

2. INTERNETWORK INTEROPERABILITY

- a. An important requirement for SIGNET is the ability to provide any-to-any connectivity between computing systems supplied by multiple vendors. The statement "interoperability in a multi-vendor environment" is frequently used to describe such a requirement. For the purpose of the SIGNET Internetwork, the required interoperability is applicable to the physical, data link, network, and transport layers. It is of related importance that the mechanism implemented to provide interoperability within the internetwork component of SIGNET enables user interaction / access with applications operating on various computers within SIGNET.
- b. The Treasury Board of Canada 'Treasury Board Information Technology Standards' [6] (TBITS) provide the guidance for establishing standards within the SIGNET Internetwork which will enable interoperability. It is an EAITC objective that SIGNET comply with TBITS where practicable today and evolve towards a homogeneous TBITS compliant internetwork as warranted by costs and demonstrated positive implementation experience in other international networks comparable in scope to SIGNET.
- c. The initial deployment of SIGNET will utilize a hybrid of proven standards to achieve the required reliable and cost effective interoperability. TBITS standards, augmented with recent ISO and IEEE standards, are selected for the physical, data link, and upper layers (Open Systems Interconnect Reference Model (OSI RM) Layer 1, Layer 2, and Layers 5 through 7). The Internet Activities Board standards are selected for the network and transport layers (OSI RM Layers 3 and 4). For the purpose of the interface into MITNET, the EAITC wide area network, International Telegraph and Telephone Consultative Committee (CCITT) and American National Standards Institute (ANSI) standards are selected.
- d. The SIGNET Internetwork will be initially deployed as a hybrid technical environment based upon proven solutions which comply to strategic components of TBITS, ISO, CCITT, ANSI, and IAB standards. The SIGNET Internetwork will evolve towards a pure TBITS environment as warranted by the maturity and cost effectiveness of such an environment offered in the commercial market place.
- e. As a vehicle for migration to TBITS network layer standards, the successful router vendor will be required to support TBITS 6.3 "COSAC - Profile for Local Area Networks, LAN" supplemented with associated ISO Intermediate System to Intermediate System routing protocols.

2.1 Internet Activities Board Internet Protocol (IP) Standards

2.1.1 Internet Protocol (IP) Routing Service

- 1) The routing service must conform to the Internet Activities Board (IAB) Request for Comments 1009, "Requirements for Internet Gateways".
- 2) External Affairs is required to obtain a network address (Class B) from the Internet Network Information Centre.