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Guide to Network Resource Tools

Status of this Memo

This memo provides information for the Internet community. This memo does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

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1. Introduction

As the worldwide academic computer network grows and expands far beyond its previous confines, so the resources and services available on the network evolve and multiply at a dizzying rate. The typical user is hardpressed to keep up with this explosive growth. Fortunately, a number of tools are available to facilitate the task of locating and retrieving network resources, so that users anywhere can utilize texts, data, software and information for public access. Facilities to explore public domain software repositories, to consult mailing list archives and databases, to retrieve directory information and to participate in global group discussions are now available to all.

The key to exploiting these resources is a server, special software on a computer somewhere in the network which accepts requests (or queries or commands) and sends a response automatically. The requestor does not have to be working on the same computer (or even in the same part of the world) in order to use the server. Many servers accept requests via electronic mail, so that often the requestor needs not even be on the same computer network as the server. In many cases, servers are interconnected so that once you have established contact with one server, you can easily communicate with other servers as well.

Today, many users have powerful computers on the desktop, with advanced graphical, audio and storage capabilities, which are connected to the network. This fact has given rise to what is known as the client-server model. Users can have special software on their local computer called a client which can utilize the capabilities of that computer and can also communicate with a server on the network. These clients provide an easy-to-use, intuitive user interface, allow use of pointing devices such as a mouse, and exploit other local features. The client sends the user's requests to a server using a standardized format (called a protocol) and the server sends its response in a condensed format which the client displays to the user in a more readable way.

Several of the tools described herein have several different functions. However they could be classified in functional areas according to their main purpose. Sections two and three cover two

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services, Gopher and World-Wide Web, which use the client-server model to explore the network providing a means of moving through a wide range of network sources and resources in a uniform and intuitive way. A tool for searching in a wide range of different databases located throughout the network, WAIS, is documented in section four. The problem of knowing where to find network resources (files and programs) is addressed in section five, which deals with archie. Three tools for finding people, computers and their network addresses, WHOIS, X.500 and Netfind, are discussed in sections six, seven and eight. While just about all of these network tools can be used to get files of one sort or another, there are a few servers available for getting files easily and efficiently from various repositories in the network. Two of these servers, TRICKLE and BITFTP, are covered in sections nine and ten. Sections eleven and twelve deal with what is perhaps the most popular of all the network resources, discussion groups on every imaginable topic. The two tools discussed there are LISTSERV and Netnews (Usenet). Section thirteen gives brief descriptions and pointers for a number of tools which were not mainstream enough to get a full description. Some are still in the developmental stage (Prospero), some are relatively unknown outside a particular network (ASTRA and Netserv from EARN/Bitnet and Mailbase from JANET) and some are meant for chatting rather than work (Relay and IRC).

The purpose of this guide is to supply the basic information that anyone on the network needs to try out and begin using these tools. A basic knowledge of networking terminology has been assumed, as well as familiarity with the basic tools of networking: electronic mail (often referred to as e-mail or simply mail throughout this guide) and, for those connected to the Internet, FTP (file transfer protocol) and Telnet (remote login). It is beyond the scope of this guide to describe these basic tools. The example in the BITFTP section of this guide shows how one can use BITFTP to get guides to these tools over the network.

2. GOPHER

2.1. What is Gopher

The Internet Gopher, or simply Gopher, is a distributed document delivery service. It allows users to explore, search and retrieve information residing on different locations in a seamless fashion.

When browsing it, the information appears to the user as a series of nested menus. This kind of menu structure resembles the organization of a directory with many subdirectories and files. The subdirectories and the files may be located either on the local server site or on remote sites served by other Gopher servers. From the user point of

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