Title: Editor's Report on Disposition of Comments on CD 10747

Source: Project Editor (C. A. Kunzinger, USA)

Reference: 1. CD 10747: *Information Processing Systems - Telecommunications and Information Exchange between Systems - Protocol for the Exchange of Inter-domain Routeing Information among Intermediate Systems to Support Forwarding of ISO 8473 PDUs*

2. SC6 N7089: *Summary of Voting on CD 10747...*

3. SC6 N____: *Editor's Revision of CD 10747*

In accordance with SC6 N7089, the Project Editor has prepared the attached Disposition of Comments report for CD 10747. Comments received from the United Kingdom and the United States accompanied votes of DISAPPROVAL; comments received from Belgium, Canada, and Japan accompanied votes of APPROVAL.

In the following report, clause numbers are given with respect to the revised text (reference 3) rather than the base text of CD 10747, unless otherwise noted. Member body comments are identified by their ISO 3166 Alpha-2 in this report. In the revised text, the following characters are used in the change bars to identify the national body whose comment was the proximate cause of the change:

1 = United States (US)
2 = United Kingdom (GB)
3 = Belgium (BE)
4 = Canada (CA)
5 = Japan (JP)

**********INTERIM DRAFT ONLY**********

This document is an interim draft of the Disposition of Comments that the Project Editor is preparing in response to SC6 N7089 (Summary of Voting on CD 10747). This document is provided for information only, and is not an official ISO document. ***In particular, this document is not the Disposition of Comments called for in SC6 N7089, and should not be treated as such.***

Resolution of USA Comments

1. (US 1) The suggested new text has been included in 8.1.2.2 and in 9.4.
2. (US 2) This comment asks for new text to specify how IDRP will handle overlapping routes. In addition to the text suggested by the USA, the editor has made other changes which will also serve to clarify this topic:
   - The text suggested by the USA for ″Route Replacement″ has been modified slightly, and now appears in the description of the Update-Receive Process (8.14, item d-2-i).
   - The material suggested by the USA for ″Overlapping Routes″ appears as a new clause, 8.15.3.1.
   - Actions to be taken by the Update-Receive Process upon receipt of overlapping routes are described in 8.14, item d-2-ii & iii.
3. (USA 3) In resolving other comments, the editor found it necessary to create new clauses that explicitly describe the 2-phase process of route selection (8.15.1, 8.15.2). The material suggested by the USA for ″Breaking Ties in the Internal Update Process″ actually appears in 8.15.1, while the material suggested for ″Breaking Ties among Routes with Equal Degrees of Preference″ actually appears in 8.15.2.
4. (USA 4) The suggested changes appear in 8.15. For consistency with the remainder of the document, the editor has changed ″path selection″ to ″route selection″ in several places.
5. (USA 5) The deletions suggested by the USA have been made.
6. (USA 6) The material asked to be removed by the USA no longer appears in 8.16.2 (which has also been changed extensively in response to a UK comment).
7. (USA 7) The suggested warning appears in 8.15.
8. (USA 8) The suggested changes appear in the description of the OPEN PDU′s ″Maximum PDU Size″ field, along with further clarifying material about the BISPDU types to which ″Maximum PDU Size″ will apply. The editor also added text to note that as a minimum, a BIS should be able to handle BISPDUs with lengths up to at least 1024 octets.
9. (USA 9) The suggested additional text appears in 8.5.3.
10. (USA 10) The suggested text appears in 8.16.3.1.
11. (USA 11) ***NOT DONE YET--need a description of the desired parameter: max, min, integer, units of seconds, etc???
12. (USA 12) Text to make the field Error Subcode a mandatory part of the IDRP ERROR PDU has been added to 7.4. Throughout the document, the editor has changed NOTIFICATION PDU to IDRP ERROR PDU in all places where he found the outdated term still in use.
13. (USA 13) ***NOTHING DONE, NEEDS MORE DISCUSSION*****
14. (USA 14) Text has been added to 8.11.2, with minor rewording for clarity. The editor also added text to note that the the Empty Distinguishing Attribute is also permissible.
15. (USA 15) This concern is satisfied by the new FSM table and the revised descriptions of the FSM states in clause 8.6ff.
16. (USA 16) Suggested changes were made in 6.6.
17. (USA 17) Suggested change appears in 8.7.

18. (USA 18) The concern expressed in this comment is addressed by the editor's response to USA 14.
19. (USA 19) The editor has removed all "CO/CL" references that he has found within the text.
20. (USA 20) Old Annex L (CD 10757) has been deleted, and the suggested note appears in 6.9.2.
21. (USA 21) The material has been rearranged for clarity of presentation. Note that material on breaking ties now appears in the descriptions of the internal and external update processes (see response to USA 3) rather than in the description of the Decision Process. Also, two new sections were added to the description of the Decision Process to emphasize that it occurs in two phases.
22. (USA 22) A new clause 8.17 (Efficient Organization of Routeing Information) has been created, which includes the material from clauses 8.17.4 through 8.17.5.6 of CD 10747, as requested.
23. (USA 23) The requested table appears as Table 1.
24. (USA 24) References to MD4 have been updated, as suggested.
25. (USA 25) Numbering of attributes has been made consistent throughout the standard.
26. (USA 26) The corrections suggested in regard to length units have been made--units of octets are used consistently. The term "RDI prefix" has been replaced with "RDI" wherever it occurred.
27. (USA 27) Header length has been corrected throughout the document.
28. (USA 28) The suggested revised GDMO has been incorporated. The editor reviewed the ASN.1 section for syntactical correctness, and found it necessary to make several corrections to the proposed USA text. As yet, the editor has not checked the syntax of the USA's suggested GDMO revision.

    Editor's Note

    National bodies are asked to review the revised GDMO and ASN.1 descriptions, and to comment as necessary.

29. (USA 29) The requested information appears as a new note at the very end of 8.9.
30. (USA 30, 31, 32,33,34,35,36) This block of comments all dealt with deficiencies in the description of the IDRP FSM and/or the associated error handling procedures. In reviewing the suggested text, the editor found that there were still many holes in the FSM descriptions.

    As a result, rather than incorporate the USA comments as written, the editor generated an exhaustive tabular description of the IDRP FSM, which appears as Table 2. Then, he edited the text of 8.6 and its subclauses as necessary to match the new table.

    As a byproduct of these changes, Figure 6 of CD 10747 has been deleted, and Annex L (Pseudocode) was also deleted. A revised figure would have been too cluttered to convey meaningful information, and informative Annex L was no longer consistent with the revised text that describes the FSM.

    The addition of an "FSM Error" to the IDRP ERROR PDU has been included. In reviewing the error handling procedures for RIB REFRESH PDUs, the editor found that it was also necessary to add new fields to the IDRP ERROR PDU description in order to bring the PDU in line with the error procedures: namely, RIB REFRESH PDU error and RIB_REFRESH_PDU_Error Subcode fields were added.

Editor's Note

The creation of an exhaustive IDRP FSM table and the updating of the associated text will resolve related concerns that were expressed in the comments from UK, Canada, and Belgium. In reviewing the revised document, NBs attention is therefore drawn especially to the new Table 2, the revised clause 8.6 and its subclauses, and the new clauses 8.20.6 through 8.20.8. Although no National Body classified this as a major comment, the editor believes that it is very significant, and therefore requests National Bodies to review the new material for both correctness and consistency.

31. (USA 37) All miscellaneous changes were accommodated.

Resolution of United Kingdom Comments

1. (GB 1.1.1) This comment deals with the overhead involved in route replacement. In reviewing this comment, the editor felt that there were a number of misunderstandings that made the problem appear more serious than it actually was.

   It is only required that an UPDATE PDU with an UNREACHABLE attribute be propagated if the previous feasible route had actually been advertised and has not been replaced by another route with the same distinguishing attributes. The text of CD 10747 was deficient since it addressed neither of these issues.

   Text to address route replacement has been added in response to comment US 2 (Overlapping Routes), and the editor added additional text to make it explicit that it is not necessary to advertise as UNREACHABLE routes which the BIS had not previously advertised as feasible. This text appears in 6.6, 8.14, 8.15, 8.16.1, and 8.16.2.

2. (GB 1.1.2) New text to clarify how to handle an aggregated route when one or more of its constituent routes becomes unfeasible has been added to 8.17.2.1.

3. (GB 1.1.3) Identification of the proper Adj-RIB-In should not be regarded as computationally intensive since the number of Adj-RIBs-In for a given neighbor BIS is bounded by the number of distinct RIB-Atts that are supported. In practical situations, the number of RIB-Atts is unlikely to be sufficiently large to justify the concern expressed in this comment.

   After a RIB has been identified, it is then necessary to identify an entry within the RIB. The efficiency of this process depends heavily on the data structure and algorithms used to create and manage RIB. For example, use of a ″trie″ structure for storing information in the RIB would guarantee that the computational overhead involved in identifying an entry will be of order O(l), where ″l″ is the length of the NSAP prefix. Thus, the computational overhead of the search within a given Adj-RIB is unlikely to be large enough to justify the concern.

4. (GB 1.1.4) This concern has become moot, since clause 8.11 of CD 10747 has been deleted in response to USA comment 5.

   Editor′s Note

   In addressing GB1.1.1-4, the editor has not adopted the solution suggested by the UK: namely, definition of new attributes ROUTE_ID and ROUTE_REPLACES, the deletion of the existing UNREACHABLE attribute, and definition of a new WITHDRAW PDU. The changes made to clarify which routes must actually be advertised with an UNREACHABLE attribute, coupled with the changes made with respect to the USA major comment about Route Replacement has reduced significantly the amount of overhead associated with route withdrawal, and therefore is believed to address the UK concerns.

5. (GB 1.2) FLOW CONTROL --nothing done yet.

6. (GB 1.3) This concern has been satisfied by deleting clause 6.12 of CD 10747, and then renaming clause 8 of the revision ″Elements of Procedure″. Since IDRP runs directly over ISO 8473, which it uses as a SNICP, there appears to be no need to develop a solution which is artificially partitioned into ″network dependent″ and ″network independent″ parts, when in fact IDRP will be run only in . conjunction with ISO 8473.

7. (GB 1.4) The suggested text changes were made, and appear in clause 10 and Table 2.

The editor did not delete CD10747's classed 8.18.1 in its entirety: to have done so would have deleted all reference to the SPI for IDRP, as well as material on packet bombs. This material was moved to 8.19, and the remainder of CD 10747's 8.18.1 was then deleted.

8. (GB 1.5) NOTHING DONE YET--Yakov and Radia Perlman are looking into this. Any other volunteer help is welcome!

9. (GB 2.1) This comment appears to be based on the notion that RDIs are expressed as prefixes within the distribution lists. In fact, the text of CD 10747 was in error, because all RDIs are never expressed as prefixes—this error was also noted in comment US 25.

   The editor has amended the description of the UPDATE PDU to show that RDIs are not encoded as prefixes. Having made this change, the editor believes that GB 2.1 is then made moot.

10. (GB 2.2) New text has been added to 8.12.5 and 8.12.6 to clarify the semantics of an RDI that appears in a distribution list.

    The editor has retained the HIERARCHICAL ATTRIBUTE in the revised text, because the transitivity constraints that can be enforced with HIERARCHICAL RECORDING are not the same ones that can be enforced with distribution lists. For example, constraints imposed by HIERARCHICAL RECORDING are set by the originator of the attribute, and can not be modified by a BIS that receives it. In contrast, a recipient BIS can modify the transitivity constraints carried in a distribution list: that is, the recipient can always impose tighter constraints if it desires to do so.

11. (GB 2.3) Nothing done yet--the problem is that the definition given in 8473 for global security is so vague as to be almost useless. If we put in this attribute, the editor doubts that it could be used intelligently: a "global" parameter needs to be understood unambiguously.

12. (GB 2.4) Nothing done yet--the editor can't figure out the point that this comment is trying to make. The only interpretation he has heard is that the request is for a "name change" of the SS QOS and DS QOS attributes.

13. (GB 2.5) Nothing done yet--same reason as for GB 2.4.

14. (GB 2.6) Although it may seem strange to define high capacity values as indicating lower traffic handling capability than lower values, this is exactly the way things are defined in IS 10589 (see its clause 7.2.2a). To maintain consistency with the Intra-domain routeing protocol, the editor has let the text of CD 10747 stand as written.

15. (GB 3.1) The editor has added text to address the topic of FIB maintenance in new clause 8.18. In reviewing this material, the editor also noticed that nowhere in CD 10747 was there any text to address the updating of the Adj-RIB-Out. Thus, the editor added appropriate text to the Internal Update Process (8.16.1) and the External Update Process (8.18.2) to describe when the Adj-RIBs-Out should be updated.

    Editor's Note

    This material was listed as a minor comment. However, in the editor's opinion, it is a significant normative part of CD 10747 that was not present in the CD-ballot text. National bodies' attention is is therefore especially drawn to these changes for review and comment.

16. (GB 3.2) The editor amended the text of 6.5 to make it clear that confederation members are either individual RDs or confederations. The last sentence of 6.5 in CD 10747 was deleted, as part of the editor's response to GB 3.32.

17. (GB 3.3) The editor will undertake to procure an protocol identifier for CD 10747. However, based on existing precedent, it appears proper to list it as an architectural constant since this is the approach taken for the protocol identifier in IS 10589.

18. (GB 3.4) The suggested text now appears in clause 7.

19. (GB 3.5) The editor is somewhat confused by this comment--in fact, the text of CD 10747's 8.1.2.1 is taken almost verbatim from clause 7.1.6a of IS 10589--where it apparently is correct! However, comment JP 1.3 also asks for clarification of the existing text, but offers no explanation of what is unclear in the existing text.

    The editor has attempted to reword 8.1.2.1, but is not sure exactly what made the text in CD 10747 either incorrect or confusing.

20. (GB 3.7) As in 3.6, the offending text is taken almost verbatim from IS 10589 (see its clause 7.1.7). Hence, the editor has taken no action on this comment, and defers discussion of it to the July 1992 SC6/WG2 meeting.

21. (GB 3.8) The editor sees no harm in retaining the first and third bulleted items of 8.1.2, but does agree that the second item is superfluous. The revised text no longer contains the 2nd item on TRDs, and the heading of the section heading has been given a new name.

    The text of 8.1.2.2 was left unchanged. The editor feels that the definition of ″route origin″ suggested in GB 6.2 will clear up any confusion.

    The editor agrees that item ″b″ and the third paragraph are informative, but notes that the entire clause itself is informative. Hence, he sees no need either to delete item ″b″ or to demote the last paragraph to a note.

    In the absence of a specific reason to do so, and in view of the fact that IS 10589 contains a clause addressing similar issues within the bounds of intra-domain routeing (see IS 10589, clause 7.1.4), the editor has retained clause 8.2 in the revised text.

22. (GB 3.9) ″Tear down″ has been changed to ″close″.

23. (GB 3.10) The CloseWaitDelay timer does take into account the lifetime of BISPDUs originated by the local BIS. Since BISPDUs are encapsulated wtihin 8473 NPDUs, and the maximum lifetime of an 8473 NPDU is 128 seconds, this the value of 150 seconds guarantees that any of its outstanding BISPDUs' lifetimes will have expired before the new sequence numbers are used.

    The lifetime of responses to BISPDUs originated by the local BIS is accommodated by the new OpenWaitDelay timer which appears in the new FSM state table and accompanying descriptions--a BIS cannot start or re-start a connection until allowing sufficient time for the lifetimes of BISPDUs received from its peer BIS to have expired. The editor believes that any exceptional cases are now adequately described by the new FSM state table--that is, the response of an FSM to all input BISPDUs is now unambiguously defined.

24. (GB 3.11) The size of an OPEN PDU has been addressed in the response to US 8.

25. (GB 3.12) The editor is unable to find the contradiction: both the third and the last paragraphs say that IDRP ERROR PDUs and CEASE PDUs are processed regardless of their sequence numbers. No action has been taken.

26. (GB 3.13) The last two sentences of the first paragraph of 7.2 have deleted. The contents of the Acknowledgement field of the OPEN PDU are now specified in the description of the FSM (see 8.6.1.1, 8.6.1.2, and 8.6.1.3), which covers the cases noted in this comments.

27. (GB 3.14, 3.15) These concerns are covered by the new FSM table and the revised descriptions of the FSM states.

28. (GB 3.16) The material in 7.6 about waiting for a CEASE PDU to be acknowledged has been deleted. The behavior upon receipt of an IDRP ERROR PDU has been expanded in the new FSM table, and the FSM state descriptions have been amended accordingly.

29. (GB 3.17) Nothing done yet--Needs to be discussed with respect to US 11.

30. (GB 3.18) The requirement that a routeing protocol should periodically check the integrity of its RIBs is within the scope of the standard, and has not been removed from the revised text. Note, for example, that a similar clause (7.3.18 of IS 10589) is also normative text in the intra-domain routeing standard.

    Finally, the editor notes that GB 3.31 contradicts comment 3.18, since GB 3.31 recommends retaining the text of 8.10.2, but relocating it elsewhere.

31. (GB 3.19) The changes suggested in this comment appear in 8.12.2, the description of the RD_PATH attribute.

32. (GB 3.20) New material appears in 8.12.3 to clarify that a BIS can only advertise to a peer BIS those SNPAs that are associated with the subnetwork to which the lcoal BIS and the peer BIS are attached.

33. (GB 3.21) Text has been added to the third paragraph of both 8.12.5 and 8.12.6 to recognize that a BIS may originate a distribution list and append it to an UPDATE PDU that was received without containing such a list.

34. (GB 3.22, 3.23, 3.24) The last paragraph of 8.12.19 has been changed to indicate that the higher value of priority should be used. A similar change was made in 8.17.2.3 in regard to aggregation of the PRIORITY attribute.

    editor believes that his change will make comments GB 3.23 and GB 3.24 no longer valid concerns.

35. (GB 3.25) The selection of a route for subsequent advertisement is determined by local policy. Without knowledge of a BIS′s policies, one can not state ″a priori″ that a given route will or will not be preferred over another. In the example given for the Denial of Service attack, for example, it may well be that the local BIS will have a policy that rejects routes that have an empty distribution list.

    Since policies are not exchanged within the framework of IDRP, it appears that there is nothing that can be done with respect to this comment.

36. (GB 3.26) Clearly, clause 8.17.6 of CD 10747 is informative in nature. The editor notes that it is modelled after clause 7.3.20.1 of IS 10589, which is also informative in nature. Given that this generic type of information is included in IS 10589, the editor does not feel it prudent to delete it without review by other National Bodies. Hence, it remains in the revised text as clause 8.15.4.

37. (GB 3.27) ″Version″ has been moved from the fixed header to the OPEN PDU.

38. (GB 3.28) The length of the authentication data can be determined by subtracting the lengths of the preceding fields from the total length of the OPEN PDU, as contained in the BISPDU Length field of the fixed header. Hence, no fields beyond the Authentication Data field are considered to be part of the OPEN PDU.

    The editor sees no specific actions that need to be taken to satisfy this comment, and also notes that protocol extensions can be handled via IDRP′s version negotiation methods.

39. (GB 3.29) Deferred--pending NB discussion.

40. (GB 3.30) The introductory text for the Update-Receive Process now notes that this process is active only while the BIS is in the ESTABLSHED state. The text in clause 6 now notes that the Update-Receive process is a subset of the Receive process.

41. (GB 3.31) Receipt of a RIB REFRESH PDU has been described included in the description of the Update-Receive process (see item ″a″ in 8.14), and references to the CHECKSUM PDU have been deleted.

42. (GB 3.32) Clause 8.13, 2nd paragraph, has been amended as suggested.

43. (GB 3.33) The editor has taken no action on this comment, deferring it to discussion in the July meeting of SC6/WG2.

44. (GB 3.34) Clause 8.3(a) has been retained. The fact that it is ″static″ information is not sufficient reason to delete it. Just as IS 10589 makes provision for ″static inter-domain routeing″ for sending NPDUs out of a routeing domain, so also does CD 10747 support static methods for sending an NPDU into a routeing domain.

45. (GB 3.35) 8.3 d is not concerned with how the information in **INTERNAL-SYSTEMS** was gathered, and hence does not preclude acquiring it through a local interface with an intra-domain routeing protocol, for example. Hence, the editor has taken no action, since use of a managed object does not limit the methods by which the information can be acquired.

46. (GB 4.1) A PICS question on size of incoming OPEN PDU has been added to Table A.4.7.

47. (GB 4.2) A PICS question of maximum size of UPDATE, RIB REFRESH, and IDRP ERROR PDUs has been added to Table A.4.7.

48. (GB 4.3) Nothing done yet.

49. (GB 5.1) ASN.1 syntax submitted by US has been checked for correct syntax, and now appears in clause 12.8. The new GDNMO submitted by the US appears in clause 12, but has not yet been checked for syntactical correctness.

50. (GB 5.2) To be done

51. (GB 6.1) The material is clause 8.20 deals with errors that occur for given types of BISPDUs, not with errors that occur in given FSM states. Hence, the editor has not incorporated this text directly into the textual descritpions of the FSM.

    However, the revised FSM table and the revised FSM textual descriptions now corss reference the PDU error conditions, and describe the effect that they will have on the FSM: that is, the error conditions are now presented in the FSM table as inputs. The editor feels that this approach satisfies the concern expressed in this comment.

52. (GB 6.2) The suggested defintion now appears in 4.6.

53. (GB 6.3) Nothing done yet, but hte editor will act on this suggestion before submitting text to the Secretariat.

54. (GB 7) All minor editorial comments were accommodated.

Resolution of Belgian Comments

1. (BE 1) Accepted
2. (BE 2) Accepted
3. (BE 3) The referenced clause (6.3 of CD 10747) has only one paragraph. Therefore, it appears that the clause reference in this comment is not correct. The editor has therefore taken no action.
4. (BE 4) The type code 5 was previously assigned to a CHECKSUM PDU, which was deleted when the CD-text was produced. The editor agrees that consecutive numbering is preferable, and has adjusted the numbering of BISPDU types accordingly.
5. (BE 5) Consecutive path attribute numbering has been provided (see response to USA 25).
6. (BE 6, 7, 8) These comments are handled as part of the new FSM state table and its associated text. Note, however, that receipt of a Stop Event does cause the FSM to transit to the CLOSE-WAIT state when it is received by an FSM that is in any state but the CLOSED state.
7. (BE 9) The reference to LOCAL_PREF has been removed from the note in 8.14.2.
8. (BE 10) See response to UK 1.4, which the editor believes will satisfy Belgium′s concern.

Resolution of Japanese Comments

1. (JP I.1) NO ACTION TAKEN YET
2. (JP I.2) The editor will take the necessary steps to obtain a protocol identifier for IDRP.
3. (JP I.3) The editor has rewritten 8.1.2.1, and asks Japan to review it for clarity. The second paragraph of 8.1.2.1 in CD 10747 has been reworded and moved into 8.1.2.2 of the revised text.(See also GB 3.5)

   Also, in reviewing the related material for the NLRI encoding within the UPDATE PDU, the editor noticed that there was no text to indicate that prefixes whose length is an odd number of semi-octets should be padded out so that the NLRI field consists of an integral number of octets. Therefore, the editor generated appropriate text. This new text now aligns prefix encoding in CD 10747 to match exactly with the encoding of reachable address prefixes in IS 10589.
4. (JP I.4) The editor has added additional text to clarify that ″NSAP″ is actually the destination NSAP address that is carried in an ISO 8473 NPDU.
5. (JP I.5) The editor has made no changes in response to this comment. Since CD 10747 does not require the use of any particular intra-domain routeing protocol, he believes it proper to leave the reference to IS 10589 in clause 3.0. The editor also notes that he divided the the references into two clauses in response to guidance received in Berlin during a session run for project editors by a representative of the ITTF.
6. (JP II) The editor agrees with the need for material to describe routeing information exchange between IS 10589 and CD 10747. Although no text is available now, the editor will try to provide text for review early enough so that it can be discussed at the July 1992 meeting of SC6/WG2.

   However, in the editor′s mind it is still an open question as to where such material should be placed: in CD 10747, in IS 10589, in both, in a TR, etc.? This topic is left as an item for discussion in the July 1992 SC6/WG2 meeting.
7. (JP II.1 and II.2) This is a bug in the word processor that the editor is using. If the editor were to correct it now, all the cross-references in the document would no longer be accurate. The editor proposes to do nothing right now, in expectation that the word-processing bug will be resolved by the time it is necessary to produce final IS text.
8. (JP III.3) The offending sentence was rewritten and moved to 8.1.2.2, as noted in the response to comment JP 1.3.

Resolution of Canadian Comments

1. (CA 1.1) A revised definition for ″inter-domain link″ appears in 4.6. field, the editor has chosen to leave it where it is.
2. (CA 1.2) The correct value for MinBISPDU length has been used throughout the text.
3. (CA 1.3) In the absence of a strong case for moving the authentication field elsewhere, the editor has left it in its present location.
4. (CA 1.4)

   The checksum function is mandatory because correct operation of the protocol is dependent upon receiving BISPDUs whose data is received without error. Note that this approach is common in routeing algorithms: for example, IS 10589 employs a mandatory checksum in its protocol LSPs.

   Figure 6 has been corrected as suggested.
5. (CA 1.5) Expanded description of the use of CloseWaitDelay is provided by the new FSM Table and the revised FSM descriptions.
6. (CA 1.6) The new FSM table and associated descriptive text is believed to satisfy this concern.
7. (CA 2) Not done yet, but will be done before submitting the document.