Issue 01 (NOR-1) *Status* In-work

Author: Haenisch, Jochen *Disposition:* Accepted

Clause: 3

Class'n: Editorial

Description:

Currently the term "template" is not defined in the document although mapping templates are introduced in this edition and although the term is not self-explaining.

Proposed resolution:

Define the term "template" in clause 3.

Actual resolution:

Proposed solution acccepted, although the definition is still to be written. Should the term be "template" or "mapping template"? Emphasize in the definition that templates are based on lexical substitution.

Issue 02 (NOR-2) *Status* Closed

Author: Haenisch, Jochen *Disposition:* Accepted

Clause: 4 (last sentence of page 4)

Class'n: Editorial

Description:

The last sentence of the first paragraph does not make sense.

Proposed resolution:

Remove "benefits from this concept".

Actual resolution:

Accept proposed resolution - see also USA-27.

Issue 03 (NOR-3) *Status* Closed

Author: Haenisch, Jochen *Disposition:* Accepted

Clause: 6

Class'n: Minor Technical

Description:

The document still leaves some questions open in case of rather detailled ARMs. Among those is the following: Shall inherited attributes be mapped locally, i.e., in all subtypes, or only for the Application Object where they are originally defined - or both? This has an impact on the relevance of the subtype/supertype templates.

Proposed resolution:

Allow for mapping of attributes any place in an inheritance tree. Subtype/supertype templates may be used to avoid redundant mappings. Mapping on a semantically high and abstract level may help to maintan clarity a mapping specification.

Actual resolution:

See also USA-6. The following points form the basis for the resolution of this issue:

1. QC's position is that APs should not include complex subtype/supertype structures (and especially not abstract supertypes) in an ARM. Subtyping at the ARM level should reflect domain taxonomies, not the analysis approach applied by ARM developers. However, noted that such ARMs do exist and an approach to mapping them has to be documented.
2. The structure of the mapping specification reflects that of the ARM; by default, application elements are mapped based on the position of their declaration in the ARM structure.
3. ABSTRACT supertypes are mapped.
4. Attributes of ABSTRACT supertypes are mapped.
5. The /SUBTYPE( )/ and /SUPERTYPE( )/ templates can be used to ensure consistency and cross-referencing of mappings within an ARM subtype/supertype structure.
6. Attributes/relationships that are declared in a supertype will be mapped in subtypes only if the mappings are different in the subtypes. In this case /SUBTYPE()/ should be used in OR case(s) in the mapping specification for the supertype.
7. However, an AP can repeat the mappings of inherited attributes (using /SUPERTYPE()/ if there is a requirement/desire to do so. This must be done consistently - if used once, must be used for the whole AP.

Issue	**04 (NOR-4)**	***Status***	**Closed**
Author:	Haenisch, Jochen	*Disposition:*	Accepted
Clause:	4		
Class'n:	Editorial		

Description:

The document sometimes uses the term "mapping body" to describe the contents of a mapping template. In other cases it is called "template body".

Proposed resolution:

Replace globally "mapping body" by "template body".

Actual resolution:

Accept proposed resolution.

Issue	**05 (NOR-5)**	***Status***	**Closed**
Author:	Haenisch, Jochen	*Disposition:*	Accepted
Clause:	9.6		
Class'n:	Editorial		

Description:

Examples 1 and 2 use a wrong clause numbering scheme.

Proposed resolution:

In examples 1 and 2 of clause 9.6 replace "5.1.x.y.z" by "5.1.x.y"

Actual resolution:

Accept proposed resolution.

Issue 06 (USA-1) *Status* In-work

Author: not specified *Disposition:* Accepted

Clause: new annex

Class'n: Major Technical

Description:

A formal syntax has been a requested aspect of this document since the first standing document ballot. EXPRESS-X has been proposed as a solution to this requirement, but it agreed that even if EXPRESS-X provides the necessary capabilities for reference path syntax, its not yet stable and guidelines for its use must yet be developed. An interim solution was proposed in Bordeaux that is aligned with the mapping specification document under ballot.

Proposed resolution:

The formal specification of the reference path language proposed by LKSoft and modified as agreed to in the Bordeaux meeting on mapping table improvements (minutes QC N155) should be included in an annex to the Mapping Specifications document. It should be designated for experimental use. Text at the beginning of the annex (and also in the document introduction) should state something like, "This formal syntax is considered experimental. STEP projects may use it at their own risk. After at least one standard has passed DIS ballot using this technology, SC4 may choose to approve its use for all projects. Such approval may be in the form of an SC4 resolution or a new edition of this document."

Actual resolution:

Accept proposed resolution - LKSoft proposal (QC N163) needs to be reviewed for inclusion in the document - needs extension to cover templates. LKSoft has agreed to update the specifications; however, for this edition the formal syntax is likely to be included as an informative annex. The need to make this normative will depend on the development and availability of guidelines for use of EXPRESS-X to replace mapping tables, and their acceptance by QC/SC4.

Issue 07 (USA-2) *Status* Closed

Author: not specified *Disposition:* Accepted

Clause: Annex C

Class'n: Major Technical

Description:

As its stands right now most projects are building their CD documents outside of SC4 and under PWIs. This allows them to take as long as necessary to get the first cut at the requirements right and/or to build a TS. These efforts are not projects since they do not have PWIs. The current wording would not "grandparent" these documents.

Proposed resolution:

Modify the wording of annex C to say: "This edition may be immediately implemented by any project interested in doing so. The use of this edition is mandated only for documents submitted for stage 30 ballot one year after the approval of this document by SC4. Projects that have not yet produced a stage 30 document at the time of this document's approval by SC4 are strongly encouraged to use this edition."

Actual resolution:

Issue accepted. Resolution is as follows: Second edition applies to NWIs approved after the approval/publication of the revised guidelines. APs not yet at CD need not use 2nd edition guidelines but are encouraged to do so. Other projects may use new guidelines at their discretion (but cannot mix requirements of 1st and 2nd editions). Implies a checklist question for APs to indicate which edition of the MT/MS guidelines applies.

Issue	**08 (USA-3)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	9.6 (EXAMPLE 1 and EXAMPLE		
Class'n:	Major Technical		

Description:

In these two examples, when the template concept is applied, from example 1 [object_role.description ='.UNUSED.']} will always apply with the use of this template even though a different VALUE for object_role.description is required.

Proposed resolution:

Expand the example to show several different mappings using the same template with different values for the argument.

Actual resolution:

Accept proposed resolution - additional examples to be produced, showing full power of the template approach.

Issue	**09 (USA-4)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Major Technical		

Description:

The rules for text substitution when a template is invoked are not precisely spelled out. All the text says is: "A signature is the short-hand description of a template body. A signature can be replaced with the corresponding template body verbatim, except that its parameters need to be substituted by the values from the signature." This ignores various issues such as:

(1) What happens if a template call is embedded in the body of another template definition?
(2) If a parameter appears in a template body immediately adjacent to some other token, does it expand to a single token or to two tokens? In other words, if I have a template with signature /T(a)/, the body of T contains foo_&a, and I invoke the template as /T(bar)/, does this expand to

foo_bar or foo_ bar? The former would be more useful, but then suppose I want to expand to barhab. The parser would be unable to recognize &ahab as parameter &a concatenated with 'hab', and would instead look for parameter &ahab.

Proposed resolution:

Use an existing macro language with well-defined semantics as the basis for the template notation.

Actual resolution:

Accepted in principle. Gerry Radack will supply a proposal for an existing macro language to use (e.g., cpp).

Issue	**10 (USA-5)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Deferred
Clause:	9		
Class'n:	Major Technical		

Description:

The mapping table language is not formally defined, is unclear, and is difficult to machine process.

Proposed resolution:

Define a formal grammar for the language, and explicitly show operators (AND, OR, ANDOR, etc.). In other words, instead of having:

aaaaa
[bbbbb]
[ccccc]
ddddd

e might have something like:

aaaaa
WHERE((bbbbb) and (ccccc))
ddddd

Actual resolution:

Deferred until such time as a major change to the mapping specification/reference path syntax is proposed. This is not in the scope of the second edition.

Issue	**11 (USA-6)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	not specified		
Class'n:	Major Technical		

Description:

The document is not clear about how to map application objects that are subtypes of other application objects.

The Mapping Guidelines contain the following statement:

"NOTE - The cardinalities and inheritance documented in the information requirements of clause 4 of the AP are not visible in the mapping specification. The intent is that the inheritance in the ARM is preserved in the mapping, though the current mapping specification syntax provides no means to explicitly show this. For example, the mapping of an assertion from a supertype to another application element would apply also to subtypes of that supertype. Readers of the mapping specification must look to clause 4 of the AP for the cardinalities and subtype/supertype relationships among the application elements."

However, this leaves open the following questions:

1. If entity B inherits attributes a1, a2 and a3 without change from entity A, should there be rows for a1, a2 and a3 included under the mapping of B? Clause 6.5, "Subtype and supertype cross reference", provides a template that allows one to say that the mapping of an attribute is the same as for a supertype, but it does explicitly state when inherited attributes need to be placed in the mapping specification.

2. If A is an abstract supertype, should it appear in the mapping specification? If A is abstract, but has non-abstract subtypes B, C, D and E, rather than having to repeat the mapping for a1, a2 and a3 under the MT entries of B, C, D and E, it would be convenient to put them under A, and use the SUPERTYPE template. However, the existence of a mapping specification entry for A would lead the reader to believe that the mapping of A is a valid partial population of the AIM (which it is not if A is abstract).

3. What does it mean to "look to clause 4 of the AP for the cardinalities and subtype/supertype relationships among the application elements"? Does that mean that clause 4 contains additional constraints not captured in the AIM or mapping specification? If so,what are those constraints?

Proposed resolution:

Clarify the handling of ARM supertype/subtype relationships.

Actual resolution:

See resolution documented for NOR-3.

Issue	**12 (USA-7)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	9.1.6		
Class'n:	Minor Technical		

Description:

It is not clear why square brackets are needed. What is the difference between the following two paths?

aaaaa
[bbbbb]

[ccccc]
ddddd

and

aaaaa
{bbbbb}
{ccccc}
ddddd

The use of the AND-syntax should be deprecated in accordance with the decisions taken in the Bordeaux meeting on mapping table improvements (minutes QC N155).

Proposed resolution:

Add normative text deprecating the use of the AND-syntax.

Actual resolution:

Conclusions from Bordeaux need to be reassessed (AND in AIM element vs. AND in reference path). Address this issue by clarifying the difference and add more examples. Emphasise that mapping rules define constraints; AND case requires two paths to be present.

Issue	**13 (USA-8)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Minor Technical		

Description:

"A mapping template is conceptually similar to a programming language subroutine." A mapping template is actually closer to a macro than a subroutine.

Proposed resolution:

Change "subroutine" to "macro".

Actual resolution:

Accept proposed resolution.

Issue	**14 (USA-9)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Minor Technical		

Description:

The term "signature" is used to mean two things: the definition of the template name and list of parameters, and an invocation of the template somewhere in an AIM element or reference path. This is confusing.

Proposed resolution:

Use different terms for these two things.

Actual resolution:

Issue is accepted. Agreed to use the terms "formal parameter" (in template definition) and "value parameter" (in template invocation). Final text still to be developed - still need to identify/agree on a name to use for invocation.

Issue	**15 (USA-10)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Minor Technical		

Description:

In example 2, why does arm_role appear in quotes in the signature? If this is an attempt to make the template language strongly typed by declaring arm_role to be a string, it needs to be thought out more carefully. Most macro langauges that I am aware of are not strongly typed.

Proposed resolution:

Remove the quotes.

Actual resolution:

Accept proposed resolution - use the simple lexical substitution paradigm, so that for a string value there will be no quotes in the signature but they will be included in the invocation. In the definition of a template it can be stated (in text) that a value parameter is intended to be a string. Resolution requires more than just removing the quotes here - further text to be developed.

Issue	**17 (USA-12)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Deferred
Clause:	general		
Class'n:	Minor Technical		

Description:

It should be possible to feed an entire mapping specification into a parser, just as we feed EXPRESS. The fact that we mix English text and mark-up with the actual specification makes it harder.

Proposed resolution:

Define a formal language for mapping specifications. Use start-comment and end-comment symbols to switch between the formal language and the English text, as we do for EXPRESS code now.

Actual resolution:

Deferred on the basis that the ISO requirement is still for a document (anything delivered electronically can only supplement what is on paper). Also time constraints on completion of this edition for publication - this requirement is likely to be satisfied by future guidelines for use of EXPRESS-X in place of MT/MS syntax.

Issue **18 (USA-13)** ***Status*** **Closed**

Author: not specified *Disposition:* Accepted

Clause: 6.5

Class'n: Minor Technical

Description:

The notation "/SUBTYPE(chamfer)/5.1.x.y" is clumsy.

Proposed resolution:

Change to: "/SUBTYPE(chamfer)/ (See 5.1.x.y.)." But see issue USA-MAP-12.

Actual resolution:

Issue accepted - use resolution to UK-27.

Issue **19 (USA-14)** ***Status*** **Closed**

Author: not specified *Disposition:* Rejected

Clause: 7

Class'n: Minor Technical

Description:

"The source entry contains an ISO standard number and part number for each AIM element provided." However, it does not provide the source for each entity in the reference path.

Proposed resolution:

Provide a table with the name and source for each entity in the AIM element or Reference path subclause. Or collect all these into a separate table and remove from this part of the mapping specification.

Actual resolution:

Rejected as unfeasible - this would create addition work for developers/editors without obvious benefit. Information about the source of AIM entity data types is available elsewhere in the AP document.

Issue **20 (USA-15)** ***Status*** **Closed**

Author: not specified *Disposition:* Rejected

Clause: 9.1.3

Class'n: Minor Technical

Description:

The equal sign is overloaded to mean three things:

A = B

means that A is a select type that has B as a member.

A.x = 'b'

means that A is an entity type that has an attribute x, and that the value of x is constrained to be 'b'.

A[i] = B

means that A is an aggregate whose member is being constrained to be of type B.

It would make machine processing easier if different symbols were used for these different meanings.

Proposed resolution:

Use different symbols.

Actual resolution:

Different usages of = are clear from context - EXPRESS has similar "overloading" of symbols.

Issue	**21 (USA-16)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	9.1.3		
Class'n:	Minor Technical		

Description:

It is not clear why line 5 is needed in the following reference path.

1 {compound_representation_item
2 compound_representation_item.item_element ->
3 compound_item_definition
4 compound_item_definition = list_representation_item
5 list_representation_item
6 list_representation_item[i] = representation_item
7 representation_item =>
8 measure_representation_item}

Proposed resolution:

Actual resolution:

Issue accepted. Inclusion of AIM entity data type names as well as the entity.attribute references is valid but unnecessary (see also the LKSoft proposal which simplifies reference paths by excluding these). Depending on final agreement on syntax definition, these will either be eliminated entirely, or included in the spec. with their usage deprecated. The latter approach would allow current mapping specifications to remain valid.

Issue	**22 (USA-17)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	9.2, 9.3		

Class'n: Minor Technical

Description:

If an attribute of an ARM entity points to another entity, then the relationship is captured both as an application element and as an application assertion. It would be redundant to put two entries in the mapping table for such a case. Current practice seems to be to put it in as an assertion, with the text "(as <attribute name>)", but this is not clearly spelled out anywhere.

Proposed resolution:

Spell it out.

Actual resolution:

Issue is accepted - arises from EXPRESS ARMs where relationships have the same syntax as attributes. Both the mapping specification guidelines and the SDs need to address the inclusion of the "(as <attribute name>)" form. One approach is to always include this for relationships; the other is to use this only to disambiguate cases where there are two or more distinct relationships from one application object to another.

Issue 23 (USA-18) *Status* Closed

Author: not specified *Disposition:* Accepted

Clause: 4

Class'n: Editorial

Description:

Confusing to start body of document with Mapping Template Clause.

Proposed resolution:

Add introductory paragraph describing change to previous Mapping Table format to use Clause structure, and mention of apping Templates. Move details of Mapping Templates (current Clause 4) to after description of Clause structure.

Actual resolution:

Accept proposed resolution to USA-26 - move the material on templates to an Annex.

Issue 24 (USA-19) *Status* Closed

Author: not specified *Disposition:* Accepted

Clause: 4 (page 5)

Class'n: Editorial

Description:

Replace GROUPS Template with more understandable example.

Proposed resolution:

Replace the example Mapping Template of Example 2 with a simpler example. Proposed new example:

Signature:

/PERS_ORG_ASSGN(t, role)/

Parameter definition:

t: entity type to which a person_and_organization is to be assigned
role: role of the person in the context of this assignment

Template body:

Person_and_organization_item = &t
person_and_organisation_item <-
applied_person_and_organization_assignment.items[i]
applied_person_and_organization_assignment <=
person_and_organization_assignment
{person_and_organization_assignment.role ->
person_and_organization_role
person_and_organization_role.name = &role}
person_and_organization_assignment
person_and_organization_assignment.assigned_person_and_organization
person_and_organization

Example:

PERS_ORG_ASSGN<â€™document authorâ€™>

A person_and_organization_assignment is applied to a document entity to identify the author.

Actual resolution:

Accept proposed resolution.

Issue	**25 (USA-20)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	Standing document title		
Class'n:	Editorial		

Description:

There has never been a Guidelines for the development mapping specification 1st edition how can there be a 2nd edition? The title previous was Guidelines for the development mapping tables. The titles have changed as will as much of the content.

Proposed resolution:

Remove 2nd edition from title and all other references in the Standing Document or put a statement on the cover saying this edition replaces <full title of 1st edition>.

Actual resolution:

Accept option #2.

Issue	**26 (USA-21)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	Document organization		
Class'n:	Editorial		

Description:

The template concept is introduced too early in the document. The flow of information is not smooth from one idea/concept to the next. In some cases the logic of the specification is hard to follow or understand. As a new AP developer I would have a VERY difficult time understanding what to do specifically or what is required as content in Clause 5.1.

Proposed resolution:

Rework the document and add many examples that build logically on each other, starting with Clause 4 through the Annexes.

Actual resolution:

See resolutions to USA-18 and USA-26, and also UK-12. Final review of the updated guidelines will have to assess its overall readablity/utility (especially to new AP developers).

Issue	**27 (USA-22)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	3		
Class'n:	Editorial		

Description:

Need definitions for mapping specification, signature, SC4 common resources, root node, UNUSED

Proposed resolution:

Add these terms to Clause 3.n

Actual resolution:

Agreed to add definitions of mapping specification, signature, common resource (WG12 definition, should be added in Part 1 edition 2). Also application element, which does not seem to be defined elsewhere. The use of UNUSED can be explained elsewhere - this is a standard value for attributes, not a term to be defined. Need to check document for usage of "root node" to see why/if this needs to be defined in clause 3.

Issue	**28 (USA-23)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	6.2		
Class'n:	Editorial		

Description:

Use of angle brackets < >

Proposed resolution:

Add example for the use of angle brackets < > to Annex B; to show in context of a mapping specification with Annex A

Actual resolution:

Remove this part of the syntax. Add a statement that the ( ) form of OR is not necessarily XOR.

Issue	**29 (USA-24)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	9.1.7		
Class'n:	Editorial		

Description:

The use of the asterisk *; not sure what this is really to do. How does example 1 and example 2 relate to each other? Or don't they? Example 1 has {draughting_callout_relationship.name = 'prefix'. Where in example 2 {draughting_callout_relationship *}

Proposed resolution:

Actual resolution:

Provide a better example, showing the use of braces to enclose the repeated structure, not just one part of it.

Issue	**30 (USA-25)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	Entire document		
Class'n:	Editorial		

Description:

There are several instances in the document where the requirements of ISO Directives Part 3 (ID3) and SC4 SD have not been applied. NOTES, EXAMPLES, boldface usage with plurals of Entities/attributes, upper/lower case usage.

Proposed resolution:

Apply ID3 and SD requirements to the Standing Document. Use Figures along with the examples so that indented text can be distinguished from the body text of the standing document.

Actual resolution:

Accept proposed resolution.

Issue	**31 (USA-26)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Editorial		

Description:

The template concept is introduced too early in the document. Furthermore, the template concept is immature and not well
enough tested. It is premature to standardize it now.

Proposed resolution:

Move clause 4 to a normative annex. State in the annex that templates are experimental, use of them is optional, and the template language may change.

Actual resolution:

Accept proposed resolution.

Issue	**32 (USA-27)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	4 (page 4, last sentence)		
Class'n:	Editorial		

Description:

Incomplete sentence.

Proposed resolution:

Delete last four words.

Actual resolution:

See NOR-2. Accept proposed resolution.

Issue	**33 (USA-28)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	5 (Page 8, NOTE)		
Class'n:	Editorial		

Description:

Meaning of note confusing in relation to Clause 6.5 discussion of SUPERTYPE and SUBTYPE templates.

Proposed resolution:

Refer from the NOTE to Clause 6.5.

Actual resolution:

See resolution to NOR-3.

Issue	**34 (USA-29)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	6 (page 8)		

Class'n: Editorial

Description:

First sentence of Clause 6 incomplete.

Proposed resolution:

Add the word "maps" to the end of the sentance to complete it.

Actual resolution:

Accept proposed resolution.

Issue **35 (USA-30)** ***Status*** **In-work**

Author: not specified *Disposition:* Accepted

Clause: 6 (5th sentence)

Class'n: Editorial

Description:

Unclear of meaning of "close relationship".

Proposed resolution:

Clarify if Mappings must be exact, or if portions of the References Paths or Mapping Rules may differ.

Actual resolution:

Wording to be reviewed/revised.

Issue **36 (USA-31)** ***Status*** **Closed**

Author: not specified *Disposition:* Accepted

Clause: 4

Class'n: Editorial

Description:

The notational symbols on page 5 appear that a colon is part of the notation symbol. Is that true? The examples to not show the colon with the notational symbol.

Proposed resolution:

If not true, then add some white space between the symbol and the colon.

Actual resolution:

Delete the colon as being confusing. This issue also need to be addressed in the Supplementary Directives.

Issue **37 (USA-32)** ***Status*** **In-work**

Author: not specified *Disposition:* Accepted

Clause: 9.1.1

Class'n: Editorial

Description:

The asterisk * symbol is buried in text in clause 9.1.7

Proposed resolution:

Add * to the list of symbols

Actual resolution:

Add to the list of symbols, also add a separate subclause on the use of this symbol (but see also resolution to USA-24).

Issue	**38 (USA-33)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted

Clause: 5 (last note)

Class'n: Editorial

Description:

This NOTE should be made normative to this Standing Document

Proposed resolution:

Make it normative

Actual resolution:

Based on proposed resolutions to NOR-3 and QC-2, reword the text as appropriate for normative content.

Issue	**39 (USA-34)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted

Clause: 6.2

Class'n: Editorial

Description:

Proposed resolution:

Add two blank spaces before the subclause heading

Actual resolution:

Accept proposed resolution (see also UK-21)

Issue	**40 (USA-35)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted

Clause: Introduction

Class'n: Editorial

Description:

"The mapping specification documents the traceability of the application information requirements between the specification of
these requirements in clause 4 of the AP and the application interpreted model (AIM) that documents how standardized constructs are applied to satisfy these requirements in clause 5.2 of the AP." This is a run-on sentence and is ambiguous.

Proposed resolution:

Change to: "The mapping specification documents the traceability of the application information requirements between the specification of these requirements in clause 4 of the AP and the application interpreted model (AIM) in clause 5 of the AP. The mapping specification documents how standardized constructs are applied to satisfy the application information requirements."

Actual resolution:

Accept proposed resolution.

Issue	**41 (USA-36)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	Introduction		
Class'n:	Editorial		

Description:

"Specifics on style, format, required text, and other presentation issues are provided in the Supplementary directives for the drafting and presentation of ISO 10303, 2nd edition. Additional guidance on other areas of AP development is found in the Guidelines for development and approval of STEP application protocols." Should not the AIM Development Guidelines be cited as well?

Proposed resolution:

Add citation to AIM Development Guidelines.

Actual resolution:

Accept proposed resolution.

Issue	**42 (USA-37)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	general		
Class'n:	Editorial		

Description:

Notes and examples do not follow the format now required by ISO CS (see QC N151). Although this is just an SC4 standing document, it should follow the proper format to avoid confusing AP developers.

Proposed resolution:

Follow the format given in QC N151 for notes and examples.

Actual resolution:

Accept proposed resolution (see also UK-10)

Issue	**43 (USA-38)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	1		
Class'n:	Editorial		

Description:

There appears to be a space missing betwen "in" and "Supplementary" in NOTE 1.

Proposed resolution:

Add the space.

Actual resolution:

Accept proposed resolution.

Issue	**44 (USA-39)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	4		
Class'n:	Editorial		

Description:

"The name is written in uppercase. It shall not begin with a number; else numbers may be included. No special characters shall be used except for underscore ("_"). The name is followed by the list of parameters, which is surrounded by parentheses. The parameters are separated by commas. Parameters are written in lowercase. No additional restrictions apply to parameter names; they are either EXPRESS identifiers or strings in quotes." The verbs "is" and "shall" are mixed in an apparently arbitrary manner.

Proposed resolution:

Use either "is" or "shall" exclusively.

Actual resolution:

Accept proposed resolution - use "shall".

Issue	**45 (USA-40)**	***Status***	**In-work**
Author:	not specified	*Disposition:*	Accepted
Clause:	5		
Class'n:	Editorial		

Description:

"The application objects (i.e. entities and attributes)

*** text of this issue truncated ***

Proposed resolution:

Actual resolution:

Application element will be defined in clause 3.

Issue	**46 (UK-1)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	general		
Class'n:	Minor Technical		

Description:

These guidelines would be easier to use and to navigate if they were published in HTML.

Proposed resolution:

Convert to HTML.

Actual resolution:

Accepted as a good idea; however, implementation is left to the discretion of the editor depending on time/resources/tools available. If not done for this edition, mark issue as Deferred.

Issue	**47 (UK-2)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	Foreword		
Class'n:	Minor Technical		

Description:

The statement that all the listed standing documents apply to the development of SC4 standards is not strictly correct.

Proposed resolution:

Divide this into two lists, one of those standing documents that apply to all SC4 standards (Handbook, Quality Manual, maybe also the Supplementary Directives), and one of the standing documents that apply only to ISO 10303.

Actual resolution:

Accept proposed resolution.

Issue	**48 (UK-3)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	Introduction (second paragraph)		

Class'n: Editorial

Description:

This is not a part of ISO 10303 therefore the reference to "This International Standard" is inappropriate.

Proposed resolution:

Change to "ISO 10303 is organized ..."

Actual resolution:

Accept proposed resolution.

Issue 49 (UK-4) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: Introduction (third paragraph, third

Class'n: Editorial

Description:

This sentence is poorly worded and is difficult to understand

Proposed resolution:

Replace by: "The mapping specification documents the correspondence between the information requirements of an AP (clause 4) and the application interpreted model (AIM, clause 5.2) that satisfies those requirements."

Actual resolution:

Issue accepted - see resolution to USA-35.

Issue 50 (UK-5) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: Introduction (third paragraph, four

Class'n: Minor Technical

Description:

Is the purpose of ths document guidance on the creation of mapping specifications, or on their documentation? The contents of the document primarily address the latter.

Proposed resolution:

In 4th sentence change "creation" to "documentation" and add a statement that the procedures and practices of interpretation that create the conrtent of the mapping specification are documented elsewhere. Delete the 6th sentence.

Actual resolution:

Accept proposed resolution.

Issue 51 (UK-6) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: Introduction (third paragraph, fifth

Class'n: Editorial

Description:

Poor wording.

Proposed resolution:

Change to: "This document is also intended to help reviewers and implementors to understand mapping specifications."

Actual resolution:

Accept proposed resolution.

Issue 52 (UK-7) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: Introduction (fourth paragraph)

Class'n: Editorial

Description:

Summary of changes should be a list, as per the guidance provided in the SDs for second editions of ISO 10303 parts.

Proposed resolution:

Change to unordered list

Actual resolution:

Accept proposed resolution.

Issue 53 (UK-8) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: 1 (and elsewhere) (5th item of first

Class'n: Editorial

Description:

This document uses "entity" and "entities" as a shorthand for "entity data type(s)". This is erroneous use of terms and should be corrected.

Proposed resolution:

Change "entity" to "entity data type" and "entities" to "entity data types" throughout.

Actual resolution:

Accept proposed resolution.

Issue 54 (UK-9) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: 1 (NOTE 1)

Class'n: Minor Technical

Description:

The second edition of the SDs is not yet ready for publication - is there a need for a separate QC document describing the changes to the SDs resulting from approval of the changes to the mapping specification?

Proposed resolution:

QC to discuss at the Charleston meeting.

Actual resolution:

The mapping specification guidelines and the supplementary directives are both due to be completed at the QC meeting in March 2001. No need for a separate QC document on format and presentation of mapping specifications.

Issue 55 (UK-10) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: 1 (notes)

Class'n: Editorial

Description:

Format of these (and other) notes is incorrect.

Proposed resolution:

Remove dash, check font size and indentation.

Actual resolution:

Accept proposed resolution - see also USA-37.

Issue 56 (UK-11) *Status* Closed

Author: Fowler, Julian *Disposition:* Accepted

Clause: 1 (NOTE 2)

Class'n: Minor Technical

Description:

The referenced document "Guidelines for application interpretation" exists only in draft/incomplete form, and no resources have been made available to QC that allow for its completion. This reference therefore raises unjustified expectations.

Proposed resolution:

Remove the reference, or replace it by one that recognizes the actual status of the Guidelines/Procedures for application interpretation.

Actual resolution:

Delete the references to this document.

Issue	**57 (UK-12)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	missing clause		
Class'n:	Minor Technical		

Description:

There should be an initial clause ("Overview", or "Fundamental concepts and assumptions") immediately after clause 3 that provides an introduction to mapping specifications. Some of the material currently in the Introduction may serve as a basis for this.

Proposed resolution:

Add such a clause (approx. 1 page should provide the appropriate level of detail) explaining in particular how the mapping specification asserts relationships between instance populations of the ARM and instance populations of the AIM.

Actual resolution:

Accepted - issue author to draft and circulate a proposal for this new clause.

Issue	**58 (UK-13)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	4		
Class'n:	Minor Technical		

Description:

This clause is misplaced.

Proposed resolution:

Move to after current clause 9.

Actual resolution:

See resolution to USA-26 - this will be moved to an Annex.

Issue	**59 (UK-14)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	4 (first paragraph)		
Class'n:	Editorial		

Description:

This paragraph is a mixture of what templates are, what they are similar to, and how they are used.

Proposed resolution:

Separate into two or three separate paragraphs, starting with a statement of what templates are, followed by a description of their use and their intended benefits.

Actual resolution:

Accept proposed resolution.

Issue	**60 (UK-15)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	4 (paragraph following EXAMPL		
Class'n:	Major Technical		

Description:

This statement is incorrect. In template definitions, there is no technical reason to restrict parameter names to lower case (although it may be good practice to do so). Parameter values will either be entity data type names or literals, and may include upper case characters is they are present in the entity data type name or the literal required.

Proposed resolution:

Change last two sentences to a statement that the value of a template parameter is either an entity data type name or a string literal, and reference the clauses of Part 11 that define the character set constraints that apply to each.

Actual resolution:

Accept proposed resolution.

Issue	**61 (UK-16)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	4 (EXAMPLE 2)		
Class'n:	Editorial		

Description:

Boilerplate text for templates needs to be reviewed and agreed.

Proposed resolution:

Actual resolution:

Boilerplate text needs to be included in the Supplementary Directives and referenced from this document.

Issue	**62 (UK-17)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	5 (first paragraph)		
Class'n:	Minor Technical		

Description:

The revised structure for mapping specifications allows the mapping for each application object to be documented as part of the ao description, i.e., merging clauses 4.2/4.3/5.1).

Proposed resolution:

Raise as a SEDS issue against the AP Guidelines as soon as this document is approved.

Actual resolution:

Accept proposed resolution - action on the issue author.

Issue	**63 (UK-18)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	5 (EXAMPLE 2 and accompanyin		
Class'n:	Major Technical		

Description:

A more formal approach needs to be developed for handling multiple mapping cases - the current method largely relies on a human reader matching up # references.

Proposed resolution:

Although it may be more verbose, consider documenting each alternative separately, i.e.,:

5.1.x.y application object

#1: case 1

AIM element
Source:
Rules:
Reference path:

#2: case 2

AIM element:
Source:
Rules:
Reference path:

etc

Actual resolution:

Proposed resolution accepted - needs to be fully documented. Documented cases should be exclusive and should be complete.

Issue	**64 (UK-19)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.4		
Class'n:	Major Technical		

Description:

Does "IDENTICAL MAPPING" imply that the inverse mapping is incomplete and/or ambiguous? If two application objects AO1 and AO2 both map to the same AIM entity data type AIM1, how can the ARM "view" be recovered from the population of AIM1 in an exchange structure or database?

Proposed resolution:

Add any necessary text to describe how the population of AIM1 relates to AO1 and AO2 in this case

Actual resolution:

Add text that states that IDENTICAL MAPPING states that both application objects involved in an assertion map to the same instance, and that these must be disambiguated (in the ARM "view") by other data or reference paths.

Issue	**65 (UK-20)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6 (First paragraph, fifth sentence)		
Class'n:	Major Technical		

Description:

This description of the /SUBTYPE/ and /SUPERTYPE/ templates is misleading.

Proposed resolution:

Change to: "The mapping of an application element may be asserted to be the same as that for a generalized application element (supertype) in the ARM using the predefined /SUPERTYPE/ template (see ???). Similarly, the mapping of an application element may be asserted to be the same as that for one or more specialized application elements (subtypes) in the ARM using the predefined /SUBTYPE/ template (see ???)/"

Actual resolution:

Based on the resolution to NOR-3, the proposed resolution here appears to be valid and correct.

Issue	**66 (UK-21)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.1, 6.2		
Class'n:	Editorial		

Description:

Insufficient whitespace between the text of 6.1 and the heading of 6.2

Proposed resolution:

Actual resolution:

Accept proposed resolution - see also USA-34.

Issue	**67 (UK-22)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.2 (first paragraph)		
Class'n:	Major Technical		

Description:

The example cited here is unclear. Since the measure_with_unit entity data type defined in ISO 10303-41 by definition has both a value_component and a unit_component it is unclear from the text what the benefit of this style of mapping is.

Proposed resolution:

Either replace by a clearer example, or expand this one explaining that such a mapping is useful if the ARM does not separate the value and unit concepts.

Actual resolution:

Agreed to substitute or add a better example (still to be developed).

Issue	**68 (UK-23)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.2 (EXAMPLE on page 10)		
Class'n:	Major Technical		

Description:

This example is unclear - how can one AIM entity data type (point) have two difference sources??

Proposed resolution:

Please clarify.

Actual resolution:

The example is incorrect - need to substitute a valid example.

Issue	**69 (UK-24)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.3 (First paragraph)		
Class'n:	Major Technical		

Description:

This subclause needs to state that a PATH mapping need not relate to instances of different AIM entity data types - it may be between different instances of the same entity data type.

Proposed resolution:

Add appropriate text.

Actual resolution:

Accept proposed resolution.

Issue	**70 (UK-25)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.3 (EXAMPLE and accompanyin		
Class'n:	Major Technical		

Description:

The reason for this type of mapping is unclear, and the solution presented is not a formal description of the mapping.

Proposed resolution:

Please clarify

Actual resolution:

Add clarification and examples, based on slides presented at Funchal meeting.

Issue	**72 (UK-27)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	6.5 (EXAMPLE 1)		
Class'n:	Major Technical		

Description:

The syntax for referencing clauses in templates needs to be clarified, especially if templates are to be fully processable by software.

Proposed resolution:

On the assumption that the template parameter value is an unambiguous reference, introduce a "tail remark" element to the mapping specification syntax, so that this example becomes:/SUBTYPE(chamfer)/ -- 5.1.x.y

Actual resolution:

Accept proposed resolution, with the change to: "/SUBTYPE(chamfer)/ -- (see 5.1.x.y)" to comply with ISO Directives.

Issue	**73 (UK-28)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	8		
Class'n:	Major Technical		

Description:

Review of the mapping specification is made easier if the name of the rule appears, rather than/as well as its clause reference. Omitting the clause reference is likely to be an easier solution for editors.

Proposed resolution:

Change requirement so that the Rule(s) element of the mapping specification includes the identifier(s) of any applicable AIM global rules, followed (optionally) by the clause reference for the rule declaration (in a tail remark as proposed above)

Actual resolution:

Accept proposed resolution.

Issue	**74 (UK-29)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Deferred
Clause:	9.1.1 (4th paragraph)		
Class'n:	Major Technical		

Description:

Should newline have syntactic significance (except as whitespace)? Isn't the precription here more presentation/layout?

Proposed resolution:

To be considered as part of the issue(s) related to formalizing the syntax of the mapping specification.

Actual resolution:

Deferred until the mapping specification syntax is finalized.

Issue	**75 (UK-30)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	general		
Class'n:	Major Technical		

Description:

The mapping specification should be capable of verification and processing by suitable computer software – this demands a formal syntax.

Proposed resolution:

Add a formal syntax for the mapping specification as a normative annex to this document.

Actual resolution:

See USA-1.

Issue	**76 (UK-31)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	general		
Class'n:	Major Technical		

Description:

Understanding and improving the mapping specification requires a formal definition of its semantics.

Proposed resolution:

Develop a formal definition (using as a basis and working with the WG10 activity on mapping for ISO 18876) and include this as an informative annex to these document.

Actual resolution:

Partially resolved by the development and inclusion of a fundamental concepts clause (see UK-12); otherwise deferred (at least until such time as the ISO 18876 project delivers relevant/usable material for STEP AP mappings).

Issue	**77 (UK-32)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Deferred
Clause:	9 (additional subclause required)		
Class'n:	Major Technical		

Description:

In the development of application modules it has been found necessary to include global rules as part of EXPRESS ARMs. Such rules need to be mapped to corresponding elements of the AIM (which could be global or local rules).

Proposed resolution:

Develop an additional subclause for inclusion as part of clause 9.

Actual resolution:

Issue deferred until after approval/publication of modules guidelines document.

Issue	**78 (UK-33)**	***Status***	**In-work**
Author:	Fowler, Julian	*Disposition:*	Accepted
Clause:	4		
Class'n:	Major Technical		

Description:

In order to allow templates to be reused, it should be possible for one AP (or application module) to use a template that is defined in another AP or module.

Proposed resolution:

Modify the proposed structure for the documentation of templates so that definitions in other parts of ISO 10303 can be referenced. This will impact on the SDs as well as the mapping specification guidelines.

Actual resolution:

Accept proposed resolution - text for the mapping specification guidelines and for the SDs to be developed.

Issue	**79 (UK-34)**	***Status***	**Closed**
Author:	Fowler, Julian	*Disposition:*	Deferred
Clause:	general		
Class'n:	Major Technical		

Description:

Mapping specifications should be published in digital form as well as on paper.

Proposed resolution:

As and when a formal syntax is available that allows mapping specifications to be verified and processed by suitable computer software, publish mapping specifications on SOLIS (as is already done with EXPRESS schemas) and reference these via a URL.If the AP or AM makes use of templates, the mapping specification should be published in two forms:

- "short form" incorporating templates
- "long form" with all templates expanded

Actual resolution:

Deferred until formal syntax is developed and approved - see also USA-12.

Issue	**80 (SWE-1)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Rejected
Clause:	general		
Class'n:	Major Technical		

Description:

The hierarchy of the subclauses in the document seems to be possible to improve. There are too many sub levels in clause 5 of an AP-part.

Proposed resolution:

Here follows a proposal to hierarchical improvement:

5 Application interpreted model
5.1 Mapping table
    Paragraph to reference the UoF in clause 4.1 can be inserted here
    Paragraph to reference GROUPS used in the mapping can be inserted here
5.1.x Entity mapping
    The entity mapping subsubclause number (x) shall be the same number as in clause 4.2.
5.1.x.y Assertion mapping
5.1.z GROUPS
5.1.z.v Groups definition
5.2 AIM Express short listing

This hierachy simplifies the task to find entity mappings when you see the entity definition. The UoF has been made less important in this proposal, because you don't know the UoF for a specific entity, but you know the name.

Groups are defined after entity mapping as the last subsubclause of 5.1.

Actual resolution:

Rejected on the basis that a single application object may appear in more than one UoF - mappings may then differ depending on the context of each UoF. Mapping per UoF is also more consistent with the modularization approach.

Issue	**81 (QC-1)**	***Status***	**In-work**
Author:	Radack, Gerald	*Disposition:*	Accepted
Clause:	not specified		
Class'n:	Major Technical		

Description:

The mapping table guidelines (QC N1029) do not say whether it is permissible to map to a derived attribute. The situation arose in mapping to entities in the second edition of Part 41, for example the role attribute of action_request_assignment.

```
ENTITY action_request_assignment
  ABSTRACT SUPERTYPE;
  assigned_action_request : versioned_action_request;
DERIVE
  role                : object_role := get_role (SELF);
WHERE
  WR1 : SIZEOF (USEDIN (SELF, 'BASIC_ATTRIBUTE_SCHEMA.' +
                 'ROLE_ASSOCIATION.ITEM_WITH_ROLE')) <= 1;
END_ENTITY; -- action_request_assignment
```

Note that the role attribute is not a string, but another entity.

Proposed resolution:

Actual resolution:

Add a section to the guidelines covering this area, stating that the target for a mapping should always be an explicit attribute in the AIM. Additional information about DERIVEd attributes is always available from the AIM/IR declarations.

Issue	**83 (QC-2)**	***Status***	**Closed**
Author:	not specified	*Disposition:*	Accepted
Clause:	general		
Class'n:	Major Technical		

Description:

Issue from QC N135 (N533-5): It should be specified whether assertions between two entities also apply to descendants of the entities specified in the assertions. It should also be specified how cardinality relates to the descendants. It is difficult to follow a complete concept in the mapping table when additional attributes and assertions are inherited from supertypes.

Subtype/supertype relationships must be shown. Without these relationships, references to the ARM are required to understand the mapping. Issue #11 noted in annex C needs to be resolved.

Proposed resolution:

Conclusions of Charleston discussions: best/simplest approach is to follow what has been done in AP214, which is to add a reference path mapping rule that captures the relationship between the mappings of the ARM sub/supertypes. This will have to be documented in the guidelines. May also need to allow for the mapping of the sub/supertype relationship as an assertion (at least in the cases where the corresponding relationship in the AIM is not sub/supertytpe). To be discussed over QC exploder.

Actual resolution:

Use the second alternative outlined above, I.e., map the supertype/subtype relation as an assertion (in the case where they do not map to a supertype/subtype structure in the AIM)