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Title: Canadian Response to JTC1 N5437 Work on Electronic Commerce Standardization to be initiated (Report by the JTC1 Business Team on Electronic Commerce)

Date: 1998-12-14

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Requested Action: For consideration and follow-up at the JTC1 Plenary, in Rio, January, 1999

References:

- (1) JTC1 N5296 - Work on Electronic Commerce standardization to be initiated (Report by JTC1 Business Team on Electronic Commerce ISO/IEC JTC1/BT-EC N071 Rev)
- (2) JTC1 N5448 - Resolutions of the Twelfth meeting of ISO/IEC JTC1, 2-5 June, 1998, Sendai, Japan
- (3) SC32/WG1/N097 - SC32/WG1 Response to the BT-EC Report Recommendations (submitted to JTC1/SC32)
- (4) JTC1/SC32/N0195 Canadian National Body Response to SC32/N0189 "Draft SC32 Comment to JTC1 in response to Resolution 8 from Sendai Meeting"
- (5) JTC1/SC32/N0199 - US Response to 32/N189
- (6) JTC1/SC32/N0201 - SC32 Response to JTC1 N5437, Request for National Body and Subcommittee comments to JTC1 on the recommendations of the Report of the Business Team on Electronic Commerce (JTC1 N5296)
- (7) JTC1/N5626 - Electronic Commerce and Cultural and Linguistic Adaptability: Practical Issues (Canadian National Body Contribution to the JTC1 Ad Hoc Meeting of the Technical Direction on Cultural and Linguistic Adaptability and User Interfaces (CLAUI))
- (8) JTC1/N5629 - Report of the JTC1 Ad-Hoc Meeting of the Technical Direction on Cultural and Linguistic Adaptability and User Interfaces (CLAUI)
- (9) JTC1/N5648 - SC22 Response to JTC1 N4537, Request for National Body and Subcommittee Comments on Document JTC1 N5296 - Electronic Commerce Business Team Report

The Canadian National Body response consists of four parts.

- I. Executive Summary and Recommendations
- II. Linkage to New Technical Direction on "Cultural and Linguistic Adaptability and User Interfaces (CLAUI)"
- III. Recommended JTC1 Response and Assignment of BT-EC Recommended Work items (Detailed)
 - III.1 Summary
 - III.2 Canadian Response to BT-EC Recommended High Priority Work Items
 - III.3 Canadian Response to BT-EC Report Clause "11. Additional Standardization Work Needed in Support of Electronic Commerce".
- IV. Canadian Advisory Committees and other bodies consulted

This Canadian response is not "short". The reason for this is three-fold; namely:

- (1) Canada supports the JTC1 Business Team concept, need for JTC1 action and follow-up to the results of BT work;
- (2) By definition a Business Team approach takes a perspective which is (a) wider than the JTC1 normal course of standardization activities; (b) involves parties who are not participants or familiar with JTC1 standardization work; and, (c) may well take a perspective and approach which is different from the manner in which standardization work is organized;

The dynamics of a Business Team approach favour the identification of requirements for standardization work from a business perspective, i.e., those of existing or potential users whose requirements do not map directly to specific ISO/IEC JTC1 standardization activities (nor those of any particular ISO TC or similar IEC or ITU standardization committees); and,

- (3) It is important that JTC1 responds to each of the BT-EC recommendations for proposed new standardization work whether these are "high priority work items" or "additional standardization work".

Standardization work in support of electronic commerce has a high priority in Canada. Canada therefore has provided a proposed JTC1 Response to each of the BT-EC recommendations along with informative notes. Canada has prepared a thorough and detailed response which benefits from and incorporates the work of JTC1/SC32 (and SC32/WG1) as well as that of the Canadian Advisory Committee for Information Technology Security (CAC-ITS) with respect to the SC27 perspective. Canada has also incorporated into its response relevant recommendations of the JTC1 Ad-Hoc Meeting of TD-CLAUI (JTC1 N5629) as well as the SC22 response to the BT-EC Report (JTC1 N5648).

I. EXECUTIVE SUMMARY AND RECOMMENDATIONS

I.1 INTRODUCTORY COMMENTS

- I.1.1 Canada has reviewed the JTC1 Reference Document [N5296] and feels that the BT-EC Report and its recommendations provide useful direction concerning further initiatives and priorities in the wide ranging subject of Electronic Commerce. It is clear that the subject of

electronic commerce is so broad that it would be unreasonable for any one standards committee or entity to be given full responsibility.

- I.1.2 The BT-EC Report indicates that a substantial part of the standardization work that is recommended can be categorized as recognized as needed for the development of the "information technology infrastructure" (ITI) required to facilitate widespread adoption and use of electronic commerce globally. Canada feels that standards work in this category which clearly is applicable not only to electronic commerce but also to other potential uses of information technology should remain under the aegis of JTC1. However, this class of ITI standards is also in itself very broad and should be apportioned across different JTC1 Committees. Here Canada notes that with respect to "ITI" standardization work, the initial thrust and priority of JTC1 committees was on the "T", i.e., the technology component. The recommendations of the BT-EC Report leads one to conclude that priority must now be placed on the "I", i.e., information component, of the information technology infrastructure. Canada supports this BT-EC finding.
- I.1.3 Canada supports the decision of JTC1 to add "cultural adaptability" as its third strategic direction to be incorporated in all standardization work, i.e., in addition to those of "portability", and "interoperability", i.e., one now has Portability, Interoperability, and Cultural Adaptability or "PICA". Here Canada notes that PICA objectives in standardization work especially as these pertain to the "I" component of the information technology infrastructure require use of the development and utilization of unique, unambiguous and linguistically neutral identifiers. As an officially bilingual country (as well as the introduction of the Inuktitut language in the new territory of Nunavut in 1999), Canada is acutely aware of the real world need to be able to have unique, unambiguous and linguistically neutral identification and referencing of concepts/terms/definitions, objects, entities, enumerated values, etc. {See further Part II below}
- I.1.4 As a result of JTC1 reengineering a new committee was established with responsibility for Data Management and Interchange (DMI). Here Canada notes and supports the following text with respect to the SC32 response to JTC1, i.e., as found in JTC1/SC32/N0201, Section II.2 which states:

"SC32 is a new committee responsible for Data Management and Interchange. The effective interchange of data is fundamental to the success of the Electronic Commerce. It is noted that the original term "electronic data interchange" has evolved into "electronic commerce" and that this term has subsequently evolved further into "electronic business" (as used in the ISO/IEC/UN Memorandum of Understanding). Despite the broadening of the term, one of several key issues remains is that of how to effectively interchange data among systems which were not originally designed with such interchange in mind. This problem is clearly recognized in the Open-edi Reference Model.

There are numerous proposals for the way in which data should be interchanged. Because the early work on EDI concentrated solely on standardizing message type, many of the resulting messages are unnecessarily complex and unworkable.

When considering the broader problems of electronic commerce, it is important to ensure that the way in which data is defined and structured for interchange is fully semantically consistent with the way data is defined and structured in the information systems of the enterprises which are partners in electronic agreements and hence in the associated business transactions. This will go a long way towards ensuring

consistency in the way that the data is unambiguously understood and acted upon in the enterprises".

- I.1.5 The BT-EC Report to JTC1 {See ISO/IEC JTC1 N5296} recognized that there were serious time and resource constraints with respect to the multiple issues to be addressed. These constraints required it to focus on the "individual to business" component of electronic commerce. The rationale for this decision by the BT-EC is provided in Section 3 of the BT-EC Report and we quote:

"EC has many different facets - technical, economical, political, fiscal, social, societal, cultural - of which only the technical is considered explicitly in this report. The other facets are addressed implicitly, (e.g., when discussing consumer requirements for EC).

Given the resources available in the Team, the time to deliver its report and the huge complexity of the subject matter, the need arose for BT-EC to limit its scope pragmatically and to focus on a few topic areas. It is therefore important to point out that the findings in this report cannot be considered comprehensive. Rather, they are an attempt to provide additional insight into the broad area of Electronic Commerce.

Electronic Commerce can be broadly categorized into the following scenarios:

- Business to business,*
- Business to public administration,*
- Individual to business,*
- Individual to public administration,*
- Public administration to public administration,*

with the understanding that each scenario holds in both directions.

Due to time constraints, BT-EC chose, at its kick-off meeting, to focus its work on "Individual to business", at the same time recognizing that some of its findings are more broadly applicable. Electronic Commerce involving individuals (i.e. of the scenarios individual-to-business or to-administration) is unique in many respects: As a fundamental component, it brings human beings into play, with:

- their requirements (see clause 5.2.2. for a full discussion) for:*
 - adequate man-machine interfaces,*
 - privacy and data protection,*
 - other societal aspects;*
- the need to provide for different payment schemes, depending on the value of the goods traded;*
- equal emphasis on aspects of interoperability between systems and on trust in the new technology;*
- predominance of objects perceivable by humans rather than by computers (see also 6.2).*

However, BT-EC also recognizes that Individual-to-Business Electronic Commerce cannot be studied in isolation as it links into the Business-to-Business category through merchant systems interconnected e.g., with financial institutions or transportation business."

Consequently, with respect to the Canadian recommendations which follow Canada understands the concept/term "electronic commerce" here to encompass also standardization work requirements pertinent to "e-administration", "e-business", "e-travel", "e-logistics", "e-purchasing" and similar (marketing) terms currently being utilized.

I.1.6 Canada recognizes that the time period of the work of the BT-EC and the resulting Report coincided with the JTC1 reengineering exercise which is only now reaching completion. This major re-organization of JTC1 standardization work was coupled with significant revisions (clean-up and additions) of programs of work. Even though Part III of this document contains a detailed response to each BT-EC recommendation, it is possible that there are standardization activities/interests of JTC1 (or other standardization) committees which have not been noted. Canada assumes that should this be the case, these committees will submit such information to JTC1 prior to the January, 1999 JTC1 Plenary.

I.1.7 The Canadian recommendations also support the findings and results of the ISO, IEC, and ITU sponsored "Global Standards Conference" (GSC).

On 1-3 October, 1997 a Global Standards Conference (GSC) was held in Brussels. Its theme was "Building the Global Information Society for the 21st Century: New Applications and Business Opportunities - Coherent Standards and Regulations". Sponsored by the ISO, IEC, and ITU and hosted by the European Commission, the "GSC/GIS" Conference brought together senior executives from Fortune 500[®] companies as well as SMEs, senior public sector officials, consumer representatives and real do-ers/implementers. As an industry led initiative, the core of the GSC/GIS consisted of four (4) themes and parallel workshops; namely:

- (1) Electronic Commerce
- (2) Services to the Public
- (3) Individual Use
- (4) Communications Infrastructure Interoperability.

The focus, topics and results of each of these Workshops as well as the results of each Workshop as well as the those of the Conference as a whole are summarized in a post conference summary proceedings document. This Summary Report, as well as papers and supporting materials presented at the GSC/GIS, can be accessed at <<[<http://www.ispo.cec.be/standards/conf97>>](http://www.ispo.cec.be/standards/conf97)>>.

I.1.8 Finally, Canada is please to be able to inform JTC1 that the four horizontal issues identified in the BT-EC Report which are key impediments to the deployment of electronic commerce globally, namely:

- IT-enablement;
- Localization plus multilingualism;
- Cross-sectorial; and,
- cultural adaptability

have been incorporated in "The Canadian Electronic Commerce Strategy"¹

The "Canadian Electronic Commerce Strategy" represents a consensus strategy for the Canadian economy and society as represented by the public sector, i.e., federal and provincial levels of government, the private sector, i.e., as represented through industry sector associations, major companies, organizations representing small and medium sized enterprises, as well as organizations representing the public-at-large, i.e., organizations representing consumers, human rights advocates, etc. This document presents a vision for Canada's future in electronic commerce and how it can be achieved.

The "Canadian Electronic Commerce Strategy" identifies four major concerns of business and consumers alike. They are:

- Building trust in the digital economy;
- Clarifying marketplace rules
- Strengthening the information infrastructure; and,
- Realizing the opportunities.

With respect to the Canadian priority on "Strengthening the information infrastructure", Canada notes that one of the sections under this priority, i.e., the one numbered/titled "3.2 Open Networking/Standards" also explicitly identifies and recognizes the importance of the work of ISO/IEC JTC1.

I.2 RECOMMENDATIONS

Recommendation 1: Linkage to Existing Standardization Work

Canada recommends that JTC1 consider that many of the recommendations of the BT-EC Report for New Standardization Work are already covered (to various degrees) by existing standardization work. The appropriate response to many of the BT-EC recommendations may be a shift in focus and priority as well as more intensive coordination of existing work. {See further below Parts III.2 and III.3}.

Canada supports the following Concluding Remarks of the SC32 response to the BT-EC Report

"SC32 considers it most unfortunate that the Business Team did not spend more time taking stock of existing standards and assessing the role of each in Electronic Commerce. In particular, the Open-edi Reference Model (for which SC32 is now responsible) could have

¹Canada. Industry Canada. The Canadian Electronic Commerce Strategy. Ottawa: Industry Canada, 1998, 42 p. Also available on the Web at <<http://e-com.ic.gc>>. Canada. Industrie Canada. Stratégie Canadienne sur le commerce électronique. Ottawa: Industrie Canada, 1998, 46 p. Également offerte par voie électronique sur le World Wide Web à <<http://com-e.ic.gc>>

The ISBN for both the English and French versions is 0-662-63815-8.; and the (Canadian Government) Catalogue No. is C2-367/1998 for both as this publication is produced as a single document. This publication is also available from Industry Canada's Distribution Services, Communications Branch, Room 205D, West Tower, 235 Queen St. Ottawa, K1A 0H5. Tel: +1 613 947-7466; Fax: +1 613 954-6436.

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been used more effectively as the driver in the work of the Business Team". {See further JTC1/SC32/N0201, Section 1.7. "Concluding Remarks"}

Canada recognizes that the BT-EC was the first JTC1 Business Team and considers this a practical lesson learned.

Recommendation 2: Horizontal Issues

Canada recommends that SC22/WG20, and SC32, i.e., SC32/WG1 and SC32/WG2, as well as SC35 take the necessary steps to harmonize the methodologies for resolving horizontal issues as identified by the BT-EC in JTC1 N5296 with TR 11017 - Framework for internationalization. (Here JTC1 N5626 provides useful practical examples).

These horizontal issues of the BT-EC Report are: (quoting the Report)

- " . information technology (IT)-enablement;*
- . localization and multilingualism;*
- . cross sectorial aspects; and,*
- . cultural adaptability.*

These horizontal issues are prioritized here on the basis of:

- 1. the need to go from the simpler to more complex challenges,*
- 2. placing priority on the "do-able" and immediately most useful in the context of increasing resource constraints in standardization work; and,*
- 3. promotion and visibility of ISO/IEC JTC1 work within the ISO, IEC and ITU and especially outside of these standardization communities"*

Canada fully supports this ordering of priorities and the need to place a high priority on standardization work directed at addressing the four horizontal issues identified.

The JTC1 Ad-Hoc TD CLAU1 identified the World Wide Web Consortium (W3C) and the Internet Society (ISOC) as two such "outsiders" to be consulted. (JTC1 N5629 Recommendations)

Recommendation 3: JTC1 Action on BT-EC Recommendations

Canada recommends (1) that JTC1 make a decision and take appropriate action with respect to each of the BT-EC recommendations; (2) that JTC1 use Parts III.2 and III.3 below as the basis for its response and assignment of BT-EC recommended work items; and, (3) that the standardization committees to whom BT-EC recommendations have been assigned be requested to respond on follow-up and action taken no later than the next JTC1 Plenary, at which time the BT-EC activity including follow-up is deemed to be concluded.

II. LINKAGE TO NEW TECHNICAL DIRECTION ON "CULTURAL AND LINGUISTIC ADAPTABILITY AND USER INTERFACES (CLAUI)"

The JTC1 Plenary in Sendai (Resolution 22) authorized a JTC1 Ad-Hoc of the new Technical Direction (TD), now labelled "Cultural and Linguistic Adaptability and User Interfaces (CLAUI)". This JTC1 Ad-Hoc took place in Paris 2-4 December, 1998 and its Report is found in JTC1 N5629.

Canada has actively participated in follow-up work to both Resolution 8 and Resolution 22 of the Sendai Meeting. With respect to the latter, Canada ensured that the JTC1 Ad-Hoc TD-CLAUI was fully informed on relevant BT-EC Report findings. {See further JTC1 N5626}

As a result the JTC1 Ad-Hoc on CLAUI adopted Recommendations 7, 8, 9, and 10. {See further JTC1/N5629}. Canada supports these recommendations and has incorporated them, where applicable, in its response to the recommendations of the BT-EC Report.

Canada notes that "Electronic Commerce" is but one area of utilization of information technologies with its own needs and priorities some which are of a general nature and others which are not.

Canada recognizes that the BT-EC and TD CLAUI perspectives and understandings of the four horizontal issues are not the same. Canada considers this to be a positive condition since resolution of these current differences in understandings and perspectives should yield more robust and practical solutions.

III. RECOMMENDED JTC1 RESPONSE AND ASSIGNMENT OF BT-EC RECOMMENDED WORK ITEMS (DETAILED)

III.1 SUMMARY

The context of the BT-EC recommendations and their organization is found in "1.0 Executive Summary" whose text reads:

"Due to time constraints, BT-EC focused mainly on Electronic Commerce of the category "Individual-to-Business", but, as broader input was available, also took a look beyond. BT-EC reviewed several sources for standardization requirements. As a conclusion, it identified the following key areas where standardization needs exist:

- (A) *User Interfaces, including:*
 - *Icons,*
 - *Dialogue design principles,*
 - *Customer profiles;*

- (B) *Basic functions, including:*
 - *Trading protocols,*
 - *Payment methods,*
 - *Security mechanisms,*
 - *Identification and authentication,*
 - *Auditing and record keeping;*

- (C) *Definition and encoding of data and other objects, including:*
 - *IT-enablement of existing standards,*
 - *Techniques for defining message semantics,*
 - *Localization,*
 - *Registration authorities,*

Value domains needed in Electronic Commerce.

Work items needed in these areas are given. BT-EC undertook to assign priorities to these, but no full consensus could be established. However, table 1 below gives an initial orientation about those items deemed most urgent.

The Terms of Reference of BT-EC request that the Team, among others, delivers a set of formal proposals for new work in JTC 1 and other organizations, inside and outside of ISO/IEC. Due to time and resource constraints, BT-EC was not able to meet this request. Instead, only short statements are provided describing the work needed.

Therefore, BT-EC recommends that appropriate steps are taken by JTC 1 to explore such work items further. Also, BT-EC recommends to JTC 1 that steps are taken to improve cooperation with organizations inside and outside of ISO/IEC, who are active in drafting Electronic Commerce related specifications and take proper account of the multi-disciplinary nature of Electronic Commerce.

Finally, BT-EC recognizes that this report does address only a few of the many aspects of Electronic Commerce, but time and resource constraints did not permit to go further. It is, however, hoped that this report will help removing some of the roadblocks which prevent the implementation of global Electronic Commerce".

With some exceptions as stated in Parts III.2 and Part III.3 below, the BT-EC recommendations for work items pertaining to these three key areas, on the whole, should be assigned to:

- (A) User Interfaces to TD-CLAUI
- (B) Basic Function to JTC1 SC27
- (C) Definition and encoding of data and other objects to JTC1 SC32.

Canada notes that the SC32 response to the BT-EC Report (JTC1/SC32/N0201) provides more detailed information on the work of SC32 WGs and RGs with respect to each BT-EC recommendation. At this level of detail of internal coordination and assignment of BT-EC recommendations within a SC, Canada defers to the SC32 response.

III.2 CANADIAN RESPONSE TO BT-EC RECOMMENDED HIGH PRIORITY WORK ITEMS

Notes:

- (1) The reference numbers and the italicized text represent the high priority work items as found in the BT-EC Report Clause "1.0 Executive Summary", Table 1.
- (2) Canada has utilized both the format and content of the SC32 response to JTC1, i.e., JTC1/SC32/N0201, as the basis for its response.

Table 1: Summary of High Priority Work Items	
#	Work item
A.1	<i>Review existing and emerging standards regarding user interfaces, formal and de facto, to establish the status of work in this area and their interworking. Establish their relevance from a consumer/user interface perspective in a home environment, using also delivery mechanisms other than a PC. (see 7.2.1)</i>

Table 1: Summary of High Priority Work Items	
#	Work item
	<p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI. Likely local point is SC35. Of possible interest to SC25. See further response to A.4 below.</p>
A.2	<p><i>Develop a set of metaphors that are relevant for different domains within Electronic Commerce (e.g. shopping, travelling, ordering, searching, etc.). Existing desktop metaphors (office environment) may not be relevant for the consumer (home) environment, nor for other delivery mechanisms (smartphone, WebTV) (see 7.2.2.2.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI. Likely focal point is SC35. Potential liaison interest to SC32/WG1 if work item proceeds and is further defined, (e.g., development of set of metaphors may benefit from WG1 work on roles, information bundles, etc., (and possibly SC32/WG2 in value domains)) {See also response to A.6}</p>
A.3	<p><i>Develop a list of functions to be represented by each of the three (3) categories of icons; namely: (1) facilitating interaction; (2) representing certifications; and, (3) facilitating navigational aspects. Provide a functional description of these icons and provide design examples, both for visually represented icons and auditory ones (earcons). Define the grammatical rules for how these icons can be opened, closed, moved, emptied, etc. Icons to be developed in accordance with existing relevant standards. Relevant standards include not only office system standards, but also standards related to the design of information for the public (see 7.2.2.2.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI. Potential liaison interest to SC32/WG1 if work item proceeds and is further defined (e.g. for mapping and management of icons which represent legal or business requirements as rules sets, commitments/responsibilities, roles, etc.).</p>
A.4	<p><i>Review existing dialogue design principles for office systems (ISO 9241-10) and self-service card-based systems (prEN 1332-1). Adapt these and others to consumers in a home environment. Determine which navigational aids are needed and standardize their representation (e.g. icons) and functionality (see 7.2.2.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Canada has no recommendation for assignment of this proposed work item. Canada notes that SC25 has a series of recently approved or currently up for ballot NWIs pertaining to the "home environment".</p> <p>Canada <u>recommends</u> that SC25 be requested to review this BT-EC proposal in light of current and planned SC25 and provide advice to JTC1 this.</p> <p>SC32/WG1 has indicated a potential liaison interest similar in nature to A.2 and A.3. "Card-</p>

Table 1: Summary of High Priority Work Items	
#	Work item
	based" systems will benefit from SC17 work should there be specific standardization work required in this area.
A.5	<p><i>Develop an approach to defining customer class profiles and individual customer profiles (see 7.2.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI. Likely focal point SC35 in the context of user interfaces. Progress of work of SC32/WG1 and WG2 with respect to proposed Work Items C.1, C.2 and C.3 will be of benefit in addressing this BT-EC identified requirement. Potential liaison interest of SC32/WG1 similar in nature to A.2 and A.3 ISO COPOLCO and ANEC should also be consulted.</p>
A.6	<p><i>Develop a starter set of customer class profiles using the approach defined in work item A.2.(see 7.2.3.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI. Dependent on and linked to A.5. Potential liaison interest of SC32/WG1 similar in nature to A.2 and A.3. In addition, JTC1/SC32/WG1 noted that its present work on identification and specification of classes of business requirements should include/be able to support those which are customer-based.</p> <p>This proposed work item is more likely related to the specification of role attributes rather than to human interface aspects.</p> <p>ISO COPOLCO and ANEC should also be consulted.</p>
B.1	<p><i>Develop a trading protocol satisfying the above requirements. The trading protocol to be developed should try to reach the three sub-goals above, wherever possible. (see 7.3.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>JTC1 should specifically request TC68/SC6 to review and respond to this BT-EC recommendation as recommended in the BT-EC Report.</p> <p>Trading Protocol and its three sub-goals as described in BT-EC Report section 7.3.1 are also part of current work on the development of the requirements for the identification and specification of business scenarios and their components, (e.g., roles, information bundles, semantic components, etc.), of SC32/WG1. Here SC32/WG1 noted that ISO/IEC 14662 contains the term/definition "business transaction". Standards development work which led to this definition and present work of SC32/WG1 is addressing needs for electronic commerce as identified in Section 7.3.1 of the BT-EC Report. With respect to aspects of "Trading Protocols" pertaining to security SC32/WG1 will ensure active liaisons with JTC1/SC27 which has this domain responsibility and with respect to "financial events" with TC68/SC6 which has this domain responsibility, as already noted in the BT-EC Report.</p>

Table 1: Summary of High Priority Work Items	
#	Work item
B.2	<p><i>Develop a limited set of standard payment methods, including standard payment objects. (see 7.3.2)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TC68/SC6. Liaison interest of SC27 which should be consulted. Liaison interest of SC32/WG1 on this with TC68/SC6 where this would be of benefit. SC32/WG1 has stated that it will endeavour to ensure that “a limited set of standard payment methods, including standard payment objects” when and as developed by TC68/SC6 can be incorporated/referenced as part of the business operational view (BOV) and captured through formal description techniques.</p>
B.3	<p><i>Harmonize digital signature methods. (see 7.3.3.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to JTC1/SC27. Canada has difficulty in understanding the meaning of this recommendation. The meaning associated with certificates in Section 7.3.3.1 of the BT-EC Report is Not the one normally used and appears to be very specific to one situation. Generally a certificate binds a Public Key with an Entity whose identity has been authenticated to some level. SC32 has a liaison interest with SC27 in this area. The work of JTC1/SC17, JTC1/SC31 and TC68 are likely to be of interest here also.</p>
B.4	<p><i>Develop standards for key management infrastructure. (see 7.3.3.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC27. See further response to B.3. Standards potentially exist for this namely ISO/IEC 11770, Parts 1, 2 and 3. Their applicability depends on what is meant by the statement.</p>
B.5	<p><i>Develop standards for customer's means to sign Electronic Commerce documents including multimedia documents in an inherently untrustworthy environment. (see 7.3.3.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>With respect to this recommendation, Canada concurs with BT-EC Report text in Section 7.3..3.2 "Therefore it is recommended that JTC1 invites its SC27 to further study this item, and that any standardization work necessary be conducted by SC27".</p>
B.6	<p><i>Investigate which entities or items need EC- specific globally unique identification. Define different procedures for generating and attributing globally unique identifiers. For certain categories of such identifiers, the one-to-one correspondence to other identifiers (from other identification schemes) may need trustworthy certification. (see 7.3.4)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Canada notes that standards already exist for the unambiguous identifications of organizations</p>

Table 1: Summary of High Priority Work Items

#	Work item
	<p>as well as their roles in relation to specific communities of which they are part, i.e. ISO/IEC 6523. Utilization of this standard provides for globally unique and verifiable identifiers (GUIDs). Canada recognizes that this standard, which is the domain of SC32/WG2 may require a revisit from an electronic commerce perspective, i.e. maximize utilization of IT in its use (IT-Enablement).</p> <p>SC32 also notes that with respect to the global unique and verifiable identification of buyers and sellers in commerce, including electronic commerce, ISO/IEC JTC1/SC17 already provides key base/building block standards such as ISO/IEC 7812 or ISO/IEC 7501 which although developed to support “e-finance (electronic funds transfer/EFT) and “e-travel “ (machine-readable travel documentation)) respectively have general applicability in other areas of electronic commerce. Finally, here SC32/WG1 in its work on Open-edi noted that the same/single real-world entity does have multiple personae in its participation in different classes of business transactions and related roles and therefore will have and does use associated different GUIDs.</p> <p>Canada appreciates the BT-EC Report referencing work of ISO/TC68, JTC1/SC31 and JTC1/SC32 as well as Section 14.1 which references ISO/IEC 7501 and other JTC1/SC17 standards but not SC17 itself and conversely notes JTC1/SC32 but not the ISO/IEC standard 6523.</p> <p>With respect to "trustworthy certification", Canada defers to SC27 work. Further, it would appear that the suggestion in Section 7.3.4.1 with respect to single global identifiers for individuals will create enormous problems with respect to Privacy. It is considered that such an approach to identification of individuals may not be acceptable in Canada and may even be precluded under Canadian law (even though such an approach appears to be proscribed in Sweden).</p> <p>Consequently, a first level response to this BT-EC recommendation would be that of JTC1 encouraging enhanced co-ordination of existing standardization work.</p>
B.7	<p><i>Develop a common specification for verifying and validating the source of a data object and/or the identity of a communication partner in the Electronic Commerce context (authentication; see also Work item B.6) (see 7.3.5)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC27. Canada is not quite clear about this recommendation and considers that applicable standards may already exist. The BT-EC Report in Section 14.2 provides a list of relevant standards. SC32/WG1 noted that ability to support accountability, traceability, commitments, etc. are a key components in its current work on the identification and specification of business operational view (BOV). See further the response to B.6.</p>
C.1	<p><i>Standardize an approach for the identification and mapping of encodable value domains (see 7.4.2).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC32. Canada concurs that with the BT-EC Report this is a high priority item for standardization work. It will likely involve the joint efforts of SC32/WG1 and WG2 within</p>

Table 1: Summary of High Priority Work Items	
#	Work item
	<p>whose scopes this falls. There will likely be active participation of WG4 also. SC32/WG1 has noted that the C series of recommendations suppose the availability of (generic) methods/tools for the identification and specification of classes of business requirements including jurisdictional domains (see below C.4). Currently, such standardization work is incorporated in its present work item on the Business Operational View (BOV). SC32/WG1 has already recognized the potential need to split its existing Work Item 2 as inherited from former SC30/WG1 into several more discrete work items.</p>
C.2	<p><i>Develop standards for IT-enablement of existing standards using the approach defined in the standard for Work Item C.1. (see 7.4.2)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC32. Canada recognizes that:</p> <ul style="list-style-type: none"> ➤ ISO 4217 (Currency Codes) of ISO TC68 ➤ ISO 3166 (Country Codes) of ISO/TC46 ➤ ISO 639 (Language Codes) of ISO/TC37 <p>are the domains of the referenced standards committees, especially and specifically their contents. SC32 has noted that this BT-EC recommended work item not only includes standards for encodable value domains, i.e., the scope of SC32/WG2, but also the identification and specifications of business rules and conditions and agreement on the same for establishing the boundaries and use of domains, i.e. contextual specification, which is part of the scope of SC32/WG1.</p> <p>It is important that SC32 develop methods and tools as standards in support of IT-enablement to be utilized by the above referenced ISO TCs and other standardization committees (and non-ISO bodies) with similar responsibilities for specifying contents in a specified domain or subject area.</p> <p>Canada has already made an additional contribution in support of this work item using the above three and other examples. {See further JTC1/N5626, Section 4}</p>
C.3	<p><i>Standardize the identification and mapping of the various categories of jurisdictional domains (With priority on those impacting several sectors of Electronic Commerce) (see 7.4.3).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC32. SC32/WG1 considers this recommendation of the BT-EC Report to be a key component of the identification and specification of classes of business requirements and thus within the scope of its existing standardization activities. At its September, 1998 meeting SC32/WG1 resolved to prepare a New Work Item to support this BT-EC recommendation. Canada supports this SC32/WG1 resolution and urges the committee to prepare and submit such a proposed NWI with dispatch. {See further JTC1/SC32 N190, SC32/WG1 Resolutions from the Ottawa meeting 21-25 September, 1998}.</p>
C.4	<p><i>Develop a standard facility for use in defining the kinds of messages used in Electronic Commerce (see 7.4.4).</i></p>

Table 1: Summary of High Priority Work Items

#	Work item
	<p>----- Canadian Response:</p> <p>Assign to SC32. Canada notes that SC32 had difficulty in responding to this BT-EC recommendation. With respect to "data semantics", this is part of the scope of SC32 and will require interworking among WG1, WG5 and RG1. However, multiple concepts/definitions currently exist within ISO and ISO/IEC JTC 1 standards as well as ongoing standardization work for the character string "messages". This is one reason why "EDI message" is not a concept/term found in ISO/IEC 14662. Instead there is "role", "information bundle", "semantic component", etc.</p> <p>Unless there is a certain type of IT-implementation in mind, the use of the term "message" is confusing. Within batch oriented information flow, like traditional EDI, the term "message" makes sense. However, for instance, within object oriented IT-implementation, "message" is not a suitable term for describing the exchange of information. (See further SC32/WG1 N093) Method call, including attributes, is a better description on how object systems interwork and exchange information. To cover both concepts the use of "information bundle" is a better term.</p> <p>Defining messages is necessarily not of interest within distributed object systems. Again it is the interworking and exchange of information which is of interest. When an "information bundle" is described and there is an actual use of the information bundle, the receiver of the information bundle must act upon the information bundle according to the intentions of the sender. If there is no such thing as a model or a specification of the activities to be done by the receiver, there is no guarantee that she/he will act according to the senders' intention. This leads us to the need for a specification of the activities of both the sender and receiver. Further, by being active in such a set of activities, sender and receiver also must commit to the applicable regulations, if any, concerning the set of activities.</p> <p>(A similar problem exists for the concept/term "transactions" which is why ISO/IEC 14662 utilized the unique concept term "business transaction"). This being said SC32 is of the opinion that this recommendation falls within the domain of JTC1/SC32 and recommends that (1) SC32 at its next Plenary, i.e., when all its WGs are present, set aside a time slot focused on this proposed BT-EC work item; and (2) invite other interested parties to participate in such deliberations.</p> <p>Canada supports the SC32 decision to review this BT-EC recommendation at its next Plenary as outlined above.</p>
C.5	<p><i>Develop a set of message definition standards using the facility defined in work item C.4 (see 7.4.4).</i></p> <p>----- Canadian Response:</p> <p>Assign to SC32. See further the response to C.4</p>
C.6	<p><i>Define an approach for defining localization factors for the local use of Electronic Commerce (see 7.4.5).</i></p> <p>----- Canadian Response:</p> <p>Proposed work item C.6 and its resolution requires work on C.4 to be well advanced. Work in</p>

Table 1: Summary of High Priority Work Items	
#	Work item
	<p>this area requires very active liaison/coordination among SC22/WG20, SC32, SC34 and SC35. Canada notes that SC32, in its comments to JTC1, supports this BT-EC recommendation for high priority of standardization work and also notes that it is already doing work in this area. SC32/WG1 considers "localization factors" to be closely linked to the need for the ability to formally specify classes of business requirements. From an electronic commerce perspective, SC32/WG1 considers this BT-EC proposed work item to be partially within its scope recognizing that SC22/WG20 also has a mandate in this area.</p>
C.7	<p><i>Define how to register and maintain various aspects of the value domains defined in the customer profile standards and in standards for localization factors (see 7.4.6).</i></p> <p>----- Canadian Response:</p> <p>Defer decision until work on C.1, C.2 and C.3 is well advanced. See also response to A.6, C3 and C.6. SC32/WG2 has standards some currently being revised for the registration of value domains which are date element-based. Individual TCs (and other bodies) are responsible for specifying permitted and/or recognized values in a particular subject domain.</p>

III.3 CANADIAN RESPONSE TO BT-EC REPORT CLAUSE "11. ADDITIONAL STANDARDIZATION WORK NEEDED IN SUPPORT OF ELECTRONIC COMMERCE"

Notes:

- (1) Here also Canada has utilized both the format and content of the SC32 response to JTC1, i.e., JTC1/NXXXX, as the basis for its response.
- (2) The introductory text to Clause 11 of the BT-EC Report states:

"This clause contains additional proposal for standardization work which were identified by the Team. Though they were not regarded as of high priority (see 7.1.1.), they are strongly recommended to JTC1 for further consideration and action".

Table 2: Additional Work Items for Standardization	
#	Work item
A.7	<p><i>Develop a standard for the unique, unambiguous and linguistically neutral identification and referencing of all icons, navigational aids and product labelling in an IT-enablement manner including the ability to support computational integrity. Such a standard or standards must also include the ability/facility to support the assignment of multi-lingual language equivalents appropriate to localization requirements. (see 10.1.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>See response to C.6 above. Work in this area requires an integrated approach involving other JTC1 SCs such as SC1, SC2, SC34, and SC35. SC32/WG1 has already incorporated these functional requirement in its work on business operational view for Open-edi. The JTC1 Ad-Hoc on TD-CLAUI, Recommendation 9 (JTC1 N5629) identifies this as a priority need.</p>
A.8	<p><i>Standardize plug compatibility for different input/output devices (from keyboards, joysticks to braille readers/printers, speakers) and different delivery mechanisms (TV, PC, telephone). Develop appropriate software standards to facilitate plug compatibility. (see 10.1.1)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to TD-CLAUI with SC35 as the likely focal point. ISO COPOLCO and ANEC should be consulted.</p>
A.9	<p><i>Review existing standards and industry practice regarding usability. Identify the right measures for objective measurement of usability (error rate, failure of transaction, time etc.). Adapt and/or develop tools for the objective and subjective measurement of usability for Electronic Commerce. (see 10.1.4)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Canada is not certain what is intended by this recommendation. SC32 stated that A.9 is not within its scope. A.9 is considered a general property of information systems which is not unique to Open-edi and thus standardization work of SC32/WG1.</p> <p>Potential liaison interest to SC32 if this proposed work item proceeds but only if such tools require computer processable rules (WG1), encodable value domains, (WG2) and interchange of data, etc.</p>
B.8	<p><i>Develop encryption algorithms that satisfy cross-sectorial and sector-specific needs (see 10.1.2)</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC27. It is Canada's understanding that SC27 has already considered this matter and that the development of encryption algorithms is outside the scope of standardization work. The development of cryptographic algorithms is a research activity. It is precluded</p>

Table 2: Additional Work Items for Standardization	
#	Work item
	under ISO rules. SC27 does register algorithms which is all that is required unless there are specific reasons. Such specific reasons are not put forward in the BT-EC Report.
B.9	<p><i>Develop recovery methods necessary for recovering from errors, network outage, etc., for encrypted blocks and streams (see 10.2.1.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC27. If this recommendation pertains to Key Recovery or Key Escrow this may be illegal in some countries. It is also unlikely to ever be able to work for technical reasons. Recovery of an instantiated business transactions is a key Open-edi requirement, (as is traceability, error handling, accountability, roll-back, reconstitution of a (previous) state for legal/evidentiary purposes, recovery condition, etc.). SC32/WG1 will reference/incorporate SC27 solutions for this "B.9" requirement in its work.</p>
B.10	<p><i>Develop a common specification for validating which operations can be performed by and on components, e.g., users, systems, events, transactions (see 10.2.2).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Not a BT-EC priority item. Addressing BT-EC Priority Work Items will be of assistance here. A strong (liaison) interest of SC32/WG1 should this work item proceed.</p>
B.11	<p><i>Develop a standardized method for selecting the security algorithm and security attributes, e.g., key size (security quality of service) (see 10.2.3).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC27. Canada notes that JTC1/SC27 is already addressing this.</p>
B.12	<p><i>Develop standards for digital media that may be written only once that meets the security requirements of EC, such as tamper-proof, tamper-evident media (see 10.2.4.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Request SC11 and SC23 to review this recommendation and report to JTC1 on current or planned work in this area. TC46/WG11 may have work item(s) pertaining to record-keeping and evidentiary issues. SC27 standards on security requirements should be utilized. With respect to devices, there is a link to SC17 work. For multimedia aspects of digital media, these fall within the scope of SC29. SC32/WG5 may also have an interest in relation to its SQL Multimedia standardization work. SC32 is involved only in the semantic requirements/specification but not for the physical media itself.</p>
B.13	<p><i>Develop common auditing and tracing standards that support common analysis of EC components in the past (e.g., forensic analysis), present (e.g., monitoring and alarms), and future (e.g., thresholds and problem anticipation) (see 10.2.4.2).</i></p> <p>-----</p> <p>Canadian Response:</p>

Table 2: Additional Work Items for Standardization	
#	Work item
	Not a BT-EC priority item. Addressing BT-EC Priority Work Items, as identified in Table 1, will be of assistance here. Linked to C.3, and C.6 proposed work items. Likely related to business requirements of Open-edi particularly jurisdictional aspects. There are both global as well as local auditing and tracing requirements.
C.8	<p><i>Standardize an approach to defining sets of values for unbounded domains and for defining the format of the sets of values for unbounded value domains (see 10.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC32. This is important and of interest to WG1, WG2, and WG4. Requires the development of a methodology(ies) for differentiating “domains”, i.e. contextual specification. One category of domains is data (value) domains. There are many others. This proposed work item is closely related to the specification of contexts/domains (of objects) which SC32/WG1 is already working on from an Open-edi perspective.</p>
C.9	<p><i>Define bounded value domains used in two or more sectors of Electronic Commerce (see 10.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Assign to SC32. Canada notes this recommendation requires completion of work on recommendations C.1 and C.2. Canada is of the opinion that the three standards identified in C.2 are standards developed in and for a particular sector which are used by many other sectors. Any standard developed by any JTC1/SC or TC is meant to be as widely used as possible, i.e., by other sectors. Completion of standardization work in support of recommendations C.1, C.2, and C.3 should assist in clarification of this BT-EC recommendation.</p>
C.10	<p><i>Identify requirements for the handling of unbounded value domains used in two or more sectors of Electronic Commerce (see 10.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Requires resolution of work on C.1, C.2 and C.3 requirements to be well advanced. To be revisited then. This is outside of scope of SC32, and possibly even JTC1. Likely more in the area of TC46 and monolingual and multilingual thesauri standards, i.e., ISO 2788 and ISO 5964.</p>
C.11	<p><i>Define bounded value domains for use in a specific sector of Electronic Commerce (see 10.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>Requires (near) completion of work on C.1. To be revisited then.</p>

Table 2: Additional Work Items for Standardization	
#	Work item
C.12	<p><i>Identify requirements for the handling of unbounded domains for use in a specific sector of Electronic Commerce (see 10.3.1).</i></p> <p>-----</p> <p>Canadian Response:</p> <p>See comment C.11 above.</p>

IV. CANADIAN ADVISORY COMMITTEES AND OTHER BODIES CONSULTED

To ensure a widespread consultation input and response to the recommendations of the BT-EC, the Report was distributed to all the SCs of JTC1 in Canada as well as to the chairs of the Canadian Advisory Committees for:

- ISO TC46 - Information and documentation
- ISO TC68 - Banking, security and other financial services
- ISO TC104 - Freight containers
- ISO TC154 - Process, data elements and documents in commerce, industry and administration
- ISO TC184 - Industrial automation
- ISO TC204 - Transport information and control systems
- ISO TC207 - Environmental management
- ISO TC 211 - Geomatics; and,
- COPOLCO - Committee on Consumer Policy

In addition, the Electronic Commerce Council of Canada (ECCC) and the Manager, Voluntary Standards, Industry Canada, were involved in this consultation. This Canadian response reflects the results of these consultations.