AUSTRALIA

Comments on N1491 CD Registration Ballot for ISO/IEC 14598-4 (new): Information Technology: Software product evaluation, Part 4: Process for Acquirers.

The Australian National Committee have the following comments on the above document:

1) Editorial/Minor - Grammatical expression Introduction - last paragraph It is therefore essential to be able to evaluate the quality of software products during acquisition or **while** making a decision.

2) Editorial/Minor - grammatical expression Scope This part of ISO/IEC 14598 constitutes a guide to the measurement, assessment and evaluation of software product quality from the specific perspective of buyers or acquirers. It may be used in conjunction with the other parts of ISO/IEC 14598 or standalone.

3) Technical/Query Scope What is the intent of this reference to reuse? Is it intended to cover only reuse of complete systems or evaluation of minor system components for inclusion in reuse library? If the latter, its inclusion in this part of the Standard would seem unwise.

4) Editorial/Query Scope "The customers of this Standard are generally consumers of software products" - Should this be 'customers' or "users"?

5) Editorial/Query Definitions Where other sources of definitions are referenced, should the document contain the list of terms covered (as in this case)?

6) Editorial/Minor - grammatical expression Sec 4.2.1 The starting point for determining evaluation requirements for target software **begins** with the overall system requirements.

7) Editorial/Minor - clarity Sec 4.2.1 During the system requirements decomposition and design, system characteristics are allocated to hardware and software configuration items, and **to** manual operations.

8) Technical/Query
Is this new Standard (on integrity levels) to be guidance or normative? If normative, this reference will need to be modified. Sec 4.2.2 Further guidance for determining integrity levels for software is provided in ISO/IEC xxxxx:(new), Information technology Classification and assignment Software integrity levels.

9) Editorial/Medium - poor expression
Sec 4.2.2 "Each application should be assigned a risk associated with the system operation that is to be contained". Suggest "The risks associated with each application involved in the acquisition should be evaluated".

10) Technical/Major
The relationship of the produce evaluation process described in this document with the process assessment techniques described in the new SPA standards is unclear. Use of PA is mentioned on at least two occasions, but the technique is not explicitly listed in other relevant parts of the Standard. In particular, there should be some reference to PA as a potential component of the evaluation process in 4.5.2 and 4.5.4, as well as in Sections 5,6 and 7.

11) Editorial/Major
Sec 4.4 "The software product evaluation process shall be overlaid over the acquisition process" - as this is a guidance document, the use of normative expressions is not appropriate.

12) Technical/Major
Sec 4.4 The use of the term "overlaid" is not seen as appropriate. In fact, use of evaluation should be integrated into the process, with greater emphasis in some of the defined activities. This document should show where in the Acquisition each stage in Evaluation is/should be performed. Better guidance on the application of the tailoring process from ISO 12207 to accommodate evaluation should be provided.

13) Editorial/Minor
Sec 4.5.5 "The software product may be evaluated by third parties (refer to ISO/IEC 14598-5: (new) and ISO/IEC 12119)." -missing.

14) Editorial/Medium
Sec 5.2 last paragraph "Each quality characteristic should be reviewed to determine how important it is to the application". redundant expression; the meaning of the sentence is slightly unclear - presumably, it is the requirements that are being reviewed against each characteristic, rather than the "characteristics" being reviewed (how would you do that?)

15) Technical/Major
The absence of any reference to software process assessment in Annex B.2 (and in Annex D) is a major oversight/problem.

GENERAL COMMENT

This document appears to be very hard to read because of its degree of partial repetition and inconsistent approach. In addition, the approach being proposed is not consistent, eg. What is the process to be followed (some questions to be answered; some statements of work to be done)? What are the variants for simpler situations? The Section headings used are not helpful in guiding you through the thought processes.

Annex A and Section 3 should be merged.

Annex B would be better cast into questions and moved forward into an existing Section.

Annex C does not present as being particularly useful since it is a partial ‘shopping list' of Methods.

The document would be greatly helped by a restructure and concise expression of process. The document has useful guidelines but the readability impairs its useability. It is considered that the document is more useful as guidelines than as a Standard.

CZECH REPUBLIC

Czech Republic vote is:

To support the proposal that the WD „Software product evaluation. - Part 4: Process for Acquires“ be registered as CD with the following comments:

CZ-1(G) Czech Republic experts prefer to make the standard **more consistent and concise** and to harmonise information in the document conformably with the standard ISO/IEC 12207 (sub clause 4.4).

CZ-2(Tm) The references to ISO/IEC 12207 shall be “ISO/IEC 12207“, not “ISO/IEC 12207-1“ (see points 2, 3.3, 4.2.1, 4.4 etc.).

CZ-3(E) The labelling on the sub clause 4.3 is not clear:

(a)
(b)
(c)
(c)
C. ... ?

CZ-4(Tm) The point è) of the sub clause 4.4 should be splitting into two points
4) Supplier monitoring
5) Acceptance and completion
(to reach the conformity with the standard ISO/IEC12207)

CZ-5(TM) It is not clear link between points 1) - 4) on the sub clause 4.4 and the steps which are presented in the chapter 5.

CZ-6(E) The names of categories on the sub clause 4.4 should be the same as in the Scope of the standard.

CZ-7(TM) The content of the sub clause 7.1 is oriented to the documentation process only, not to the evaluation activities in general.

CZ-8(**TM**+E) On the chapter B.4 of the Annex B there are several labelling (a), (b), (c), ... It is recommendable to add the appropriate headings on these lists.
The points (a) and (b) on the first list and all points on the third list seems to be problematic.

IRELAND

Irish comments on SC7 N1491
Software product evaluation - Part 4: Process for Acquirers
Proposal: to be registered as a CD - supported with comments

Editorial comments

Page v 1st paragraph - replace with:

Software has become increasingly pervasive, today's modern systems are so complex that they are unable to perform their function without software. The demand for added functionality has grown, which has increased the cost of software acquisition and software development. Software acquisition of custom and commercial off-the-shelf software products is a big part of buyer budgets.

Page v last paragraph

during acquisition or ~~during~~ *when* making a decision

Page 2 Normative References

Should both ISO 9126 and ISO 9126-1 standards be referenced?

Page 6 section 4.2.3 1st paragraph

Refer to 9126-1 and use the new workding of definitions in 9126-1 i.e. replace 'that bear on' by 'that influence'.

ITALY

Please find enclosed the Italian approval with comments on WD 14598-4
"Software product evaluation - Part 4: Process for Acquirers".

Italian comments to 14598-4

Note 1 Part 4.1 Scope Point 2)
The parenthesis (i.e. reusable software) is ambiguous and incorrect as example; a correct example may be "(i.e. to populate a library of reusable software)".

Note 2 Part 4.1 Scope
Last paragraph "This standard also...", it is not explained the reason because the standard should not address the acquisition of "modifications to pre-developed or existing software products".

Note 3
It is not clear the reason of the classification of the target software in 1), 2) and 3), classification not used in the annex of the standard.

Note 4
Normative reference The reference to ISO 9126:1991 is in alternative to the reference to ISO 9126-1, -2 and -3 (new). It is also incorrect the reference to 14598-4.

Note 5
Definition It is necessary to define "existing software" and "pre-developed software", to clarify the difference. It is necessary to define "reusable software", also to clarify the difference between "commonly used software".

Note 6
4.3 Target input - point b..d Include "documentation of...in the text.

Note 7 6.1, and Annex b
"Training courses" are indicated as "input target to the evaluation", actually they are "part of the product package", to be evaluated with the other part of the product. Perhaps it is inappropriate as "source of information for the evaluation".

Note 8 B.3
ISO 9001 certification does not give confidence on the quality of the product. The second sentence "Software product may also be evaluated by second or third parties" seems to be inconsistent in the text.

JAPAN

Japan's Comments on JTC1/SC7 N1491 (WD 14598-4)

Japan's comments on JTC1/SC7 N1491: ISO/IEC 14598-4 - Software product evaluation Part 4 - Process for acquirers

Note:
G: General comment
TM: Technical Major comment
Tm: Technical Minor comment
E: Editorial comment

[General comments]
JPN-G1)
Acquisition of software developed by sub-contractor should be described in this document. Anyway, scope should be co-ordinated between 14598 series documents.

JPN-G2)
Contents seems to be too generic to guide the evaluation process for acquirers. For example, evaluation for selection from candidates should be described in clause 5. This document should show requirements, recommendations and guidelines for typical evaluation cases by acquirers.

JPN-G3)
Description related to integrity level definition should not be described in this document to avoid inconsistency with WG9 documents. Only reference to them should be shown.

[Technical Major comments]
JPN-TM1) Contents and clause 4.1
Title of clause 5, 6 and 7 should be changed to the followings for keeping consistency with ISO/IEC 14598-1: General overview;
5 Step 1 - Establish evaluation requirements
6 Step 2 - Specification and design of the evaluation
7 Step 3 - Execution of the evaluation

JPN-TM2) Introduction
It should be described here that person or organisation to acquire mission critical software have responsibility to evaluate it enough.

JPN-TM3) 2nd paragraph - clause 1
Japan's WG9 member suggested that 'integrity level' can be used only for system but also software. If so, 'level of confidence' should be changed to 'integrity level'. Anyway, terms related to integrity level shall be consistent with WG9 documents.

JPN-TM4) 3rd paragraph - clause 1
Considering a recent software development style, system integrater should be added to the list of audience.

JPN-TM5) 4th and 6th paragraph - clause 1 Difference between off-the self software and COTS should be described more clearly.

JPN-TM6) 7th paragraph - clause 1
2nd sentence seems to say that acquisition of software developed by sub-contractor is out-of-scope of this document. But it should be included in the scope of this document.

JPN-TM7) 2nd paragraph - 4.2.2
In last sentence, not only integrity level but also the reason should be suggested to be documented.

[Technical Minor comments]
JPN-Tm1) 1st paragraph - clause 1
'A guide' in the 1st sentence should be changed to 'requirements, recommendations and guidelines'. Because this document is intended to be a standard.

JPN-Tm2) 3rd paragraph - clause 1
'Customer' should be changed to 'audience'.

JPN-Tm3) 4th paragraph - clause 1
'Build-to-plan' should be described with easier expression.

JPN-Tm4) clause 2
ISO/IEC 12119: Quality requirements and testing should be added.

JPN-Tm5) clause 3
'Integrity level' should be defined in consistent with WG9 documents.

JPN-Tm6) clause 3.7
Document title has changed and the number has assigned as below; ISO/IEC 15026: System and software integrity level.

JPN-Tm7) clause 4.2.1
As for configuration items, is ROM treated as hardware configuration item, or software configuration item. It should be clarified as note.

JPN-Tm8) clause 4.2.2
Title should be changed to 'Integrity level requirements'.

JPN-Tm9) 1st paragraph - clause 4.2.2
Title and number of referred standard should be changed as JPN-Tm6.

JPN-Tm10) 3rd paragraph - clause 4.3
(c) is duplicated.

JPN-Tm11) 6th paragraph - clause 4.4 'The target software' in the 3rd sentence should be changed to 'the target software category' for the consistency with the 2nd sentence.

JPN-Tm12) Table1 and Table2 - Annex E
Target software category should be categorised into low, medium and high integrity. It's because ,for example, consumer software is not always low integrity.

[Editorial comments]
JPN-E1) overall
Capital letter should be used only for first letter of first word in the title of clauses or that of documents referred, in accordance with directives.

JPN-E2) Cover sheet
Convenor's new personal information has changed as below;
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MEXICO

From the member body of: **MEXICO**
Proposal:

That the WD (SC7 N1491) on “Software product evaluation - Part 4: Process for Acquirers” be registered as a CD.

*We support the proposal with the attached comments

In general the process is good structured , even the main points are so general and partial, for example, it talks about the Acquisition Software Requirements but never say… how?.

It is not clear the point about if the Software could be included as a Compiler.

It is not mentioned if the CASE´s could be discarded. In this case it might have an specific evaluation about another additional features.

Through the process is mentioned The Software as an only product that is going to be qualified at the end of evaluation. This evaluation could be done per each module in order to fix only the part that is going to have changes.

During the process it is mentioned features that must be done, but it is not mentioned a special guide to do that. For example, the Software Development Process is mentioned as an input , but there is not a guide to discriminate a bad process. Another example is about the evaluation to define what Methods are going to used, but there is not a guide to explain step by step how to do that.

It must be mentioned what kind of tools and technics can be used for this.

For the evaluation it is not mentioned as a part of it the Documentation and Support Services which are Products Components.

NETHERLANDS

Comments on SC7 N1491 -
ISO/IEC CD 14598-4 "Software Product Evaluation - Part 4: Process for Acquirers"

Introduction

Could be strengthened by clear, straightforward and shortened sentences: the message is OK, but could be more clearly stated. By example, the following sentence is hardly understandable:

- "Problems can be encountered because the off-the-shelf software products may require customizing, testing and analysis requirements may be large, product maintenance and support is doubtful when the product is obsolete or revised, or the quality of the product is not consistent with the required quality of the target system in which the product resides."

1 Scope

- How can this guide be used standalone if the definitions part refers to other standards and guides?
- Since CASE tools are excluded explicitly here, it seems preferable to remove them also from the Introduction.

3 Definitions

- What happened with the missing ISO 9126 subcharacteristics? (E.g. security, maturity, etc.)

4 Software Evaluation - General Considerations
4.1 General
- "product end application" is an unclear notion in an unclear sentence.

4.2 Evaluation requirements
4.2.1 System Requirements
- "In this latter case the system requirements and the software requirements may be virtually equivalent." What is meant by "virtually"? Are they virtually equivalent (instead of "may be")?

4.3 Target Inputs to Evaluation
- Shouldn't supplier support be explicitly mentioned here (e.g. under item (b))?
- Shouldn't normative materials (e.g. laws, supplier's standards and conventions) be explicitly mentioned here?
- Shouldn't testing records be explicitly mentioned here?
- "Successful completion of a full and detailed evaluation to the correct degree of rigour for all target inputs would provide more than adequate coverage of all of the required quality characteristics." The intention of this sentence is not clear, and if well understood rather obsolete.

4.4 Acquisition Process and Standard Compliance
- The notion of "acquisition requirements" is confusing (software requirements for acquisition purposes?).

6 Step 2 - Specify and Design the Evaluation
- The clause "high priority quality characteristics" (item (a)) needs more explanation (how is "high" defined?).

6.1 Determine the Specific Methods to be Used in the Evaluation
- "a reasonable degree of coverage" suggests "actually not good enough but a feasible compromise". It should be sufficient regarding the software's integrity level.

6.2 Select Supplementary Methods

- The header suggests additional methods, while the contents of this paragraph rather refer to alternative (secondary) methods, in case the first choice is not feasible.

6.3 Prepare for the Evaluation

- Item (g): the notion of "characteristics of the evaluation" should be clarified (to the reader first).

7 Step 3 - Execute the Evaluation and Analyze the Results

7.3 Perform Any Additional Evaluation

- Item (b) seems to contradict the preceeding clause "any identified deficiencies", unless if it is a deficiency when no deficiencies are found. Furthermore, it will be difficult to establish confidence that there is NO deficiency at all; one could aim at confidence that there are no relevant deficiencies (with regard to the adopted software requirements in the evaluation).

7.4 Draw Conclusions

- This paragraph implies that the evaluation is successful only if a "positive" outcome has been reached. This seems too restrictive. Even (and particularly) when deficiencies are discovered, a definitive statement (although "negative") CAN BE MADE, resulting in a successful evaluation but with a "negative" outcome. Furthermore, all identified deficiencies should have been "adequately addressed", which seems to imply that deficiency resolving should (at least partly) be a part of the evaluation process. It seems preferable to limit evaluation to identification of possible deficiencies (or the observation that no deficiencies can be identified), leaving the solutions to other processes.

Annex B Evaluation Input Targets

B.1 User and Technical Product Documentation (including on-line documentation), Courses and Training

Product Courses and Training

- Regarding the usually required quite specific information (not limited to suitability, but addressing other subcharacteristics as well), it seems doubtful that adequate information can be gained through courses, which are generally rather tight-scheduled and general in nature.

SOUTH AFRICA

Register: Log and Disposition of Review Comment (14598-4, Software Product Evaluation - Part 4: Process for Acquirers)

Comment submitted by South African Bureau of Standards
Contact person: Professor AJ Walker (E-mail: walker@odie.ee.wits.ac.za)

Comment Record				Comment Status\ (Maj.\ Min.)	Disposition of Comment
Comment Ref.	Comment Detail	Product Revision	Product Section Ref.		
1.	TOC to be regenerated.	WD	p3	Maj.	Agreed.
2.	first sentence It is unlikely that the pervasiveness of software has caused the complexity of today's modern systems - sentence confusing	WD	p5	Maj.	Delete from 'Software ..., that'
3.	Second sentence 'the cost of software acquisition..' does not necessarily follow from previous sentence.	WD	p5		Replace 'growing as well' with 'continues to grow'. Delete 'This means that .. growing'.
4.	second paragraph The assertion that software cost overruns result from failure to meet user requirements perpetuates the misunderstanding of the whole context in which software operates. The majority of cost overruns result from this lack of understanding and in particular the fact that the acquisition cost of a piece of software is a small proportion of the cost of implementing that software. The majority of the cost lies in reengineering, deployment, implementation and training activities. Although one can identify software cost overruns as a failure to meet user requirements this is a very narrow view and ought to be discouraged.	WD	p5	Min.	Replace 'is prone' with 'is often prone''
5.	5th paragraph 'Errors in ...can adversely...' (as it stands it implies that errors in software can 'correctly' affect...!)	WD		Min.	Replace 'can incorrectly' with 'negatively'
6.	Numbering?	WD	p1	Maj.	Front pages use 'I - iv' for page numbers.
7.	1st paragraph '...form the fundamental basis...'is this true?	WD	p6, 4.2.1	Min.	Not support.
8.	1st line '...which refines software quality...'should be 'defines'?	WD	p8, 4.2.3	Min.	Agreed
9.	Target inputs need to address the support available from the vendor?	WD	p9, 4.3	Min.	In b) split sentence into two issues' Form Software .. developed', and second point 'Supplier capability'. Note the two items c)'s.
10.	and/or ???	WD	p12, 4.5.4	Min.	Remove 'and/' from sentence.
11.	referenced, but missing	WD	p14, 5.2,Annex E	-	Not supported.
12.	'...evaluation prototype...'	WD	p31, C1, 3rd paragraph	Min.	Replace 'evaluation prototyping' with evaluation, prototyping'
13.	Stage 1 'This would provide some indication of whether the software engineering process is likely to produce documentation and procedures that meets the required general characteristics of the documentation set for the relevant integrity level.' - documentation and procedure that meets or documents and procedures that meet. '	WD	p 33, Annex D	Min.	Replace 'meets' with 'meet'

Comment Record				Comment Status\ (Maj.\ Min.)	Disposition of Comment
Comment Ref.	Comment Detail	Product Revision	Product Section Ref.		
14.	Stage 1 Software Engineering Process '...appropriate the review of an existing external process evaluations - single, plural mix	WD	Annex D	Min.	Replace 'of an existing' with 'of existing'
15.		WD			
16.	This should rather read "One of the reasons the acquisition of custom software is prone to cost overruns ...	WD	Introduction, para 2	-	Already covered.
17.	It seems to me there is a step missing between 2) and 3): "Selection Process - reviewing the proposals, creating a short list of potential suppliers and selection on one or more suppliers."	WD	4.4 Acquisition Process and Standard Compliance	Maj.	Agreed.
18.	With the special meaning of the words "shall", "should" and "may", recommend that "What questions must be asked? How rigorous does the evaluation have to be?	WD	4.5.2 Step 1	Maj.	Is 'shall' the correct term to use here? Or 'should'?
19.	Feel that first sentence could be misleading: typically, we use the needs ("shall") to create a short list, then we use the "wants" ("should" or "may") to choose the most suitable package. Recommend: "... which would determine whether the software product is acceptable for use."	WD	5.3 Input requirements to evaluation process	Maj.	Is 'shall' the correct term to use here?
20.	as for 4. Suggest: "The expertise required by the evaluator to conduct ..."	WD	6.1 (e)	Maj.	As for above.
21.	ditto. "... based on the evaluation requirements that are to be answered ..."	WD	6.3 (e)	Min.	As for above.
22.	What is "COTS"?	WD	E.1 Table 1	-	Not supported - clear from text.
23.	Page 5 ; Item (b) Replace 'users' with 'user	WD		Min	Supported
24.	Addition of terms to be defined 'Block box' and 'prototyping'	WD	P9, Section 4.3	Min.	Supported
25.	The situation where there is only one product available is not addressed. The usage of this document is constrained by lack of guidance on the tailoring process.	WD	S 4.4	Maj.	Agreed
26.	The only place where tailoring is addressed is in the context of software integrity. We would like to see the context extended. Consider the situation when a new technology emerges - the monopoly situation (or single supplier) exists.	WD	S 4.1	Maj.	Agreed.
27.	2nd last paragraph; Delete last sentence.	WD	S 4.4	Min.	Agreed.
28.	Last paragraph. Guidance and references to other supporting standards is needed.	WD	S 4.4	Min	Agreed.
29.	Paragraphs 2 and 3 do not fit cleanly with the paragraph context	WD	S 4.5.4	Maj.	Agreed.
30.	Replace 'evaluation work' with evaluation, the '	WD	S 5.1	Min.	Agreed
31.	Number sequence is confusing. Use continuous sequence	WD	S 7.3	Maj.	Agreed
32.	2nd d) Replace 'possible' with 'possibility of'	WD	S 7.3	Min.	Agreed.
33.	1st paragraph. Delete last sentence - last sentence. Adds no value.	WD	S 7.4	Min.	Agreed.
34.	Remove Part 4 from reference.	WD	S 2	Min.	Agreed.

USA

USNB Comments on ballot for SC7 N1491:

GENERAL COMMENTS

USA 1.

The USNB wishes to compliment and thank SC7/WG6 for their dedicated work in producing this working draft. In particular the attention paid to following the terminology conventions and evaluation concepts of WG6 is appreciated.

USA 2.

However, the document suffers from several problems not all of its own making:

(a) because SC7 has not provided guidance in preparing process standard the document lacks some of the basic elements for specify (i.e, what is the evidence that the process has been followed).

(b) the relationship of this document and the acquisition process of 12207 is not clearly defined

(c) the document states in its scope certain restrictions (existing or pre- developed products) on the process but does adhere uniformly to those restrictions.

TECHNICAL COMMENTS

USA 3. Par 4.2.1

The document claims that quality characteristics for the fundamental basis for defining system architectures. It is not within the scope this document to make such statements. In most applications functionality, performance, and technology trends are the fundamental basis for an architecture while taking the quality characteristics into consideration. The statement needs clarification.