A viewpoint may be applicable to more than one view. If the intent is really only 1 view, then the wording of the definition of "architecture viewpoint" on page 4 should be revised. The definition says a viewpoint is a " work product establishing the conventions for ... architecture views ..." (i.e., plural views). Also, the last paragraph of subclause 4.2.3, on page 9, contains the sentence "An architecture viewpoint establishes the conventions for ... architecture views ..." (i.e., plural views).	Change the sentence to the following: "An architecture description shall include at least one architecture view for each architecture viewpoint used."			

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IE3	71	TH	5.5		Each architecture view shall be governed by exactly one architecture viewpoint. This doesn't require identification of the mapping; it should.	Add a requirement for traceability.			
IE3	72	E	5.5		The last sentence is a good point, but does not belong in 5.5. It also seems more like a NOTE. 5.1 might be a good place, introducing the idea that the standard places minimum requirements and does not dictate an organization of all AD contents.	Move this material to a more appropriate location.			
SC5	11	TH	5.5		After much discussion and several attempts to align our notions of architecture viewpoint and architecture view, it is clear that the requirement that a view be governed by one viewpoint is not very meaningful and likely to be interpreted in such a way as to make potential users of 42010 ignore the standard altogether, thus failing to benefit from other very positive aspects of the standard. (See accompanying discussion in minutes and other attachment.) While desirable, the 1:1 relationship between a viewpoint and view is not necessary to achieve useful and suitable architecture descriptions that are the objective of this standard. In every case we examined where there was a seeming failure to meet the 1:1 criteria, we were able to simply recast either the view or viewpoint specification without changing the underlying content to achieve alignment - hardly a point of rigorous specification. That being the situation, it is hard to see the value of such a mandatory requirement. In fact, a recommendation statement offers a better opportunity to engage	Change to read, "Each architecture view should be governed by exactly one architecture viewpoint. Each architecture view should comply with a governing viewpoint."			
INCOSE	52	TL	5.6	4	Paras 2 and 4 appear inconsistent (and this is reflected also in Figure 2). If a model participates in two views that conform to two viewpoints, how can that model be governed by a single viewpoint? It might be better to say that a model (governed by one viewpoint) may share elements with a model governed by another viewpoint - then it is the elements that participate in multiple views, not the models themselves.	Review possible inconsistency AWG also suggests that it would be useful to make better use of examples to distinguish models from views and descriptions and to clarify the idea of model elements (cf A.6, in Example 1 there are explicit model elements identified)			
SWE	52	TL	5.6	4	"An architecture model may be used in more than one architecture view." In light of the change described in SWE-46, perhaps "used for" is more suitable	"An architecture model may be used for more than one architecture view."			
IE3	30	E	5.6	NOTE	On page 15, in subclause 5.6, in NOTE, last sentence: There's a missing space.	Change "influencea" to "influence a".			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
INCOSE	51	TL	5.6	NOTE	The term micro-architecture should be referenced/explained				
SWE	51	E	5.6	NOTE	influencea	influence a			
IE3	73	E	5.6	NOTE	The note is out of place; it belongs in A.5. A much more appropriate note here would address how models that are used in multiple views differ from models used only in one model. For example, having to conform to the requirements of multiple viewpoints and how to deal with conflicting requirements (essentially, you can't share models in such cases).	Move this material to A.5. Consider adding cautions regarding satisfying multiple viewpoints.			
IE3	115	TH	5.6		The text states "The type of each architecture model shall be defined"	It is not explained what is a type? Which types?			
IE3	125	E	5.6		At the end of the note: influencia	influence a			
ES	8	TH	5.7.1	1	(An architecture description shall record any known...") is confusing as a start for this clause. In addition, it is repeated in the NOTE in page 16.	Move that paragraph at the end of this Clause (after the paragraph "The mechanism for model correspondences...") and remove the last sentence of the NOTE in page 16.			
IE3	112	TH	5.7.1		It is confusing to state that a "model correspondency" can express a relation between architecture "views." This is not shown in any of the conceptual models. Moreover, the term "model correspondence" clearly suggests its relation to models instead of views.	Remove "or between architecture views" from the sentence. This results in: "The mechanism for model correspondences specified in 5.7.2 and 5.7.3 may be used to express, record and analyze consistency and other relations between architecture models."			
IE3	74	E	5.7.3	NOTE 3	Why not? Rules are at least partially addressed in NOTE 1. The former, however, does seem odd.	Either address the topic or remove the note. It's better to address the topic, as other material partially addresses it.			
INCOSE	93	E	5.8.1	4	For the first time this paragraph acknowledges that the AD may be a description of an existing (rather than a future) system.	This point should be made in the Overview Also the rationale for the legacy system may not be known (although it should be documented if it is known)			
IE3	75	TH	5.8.1		The first two sentences are unforceable. There is no objective criteria for what forms a "key" decision.	Change shall to should or replace with an enforceable requirement.			
IE3	76	TH	5.8.1		The first sentence is unclear. Is the point that rationale should be supplied justifying the choice of each viewpoint? If so, that is actionable and should be expressed much more directly. Otherwise, I'm not sure what it means.	Rewrite the requirement to clarify intent.			
SWE	58	TL	5.8.2	1	"...the decisions that led to its architecture elements." See SWE-34.	...the decisions that led to its architecture description elements.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
INCOSE	94	TL	5.8.2	2	This incorrectly suggests (a) that an AD captures decisions (it actually captures rationales) and (b) that this is optional (contradicting previous instructions). The bullet instructions are over-burdensome for all but the most important design-related decisions (and won't be appropriate for most of the types of decisions discussed earlier). In addition, the idea of decision ownership is important and requires further explanation (the person taking the decision isn't necessarily the person who owns it, for example).	Review			
INCOSE	95	TL	5.8.2		Structural decomposition of a system is an important decision. Add a bullet	decisions that resolve architecture elements that are designed acquired, re-used or designed by other parties			
USA	2	TH	5.8.2		add item to... Criteria to consider can be:	decisions that mitigate hazards			
INCOSE	53	TL	6	2	"The verb include.." has the form of a clarifying note.	Make shall, should or NOTE.			
IE3	40	TH	6		<p>I am concerned about the added definition of an "Architecture Framework" - to summarise, I am concerned whether TOGAF (as a specification) would be an "Architecture Framework" according to the normative parts in the current draft.</p> <p>As the draft 6 of the next version standard (thereafter referred to as "the draft") states in its 'Abstract' section, "Architecture frameworks are introduced for codifying conventions and common practices of architecture description within a community".</p> <p>This statement caught my attention, and I looked further, namely into Sections 3.6 (Definition), 4.5 (Usage) and into the entire Chapter 6 of the draft.</p> <p>Basically - the draft describes an "Architecture Framework" using ideas, concepts and semantics, that would map best to the "Architecture CONTENT Framework" of TOGAF.</p> <p>TOGAF, especially now in Version 9, takes a much broader perspective of what an "Architecture Framework" is. The 'verbose version' of TOGAF's definition of an "Architecture Framework" says:</p> <p>"An architecture framework is a foundational</p>	<p>I would suggest, that the term "Architecture Framework" in the draft should be consistently replaced with the term "Architecture Content Framework".</p>			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
IE3	152	GT	6		It is not clear at what level of abstraction the "architecture framework" exists. Earlier, TOGAF and Zachman are cited as examples of architecture frameworks. These are true "frameworks", generic in the sense that they contain building blocks which can be used in describing the arch for a given (instance) system. But note Zachman and TOGAF are only at the generic framework level, not the instance level of a particular system. Yet here in Section 6 the bullets such as "stakeholders" seem to be at the level of the instance - a specific system, and a specific architectural description - not a generic framework.	Clarify here and in other sections which attributes apply at the generic "framework" level and which apply in the arch description of a system (instance).			
SC5	12	TH	6		In TC184/SC5 there are at least six standards that articulate a notion of framework - ISO/IEC 62264, ISO 15745, ISO 15704, ISO 16100, ISO 11354, and ISO 18435. Because each is scoped for a different aspect of the enterprise interoperability spectrum, they have different structure and target domains. For none of them is there more than a general statement about related stakeholders since as standards they are targeting those who conceive, design, construct and operate in the enterprise context, mostly tool builders, rather than the stakeholders of systems who benefit from applying the standard. The concerns expressed and addressed are those associated with the target audience and not the systems that result. At best these standards are partial models that need more than simple assignments of value to make them cogent in the particular context. Without a richer notion of architecture than currently exists in 42010, we believe that the framework notion most closely matches our notion of Type II architecture (assuming it is not intended for alignment with	Delete the sentence, "When an architecture framework... provisions of 4.2" and NOTE 1 following it. Relabel NOTE 2 as NOTE.			
SC5	13	TH	6		NOTE 2 makes our point that frameworks are indeed metamodels. As such they can be reused to produce more architecture descriptions in a manner that enables comparisons and potentially, interoperation.	Add the following sentence before the NOTE, "Architecture descriptions prepared in accordance with an architecture framework may be compared and contrasted to the extent that the corresponding viewpoints are taken from the common architecture framework."			
SWE	61	TH	6		Architecture frameworks. See SWE-36. See 42N0056 for proposed text for Annex A.	Architecture description frameworks. Consider adding discussion on various flavors of AFW:s as Annex A, clause A.7, as provided in 42N0056.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
INCOSE	54	TH	6.1	NOTE	The term metamodel can be interpreted in different ways. For example the archetype of all the architecture models that are used in any view. It could also be the archetype or ontological reference for all architecture frameworks. Convention may be pointing towards one interpretation but it should be explained/defined through some clarifying text. Since this paragraph contains a shall there should be no doubt about what is being referred to.	Clarify the meaning of metamodel here or define it in 3			
IE3	77	TH	6.1		Why does the last sentence refer to 4.2 instead of 4.5? And what does "reflect the provisions of..." mean? NOTE 1 is inadequate as it only reflects one (restrictive) possibility.	Define what it means to "reflect the provisions."			
INCOSE	55	E	6.1		The requirements associated with the references to clause 5 might need to be strengthened since 6.1 is the sub-clause that defines whether an AF conforms with the standard or not.	Clarify expression of requirements, e.g. the first bullet could read "the identification of one or more concerns (expressed in accordance with clause 5.3)"			
INCOSE	56	TH	6.1		3.6 has a definition of an architecture framework, which is the conventions and common practices for architecture description established within a specific domain. What is described in Section 5 is how to organize the structure for an architecture description and in so doing Section 5 describes the rules for architecture framework. What is described in 6.1 is not what an architecture framework, but what would be considered the minimal contents of an architecture description.				
SWE	62	TL	6.1	3	"...that metamodel shall reflect the provisions of 4.2." The problem is having a shall statement in a normative clause, referring to provisions in an informative clause.	If we really mean the provisions of Fig 2, we should say so. If not, referring to (parts of) clause 5 may be more clear.			
INCOSE	58	TL	6.2	1	The fourth bullet seems over-burdensome because the purpose of an AD may not necessitate use of all viewpoints from the AF. An example might be an operational architecture model conforming to MODAF (used to provide context for a User Requirement Document). This instruction seems to say that the AD must contain System and Technical views whether useful or not. The Note might be reworded to suggest an interpretation of the instruction as being the need to make an explicit decision in respect of each AF viewpoint and might indicate the need to record rationales in respect of those not adopted in a particular AD.	Review			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
SWE	63	E	6.2	1	"...each applicable viewpoint from the framework AF..."	each applicable viewpoint from the AF			
INCOSE	57	E	6.2	NOTE 3	Seems to overlap with the content of 6.1	Delete as this is easily deducible from 6.1			
SWE	64	E	6.2	NOTE 3	"...one viewpoint (per 6.1) therefore, that architecture..."	one viewpoint (per 6.1). Therefore, that architecture			
INCOSE	59	E	6.2		There may be inconsistency in the internal referencing. 'Per' is used here, elsewhere 'see', in other places simply the clause number. Per and see are different and this may be what is intended but check for consistency throughout.				
INCOSE	60	TH	6.2		Comparing Figure 4 with Figure 2 suggests that there is an opportunity to use the logic be that an AD conforming to the AF should automatically conform to the standard (Clause 5) if the AF conforms to the standard (Clause 6.1) and the AD is consistent with the AF in that it uses the a consistent set of viewpoints? If so, the first bullet is unnecessary. This is important because an architect should only have to prove conformance to the AF not the standard as well (otherwise there is little incentive to use conforming AFs over non-conforming AFs).	Review			
USA	7	GE	A, B, C, D		Each Annex needs to be reviewed for (a) applicability/relevance and (b) value. Not clear all annexes are needed for this standard.				
IE3			A		In annex A there is too much naïve philosophy such as Dijkstra's love of reductionism without mentioning the wisdom of "the whole is larger than the sum of the parts", particularly for complex systems. Also, insider-isms such as "in the infamous MIT Building 20" don't belong in an international standard.	Let a hard-nosed editor scrub annex A, down to material (of say less than one page in the case of "terms and concepts") that one expects to find in a standard. Moreover, why not include the truly significant information in clause 3, and drop annex A altogether? If the material doesn't fit in clause 3, the question should be asked, Why in 42010 at all?			
INCOSE	96	E	A.1		only examples are given	... terms, such as, architecture ...			
INCOSE	97	E	A.1		it is the terms/motivations that contrast rather than the Annex	... contrasts these with ..			
INCOSE	99	E	A.2	2	The AWG argues that understanding of what 'fundamental' mean in 3.2 is dependent upon focus upon the system's purpose and its environment (using this term in its broadest sense as indicated at 3.11). "Utility" is mentioned in this paragraph and this reflects the focus on purpose but there is a need to emphasise focus on the system's environment here.	Replace 2nd sentence by "Principal among these is the need to understand and control those elements of a system's design that contribute to utility, cost, risk and its alignment with its environment."			
SWE	65	E	A.2	2	"...while encouraging more rigorous definition..."	while encouraging a more rigorous definition			

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INCOSE	109	TH	A.2	2	It isn't clear whether "elements of system design" means elements (parts) of the description of a system design (design as a noun) or the elements (process parts) of the action/principles/rules of conduct used to design a system (design as verb). Both seem to be illustrated but the distinction between architecture and architecting could be clearer.				
INCOSE	98	TH	A.2	last sentence	This is not a rigorous argument. It supports the argument but does not validate it correctness. What it does do is show how lax the conceptual and verbal models of architecture are. It is perhaps the best demonstration of the muddle and immaturity that architecting is in and that this IS has valid reasons for trying to build a solid foundation to help sort the mess out.	Delete the sentence or adjust the argument.			
IE3	27	E	A.2		On page 19, in subclause A.2, last sentence: "IS" (for International Standard) is an abbreviation that is not defined within the document.	Replace "IS" with "International Standard".			
IE3	78	TH	A.2		The discussion of differences from other definitions of architecture is unclear. Distinguishing between "physical or structural" and "functional or logical" provides no clarity unless you define these terms. Also "encouraging more rigorous definition" seems counter to the broader scope of the standard's definition. "elements" isn't a rigorous term, its an encompassing term. The explanation doesn't match the result.	Clarify the discussion or remove it.			
SWE	67	TL	A.3	2	"Simply put, a viewpoint is a way of looking at a system; a view is what you see." Add qualifier Architecture	Simply put, an architecture viewpoint is a way of looking at the architecture of a system; an architecture view is what you see - a part of the total architecture of the system.			
IE3	79	TH	A.3	3	A.3: The first two sentences of the next to last paragraph seem at odds with each other. The first talks about collecting concerns into viewpoint. The second talks about separating concerns into different views. Both are valid points, but together they are confusing. What's the essential point here?	Decide which point to make and clarify it.			
USA	3	TH	A.3	4	change last sentence to include hazards. Hazards can get lost in Risk and should be called out seperately.	Although concerns can include system risks, the term should not be taken to be synonymous with "risks", "worries" or "hazards".			
SWE	66	TL	A.3	4	This sentence on risk seems out of place. There is no mentioning or example of risk as a concern. If there was, the sentence might be motivated as a note.	Remove sentence.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
INCOSE	100	TL	A.4	2	The singular system might confuse. A viewpoint is a way of looking at systems (not just one, any in principle) and a view is what one sees of a particular system (of interest). This is made clear subsequently but it seems sensible to get this pithy, italicized as free of misunderstanding as possible.	A viewpoint is a way of looking at systems, a view is what you see of any particular system			
IE3	148	E	A.4	3	After suggesting the view:viewpoint metaphor in the previous paragraph, this para does not continue to hammer home the point. The point to be driven home (assuming this metaphor is valid) is that "view" here is associated with an instance, one system, one architecture in one problem context. Similarly a program is one instantiation of a programming language, specific to a particular design or problem.	Consider adding after the final sentence in this para: "view" here is associated with an instance, one system, one architecture in one problem context. Similarly a program is one instantiation of a programming language, specific to a particular design or problem.			
IE3	80	TH	A.4	3	"existing practices capture architectures through collections of models" should be views, not models.	replace models with views			
INCOSE	101	E	A.4	4	This paragraph argues that a view is a composition of models - it is therefore not necessarily very helpful to regard it as a model itself and this may confuse some readers because it makes it more difficult to distinguish models from the views and descriptions they participate in (suggesting there may be redundant concepts)	Start 2nd sentence "A view is a composite model...."			
IE3	51	GT	A.4		term "uber model" not clear, typo?				
IE3	81	TH	A.4		Why are two different definitions of viewpoint supplied from 10746? If both are important, explain why.	Pick one or explain why two are present.			
IE3	82	TH	A.4		"...the International Standard provides a strategy for the customization and evolution of architectural practices." This just isn't true. Where in the document is such a strategy found?	Remove the sentence.			
IE3	83	E	A.4		A.4, last sentence: incorrect annex reference.	Replace B with D.			
INCOSE	105	E	A.5	2	The second bullet has an incorrect reference	Delete "(3.19)"			
IE3	28	E	A.5	3	On page 22, 3rd paragraph, sentence starting "In the informal sense ...": "IS" (for International Standard) is an abbreviation that is not defined within the document.	Replace "IS" with "International Standard".			

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INCOSE	106	TH	A.5	5	2(i) is no more or less a model than 2(ii). The fact that it is not a tangible work product does not introduce a distinction regarding what it is a model of. In both cases it is a representation of a system's organization and rationale (admittedly with different degrees of rigor, fidelity and communicability). Epistemologically, an architecture of a system is only knowable through models that describe or represent it. The notion presented here unnecessarily enters philosophical issues that go beyond the satisfactory and workable definitions of architecture and architecture description throughout the IS.	Remove the paragraph beginning - The difference between			
IE3	2	E	A.5	footnote 2	This footnote runs on to page 22.	Reformat the document to ensure all footnotes are contained within the page they refer to.			
IE3	127	E	A.5	footnote 2	Footnote 2 pp. 21: Contains irrelevant info	At least: remove "(famous)" and "(infamous) MIT Building 20"			
INCOSE	102	E	A.5	footnote 2	Footnote is split across pages 21 and 22..	Consolidate			
INCOSE	104	E	A.5	last	The term identified is open to interpretation and philosophical debate. It is presumed that this means "identified explicitly in the AD" rather than identified in a more general sense - i.e. someone has identified a stakeholder, what is the set of people whose proposed identifications are to be taken into account.	Add footnote against "identified" to explain "identified means those explicitly identified in the AD".			
INCOSE	103	TH	A.5	last bullets	This would be easier to understand if each of the three were exactly the same form. ... is a model; its subject is ...[and this model serves the purpose of ...]	Reword to achieve at the same logical form in each bullet statement.			
ES	9	TH	A.5	second bullet point in the last list of clause A.5	There is an inconsistency here. "An architecture view is a work product [ISO 15504] which is a model; its subject is..." but before it is said that an architecture view is "composed from* models (4.2.4, 5.6, etc.)."	Change the bullet point to read: "An architecture view is a work product [ISO 15504] which composed from architectural models; its subject is..."			
IE3	50	E	A.5		"an architecture model is work product" should be "an architecture model is a work product"				
IE3	84	TH	A.5		From what is present in the last list, I cannot distinguish between "architecture view" and "architecture model". A given diagram could equally satisfy either characterization.	Clarify the distinction between model and view.			

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INCOSE	107	TL	A.5	6	<p>"...there are three kinds of models which occur as work products: - An architecture description is a work product." This statement appears inconsistent with the definition of an Architecture Description in 3.4 An Architecture Description is a collection of work products used to describe an architecture. It is not defined as a work product in its own right.</p>				
INCOSE	108	TL	A.6	last sentence	The reads as an absolute yet uses the value judgments useful and efficiently. Relations may be diabolically complex and wretched to represent.	Relations can have ... and in practice may be efficiently ...			
IE3	29	E	A.6		On page 23, paragraph labeled (1), last sentence: "IS" (for International Standard) is an abbreviation that is not defined within the document.	Replace "IS" with "International Standard".			
IE3	85	TH	A.6		A.6: The second paragraph contradicts Figure 2, which relates models through correspondences, not views. Either views should be removed from this paragraph of the figure should change.	Remove views, or change the figure.			
IE3	86	E	A.6		A.6: The convention used to represent correspondences is awfully academic. Tables, for example, would be less confusing to the non mathematically inclined.	Use a different representation.			
IE3	87	TH	A.6		A.6: Example 3 is unclear. It looks like Example 1 and I still don't get what point is being made.	Rewrite the example.			
IE3	134	E	A.6		Example 1 and Figure 2 pp. 22: Probably better to change the order of example 1 and example 2 (avoids the forward reference to R1)				

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
SWE	69	TL	A.6		<p>There is a concern about using correspondence rules on models (depicting architectural properties of systems) to enforce architectural design principles, i.e. constraining the architecture. Examples 1-4 given in A.6 all focus on enforcing rules on model content (i.e. architecture). Using model correspondence to place constraints on model types seems to be a more imminent need for an IS on AD:s and Description frameworks.</p> <p>If e.g. temporal aspects are an issue within an architecture, model correspondence rules might require "time-savvy" models to be used when constructing views. One aspect of such correspondance might be to use a common time-base (e.g. SI seconds).</p> <p>The governing of model types is done by the viewpoints. TBD...</p> <p>In the case of the projective approach to constructing views, model content correspondence is enforced by the underlying model. So the real benefit of model correspondence and rules therefore is in the synthetic approach.</p>	<p>Consider separating model correspondence into the following categories;</p> <ol style="list-style-type: none"> 1. model type correspondence <ul style="list-style-type: none"> - focus on form and function of models used - focus on how things are described - e.g. using common dimensions - e.g. using common metrics 2. model content correspondence <ul style="list-style-type: none"> - focus on content of models used - focus on what is described - e.g. allocating processes onto processors (Ex 2) - e.g. versions of models in an AD (Ex 4) 			
INCOSE	110	TL	B		<p>There is no discussion on the types of Architecture Description Languages that could be used for the constructions of architecture views, e.g. ArchiMate, Unified Modeling Language (UML) and Business Process Modeling Notation (BPMN), SysML. Is this a deliberate omission?</p>				
IE3	12	GT	B		Annex B is incomplete.	Complete B, or rethink the value of this annex.			
IE3	39	GT	B		Not clear how much this annex adds.	Flesh out and align to life-cycle activities in other standards, or remove. In particular, resolve the TBD in B.6			
IE3			B, D		Annex B and D are incomplete.	Complete annex B and D. Don't put an incomplete draft standard out for balloting. Alternatively, give balloters the opportunity to become members of the working group that puts the draft together.			
IE3	35	E	B, D		Text is still missing for annex paragraphs B.6, D.2, D.3, and D.4	Provide text for all paragraphs or remove the missing paragraphs.			
INCOSE	118	TL	B.2	1	and (whether the architect likes it or not) an understanding of the limitations of technology	, and the anticipated limitations of technology.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
IE3	153	GT	B.2		"Predictions of fitness of use" seems too strong. First, the term "prediction" implies an exact and precise computation, and that is generally unrealistic on the system attribute side and on the required use/capability side. Secondly it ignores the generally accepted idea that important _constraints_ may be included, and that constraints are known ahead of time, they are part of a plan/blueprint, and related to functional or non functional requirements, which are in turn related to fitness for use. Better to say that an Arch Desc _addresses_ fitness for use, it relates features, constraints to a use so that the the stakeholders (builders, customer, user) can see how the architect intended the system to be fit for that use.	Remove term "prediction". Add new explanation which says the arch desc should _address_ and _relate_ to fitness of use.			
INCOSE	111	TL	B.2		B.2 seems to mix wholly novel systems, one-of-a-kind systems and user-developed systems, each of which present different but in part common issues.	Extend text to distinguish the nature of 'single' systems and maybe change the title.			
INCOSE	112	TL	B.3	1	The stakeholders themselves do not really evolve. Their community (members), concerns and needs co-evolve. They do of course get older and generally less tolerant but that is not the point here.	the stakeholder community concerns co-evolve.			
INCOSE	114	E	B.3	1	time of development?	based on the architecture's corresponding state of development			
INCOSE	115	TL	B.3	2	This paragraph does not seem to convey that an architecture may be subject to continual changes (as opposed to continuous change) and that subsequent steps of change (sometimes called architecture epochs) then govern the development and evaluation of a system during that period. The pattern of the development is iterative, the pattern detectable in the architecture descriptions is of progressively advancing versions.				
INCOSE	113	TL	B.3	3, sentence 2	True but the point can be linked to this IS more logically	Delete 'The architecture can also be established by the acquirer as a way of organizing' and replace with 'Evolution is then an architecture-related concern and architecture decisions guide'			
IE3	88	TH	B.3		B.3: This section seems to blur independent notions of evolution and acquisition. One could easily argue that all systems are evolutionary, but the author seems to a have a distinction in mind based on temporal scope (decades vs. months?). It would be better to disentangle these ideas.	Rewrite to separate issues.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
INCOSE	116	TL	B.4	1	An architecture implies a unique architecture description, but a reverse engineered architecture description could differ in its models and rationale to the original.	remove 'an' before architecture			
INCOSE	119	E	B.4	2		replace 'is created' by 'can be created'			
IE3	89	TH	B.4		B.4: This section leaves out the most obvious motivation--existing documentation is simply inaccurate. It should be included.	Add this example.			
IE3	155	E	B.4		B.4 "architecture description is then used to develop a new system," - I think this sentence refers to re-implementing or re-constructing a (same or similar) system based on an architecture descr recovered from an existing system, vs developed. The more elaborate case, where an architectural description is recovered and then evolved for subsequent development, seems more like a "develop" case.	use "implemented" or "constructed" instead of developed, in the case where an architecture is recovered and retained.			
IE3	31	E	B.5		On page 26, subclause B.5: The subclause is difficult to understand and does not clearly and directly address using an architecture description for architecture evaluation. I'm not sure what the intent for this section is, but I have proposed some possible wording to clarify the subclause.	Change the entire subclause to the following: "In this scenario, there are several uses of an architecture description. An architecture description can be used to evaluate the suitability of a system's architecture in helping to deliver the desired system qualities. In this case, the architecture description is used both to understand the system's architecture as it has been designed and to explain what qualities are desired of the system. A good architecture description will explain how the system's architecture supports the desired qualities. An architecture description can also be used to evaluate the conformance of a particular system's architecture to a particular architecture description. In this case, the architecture description provides the reference against which the system's architecture will be compared. The result of the evaluation is a determination of whether or not the system's architecture adheres to the principles, strategies, and guidance of the architecture description."			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
IE3	154	GT	B.5		"Sometimes an architecture description must be constructed to perform any evaluation" is a bit misleading. In order to evaluate an architecture, one must first extract and then understand all of the relevant aspects, as described in the referenced SARA doc. The generation of an arch descr doc is helpful as a tool in which to collect the info, but not literally necessary. Further, on a more subtle point, in this this sentence/section, it seems that the emphasis of conducting an architectural review would be based largely or solely on the Arch Descr artifact. But this is not always realistic. In the SARA document referenced, the _architecture_ is reviewed, not merely the Arch Desc. In fact in the SARA document the authors specifically expect that aspects of the (true) architecture may have to be extracted, modeled or reverse engineered (see section 4.4, pg 12 of SARA document). IFF all the arch review criteria and related info demanded by SARA were encapsulated and mandated as content in this Arch Descr document defined here, and were complete and accurate, then on	Suggest reviewing and clarifying (at least within this section) the thought that an architecture review is conducted largely or solely with respect to an arch descr artifact. If necessary, add some opening comments to this section, explaining that an existing "architecture" must be reviewed as it truly is, therefor reviewers must not blindly accept just an arch desc document.			
IE3	156	E	B.5		"The purpose of evaluation is to determine the quality of an architecture to predict the quality of systems whose conforming to its architecture description". This wording is unclear. First, in terms of basic english, "the quality ___ to predict" should be "the ability ___ to predict" or perhaps "the capability ___ to predict". Secondly, to predict the quality of systems is also vague and undefined. Quality here can apply at any number of levels, and there is also the aspect of judging the quality of an implemented system vs quality of an architecture. Third, with this wording, the question comes up as to whether one is evaluating the quality of the architecture itself, or the arch descr - see comment on this point in this same section B.5	Remove or clarify.			
INCOSE	117	TL	B.5		This seems to be "work in progress" and should have separate paragraphs for the quality of architecture design as opposed to the quality of the architecture description. B.5 title does not help this distinction.				
IE3	4	E	B.6		section missing	remove or supply section for next ballot			

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IE3	90	E	B.6		This scenario is othogonal to the others; it applies to all of them. Just seems like an odd mix of scenarios. Why wouldn't you have included other uses, like implementation, testing, assurance, etc?	Add other scenarios to balance the perspectives.			
IE3	140	GT	B.6		This documents contains at least 6 subclauses in the Annex's only with the content "Editor's note: To be provided". This should not be the case, in a document out for voting.	Update content			
IE3	5	E	C		This example contains many abbreviations and jargon terms. While it might make sence within the organisation from which it was sourced, it is not an aid to understanding for those outside that sector/community/supply chain nor where the readers first language is not english.	this appendinx must be reworked to remove sections that are not needed to domonstrate conformance, to remove jargon and replace with plain english, and expand abbreviations.			
IE3	13	GT	C		The example appears to be written against an earlier revision draft; it does not match the requirements on ADs from clause 5.	Update example in Annex C to satisfy current requirements of clause 5.			
IE3	14	GT	C		Example in Annex C should reflect the range of concerns implied by the scope of this standard, which includes software, systems and enterprise architectural concerns.	Add one or more viewpoints and their views to the example to reflect a range of software, systems, and enterprise concerns.			
IE3	91	TH	C		C: A lot of this material is pretty vague. It's really tough to put in a complete example, but this seems incomplete.	Flesh out the annex, providing more detail and reflecting clarity (i.e., a clearly useful example that one could use as an exemplar).			
IE3	111	TH	C		Annex C: The example of the architectural description is of extremely poor quality (no typical example of architectural description ~ no balance between technical part and business part; poor architectural diagram - no key, no real rationales, etc.) (see also comment number 19)	Another representative and rigorously described example is necessary.			
SC5	14	GT	C		This is an architecture description for a system - Type I architecture in our terminology.				
IE3	38	GT	C, D		Pages 27-31: These annexes in their current form do not contribute much to reader's comprehension.	Either add more content to make them truly usful/exemplary, or remove.			

National Body ID	ID	Category	Clause, Sub clause	Paragraph, Figure, Table	Comment and rationale	Proposed new text	Disposition	Details	Editor's Remarks
IE3	92	TH	C.3		C.3: This identification of concerns is very weak. If I were asked to evaluate the AD and determine if the architecture supports the concerns, I don't have enough information to do that. What is considered "timely"? What kinds of interactions do the developers need to know? How the code is structured? How it operates at runtime? Is there any concurrency? I can't answer any of those questions with the provided view; does that mean that the concern has been inadequately addressed?	Provide more concrete (measurable) concerns			
INCOSE	120	TL	C.4.1		It is arguable whether this viewpoint reflects a valid architectural concern. As stated in other comments, there is a degree of subjectivity here about what is regarded as fundamental (many architects wouldn't accept this). It is presumed that the point of this provocative example is to show that the concerns need to be identified to correctly identify the viewpoints. But this still leaves open the question of what the criteria are for when a system concern (which ROI certainly is) becomes an architectural concern. Good practice in engineering should not allow that level of subjectivity.	Review validity of ROI concern in this example			
IE3	93	TH	C.4.2		C.4.2: I strongly object to the inclusion of an "ad hoc" notation that provides NO explanation of its semantics. I have no idea how to read the corresponding view and I think that's a horrible precedent to set with the published example.	Provide an explanation or remove the viewpoint. It cannot stay in in this form.			
IE3	123	TH	C.5.3	figure c.4	The figure C.4 has no key/legend/ or a clear way of explaining what the elements and arrows in the figure mean. The TLD notation referred in C.4.3 and the reference to DODAF SV-1 are to vague and insufficient to serve as a legend. Consultation of the DODAF document does not yield any notation that matches with the one used here.	Add a key to figure C.4, consider using a standard notation like UML - cfr. comment 7			
IE3	94	TH	C.6		C.6: There is inadequate description of how C.5.2 and C.5.3 relate. Boxes and Nodes match up, but the the arcs and Actions don't (at least not consistently). Again, I have to guess at how this information relates, which makes it a bad example of good AD practices.	Provide a clear mapping not just to nodes, but to relations/dataflows.			

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IE3	95	TH	C.6		C.6: NodeCheck doesn't really make sense. "response time for a node" only makes sense if a node has a common response time to all stimulus. Is that true? Response time is usually characterized relative to some event in the system, not the the existence of a node. MV-2 is probably the root of this problem, as it's not all clear what the actions mean. Do they represent stimulus arriving at a node? Activity performed a node? Some weird combination?	Refine the rule.			
IE3	96	TH	C.7.1		C.7.1: This is pretty weak; it add nothing to the stated concern of each viewpoint.	Provide rationale that adds something or remove this.			
IE3	97	TH	C.7.2		C.7.2: What analysis is this rationale referring to?	Clarify.			
IE3	6	E	D		With so many sections of this appendix missing, this draft is not ready for ballot	withdraw from ballot process and complete the text of this section before resubmitting			
IE3	15	GT	D		Annex D is incomplete. The annex should provide a few concrete examples of viewpoints specified in accordance with the requirements of 5.4.				
IE3	16	GT	D		An informative template for specifying architecture viewpoints would be a useful addition to annex D. Particularly if earlier comment, on making architecture viewpoints a point of conformance is taken.	Add a template for documenting architecture viewpoints conforming to the standard. Previous work of this kind can be found in: http://mysite.verizon.net/rfh2/writings/hilliard01b-viewpoint-modeling.pdf			
IE3	36	E	D		"Editor's note: To be provided." I would prefer 'have been defined explicitly'.				
IE3	46	GT	D		Will change vote to APPROVE as soon as I see D.2, D.3, and D.4 which were not included.				
IE3	98	TH	D		D.2, D.3, and D.4 are missing. Annex D is very important and still needs a lot of work. Overly terse examples will only encourage shallow compliance with the standard.	Complete the annex before recirculation.			
IE3	136	GT	D		Annex D insufficient.	Either delete Annex D or provide missing content.			
IE3	7	TH	D.6.3		BER is expanded and most of the other notation explained but, critically SNR is not. SNR may have other meanings in some audiences	footnote to explain as used in this context			
IE3	99	TH	D.6.3		D.6.3: Is the equation the model or the notation? What is SNR?	Clarify the example.			
IE3	129	E	Cover		pp. I "Document subtype: if applicable" should be	"Document subtype: not applicable"			

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IE3	1	TH	Foreword		The paragraph themed "implementation of this standard may require the use of subject matter covered by patent rights" this is an unsustainable position as it gives competitive advantage to certain organisation who have lodged Patents. This is unreasonable for an international standard for a community or practice.	Amend the standard so that it can be implemented without forcing the use of methods or tools that are propriety and subject to Patents.			
IE3	44	GT	IEEE Introduction		"harmonization with ISO/IEC 15288 and ISO/IEC 12207 systems and software life cycle models;" is not demonstrated as IS 15288 6.4.3 Architectural Design Process Activities and tasks are described in this standards, nor in IS 12207 12207 7.1.3 Software Architectural Design Process Activities and tasks.	Delete line 4 on harmonization			
INCOSE	1	TL	Introduction	3	Architecture discipline presupposes the recognition of such a discipline. This is not a requirement for this standard. The term 'architecting' is used and defined in this standard to address this region of practice.	replace 'the architecture discipline' with 'architecting'			
SWE	17	TL	Introduction	6	The introduction proposes that the standard provides "a core ontology", however the IS does not provide a formal ontology according to any known (or widely accepted) formalism.	Change to ...key concepts and principles...			
IE3	104	GT	Introduction		Non-normative introduction starts with a paragraph that includes statements that do not have substantiating and supporting evidence. Wat may be known to the writer is not necessarily known and shared by readers with differing background and experiences.	Suggest rewrite in a manner that states the background and the reason for the system and software architecture description has been developed in a style that is descriptive of what is in the standard. The wording implies that the architecture description exceeds the scope and program of work of SESC and SC7; and statements describing similar functions and purposes differ from place to place in the draft, making understanding and use difficult, at best. If adjustments are not made, the vote will be changed to "disapprove."			
IE3	17	E	Introduction		On page ix, Introduction, 4th paragraph, 1st sentence: The sentence that begins "Architecture descriptions are used ..." is confusing. Its structure should be rearranged to make it clearer.	Change sentence to the following: "Architecture descriptions are used by the parties that create, utilize and manage modern systems to improve communication and co-operation and to help them work in an integrated, coherent fashion."			

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IE3	18	E	Introduction		On page ix, Introduction, 7th paragraph, 1st sentence: Remove "and using processes (not defined by this International Standard)" from the end of the sentence. This trailing clause adds no value and makes the sentence awkward.	Change sentence to the following: "This International Standard can be used by organizations or projects to help establish a coherent practice for developing architecture descriptions and architecture frameworks within the context of a life cycle (not defined by th+F8is International Standard)."			
IE3	117	TH	Introduction		5th paragraph introduction: The sentence "this International Standard addresses the creation, analysis and sustainement of architecture through the use of architectural description of systems" seems exaggerated. IE.g., i what way deos the standard addresses analysis of architecture?	Replace the formulation with "This International Standard addresses the descriptons of architectures of systems. These descriptions support the creation, analysis and systainement of architectures."			
IE3	101	GT	IEEE Introduction, Introduction, Scope		The two introductions, both informative, and the scope, Normative, states in different words what the standard is about. Each differs somewhat from the scope and would be troublesome for translations.	Suggest aligning the wording of the introductions to that of the scope, in accordance with the intent of the standard, the PAR and ISO/IEC Form 4. Otherwise the vote will be changed to "disapprove"			
IE3	131	TH	Keywords		pp. ii, Keywords . . . "decision" . . .	Probably better "architecture decision" or "design decision"			
IE3	128	E	Bibliography	[3]	Reference 3: The seminal work of the SEI on Views and Beyond is included in the references but (apparently) not referred in the standard.	A reference can be added in the NOTE in section 4.5 pp. 11			
IE3	8	GT	Bibliography		There are two examples of information architecture which have had use in many organizations worldwide. The first is Zachman's and you have that in the bibliography. The second is Darnton and Giacoletto's which you don't have in the Bibliography. The Darnton and Giacoletto model has information architecture in four levels: business, systems, technical, and product encouraging the careful separation between business needs, systems and technical principles, and products used for implementation. Zachman worked for IBM; Darnton and Giacoletto worked for Digital Equipment Corporation (DEC) at the time the architectural models were developing at approximately the same time.	Add: Darnton, G. and S. Giacoletto, Information in the Enterprise, Burlington, MA: Digital Press, 1992			