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Hacking ARPANET -- Part I

by

The SOURCE

of

-->*The Listening Post*<--

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INTRODUCTION

ARPANET (Advanced Research Projects Agency NETwork) was funded by the Department of Defense (DOD) in 1969 as an experiment in sharing the resources of many different types of computers. Earlier DOD systems (AUTODIN, for example), relied on linking computers that were the same make, using the same operating systems. Work on ARPANET was performed under contract by many organizations, including educational institutions, and today it is universities who are the primary network users.

Once logged onto ARPANET a user may conference with, or use the program resources and available data files of any other computer that is on the system. Hundreds of computers are available over ARPANET including computers at non-university research centers like Rand Corporation, SRI and other military-industrial think tanks.

Until late 1983 and early 1984, military computers were also a major ARPANET resource. With the threat from young computer "hackers", however, the military computers have moved to their own ARPANET-like network called MILNET. The two networks are now part of what is known as the "DDN" or Defense Data Network. ARPANET nodes may be used to dial-up MILNET nodes as long as the caller can enter the proper authorization code and password once connected to the MILNET node. MILNET users can, likewise, use ARPANET resources.

ARPANET is also used as a resource for students as well as computer scientists and engineering specialists. Because of the variety of users, the system tends to be very talkative about itself and very helpful. Periodically, however, certain ARPANET nodes decrease the amount of help that they provide online.

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Despite the fact that dozens of different types of computers are interfaced in ARPANET, it is a simple system to use because all nodes (called TIP's), use fundamentally the same operating systems on either DEC (Digital Equipment Corporation) models 20 or 10 mainframes. The operating system is called the "EXEC" and is called the TOPS-20 Monitor (on the DEC 20).

Access numbers for local ARPANET nodes can be found from users of certain bulletin boards, by calling the system manager, or by asking someone who attends a major university.

GETTING ON

Once connected to the system, hit <CR> once for 300 baud or twice if you are using 1200 baud. The EXEC then recognizes you and displays a welcome message as below:

WELCOME TO ARPANET

FOR OFFICIAL USE ONLY

Call the NIC at 1-800-235-3155 for TAC user problems.

Type @n for news.

SU TAC 110 #:13

At this point there are only two commands that the Exec will recognize: @N for news, and @O for onto the host sysem. Start by checking out the news. The node you have reached may be willing to be very helpful and informative.

NEWS FROM THE EXECUTIVE

A sample executive session follows below:

@N <user entry>

TCP Trying...Open

SRI-NIC, TOPS-20 Monitor 5.3(5731)-1

* For TACNEWS, enter: tacnews<RETURN>

* To find the host administrator for host xy-z, enter: whois xy-z<RETURN>

* Report system problems to Action@SRI-NIC or call (415) 859-5921

There are 7+12 jobs with load average 1.13

@TACNEWS <exec provides @ prompt, user replies "tacnews">

SRI-NIC TACnews 1.3(15)-2 on Sunday, 23-Sep-84 11:13pm-PDT

Send bugs or comments to TACNEWS@SRI-NIC.ARPA

1. Announcements (updated 14-Sep-84)

* 2. Dial-Ups (MILNET TAC telephone numbers, updated 17-Sep-84)

* 3. Login (Help with TAC login, updated 24-Aug-84)

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4. Newsletters (DDN News, updated 24-Jan-84)

5. Bulletins (DDN Management bulletins, updated 17-Sep-84)

Type a menu number ('HELP<CR>' for more info): HELP

The NetNews program lets you access sets of news files at the DDN Network Information Center (NIC). So far, you have entered the program and seen a menu of available sets and documents. Documents are marked in the menu with a '*' in the first column. To view a document, or browse through a set, type its menu number followed by carriage return, <CR>. If you choose a set, you will then be shown a summary of the most recent issues, and by typing its menu number may read the item. Type 'TOP<CR>' at any time to get back to the first menu.

useful commands are:

?	To see a list of commands
^O (control-o)	To stop the timeout of an issue
HELP	To get more information
TOP	To return to the beginning menu
QUIT	To exit

Terminate all commands, except '?', with a carriage return, <CR>.

<monitor then returns to the menu and we type QUIT so we can learn what else is available to someone who has not logged in.>

Killed Job 34, User TACNEWS, Account QUERY, TTY 110, at 23-Sep-84 23:15:47

Used 0:00:01 in 0:01:53

Host closing connection

Closed

GETTING HELP

<Each function is treated as a unique job. The HELP command is part of the QUERY program. A log report is made when the user QUITs. The user must then begin all over again with the @N prompt, read the herald again, and then proceed to other options when the system responds with its own @ prompt. We skip these redundancies in this example.>

@HELP <user enters HELP>

To see a list of your options for commands or arguments, try typing question mark. Typing "?" to the "@" prompt gives you a list of the commands the Exec understands. Typing "?" after one of these commands tells you what you can type next. For example,

@HELP ?

will show you a list of some of the more important topics for which Help is available. The question mark invokes a help message without affecting what you've typed so far; you can go on typing the command just as if you hadn't typed "?". Also, the question mark is read immediately; you don't have to type

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RETURN.

If you make a mistake while typing a command, use BACKSPACE to delete the last character you typed. Ctrl/W will delete your last Word, and Ctrl/U will delete your entire command line, allowing you to start again. If you feel hopelessly lost, typing Ctrl/C twice will return you to the Exec "@".

@HELP ? RETURN for general help
or * to see all topics
or the name of an EXEC command
or one of the following:

ATTACH	BLANK	BREAK	DAYTIME	ECHO
FINGER	HELP	INFORMATION	KK	LOGIN
LOGOUT	NIC	SET	SYSTAT	TACNEWS
TERMINAL	UNATTACH	WHOIS		

<above is a list of the help files available at this particular session. At other times either more or fewer files are available.>