What Does a Public Data Internet Do?

Robert D. Collet

Sprint Communications Company

Public Data Internets (PDIs) are a new breed of data service provider. Recent developments in PDI interconnection, and liberalization of "acceptable use policies" throughout the world have opened up the Internet to greater use by corporations, institutions and individuals. The article provides an overview of the PDI industry and current status.

1.0 PDI DESCRIPTION

Public Data Internets (PDI) provide the capability for their customers to exchange information with other firms, government agencies, and research institutions throughout the world via the Internet. Until recently, Internet was used exclusively to interconnect research, development and education, and government agency mission networks, both here and abroad. With the introduction of PDIs, corporations and the general public now have the ability to exchange information between them with no restrictions. Customers may exchange information with a "restricted" host if user meets the host's "acceptable use" policy or that of the network to which the host is connected.

Although the percentage of PDI traffic over the Internet is small, PDI use will grow as more and more corporations and institutions discover the benefits of internetworking with their customers and collaborators across the globe.

Unlike X.25 networks, PDIs switch IP datagrams with routers in their backbones. If used as a LAN-to-LAN service, the PDI can provide high speed interconnectivity. Many PDIs offer terminal, host and LAN dial-up service.

Sprint, Advanced Networks and Services (ANS), UUnet Technologies, Performance Systems International, and CERFnet are the current US PDI service providers. Other PDIs exist in Sweden, Finland and the UK.

2.0 TCP/IP PROTOCOL

TCP provides for end-to-end error free delivery and flow control across an internetwork environment. IP provides for the routing of datagrams from one network to another. Other protocols in the suite include those used for electronic mail, remote host log-in and file transfer. These protocols, and many others (known as Requests for Comments), provide conferencing, naming and information/resource discovery are also supported by the vendor community. The Internet Engineering Task Force (IETF) maintains the TCP/IP suite of protocols.

3.0 PDI INTERCONNECTIONS

A goal of the PDI vendors is to ensure that all customers can communicate with each other without restriction. Consequently, a common point of interconnection, the Commercial Internet eXchange (CIX), is mutually supported by the PDIs. The CIX connects UUnet, PSInet, CERFnet, Sprint (SprintLink), UK PIPeX, EUnet (Europe-wide) and NordFrame (which connects a customer's routers by frame relay).

The PDIs have interconnections with the Internet. PDI customers who need to connect with a non-CIX-member host must only do so under the "Acceptable Use Policies (AUP) of either the target host or the network to which it is connected to. Generally, the rules of interconnection are readily available, and those of the research and education community, where most of the target hosts are, have recently become more liberal.

4.0 GETTING HELP

There are many Network Information Service Centers (NISCs) available to assist users in locating and obtaining information throughout the Internet.
Documentation, both electronic and hard copy, is available from the PDIs and many NISCs of the large "restricted" internets to assist users in making the most of their connections. NISC users can find advice on many interconnection subjects. A subject of particular interest today is security. Fortunately, much work has been done in this area to provide host and network administrators the tools to secure their networks and hosts when attached to the Internet.

4.0 CONCLUSION

PDIs provide the ability for customers to communicate with one another, and with users of the traditional Internet throughout the world. As users discover the benefits of internetworking with their environment the role of a PDI as a business or mission tool should continue to grow.