Title: NP/I-Project Proposal for a TR on Interworking of DIS 10589 and IDRP

Source: IBM

At the recent SC6/WG2 meeting in Sydney, several member bodies expressed interest in seeing more detailed information on how the two routeing protocols under development by WG2 (DIS 10589 and SC6 N6387) can operate together in an efficient manner. Working draft text on inter-domain routeing has only recently become available, while work on intra-domain routeing has been under way for several years and is already at the DIS ballot level. Because of the timing skew in these two projects, the current texts for these protocols do not specify interactions between them for the purpose of optimizing performance when both are used by a routeing domain.

IBM recommends that the USA submit a NP to develop a Type 2 Technical Report to address this question, with specific recommendations to be included for interactions between DIS 10589 and SC6 N6387. Since DIS 10589 operates correctly without inclusion of this new material, its progression should not be tightly coupled to its development. Therefore, a Type 2 TR would be appropriate since the new material is not absolutely essential for correct operation of either DIS 10589 or SC6 N6387, but its use can potentially improve overall performance when both are used simultaneously within a routeing domain. Eventually, it is possible that some of the interactions to be studied could be incorporated either in workshop agreements or in the routeing standards themselves as optional functions. The TR mechanism will allow the new related technical material be developed independently, without impacting the progression of either DIS 10589 or SC6 N6387.

In parallel with the NP submission, an associated I-project proposal should also be submitted.

The relevant material which would be included in the NP is shown on the next page. IBM also notes that when the NP ballot is issued, it will offer the services of C. A. Kunzinger as editor. IBM will also begin work to produce base working draft text to accompany the anticipated NP ballot, and expects to have it available for review by X3S3.3 at our April meeting.

Material for the ISO NP Submission

Title: Interaction between Inter-domain Routeing Protocols and Inter-domain Routeing Protocols for Construction of Intra-domain Path Segments for Use within an Inter-domain Path

Scope and Field of Application: The advantages and disadvantages of interactions between an intra-domain routeing protocol and an inter-domain routeing protocol are discussed with regard to selection and construction of intra-domain path segments for use in support of inter-domain routeing, and specific recommendations are made for interactions between DIS 10589 and SC6 N6387.

Purpose: In theory, an intra-domain routeing protocol and an inter-domain routeing protocol can operate correctly without exchanging information between themselves. This would be the case, for example, if the two OSI routeing protocols (DIS 10589 and SC6 N6387) were operating simultaneously within a routeing domain with no exchange of information between themselves. However, such a disjoint mode of operation of these two protocols is sub-optimum.

In fact, each protocol is aware of information which could be used profitably by the companion protocol, but no provision is made for appropriate interactions between an IS that runs DIS 10589 and an IS that runs SC6 N6387. From a practical point of view, the potential performance improvements need to be evaluated for various type of interactions between the two protocols.

This report examines several possible modes of interaction between the intra- and inter-domain routeing protocols, concentrating on how to construct efficient intra-RD paths which can be used in support of inter-domain routeing. It examines three distinct aspects of this problem:

1. ***Source Intra-RD Path Construction:*** This is concerned with the question of optimizing construction of the intra-domain path between a source system and a Boundary IS located in the same routeing domain
2. ***Intermediate Intra-RD Path Construction:*** This is concerned with the question of optimizing construction of a path between a pair of Boundary ISs located in the same RD, with special attention given to the use of intra-domain links for the purpose of carrying inter-domain traffic between these ISs.
3. ***Destination Intra-RD Path Construction:*** This is concerned with the question of optimizing construction of the intra-domain path between a Boundary IS and a destination system that are located in the same routeing domain.

Programme of Work: A technical report, type 2

Relevant Documents: DIS 10589 and SC6 N6387

Preparatory Work offered with target dates: Working draft by July 1991; DTR Registration by April 1992; Final TR text by January 1993

Services of maintenance agency or registration authority: None will be required.

Proposed Assignment: This project should be assigned to SC6/WG2, as a sub-project under existing project 06.41.05.