

9. SIGNET INTERNETWORK NAMING STRUCTURE

- a. A naming plan and a standard naming syntax is an essential step in any network design regardless of size. The ability to determine a network component, its associated information, and its network connectivity rely on a structured naming base and the appropriate tools to manipulate them. In a network naming structure determining the primary network abstraction unit is essential. In terms of SIGNET this level of abstraction is the LAN Manager Domain or in the internetwork realm an IP Subnet. End users and administrators will view themselves as part of a LAN Manager Domain.
- b. Network elements within the LAN Manager Domain are named to provide a finer level of granularity within the LAN Manager Domain. The overall network path of an end user from their desktop machine to a remote network service is not determined by any component name but rather the surrounding tool set which identifies connections between named network entities. In order to provide the appropriate tools the underlying naming structure needs to be in place.
- c. SIGNET network tools will need to be in the form of a Database Management Systems (DBMS) and will incorporate the appropriate information of each of the network elements and computer equipment within SIGNET. Network operations personnel will need appropriate interfaces to the DBMS system in order to determine logical network connectivity within SIGNET. These tools should provide features such as network topology diagrams, concentrator utilization counts etc.

9.1 Backbone Naming Architecture

- a. A network backbone, or LAN Manager Domain is logically defined as the highest layer of a Local Area Network. In a "tree diagram" of network components it is defined as being the "root of the tree". All network hubs, routers and end stations are connected via this "root". The routers provide interconnection of backbones.
- b. An actual physical backbone may be, in the case of a single concentrator network, the concentrator's backplane or, in the case of a high utilization backbone, the backplane bus of a multi-port bridge.
- c. The number of backbones per location will vary depending upon whether the site is a mission, region or headquarters. A backbone naming structure must allow for numerous backbones per location, as illustrated in Figure 9.1 for the London regional location. The naming architecture must include labeling of the physical location to enable determination of which location a specific backbone is in. A concise naming structure is essential in order to incorporate any hierarchical naming into the names of backbone connected devices.
- d. Each site, region and mission currently has an associated 3-5 letter mnemonic with it. These names such as BONN, LDN can be utilized for the primary backbone name. A simple 2 digit numeric suffix will be used to distinguish between the backbones, i.e. BONN01 and BONN02. These names in turn will be associated with a LAN Manager Domain but for internal tracking purposes will have a layer of abstraction between LAN Manager Domain and IP Subnet Name. i.e.