Title: Inter-domain routeing and CONS

Source: IBM

The IDRP text distributed for member body comment (SC6 N6387) took a ″middle ground″ position with regard to CONS:

- New clauses outline how one might forward 8208 Call Request packets, but no hard details were provided.
- The text assumed that a method to guarantee that there were no transient routeing loops while a CR packet was being forwarded would be provided outside of IDRP
- Member bodies were asked to comment on how to handle CONS in the context of IDRP.

After considering this topic, IBM recommends that the USA draft a response indicating that IDRP should be run on top of ISO 8473 used as a SNICP, and it should not forward ISO 8208 CR packets.

Although it might be possible to define forwarding methods for 8208 CR packets (based on their source/destination addresses and their QOS parameters, and assuming that subnetwork specific protocols are amended to to detect looping of CR packets), IBM has found no justification for including this function in either the inter- or the intra-domain routeing protocols.

Our position is based upon the following points:

1. There is no connection-oriented protocol in the ISO Network layer that can be used in the role of a SNICP. Hence, our position is that ISO 8473 should be used as the SNICP for the purpose of exchanging protocol information.
2. In its role as a SNICP, ISO 8473 can support communication between pairs of ISs located on a common 8208 subnetwork by means of the appropriate SNDCP.
3. ISO 8878/8208 is a packet-layer protocol, and its CR packets only are significant within the bounds of a single 8208 subnetwork.
    - If the source ES and the destination ES are both located on the same X.25 subnetwork, then routeing can be accomplished with IS 10030 without any need to invoke either an intra-domain or an inter-domain routeing protocol.
    - If the source ES and the destination ES are located on different X.25 subnetworks, then the source ES′s 8208 CR packet only has significance on the X.25 subnetwork between itself and the first IS. However, it has no significance at all to the destination end system. Hence, there is no need for the routeing protocol to forward it.
    - If X.25 connections across several X.25 subnetworks are to be cascaded, there are several approaches already available:
        a. The X.75 interworking function can be used without the need to invoke an inter-domain routeing protocol.
        b. A pair of systems located on a common X.25 subnetwork can establish an independent X.25 connection across that subnetwork, using ISO 8473 as a SNICP to invoke the appropriate

SNDCF. Note that in its SNICP role, ISO 8473 isolates the routeing protocol from the details of the subnetwork connection: in particular, the routeing protocol will not see the associated 8208 CR packet, and will treat the two systems (for purposes of routeing) as being adjacent. Note also that the 8208 CR packet only has significance on the X.25 subnetwork that connects the two systems, but has no significance to any other X.25 subnetworks that may be situated between different pairs of systems. Hence, the routeing protocol need not forward it.

Finally, we note that the course of action recommended above is consistent with the approaches already taken by other Network layer routeing protocols:

- The ISO intra-domain routeing protocol does not provide support for the forwarding of ISO 8208 CR packets.
- ISO has established two ES-IS routeing protocols: one for connectionless networks and one for connection-oriented networks. That is, there is not a single ES-IS protocol which forwards both 8473 NPDUs and 8208 CR packets.

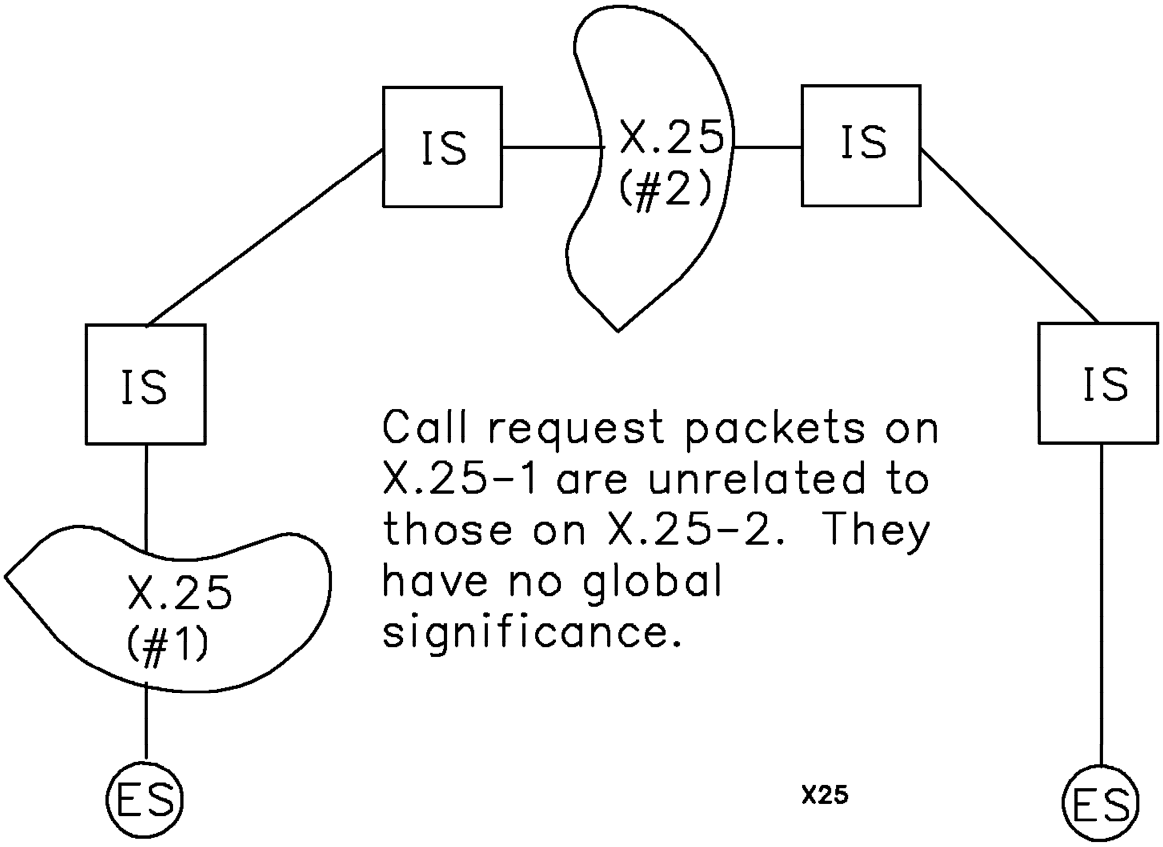

Figure 1. X.25 Connections