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UN/EDIFACT - Future Strategy and Organisation

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Submitted by the EDIFACT Steering Group (ESG) *

As requested during the March 1997 session of GE.1, this document contains a consolidated version of the following two CRPs, taking into account comments received in the interim: TRADE/WP.4/CRP.123 and TRADE/WP.4/CRP.135.

The Group of Experts is expected to: approve the recommendations found in this document and note the rest of the document as being for information and further discussion.

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GE.97-

UN/EDIFACT - Future Strategy and Organisation

1. Introduction

1. At the March 1997 session of GE.1, two CRPs were discussed which contained substantive proposals for the future of UN/EDIFACT (TRADE/WP.4/CRP.123 and TRADE/WP.4/CRP.135). It was agreed that following consultation with the JRT at its April 1997 Singapore meeting, and a general consultative period concluding on 30 June 1997, the relevant aspects of both CRP's - amended by the comments received - would be merged into one document for approval at the September 1997 session of CEFACT. Therefore, this document, which is submitted on behalf of the EDIFACT Steering Group (ESG), contains substantive sections on strategy, organisation and empowerment which are for approval.

2. The Strategy for UN/EDIFACT

(NB. Originally Appendix 2 of CRP 123, this section has been revised to take account of comments made during the consultative period. The major changes are: a) recognition that the strategy, as a whole, should have as one of its objectives a focus upon the importance and requirements of Small and Medium sized Enterprises (SME's); b) replacement of the concept "parallel tracks" with "parallel strategic objectives"; c) merger of "tracks" 1 and 2 into a revised strategic objective 1, with a revised "track" 3, becoming strategic objective 2)

2. It is now nearly ten years since the UN/EDIFACT syntax became an ISO standard and eight years since the UN/ECE approved its first messages. The intervening period has seen;

- a substantial increase in the number of countries and regions participating in the work;
- a rapid growth in the number of messages in the UNTDID directory -- there are over 150 covering many different fields of application;
- a maturing of the development, production and publication process with good quality directories now being produced twice a year;
- large scale implementations based on UN/EDIFACT world wide -- mainly by major public and private organisations.

Further, all of the technical objectives set for UN/EDIFACT by WP.4 in 1987, have been successfully met.

3. However, at the strategic level, UN/EDIFACT has not had the impact that was predicted for it in two significant areas. The first is in the general rationalisation and simplification of business and administrative processes and the second is in the take up and use of the standard by Small and Medium sized Enterprises. (SME's)
4. Whilst the lack of impact in these areas is general to EDI, irrespective of the standard on which it is based, CEFACT needs to fully address these issues because of UN/EDIFACT's position as the global trading standard and because of their potential impact on our primary objective, which is Trade Facilitation.
5. Three years ago, in March 1994, WP.4 established the AC.1 group to act as a research and development group for UN/EDIFACT. In its interim report of March 1996 (TRADE/WP.4/R.1189), AC.1 identified a number of specific reasons which were and, still are, constraining implementation by SME's of UN/EDIFACT and EDI in general, whatever the standard used. The report went on to point to a number of emerging technologies and techniques, in particular object technology and information modelling, which they believed could be especially useful both to UN/EDIFACT and trade facilitation.
6. AC.1's report also coincided with a number of other developments including the:
 - a. a growing understanding of the limits of the "bottom-up approach" to message design and the potential value of information modelling techniques;
 - b. moves to simplify UN/EDIFACT messages and the agreement to harmonise implementation guidelines;
 - c. recognition of the need to radically simplify business and administrative processes if SME's are to become the driving force behind the expansion of world trade;
 - d. use of EDI and UN/EDIFACT over the Internet;
 - e. evolution of the World Wide Web, the arrival of Java software, and the recognition of their potential for introducing SME's to EDI and Electronic Commerce;
7. Given the AC.1 report and these developments, the ESG has been working to prepare a coherent forward strategy for UN/EDIFACT which takes these into account within the context of CEFACT's Mission Statement. Accordingly, and after consultation, particularly with the JRT, the ESG now proposes, for incorporation into CEFACT's Work Programme, the following items based upon two inter-linked, parallel strategic objectives.

1) Continuation of the development and maintenance of UN/EDIFACT as the global message standard based on both batch and interactive syntaxes. (Strategic Objective 1 - Mainstream UN/EDIFACT)

2) Full development of the Object Oriented approach to the design of future messages. (Strategic Objective 2 - Object Oriented EDI, "OO/EDIFACT")

Both strategic objectives shall fully take into account the special requirements of SME's for simple and stable messages which can be incorporated into effective and inexpensive applications.

8. **Strategic Objective 1 - Mainstream UN/EDIFACT**, requires no introduction. The current user base is made up of many significant and stable organisations from all the main regions of the world and implementations are continuing to grow (particularly in Asia). Messages continue to be developed (there are more than 55 new messages in development) and the efficiency of the maintenance process will improve significantly when the DMR process has been automated. Mainstream UN/EDIFACT is now a mature and stable standard which will continue to evolve for as long as its users wish it to do so. In line with the support provided by users, CEFACT needs to devote resources to the maintenance and publication of the standard although this may decrease as full automation of the DMR process comes into effect.

9. Recently, considerable effort has also been put into meeting the requirements of SME's and this must be continued. For example, currently there are projects underway in:

- a. the Message Development Groups of the JRT centred around the Harmonised Implementation Guidelines Group which appear very promising;
- b. EBES (the successor to the Western European EDIFACT Board) known as EDI-LITE, which, if developed, could provide SME's with a convenient and comprehensive UN/EDIFACT based Internet Web solution;
- c. SITPRO on the development of a UN/EDIFACT based approach to aligned forms which may be very relevant to the wider international trade arena and, therefore, to CEFACT;
- d. UKCEDIS on a fundamental proposal to exchange master files before the commencement of trading transactions to radically simplify the subsequent message exchange. This is

part of an equally radical approach to the simplification of the whole business process based on a combination of simpler UN/EDIFACT messages and “value chain” analysis.

10. All of these developments are of significant interest and, in the cases of the EDI-LITE and aligned forms initiatives, have obvious potential for Java based Internet Web applications. Here, CEFACT has a direct interest through the previous work of WP.4, which did much to successfully develop and promote the UN aligned documentation system. Therefore, the possibility of Web Java Applets containing a relevant set of UN/EDIFACT based aligned documents is exciting.

11. Consequently, central to Strategic Objective 1, is the need to continue to encourage strongly the development of simpler UN/EDIFACT messages and sub-sets. However, proposed work should not duplicate that which is being carried out elsewhere. To this end, CEFACT may benefit from entering into understandings with specific organisations in order to both associate itself with relevant developments in other organisations and assist in the world wide dissemination of the results. Equally, the work done within the JRT's in support of SME's should be strongly supported and become an important part of CEFACT's Work Programme under the proposed mandate for a Permanent Working Group to empower the JRT (See section 4 below).

Strategic Objective 2, Object Oriented - OO/EDIFACT

12. As noted earlier, apart from supporting SMEs, the other area where UN/EDIFACT (and indeed EDI) has not achieved the impact that was predicted for it ten years ago, is in the rationalisation and simplification of business and administrative processes. There are many reasons for this, but the fundamental one is that EDI and UN/EDIFACT did not start at the business process level. Rather, it was assumed that the considerable benefits of rationalising and automating the transaction data (e.g. a purchase order) which was part of a process,(e.g. purchasing) would stimulate a review of the process itself. In most cases this has not happened because, by approaching the issue “bottom - up,” the highest level, being that of the process itself, was not reached.

13. While business practices from one business organisation to another are highly variable, depending on competitive strategies, experience and management style, they can be decomposed into business processes that are much more generic.

14. As the emerging work of AC. 1 is showing, the greatest benefit to be gained from an object oriented approach coupled with the rigorous use of modelling techniques, is that of a top-down approach. This means starting at the level of the business process, and decomposing this process, through a number of logical steps, all the way down to the semantic level. This decomposition is from business processes down to business functions (transactions) and then to activities or objects, data or classes, and, finally, abstract data or core business objects. Object Technology, currently an area of intense activity in major organisations, has already demonstrated its ability to deliver significant advances in business performance for all sizes of organisations.

15. For CEFACT, the implications are that it is now possible to begin to confront the high level issue of the rationalisation and simplification of the general business and administrative process while building upon and using the existing semantic content of UN/EDIFACT. [One of the great strengths of UN/EDIFACT has been the development , over many years, of its semantic content. In terms of the investment of world wide business and administrative expertise, it probably represents hundreds of man years. Under no circumstances should that investment be put in jeopardy]

16. This approach, if harnessed effectively and coupled with the practical experience of business and other techniques such as value chain analysis, could lead to major advances for SME's and for the wider area of Trade Facilitation. That is why the ESG believes that it extremely important to build upon and further develop the work of AC.1. Therefore, they propose a new but parallel objective in the strategy - Object Oriented EDIFACT or OO/EDIFACT.

17. If this strategy is approved, users will be able to choose to follow one or both objectives, in accordance with their own needs. For example, some current users may wish to stay with Objective 1 for the foreseeable future; others may wish to move partially or entirely to objective 2 when it becomes a reality. New users, particularly SME's, will probably have their requirements initially met within Objective 1 but may seamlessly move to Objective 2 when products are available and when clear business advantages have been demonstrated.

Conclusion and Recommendation

18. In proposing this strategy with these two parallel objectives, it is important to appreciate that one objective is not more relevant than the other to CEFACT's long term goals. However, it should also be noted that under the CEFACT structure, users will be the main contributors to the work. Indeed, it must be emphasized that the successful completion of future work items

developed under this proposed strategy will directly depend on users reactions and their commitment of resources to achieve the goals. In particular, despite its long term potential, Objective 2 - OO/EDIFACT, is unlikely to receive additional Secretariat support or resources. It will only become a reality if users support and resource it - which they appear to want to do. Therefore, the ESG believes that the two objectives do present a coherent strategy for the next phase of UN/EDIFACT which will take it into the new millennium. and they recommend it to the Plenary for approval.

3. UN/EDIFACT Organisation - Rapporteurs and EDIFACT Boards

(N.B. Originally Appendix 1 of CRP 123. As no substantive comments have been received on this section only minor revisions have been made to the text)

19. One of the most important decisions taken by WP.4 in the early days of UN/EDIFACT was the appointment of Regional Rapporteurs charged with working together internationally, but with specific responsibilities for the organisation, development, and promotion of UN/EDIFACT within an area of jurisdiction. A jurisdiction had to encompass at least two countries and became known as a Rapporteur's Region.

20. The Regional Rapporteurs' role was critical to the early success of the standard. In particular, the development of the concept of Rapporteurs teams and EDIFACT Boards, open to all the countries in the area of jurisdiction, together with the appointment of Regional Rapporteurs for areas outside the Member states of the UN/ECE, (East and West Europe and North America) was significant. It lead to UN/EDIFACT Boards being developed quickly in Asia and Australasia, and later in Africa, as well as allowing countries in Latin America to be directly involved in the work. This approach has been especially successful in Asia, where under the guidance of its Rapporteur, the Asia EDIFACT Board has grown rapidly and now comprises of 11 full members and a number of associate members, with new entrants joining on a regular basis.

21. However, the regional structure has also occasionally led to unnecessary confrontation and to the "defence" of regional positions which, when viewed from an overall perspective, may not have been helpful. Further, the requirement to have at least two countries to form a jurisdiction may, in certain circumstances, be restrictive to the process. Given these factors, and the establishment of CEFACT with its principles of empowerment, there is a unique opportunity to

review fundamentally the current regional structure of UN/EDIFACT with the objective of maintaining its strengths whilst improving the efficiency of the overall process.

22. Therefore, the ESG has given considerable thought to this issue and are proposing , a more flexible structure which would take account of the consequences of empowerment, with its separation of policy and technical expertise, and would also allow the current regional organisations to stay in place when that is preferred by the participants.

23. The specific proposals are:

- a. the removal of the restriction that one country cannot, on its own, participate directly in the UN/EDIFACT process, providing that it either sets up its own processing point for the input and initial technical assessment of DMR's, or comes to an agreement to use a Regional processing point;
- b. where appropriate, the appointment by CEFACT of Rapporteurs to represent and promote all of its interests and activities in a particular country, group of countries, or geographical area. Such CEFACT Rapporteurs might be especially effective in encouraging new participants in areas such as Latin America, Africa, and the Middle East; (NB: Together the proposal for the appointment of special representatives from the other UN Regional Commissions, this would provide CEFACT with a strong international presence; see TRADE/CEFACT/1997/CRP.1 , the Report of the Chairman of the CEFACT Steering Group to the Plenary)
- c. the winding-up of the current role of the Regional Rapporteurs **when** the Empowerment of the new Working groups has been completed, and the new Officers are in place;
- d. the replacement of regional representatives to empowered Working Groups with experts nominated by Heads of Delegations to CEFACT - or organisations appointed by them, which may be national, regional, or international. There would be no restriction on the numbers of experts nominated.

24. The last proposal above, gives the Heads of Delegations the opportunity to choose a regional or international organisation to represent them and, therefore, does allow CEFACT Participants to retain their current regional structures if, collectively, they wish to do so.

25. The other thought behind this proposal is that in an empowered situation, participants would be acting at the expert level and not at a "political" or representational level. Therefore, participants would be nominated for their personal expertise and ability to contribute to the work in hand, would be free to choose the best technical solution and would not be confined to representing or "defending" a particular viewpoint which may have been formed without all of the information available.

26. The ESG also felt that it was inappropriate at the working level to limit the number of experts that a Head of Delegation (or organisations appointed by them) could nominate. In so doing, they recognised the possibility of meetings being “stacked,” but felt that any possible negative effects could be avoided by following some basic principles.

27. These principles include: a requirement, in the terms of reference of the empowered group, for consensus as the preferred method of reaching an agreement; the use of qualified majorities for any voting to resolve contentious issues; strict attendance requirements to be fulfilled before any voting by an individual expert; and the possibility of an appeal procedure if there were evidence of “stacking.”

28. The ESG recognises that if these proposals are accepted and developed they must also address the important issue of the functions carried out by regional secretariats and associated structures. Among these functions are: the management of regional message development groups and TAGs, regional promotion, ensuring local input into the technical work from a wider range of participants than just those able to attend JRTs as well as the vital task of processing and managing the initial evaluation of DMRs.

29. Until alternative mechanisms have been agreed, the ESG strongly recommends that the current structures should be maintained. However, they would wish to encourage the complete automation of the DMR process as soon as possible. Thereafter, they feel that the issue of regional DMR processing should be reviewed again, bearing in mind that it does add another level of administration and delay into the overall maintenance cycle and automation may, over time, offer opportunities to make the maintenance process faster and more efficient.

30. In the case of other regional secretariat functions and, in particular, those of promotion and ensuring local input into the technical work from a wider range of participants than just those able to attend JRTs, the ESG would ask any countries or organizations who are considering leaving the existing regional structures to develop mechanisms that will ensure the continuation of these functions before any regional structures are dismantled.

4. Empowerment

31. The Singapore JRT made some significant proposals regarding the Mandate for the Empowerment of the JRT including the merging of the two previous proposals for mandates into one revised proposal which is attached as Annex 1. The JRT will review this draft at its next meeting in Anaheim, California in late September and, if approved, it will then be put to the CSG for provisional approval in December and to the CEFACT plenary for final approval in March 1998.

32. Also attached for information, as Annex 2 and 3, are the two other mandates proposed by the ESG in March 1997 for CEFACT Permanent Working Groups: The Process Analysis and Design Group (PAD) and the Techniques and Methodologies Group (TMF) as previously published in TRADE/WP.4/CRP.135. The proposed PAD would take into account the work of the current ITT Group but extend its scope to cover the rationalisation and simplification of relevant aspects of the wider business process. For example, the purchasing or payment process across all sectors as opposed to just those processes within international trade. The proposed TMF would both integrate the current separate techniques and methods used by CEFACT and its Groups of Experts and research and identify potential new techniques and methodologies that could be implemented to assist CEFACT achieve its goals. However, it should be noted that along with all other proposed Mandates these are due to be reviewed by the CSG at its next meeting in August 1997, and the results of that meeting, including any proposals for Mandates, will be included in TRADE/CEFACT/1997/CRP.1, the report of the Chair of the CSG to the Plenary.

Annex 1

DRAFT MANDATE FOR UN/EDIFACT WORKING GROUP

1 Objective

The UN/EDIFACT Working Group (EWG) is empowered by CEFACT to:

- develop and maintain UN/EDIFACT;
- provide the technical tools and administrative support necessary for the development of UN/EDIFACT;
- develop and maintain guidelines and proposals that support harmonised implementations;
- develop and maintain guidelines and proposals that support the use of multi-lingual terminology.

2 Key Deliverables

The key deliverables of the EWG are :

- UN/EDIFACT messages and their supporting directories for publication after confirmation by the CEFACT Steering Group;
- the EDIFACT syntax and UN/EDIFACT message design rules;
- guidelines and proposals to support harmonised implementations;
- guidelines and proposals to support the use of multi-lingual terminology.

3 Functional Expertise of Membership

The EWG is a group of experts in the areas of : UN/EDIFACT, business processes and associated technical tools. Each CEFACT Head of delegation may designate one or more experts to the EWG. In doing so, they may delegate this task to one or more organisations, which may be national, regional or international. Experts are expected to contribute to work based on their knowledge and experience.

4 Geographical Focus

The focus is global without bias towards any single country or business sector.

5 Delegated Responsibilities

The EWG is empowered to:

- establish sub-groups and supporting teams as required;
- produce in accordance with agreed procedures and after confirmation by the CEFACT Steering Group, publish UN/EDIFACT directories;
- produce and publish, in accordance with agreed procedures:
 - the EDIFACT Syntax (ISO 9735);
 - the UN/EDIFACT message design rules;
 - guidelines to support harmonised implementations;
 - guidelines to support the use of multi-lingual terminology.
- develop proposals for UN Recommendations for consideration by CEFACT.

Annex 2

PROCESS ANALYSIS AND DESIGN (PAD)

Draft Mandate

The Process Analysis and Design (PAD) Group is empowered by CEFACT to consult and work with other CEFACT groups and external organisations in order to analyze business processes relevant to the objectives of CEFACT, identify constraints to these processes and recommend more effective processes.

1. Key Deliverables

Based on the priorities established in CEFACT's work programme:

- the analysis of business processes relevant to the objectives of CEFACT using the common descriptive techniques and methodology agreed within the Centre;
- the identification of constraints to more effective processes;
- recommendations for more effective processes that simplify and harmonise procedures and information flows;
- assistance to other groups in understanding of the above recommendations in order to enable them to develop solutions based on these recommendations for the movement from existing to new processes.

2. Functional Expertise of Membership

The PAD is a group of experts in the areas of business processes relevant to CEFACT and/or in the tools necessary for implementing the common descriptive techniques and methodology agreed within the Centre. Each CEFACT head of delegation may designate one or more experts to the PAD group. In doing so, they may delegate this task to one or more organisation(s) which may be national, regional or international. Experts, once designated, are expected to contribute to the work based solely on their expertise.

3. Geographical Focus

The focus is global, the responsibility of PAD is to develop recommendations for business processes which are applicable globally, without bias toward any single country or business sector.

4. Delegated Responsibilities

It is proposed that the PAD be empowered:

- to establish sub-groups and supporting teams as required;
- to issue, publish and present, according to agreed upon procedures, analyses of existing processes; reports on constraints to more effective processes; and recommendations for more effective processes;
- to co-operate and establish liaisons with other groups and organisations as required.

Annex 3

TECHNIQUES & METHODOLOGIES FOR FACILITATION (TMF)

A. Draft Mandate

The Techniques & Methodologies for Facilitation group is empowered by CEFACT to research and identify potential techniques and methodologies which could be utilised by CEFACT and its work groups to enhance the process by which its deliverables are produced and integrated.

1. Key Deliverables

Proposals and recommendations on how specific techniques and methodologies could be implemented to allow CEFACT to achieve its goals.

Proof of concept, by feasibility studies and pilots, of the above proposals and recommendations.

2. Functional Expertise of Membership

The TMF is a group of experts with broad based knowledge of existing techniques and methodologies used within CEFACT, technological developments, and the functions of CEFACT and its sub groups. Each CEFACT head of delegation may designate one or more experts to the TMF. In doing so, they may delegate this task to one or more organisation(s) which may be national, regional or international. Experts, once designated, are expected to contribute to the work based solely on their expertise.

3. Geographical Focus

The focus is global without bias towards any single country or business sector.

4. Delegated Responsibilities

It is proposed that the TMF be empowered:

- to establish sub-groups and supporting teams as required;
- to issue, publish and present, according to agreed upon procedures, proposals and recommendations for specific techniques and methodologies for use by CEFACT groups as well as feasibility studies and reports on the results of pilots on the use of these techniques and methodologies;
- to co-operate and establish liaisons with other groups and organisations as required.

B. Recommendations for Procedures

In a preliminary review of the group's organisation, the ESG would recommend that at least the following be included:

a) Research Group

The research group is responsible for the identification of techniques and methodologies which have potential benefit to CEFACT in achieving its goals.

b) Feasibility Group

The feasibility group is responsible for the proof of concept of the proposals / recommendation of the research group. In addition, the feasibility group will work directly with the CEFACT group in question to pilot the concept.

c) Implementation Group

The implementation group would be responsible for developing implementation and where required, migration plans once the feasibility of a concept/recommendation had been shown and its implementation approved. They would also undertake the development of related training, promotion and educational materials and activities.
