

Information technology – Telecommunications and information exchange between systems – Intermediate system to Intermediate system intra-domain routing information exchange protocol for use in conjunction with the protocol for providing the connectionless-mode Network Service (ISO 8473)

TECHNICAL CORRIGENDUM 1

Technologies de l'information – Communication de données et échange d'informations entre systèmes – Protocole intra-domaine de routage d'un système intermédiaire à un système intermédiaire à utiliser conjointement avec le protocole fournissant le service de réseau en mode sans connexion. (ISO 8473)

RECTIFICATIF TECHNIQUE 1

Technical corrigendum 1 to International Standard ISO/IEC 10589:1992 was prepared by Joint Technical Committee ISO/IEC JTC 1, Information technology.

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Subclause 7.1.3

Add the following paragraph and new subclause 7.1.3.1 before the existing text:

This clause first defines how the NPAI corresponding to NSAP addresses and Network Entity titles of systems deployed in a routing domain is constructed and second how the NPAI is structured for use by the protocol.

7.1.3.1 Construction of NPAI from network addresses

NPAI is derived from NSAP addresses and NETs according to ISO/IEC 8348/Add.2. The NETs and NSAP addresses are obtained from the appropriate addressing authorities.

For these addresses to be correctly interpreted by the protocol in this International Standard it is mandatory that the routing domain authority ensure that whenever the Network address includes a DSP whose syntax is decimal digits, then:

- if the IDI is in the ISO DCC or E.164 format, the decimal syntax DSP must be an odd number of digits;
- for the other IDI formats the decimal syntax DSP must be an even number of decimal digits.

Add new subclause heading 7.1.3.2, followed by the existing text of 7.1.3:

7.1.3.2 Structure of the NPAI

After the existing text of 7.1.3, insert the following note:

NOTE – The SEL field is always the last octet of the NPAI, since the rules enforced in 7.1.3.1 guarantee that there will be no pad at the end of the NPAI.

Subclause 7.1.4

Add the following text to the end of the first sentence of subclause 7.1.4:

... and the rules stated above in 7.1.3.1

Replace the text of NOTE 5 with:

NOTE 5 To interpret correctly the requirements given below, it is necessary to refer to the structure of the NPAI presented in 7.1.1 and 7.1.3.2, and to the concept of manual area addresses defined in 7.1.5.

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Subclause 7.2.9.2

Replace the first paragraph with:

When executing the level 2 decision process for each supported metric, level 2 IS shall ascertain whether or not it can reach any destinations outside its area using that metric. The IS considers itself attached if either:

- a) it can reach at least one other area using the corresponding routing metric, or
- b) it has at least one enabled reachable address prefix with the corresponding metric defined.

Otherwise the IS considers itself not attached.

If the IS discovers that it is not attached and attachedFlag was previously True, it shall:

Replace the paragraph immediately below NOTE 13 with:

If the IS discovers that it is attached and attachedFlag was previously False, it shall:

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Subclause 7.2.10.3

Add the following paragraph at the beginning of the subclause:

For systems which do not implement partition repair, the value of partitionAreaAddresses is identical to the value computed for areaAddresses as described in 7.2.11. For systems which do implement partition repair, the value of partitionAreaAddresses is determined as follows.

Subclause 7.2.10.4

Replace the text of item d) 1) with:

Ensure that the header of the encapsulating PDU indicates routing by the default metric. Routing by the default metric may be indicated either by including a QoS parameter with its bits set in accordance with Table 1, or by carrying no QoS parameter at all [see 7.4.2 item a)].

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Add a new subclause between 7.2.12.2 and 7.2.12.3 as follows:

7.2.12.3 If an Intermediate system takes part in level 2 routing and the IS determines (by looking at the area address) that the destination is reachable within its area, then the destination will be reached either by level 1 or level 2 routing, as follows:

- a) level 1 routing is always based on internal metrics;

- b) a level 2 route, if it exists, shall be preferred over a level 1 route that traverses a virtual link. Otherwise, the level 1 route shall be preferred;
- c) amongst routes in the area, routes on which the requested QoS (if any) is supported are always preferred to routes on which the requested QoS is not supported;
- d) amongst routes in the area of the same QoS, the shortest routes are preferred. For determination of the shortest path, if a route with specific QoS support is available, then the specified QoS metric is used, otherwise the default metric is used.

and renumber the current 7.2.12.3 to be 7.2.12.4.

Subclause 7.2.12.4 (which was renumbered from 7.2.12.3)

Replace sub-items 1-3 of item b) with:

- 1) Highest precedence: routes constructed from the Area Addresses information in an LSP (i.e. the path does not go outside the routeing domain).
- 2) Medium precedence: routes constructed from the Reachable Address Prefix information in an LSP which indicates an internal metric. In the case of multiple prefixes which match a given destination address which all have internal metrics, then the longest prefix shall be preferred.
- 3) Lowest precedence: routes constructed from the Reachable Address Prefix information in an LSP which indicates an external metric. In the case of multiple prefixes which match a given destination address which all have external metrics, then the longest prefix shall be preferred.

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Subclause 7.3.4.6

Add a new subclause 7.3.4.6 as follows:

7.3.4.6 If an LSP becomes empty because all the adjacencies reported in that LSP no longer exist, an IS may purge that LSP instead of re-issuing it as an empty LSP (i.e. with no options) or not re-issuing it at all and allowing the LSP to time out in the other ISs. This saves space in all of the LSP databases and hence is highly recommended.

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Subclause 7.3.9

Replace the first bullet item after the first paragraph with:

- In the Area Addresses option – the set of partitionAreaAddresses for this intermediate system as described in 7.2.10.3.

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Subclause 7.3.15.2

List item a), insert a new sub-item 2) after sub-item 1) as follows and renumber the subsequent sub-items:

- 2) If circuit *C* is a broadcast circuit and either
 - i) this is a level 1 PSNP and this IS is not the level 1 designated IS for circuit *C*, or
 - ii) this is a level 2 PSNP and this IS is not the level 2 designated IS for circuit *C*, then
 the IS shall discard the PDU.

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Subclause 7.4.3.2

Replace the penultimate sentence (which currently reads "Set the QoS Maintenance...") with:

Set the header of the outer PDU to indicate forwarding via the default routeing metric [see 7.2.10.4, item d)].

Replace the last sentence with:

Then forward the encapsulated PDU as described in 7.4.3.3 below.

Subclause 7.4.3.3

Replace the first paragraph with:

Choose either the level 1 or level 2 forwarding database, depending on the destination Network Address in the NPDU. From that database, select the adjacency for the next hop to that destination. If forwarding at level 1 for a destination which is not in the area, choose the adjacency for the nearest Level 2 IS computed as described in 7.2.9.1.

In the first sentence of the last paragraph, replace the words "for the address dest" with "for the destination Network Address", and delete the end of the sentence following the words 'or in "round robin" fashion)', but retain the footnote and its reference.

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Subclause 8.2.3

Insert a new clause between subclauses 8.2.2 and 8.2.3 (renumbering 8.2.3 and subsequent clauses):

8.2.3 Sending ISH PDUs by an Intermediate system

An Intermediate system shall cause ISO 9542 to send an ISH PDU whenever a point-to-point circuit is first enabled.

Subclause 8.2.4 (renumbered from 8.2.3)

Replace item a) following the first paragraph with:

a) the IS receives an ISH PDU

and add the following paragraph immediately after item b):

The ISHelloTimer shall be (re)started upon transmission of the ISH PDU.

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Subclause 8.4.8

Second paragraph, first sentence, delete the phrase ", other than ISO 8802-5,"

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Subclause 8.4.8

Delete the first new paragraph on the page (which begins "For ISO/IEC 8802-5 subnetworks, 48 bit...") in its entirety.

Delete NOTE 49 and the WARNING that follows it.

Delete Table 10 in its entirety.

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Subclause 9.9

In the description of partitioned designated level 2 Intermediate system, replace the first part of the second sentence with:

For non-pseudonode LSPs issued by intermediate systems which support the partition repair optional function and which are currently ATTACHED, this option shall always be present...

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Subclause 11.2.1.1

Following the resetting Timer-B behaviour definition, add a new behaviour definition as follows:

resettingHoldingTimer-B BEHAVIOUR

DEFINED AS

This attribute specifies the interval between certain events in the operation of the protocol state machine. If the value of this attribute is changed to a new value while the protocol state machine is in operation, the implementation shall take the necessary steps to ensure that for any time interval which was in progress when the corresponding attribute was changed, the next expiration of that interval takes place no later than the expiration of the interval in progress or the specified interval, whichever is sooner. The precision with which this time shall be implemented shall be the same as that associated with the basic operation of the timer attribute;

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Subclause 11.2.4

In the definition of dRISHelloTimer, replace "resettingTimer-B" with "resettingHoldingTimer-B"

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Subclause 11.2.5.7

Replace "linkageISISlevel2Broadcast-P" with "ISISLevel2Broadcast-P".

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Subclause 11.2.5.8

In the definition of iSISHelloTimer, replace "resettingTimer-B" with "resettingHoldingTimer-B"

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