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French Comments on document TRADE/CEFACT/GE.1/1977/3, UN/EDIFACT - Future Strategy and organisation and on the AC.1 ‘’Reference guide to the next generation of UN/EDIFACT’’

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The AC.1 report has clearly established the importance of the semantic content of the UN/EDIFACT process and the need to permanently capture this considerable investment in man years. However what has not been clearly established is how this information should be captured. The proposal as described in document TRADE/CEFACT/GE.1/1977/3 paragraphs 7 and 12 – 19 consequently cannot be accepted in its current state.

1. Overview and recommendations.

The AC 1 Report mixes up several different subjects. It contains an overview or interpretation of the work of ISO/IEC JTC 1/SC30 on open-edi on which it tends to lead one to believe that it bases its work, It goes on to give a brief overview of a modelling methodology called IDEF, which leads it into describing some of the concepts of object orientated technology and provides a summary and inconclusive example of what IDEF and object oriented technology could do. It finally concludes with a series of recommendations concerning an organisational structure for UN/EDIFACT in order to enable it to take a “ quantum leap ” into the future.

It is the last point which is most likely the most dangerous of the areas it explores as the recommendations appear difficult if not impossible to implement. As in most cases in an environment which is voluntary it is necessary to learn how to walk before learning how to “ jump ”. The majority of the UN/EDIFACT user environment is currently not sufficiently technically competent in the area of information systems and analysis to be capable of taking on such an effort.

A large number of current EDIFACT messages are still being developed in an empirique manner. The notion of modelling business and information requirements prior to developing a message is slowly being recognised as being of interest, but it is slowly starting to become a reality. This is to a great extent due to a lack of expertise. UN/EDIFACT needs to begin to model its business and information requirements if it is to stand a chance of eventually impacting the underlying processes. The modelling should be introduced at two levels, firstly by making it a requirement for all new messages in development and secondly by requiring each JM group to model the business and information requirements of the existing messages for which they are responsible. Once the JM groups have terminated their individual modelling phase a cross group rationalisation process may be carried out (it is interesting to see how currently different JM groups implement differently virtually the same business requirement).

One will hopefully find that once modelling becomes commonplace, and impossible to work without, that new requirements will grow into the syntax to enable the model to be sent either before or along with the transmission of the data. This in the long term is what a next generation of UN/EDIFACT should be aiming for.

France consequently moves, whilst letting AC.1 continue in its research, to reject the proposal for “ strategic objective 2 ” and to concentrate on getting order into its existing process through a more rigorous approach to message development with the application of what is suggested above.

The principle motives for rejecting “ strategic objective 2 ” are as follows :

1. The document presents numerous contradictions with the already complicated diagram in TRADE/CEFACT/1997/CRP.1. It is contradictory with the principles of empowerment of EWG. The three new groups proposed in the AC.1 report overlap those already defined in the CRP. Additionally it will be difficult for a group dealing in a specialised domain to accept directives from a horizontally orientated group and this has to be catered for.

2. ISO Standards groups are currently developing the requirements for a next generation of EDI. Specifically one could mention the work being carried out by ISO/IEC JTC 1/SC30 on open-edi (modelling techniques and transmission capabilities), the ISO group on the BSR who along with ISO/IEC JTC 1/SC14 are working on data and in particular abstract data types, and ISO/TC 184 on the definition and transmission of product data. UN/EDIFACT should be providing input to these groups through active representation and promoting their outputs.
   There is not the voluntary expertise available to both introduce some rigor into the existing process and at the same time develop the quantum leap. Precious, costly and rare resources should be used to improve the existing process.

3. EDIFACT has just begun to encourage the use of methods as a tool for the expression of user requirements. The lessons to be learnt from getting user groups to model their requirements will be considerable in any future evolution of EDIFACT. By changing the focus, user groups might be encouraged to wait and see and thus not move into modelling.

4. The restriction of the current JM groups to deal only with business modelling and the creation of two new groups (model review panel and the message production group) would tend to dilute expertise. If a group has become competent in modelling, it certainly has the expertise to produce messages. The concept of a review panel should become the strong encouragement for JM groups for repeated cross group rationalisation should cater for such a requirement. This should become a major task of JTAG who should be looking primarily at model coherence before looking at the mechanics.

5. In view of past difficulties for UN/EDIFACT to comprehensively address highly technical issues, we recommend that CEFACT employs the MoU to ensure the synergy of effort on these subjects in a single place provided that the results can be delivered in a reasonable time frame (e.g. tools for developing scenarios).

6. France does not believe that it is technically possible to obtain interoperability of application programs by harmonisation of some of their components. Moreover, France believes that such an approach is not appropriate for EDI, because it will lead to requiring modifications of existing applications to implement EDI. Rather the way forward is to allow the interactions between the application programs to be implemented with existing applications and be adaptable to different types of business practices. This is especially necessary since business practices are a key factor of a company's competivity. Therefore they are unsuitable for standardisation, if for no other reason than, they will change over time.

2. Comments on the AC.1 Reference Guide content.

2.1 Open-edi.

The management summary of the AC.1 report states that open-edi will be one of the major factors in enabling organisations to establish short term relationships. The guide attempts to show how open-edi could be implemented using IDEF modelling and Object Oriented techniques. However this description is not related to the components of the open-edi scenarios as defined in ISO IEC14 662.

It identifies the need to move away from the development of generic messages without a specific context to establishing scenarios which describe business processes which are context driven.

It maintains that by employing modelling techniques the number of ways a business transaction can be interpreted will be reduced thus enabling off the shelf object oriented EDI tools to become available.

In this first part of the management summary introduction it has missed the point that the open-edi set of standards will only provide the tools for user communities to build user community specific business scenarios. Such scenarios incorporating everything necessary to immediately formalise a business relationship with a new or existing partner (legal, business constraints, security, etc.). In other words basically incorporating everything that can be found in a current day interchange agreement into a business scenario. It in no way prejudges how an enterprise will carry out its internal processing but will merely establish the rules governing the information exchanged within a given context.

It is unfortunate to see that there is no recommendation for active participation in ISO/IEC JTC 1/SC30 nor in making use of SC30 work as soon as it becomes available. Instead it may lead to divergent solutions and waste resources which are already difficult to come by.

This is more even so because ISO IEC JTC1 SC30 is presently documenting the requirements on the formalisms required for the specification of the components of an Open-edi scenario. Object oriented technology as well as IDEF and other modelling standards will be evaluated against these requirements before SC30 selects the formalism for the specification of open-edi scenario components. Of course, it is essential that this output be available as soon as possible.

2.2 Data mapping

The summary goes on the explain the current difficulty of mapping from an IDEF model to a UN/EDIFACT message, indicating that asking different experts inevitably results in different answers. This argument applies not only to mapping to UN/EDIFACT but also to developing a model - different experts inevitably produce different models of the same thing, each depending on his particular orientation.

AC.1 proposes to resolve this problem (i.e. getting from the model to the message) through the use of object oriented technology and in particular through the use of " object classes ". In ordinary language an " object " could be looked upon as being similar to a " concept ". In fact (Martin el al - " Object Oriented Methods - a foundation ") considers that an " object is anything to which a concept applies. It is an instance of a concept ". The example given by him takes the concept such as " person " and identifies an object which is an instance of the concept as " John Smith " .

All this leads to however, is the identification of what in many other circles are called data element concepts (SC14), elementary semantic units and compound semantic units (SC30) or basic semantic units (ISO/TC154?). Will object oriented technology help in moving these efforts as well ?

2.3 Object classes

The AC1 report goes on the give an " object class " (incidentally not defined in the glossary) some characteristics namely attributes, behaviour and inheritance.

It is likely that attributes can be defined for object classes, however, when it comes to behaviour and inheritance, which are related, the problem is different

The problem posed here is the notion of behaviour which describes the " instructions " given to a class.

In a domain where the full business rules can be explicitly defined as when one builds an information system within an enterprise, it is possible to define the behaviour of a given objet. After all this is what object oriented methods are there for.

However in the context of UN/EDIFACT where large portions of the business rules associated with an object may be dependent on specific sectorial requirement, or national legal requirements, or whatever, it is difficult if not impossible to define the behaviour of the object in question. One will have many variants of a theme which will cascade through the various objects used within the environment in question. So the fundamental question here is should UN/EDIFACT attempt to formalise internationally the behaviour of an object. Indeed one could ask the question of whether or not it is capable of doing so.

If the behaviour of an object cannot be fully determined then this also puts into question the capability of inheriting information from one object to another. In the long run it puts into doubt the feasibility of UN/EDIFACT achieving anything worthwhile by moving in this direction. It will be unlikely that off the shelf software will come from such an effort. The object orientated track therefore should not be followed.

2.4 what is object orientated technology ?

From the reference manual, one can only summarise the what is meant by object oriented technology is making use of functional modelling, data modelling and process modelling (the IDEF recommendations), abstracting the data out into “ abstract data types ”, and producing “ object classes ”. The report in this area is inconclusive.

3 Procedures to be followed

To request a decision from GE.1 on this subject in the current context is surprising insofar it is no longer the responsibility of GE.1 to instruct Message Development Groups to use modelling techniques nor to demand that AC.1 cooperate effectively with the relevant ISO bodies (SC 30, SC 14, SC 21 WG 3, TC 154 (BSR), TC 184 etc.

UN/EDIFACT can only continue to exist if existing processes are actively and aggressively improved.