

# Working Paper

GUIDE TO THE TYMNET/TELENET COMPUTER  
NETWORK FOR IIASA USERS

I. Sebestyen

May 1980  
WP-80-78

**International Institute for Applied Systems Analysis  
A-2361 Laxenburg, Austria**

NOT FOR QUOTATION  
WITHOUT PERMISSION  
OF THE AUTHOR

GUIDE TO THE TYMNET/TELENET COMPUTER  
NETWORK FOR IIASA USERS

I. Sebestyen

May 1980  
WP-80-78

*Working Papers* are interim reports on work of the International Institute for Applied Systems Analysis and have received only limited review. Views or opinions expressed herein do not necessarily represent those of the Institute or of its National Member Organizations.

INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS  
A-2361 Laxenburg, Austria

## SUMMARY

IIASA's computing power is basically built upon two main sources. The first, and obviously most important, of these sources for all IIASA users is the internal computer resource of the Institute based mainly on the PDP 11/70, which is run on the UNIX operating system of Bell Labs. The second major source of satisfying IIASA's user demand is based on external computer resources, such as the large IBM computers at CNUCE in Pisa, the CDC-CYBER 74 of the Technical University, Vienna, and the IBM computers with INIS/AGRIS data bases at the IAEA. At present, perhaps as the most frequently used external computer power, the TYMNET/TELENET network can be regarded as an external source of utmost importance. The purpose of this "TYMNET/TELENET Computer Network User Guide for IIASA Users" is to introduce the TYMNET/TELENET network to the users, to list those hosts (computers) which can provide services to IIASA users, and to give an overview of the databases and application programs accessible through the network. A short chapter of a more technical nature will explain to IIASA users how to work on the TYMNET/TELENET network. Chapter 2 of the "User Guide" provides information on the necessary administrative steps to be taken in order to utilize TYMNET/TELENET services.

The main purpose of this paper is to provide IIASA users with as much useful information on the TYMNET/TELENET networks and their services as possible. The most up-to-date information from various sources with a slightly different style and format has been compiled in this booklet. To save time and labor, many pages of this guide have simply been copied from their original source with few changes. For this reason, this guide should be regarded only as an internal Working Paper.

## CONTENTS

1.	INTRODUCTION	1
1.1	What are TYMNET and TELENET	1
1.2	Introduction to the Austrian TYMNET/TELENET node "Radio Austria"	3
2.	HOW TO USE TYMNET/TELENET	6
2.1	Organizational and legal arrangements to be made	6
2.2	How to build up a connection with the TYMNET/TELENET network	7
2.2.1	Connection through the IIASA-Radio Austria leased line	10
2.2.2	Connection through dial-up lines	11
2.2.3	Connection through Radio Austria's telex port	11
2.3	TYMNET sign-on procedure and network messages	12
2.4	TELENET sign-on procedure and network messages	17
3.	PUBLICLY AVAILABLE COMPUTER CENTERS (HOSTS) ON TYMNET/TELENET	24
3.1	Abbreviations of TELENET host names	24
3.2	Abbreviations of TYMNET host names	26
3.3	List of TYMNET hosts publicly available	27
3.4	List of TELENET hosts publicly available	37
4.	LIST OF USER SERVICE ACTIVITIES ON TYMNET/TELENET	57
4.1	List of databases on TYMNET/TELENET	57
4.2	List of application-oriented services available through TYMNET	87
4.3	List of application-oriented services available through TELENET	93
5.	TYMNET/TELENET COMMUNICATION CHARGES FOR INFORMATION ON TYMNET/TELENET INTERNATIONAL ACCESS POINTS	96
	REFERENCES	117

# GUIDE TO THE TYMNET/TELENET COMPUTER NETWORK FOR IIASA USERS

I. Sebestyen

## 1. INTRODUCTION

### 1.1 What are TYMNET and TELENET [1]

The mid-seventies spawned a new type of data communications service based on technological concepts that are called packet-switching. While there has often been debate over exactly what does or does not meet the purist's definition of packet-switching, the message transmission technologies developed by the Department of Defense's Advanced Research Projects Agency (ARPA) and by TYMSHARE, Inc., a remote-computing services company, are conceptually similar in design and serve the same basic communications need. They both package data picked up from transmitting terminal devices into synchronous packets which are then moved to their destination through a network of communications circuits and minicomputer nodes. These nodes provide the intelligence to ensure, among other things, virtually error-free transmission, alternate routing around facility outages, and transparency between sending and receiving devices. The technical details of how this is accomplished differ between the ARPA and TYMSHARE sources of technology, and the respective merits of each are often debated.

Two significant public networks have evolved. One is operated by TYMNET Inc., a common-carrier subsidiary of TYMSHARE, created in 1976 after four years of operating the TYMNET network on a joint-use basis. The second network is operated by TELENET, a company founded by the principal ARPA packet-switching researchers and recently acquired by General Telephone and Electronics. The TELENET network operated nearly four years as an independent company.

TYMNET today provides local access to terminals in some 175 US metropolitan areas and TELENET to approximately 100. Together they carry data traffic to and from over 400 computers belonging to their subscribers, and tens of thousands of terminals belonging to the users of those computers. TYMNET carries more than a half-billion characters daily through more than 450 network nodes and nearly 125,000 miles of leased communications circuits. At peak loads, TYMNET has approximately 5,000 active circuit terminations.

The success of these networks and their basic technologies has spread around the world. Telephone administrations in several countries have or are constructing their own networks. In addition, the US International Record Carriers (IRCs), ITT Worldcom, Western Union International, RCA Globcom and TRT Communications, have spread the technology to over twenty foreign nations. The IRCs have installed the technology in US gateways and, working together with foreign Postal Telephone and Telegraph (PTT) administrations, have installed packet-switching gateway nodes in the respective foreign countries. The IRCs have accomplished this by purchasing the technology and equipment for the US gateways from TYMNET and TELENET and, under joint arrangements with the PTTs, nodes have been placed in countries outside the US.

The international traffic carried today on these networks originates predominantly from terminals located in foreign countries, and this traffic is destined for US computers connected to TYMNET and TELENET. The foreign terminal user contacts the PTT node which, in turn, establishes contact through the IRC gateways to the TYMNET or TELENET network. These networks complete the access to the US computer as prescribed by the originating terminal user. The communications facilities provide terminal access for users of US data-base and information-services companies and also for the foreign-based operations of companies with central computer operations in the US. Recently, the reverse process has begun with US terminals contacting foreign computers. ESA/IRS in Frascati, for example, recently became a host on TYMNET/TELENET serving non-European users. The international Atomic Energy Agency (IAEA) in Vienna established the first Austrian host connection in late 1979 and IIASA's host connection to TYMNET/TELENET is also in the process of implementation.

The countries currently operating TYMNET technology nodes and providing these services are as follows: Argentina, Australia, Austria, Bahrain, Belgium, Brazil, Canada, Denmark, France, Finland, Germany, Hong Kong, Israel, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Philippines, Portugal, Puerto Rico, Singapore, Spain, Sweden, and Switzerland, plus the non-continental US states of Alaska and Hawaii. Access from England originates similarly on TELENET equipment installed by the British Post Office.

Prices are set by the PTT of each respective country. With few exceptions, all terminals operate at 300 baud or less. A typical application, using a 300-baud terminal, will result in charges from as low as \$25 per terminal hour to as much as \$65 or \$70 per hour, depending on the country. Arrangements for foreign

access are made by the foreign user with the PTT in his country. Of course, arrangements for access to a specific computer must be made independently with the operator of this computer.

International installations of these gateway services began in early 1977 with the installation of standard TYMNET nodal technology. This is still continuing in some European countries, in South America and in some Asian countries.

Until a few years ago, these packet-switching networks were unknown technological curiosities, even in the most developed countries. Today TYMNET and TELENET are commonplace in the US data communications environment and they have catalyzed the development of facilities around the world which rapidly shrink the time and cost of sharing and disseminating information. Nor are TYMNET and TELENET the only computer networks in existence. In Western Europe, both national and international computer networks such as TRANSPACK and EURONET have been developed. Computer networks are also being developed in the East European countries.

## 1.2 Introduction to the Austrian TYMNET/TELENET node "Radio Austria"

Radio Austria A.G., a company owned by the State of Austria, working in close cooperation with and having the approval of the Austrian Post- and Telegraph Administration, started a data transmission service to the USA in 1978 by providing access to the data networks of TYMNET and TELENET. This service is offered not only to Austrian customers but also to all interested parties in other countries.

Along with many other TYMNET/TELENET gateways, Radio Austria has installed its new "Internally Switched Interface System" (ISIS) technology. ISIS is a combination of new hardware and software concepts. The software converts the node into a multi-purpose device able to handle local terminals, interface with computers, act as a gateway to other networks, public or private, and perform other more specialized functions. The hardware is called the "TYMNET Engine". Radio Austria's TYMNET Engine provides for up to 16 high-speed ports and 64 asynchronous low-speed ports. This equipment can interface almost any network protocol. It also makes possible the connection of Austrian data bases to the data networks.

Through the use of multiprogramming and time-sharing concepts in the microprocessor-based "TYMNET engine", a single node can have one partition handling local traffic, another acting as a gateway to France's TRANSPAC network, another providing an X.25 connection to the BPO network, and yet another operating TYMNET protocols to other similar nodes elsewhere in Austria. Also, the node might incorporate a partition containing one or more gateways to private networks belonging to organizations within the country. Figure 1 illustrates this concept. Optionally, the node can obtain central control facilities from TYMNET US or operate its own controlling supervisor.

ISIS switches the traffic between the partitions within the node. Each partition contains software which translates the external (user) protocol into a common internal (network) protocol. Conversely, when receiving a message, the partition translates the internal protocol into the external protocol it is handling. Adding new protocols for terminals, computers, or other network "standards" is simply a matter of developing the protocol handling program. The time required to do this is typically a few man-months at most. The X.25 interface between IIASA's TPA-70 and the ISIS node at Radio Austria is at present under development. The implementation of the new protocol on the ISIS side is being programmed by TYMNET/TELENET in the manner described above. ISIS also includes such tools as a Dynamic Debug package which operates in the node to facilitate the development process and can proceed in a mode that is also handling a production environment.

Figure 2 shows the possible routings to the Austrian TYMNET/TELENET node. The most important link to TYMNET/TELENET for IIASA users goes through the inhouse PDP 11/70 computer via a direct telephone line to Radio Austria. For weekend work or "out of house" work, IIASA users may also establish a link through dial-up telephone line to the TYMNET/TELENET node by means of the Texas Instruments' Silent 765 portable terminal with acoustic coupler, which can be borrowed from the IIASA Computer Center on request. Some of IIASA's collaborative institutions which have no other possibility of joining TYMNET/TELENET may use their ordinary telex station to dial up the telex port of the TYMNET/TELENET node in Vienna.

ISIS Operating System ("KERNEL")		
D	IRC Gateway (to TYMNET/TELENET USA)	Slot 1
I	X.75 FRANCE TRANSPAC Gateway	Slot 2
S	X.75 EURONET Gateway	Slot 3
P	X.25 British Post Office Gateway	Slot 4
A	Tymnet protocol to other domestic nodes	.
T	X.25 Gateway to private network A	.
C	X.25 Gateway to private network B	.
H	Local terminal handler	.
E	Supervisor (local accounting)	Slot 16
R		

Figure 1. Example of a possible software configuration of an internally switched interface system (ISIS).



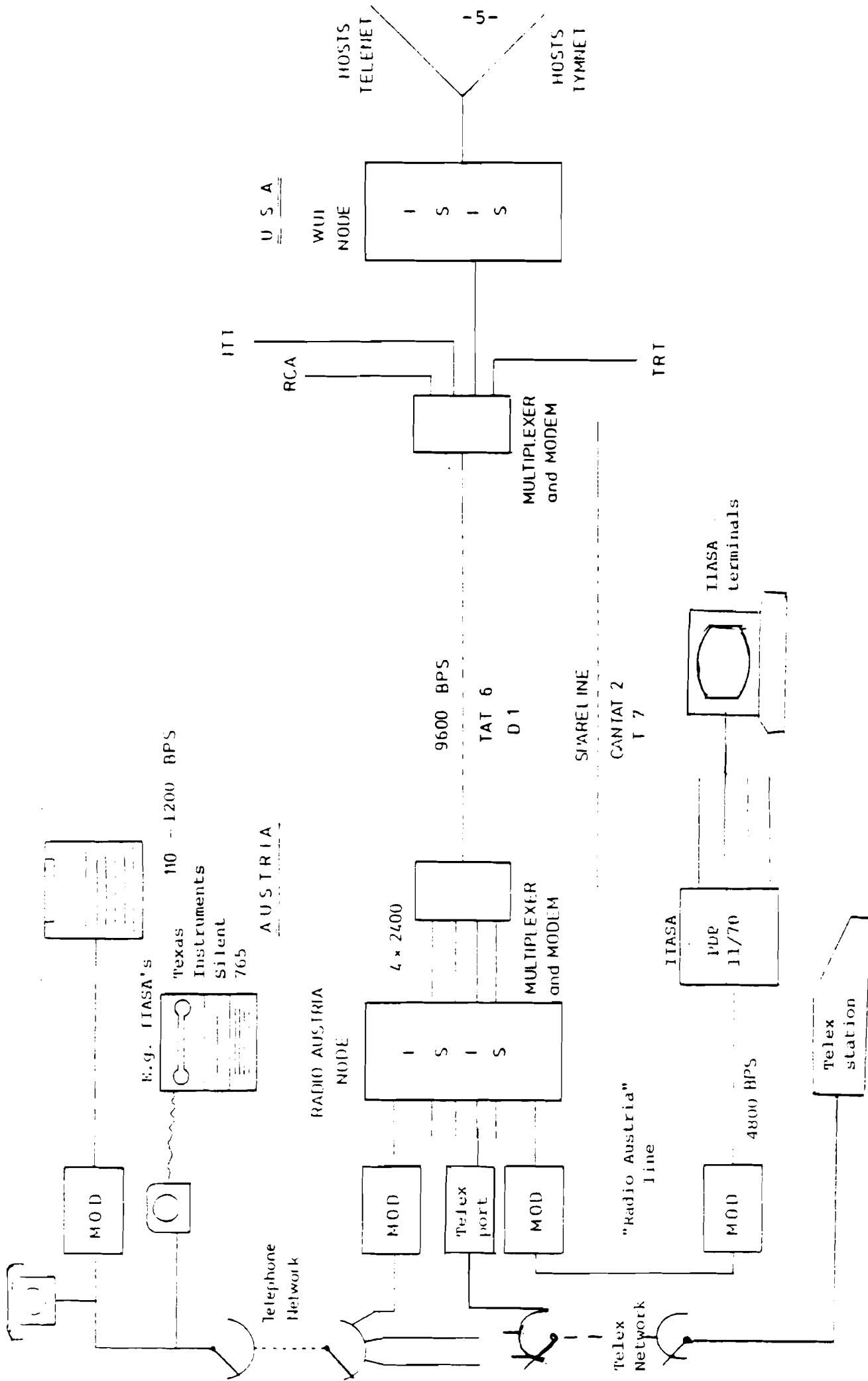


Figure 2. (Kadaus Data-Service.)

## 2. HOW TO USE TYMNET/TELENET

### 2.1 Organizational and legal arrangements to be made.

Before the user actually begins to use TYMNET/TELENET, he must settle certain organizational arrangements. The procedures for establishing connection to hosts on TYMNET and TELENET are very similar, and consist of the following steps:

1. IIASA must make an agreement with the TYMNET/TELENET host in question on the use of its services. Since the TYMNET/TELENET network only serves as a communication medium between the source of service ("host") and the end users, first an application to the host in question regarding the use of its services must be submitted by the prospective user. Then the selected host provides the user with an appropriate "user name" and "password", which will allow the user to log in on the host's computer system. Thus, for instance, if the IIASA library wants access to the databases of the Bibliographic Retrieval Services, Inc. in Scotia, New York, then IIASA (the library or Computer Services) and BRS must conclude an agreement on the matter. The Informatics Task has more detailed information on the most important TYMNET/TELENET nodes and on the legal arrangements to be made. This information is available on request.
2. An agreement must be reached between IIASA and Radio Austria on providing remote on-line access between IIASA and the selected host at TYMNET or TELENET. This procedure differs for the two networks:

a) Procedure for TYMNET:

Radio Austria provides each IIASA user who wishes to use the services of TYMNET with an appropriate "user name" and "network password" specific to the particular host selected. The connection to the host will be made by TYMNET automatically on the basis of this "user name". Radio Austria will provide the user with a separate user name for each host to be connected up to.

b) Procedure for TELENET:

Radio Austria provides the IIASA user with an appropriate "user name for TELENET" and a "network password". There is only one "user name" per user, regardless of the number of hosts to be connected. The selection of the host to be addressed is made by the user through a specific TELENET command (connect command "C").

It should be mentioned that Radio Austria charges AS 100/month for each user name. Thus if one were to work with 5 different hosts at each of the two networks, then Radio Austria would charge AS 100/month for the TELENET "user name" (for all 5 hosts) and AS 500/month for the "user names" for the 5 TYMNET hosts (AS 100/month per host).

The agreements between IIASA users and Radio Austria are being handled entirely by Computer Services. Therefore, if you wish to establish connection to a particular TYMNET/TELENET host, please contact Computer Services, who will make the necessary arrangements with Radio Austria and provide you with your TYMNET/TELENET "user name" and "password".

Now after having done the "ugly paperwork", the actual work with the selected host through TYMNET/TELENET can begin.

## 2.2 How to build up connection with the TYMNET/TELENET network.

As mentioned above, there are three possible routes to the TYMNET/TELENET node in Vienna:

- via the leased line through the IIASA PDP 11/70 computer,
- via the dial-up ports at Radio Austria, or
- via the telex port at Radio Austria

Regardless of the access route, a TYMNET/TELENET traffic session falls into the following phases (Table 1):

PHASE \ ROUTE	ACTION		
	leased line through PDP 11/70	dial up line	telex connection
Phase 1 Building up connection to TYMNET/TELENET	invoke "tymnet " or "telenet" program	call Vienna: 63-97-87	call telex # 47706
Phase 2 Entering the TYMNET/TELENET network	type in the "network user name" and "network password"		
Phase 2a (for TELENET only)	type in the "connection" command to TELENET host requested		
Phase 3 Entering the "host" system	type in the "host user name" and "host password"		
Phase 4 Working on the "host" system	enter the "host system commands"		
Phase 5 Leaving the "host" system	type in the "logoff" command		
Phase 6 Leaving the TYMNET/TELENET network	type ecc "q"	type "logoff" (hang up the receiver)	type "logoff"

Table 1. Phases of a TYMNET/TELENET Traffic Session

Phase 1 and Phase 6 are different for the three types of connection modes, described in chapters 2.2.1 - 2.2.3. Phases 2-5 are similar for all access routes. However, the procedures for establishing connection to TYMNET and TELENET are different. The TYMNET and TELENET sign-on and network messages are described in chapters 2.3 and 2.4.

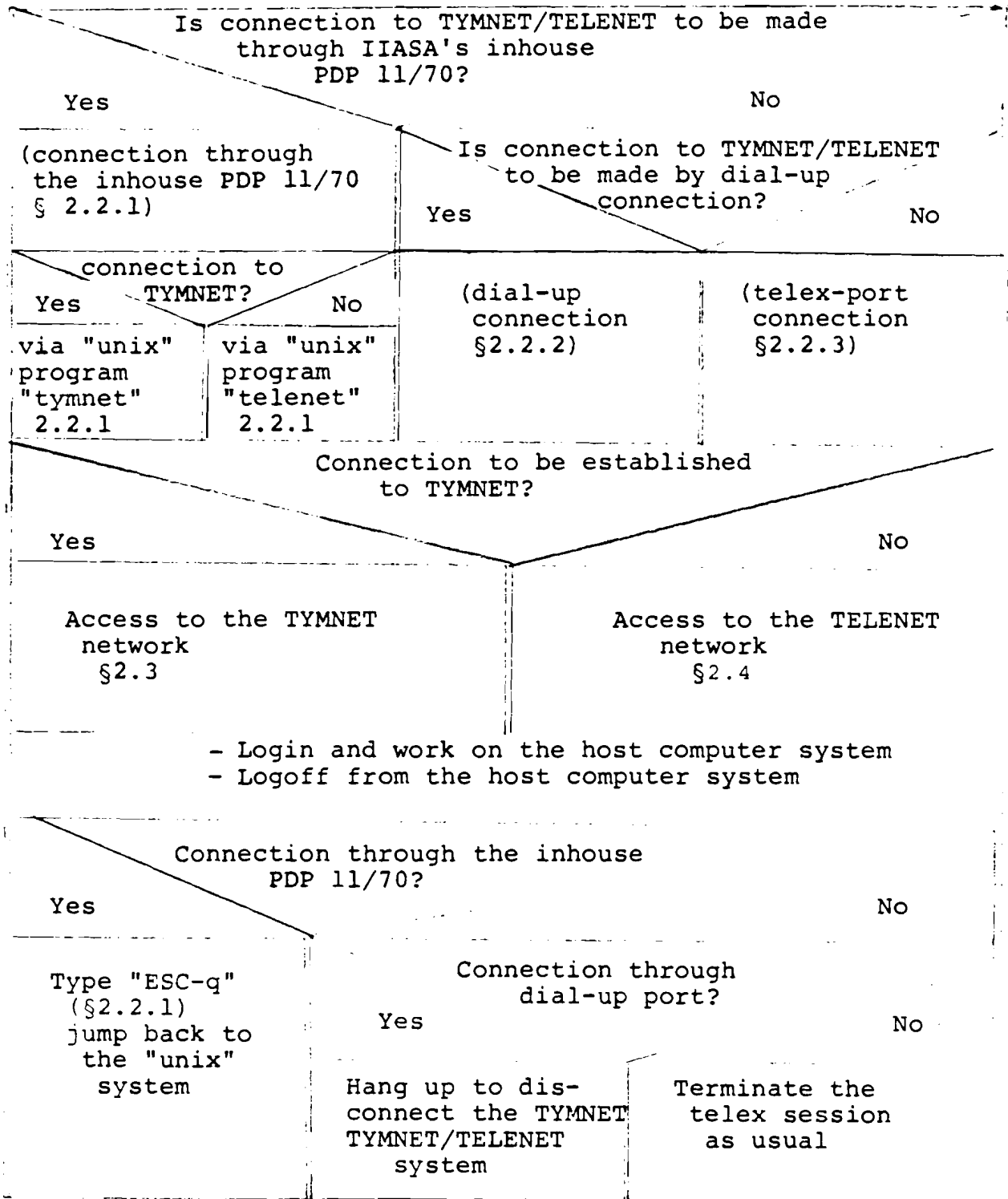


Table 2. Flow chart of a TYMNET/TELENET session

Tables 1 and 2 deal with the same matter from two different angles.

### 2.2.1 Connection through the IIASA-Radio Austria leased line

As mentioned above, IIASA's inhouse PDP 11/70 is connected to the Austrian node of TYMNET/TELENET through a leased direct line. At present this connection only allows the connection of a single terminal at a given time to the network; however, an upgrade of the Radio-Austria connection from IIASA is under way. The upgraded line would allow simultaneous usage of the line by several IIASA terminals and the so-called "host connection" of IIASA's computers to TYMNET/TELENET at the same time.

The TYMNET and TELENET network can be invoked from the UNIX system by the programs "TYMNET" and "TELENET" respectively. The following description of the connection with TYMNET/TELENET is taken from the UNIX Programmer's Manual:

TYMNET,TELENET(1)

UNIX Programmer's Manual

TYMNET,TELENET(1)

#### NAME

*tymnet*, *telenet* - connects the terminal to TYMNET or TELENET

#### SYNOPSIS

*tymnet* */baudrt* [-q] [-ec]

*telenet* */baudrt* [-q] [-ec]

#### DESCRIPTION

The *telenet* or *tymnet* command connects the terminal it is typed on to the TYMNET node at RADIO AUSTRIA. The only differences between the *telenet* and the *tymnet* commands are the default settings of the arguments.

*baudrt* specifies the speed for the communication. Default for *tymnet* is 1200 baud. Default for *telenet* is 300 baud.

-q causes the message not to be printed when the 'escape' is typed.

-e causes the following character (*c*), to be the 'escape' character. (There is no space between the -e and the *c*).

Commands may be executed at any time, except when reading from a file (see *r*). A command consists of the 'escape' character and one character for the desired command. The following commands are available

-a

*Appends* to a file. After typing the *a* command, the program will prompt for a filename, on the end of which all data subsequently received from the line will be appended. This continues until either the *c* or *q* command is typed.

-b Sends a *break* signal to the line.

-c

*Closes* the file specified in the *a* or *w* command.

-i

*Informs* you of your total connect time, the total number of characters transmitted and received and the cost in schillings.

- q *Quits* the program and disconnects you from TYMNET after printing your charges.
- r *Reads* from the file and sends to the line. After typing the r command, the program will prompt for a filename. The filename should be typed followed by a 'cr' or 'escape'. The program will then, for each line in the file, prompt with a '>' sign and wait for either a 'cr' or a 'space' after which the line to be sent will be printed on the terminal. At this point you have three options: a 'cr' or a 'space' will send that line; a control u or rubout will cause the line to be skipped, and a control c or control d (EOT) will stop sending the file.
- t *Turns* off terminal output. The characters received from the line are not written to the terminal, but are only copied to a file (if w or a were specified). This may speed the program up if large quantities of information are received. Another t command resumes output to the terminal.
- w *Writes* to a file. The same as the a command only not appended.

The commands "a" and "w" are very useful for "documentation purposes". After having established the connection to TYMNET/TELENET it is advisable to define through these commands a file name which would contain the in-and outgoing traffic to TYMNET/TELENET. The file must be closed by the "c" or "q" command and it can be printed or typed out by the "p" printout UNIX command or the "sl" UNIX command. The command "r" is particularly useful if an input file prepared in advance had to be sent to TYMNET/TELENET. By typing in "r" after having established connection to the Austrian TYMNET/TELENET host, a file name will be asked for by the system, and all the input would go from this file to TYMNET/TELENET.

### 2.2.2 Connection through dial-up lines

As mentioned above, several dial-up ports have been established at the TYMNET/TELENET node of Radio Austria.

- o To make connection, one dials the Vienna telephone number: 63-97-87 and waits for the high-pitched tone.
- o The terminal must be coupled to the telephone line:
  - a) For terminals with acoustic couplers such as the Texas Instruments Silent 765) the telephone handset must be placed firmly in the coupler.
  - b) For modem connections, the appropriate DATA switch must be set.

### 2.2.3 Connection through Radio Austria's telex port

One dials the Radio Austria telex number 47706; the Radio Austria telex port then connects the telex station directly into the TYMNET/TELENET system, asking for the "network user name" and "password" of the user.

The use of a telex station for TYMNET/TELENET is different from the use of a regular terminal only in that the character set of the telex station must be adjusted and slightly converted to the required character set of TYMNET/TELENET network. More information on the conversion table is available on request from the Informatics Task.

### 2.3 TYMNET sign-on procedure and network messages

#### HOW TO LOG IN

1. Turn the terminal on and set its switches for remote session
  2. Dial the nearest TYMNET access number and wait for the high pitched tone.
  3. Couple the terminal to the telephone line:
    - a) For terminals with acoustic couplers, place the telephone handset firmly in the coupler
    - b) For datasets (Bell 103, 113, or 212A) depress the DATA button.
- (dial-up only)
4. The following message will be sent to your terminal (although it will appear garbled at speeds other than 30 or 120 cps): please type your terminal identifier
  5. Type your terminal identifying character. The operations staff of a TYMNET customer's host computer may publish special instructions on terminal identifiers.
  6. TYMNET will then send:  
-XXXX-YYY--  
please log in:  
(XXXX represents the number of the remote access node to which you are connected, and YYY represents the number of your port on that node.)  
Respond by typing your TYMNET user name, followed by a carriage return.\*
  7. TYMNET then prompts for your password: password:  
Respond by typing your TYMNET password, followed by a carriage return. (For security reasons, passwords are not displayed on full duplex terminals
  8. Wait until you receive either a semicolon (;) or the "host is online" message, each of which indicates a complete connection to the host computer. You are now logged in and may begin the work session.
  9. After you log off from the host computer, you will receive the message:  
please log in:  
You may then log in to the same or another host computer, or you may hang up (dial-up connection)

\* You may need to enter additional information, in the form of one or more of the following control characters, before typing your user name.

- Control X: Entered for terminal transmission from paper tape, cassette, or internal buffer and to request that TYMNET control the flow of terminal output with X-ON (Control Q) and X-OFF (Control S) to prevent data loss.
- Control B: Initiates half duplex operation, suppressing TYMSAT echoing of input characters.
- Control P: Provides even parity for computer output (rather than no parity).
- Control A: Allows terminal control of received data flow with X-ON and X-OFF.



## **TYMNET Messages**

### **ALL PORTS BUSY or HOST OUT OF PORTS**

No connection can be made with the host computer at this time because all host ports available to TYMNET are busy. Try again in a few minutes.

### **HOST NOT AVAILABLE THRU NET**

This message can appear if: 1) the TYMCOM or its neighbor(s) is down, or 2) an invalid host has been requested (perhaps the request has been mistyped), or 3) a new Supervisor is taking over the network and has not yet picked up the host. For 1) and 3), try again in a few minutes.

### **HOST DOWN**

The network is fully operational, but the host computer is down.

### **HOST SHUT**

The Supervisor has been notified not to route new users to the host; current users are not affected.

### **HOST NOT RESPONDING**

Either the link between the TYMCOM and the host is temporarily lost or proper host response to a connect request is not being received. Try again in a few minutes.

### **CIRCUITS BUSY**

All available paths to the TYMCOM are busy; try again in a few minutes.

### **TRY AGAIN IN 2 MIN**

A new Supervisor is taking over the network; normally log in will be possible in a few minutes.

### **PLEASE TRY AGAIN**

An attempt has been made to log into a multihost system with an incorrect user name.

### **DROPPED BY HOST SYSTEM**

The user has logged off and/or has been disconnected by the host computer. If the session is finished, hang up; if not, try again.

### **SYSTEM ERROR ON PORT # YY**

(YY is the port number on the TYMCOM to which you are connected.)

The host system is not responding. Try again in a few minutes.

### **HOST IS ONLINE**

You are connected to the host computer.

### **REQUESTED SUBPROCESS IS UNAVAILABLE AT THIS TIME**

The process that you have requested in the host computer can not currently be accessed.

# Terminal Identifiers

The terminal identifiers used by TYMNET identify terminal speeds, carriage return delay times, and codes. HOWEVER, FOR SOME HOSTS THE TERMINAL IDENTIFIER SHOULD ALWAYS BE A, REGARDLESS OF TERMINAL TYPE. IF IN DOUBT, CONTACT THE HOST OPERATOR.

120cps terminals require specific telephone numbers for access. To obtain these numbers, contact your Tymnet, Inc. representative.

If you wish to use a terminal that does not appear below, contact your Tymnet representative.

Identifier†	Code	Speed	Terminal Type
A	ASCII	30cps, 120cps	CRT terminals
The identifier A is used both for terminals with no line-feed or carriage-return delay, such as a CRT terminal, and terminals with buffers, such as the Tymshare 325.			
B	ASCII	15cps	All terminals
C	ASCII	30cps	Impact printers
D	ASCII	10cps	All terminals
E	ASCII	30cps	Thermal printers
F	ASCII	15cps in, 30cps out	BETA terminals
G	ASCII	30cps, 120cps	Belt printers G.E. Terminet Matrix printers
I	ASCII	120cps	Selectric-type terminals (e.g., 2741)
P↵	EBCDIC/Correspondence	14.8cps	

Terminal	ID†	Terminal	ID†
ADD5		ITT	
580, 620, 680, 880, 980	A	3501 Aesciscope	A
Anderson Jacobson		Leer Segler	
330	↵	7700, ADM-1, ADM-2,	
830, 832	A	ADM-3	A
830	E	LogAbax Informatique	
860‡	A	LX 180	I
Ann Arbor Terminals		LX 1010‡	A
Design III, 200	A	MI2	
Beehive Medical Electronics		2400‡	I
Mini Bee 1, 2, 4	A	Magadata	A
Super Bee 2, 3	A	Memorex	
I-211, M-501, R-211	A	1240	G
Bell System		NCR	
Dataspeed 40/2		280	E
KD	A	798	A
KDP	G	Omnron	
Computer Devices		8525	A
1030	E	Ontel	
1132, 1201, 1202, 1203, 1204, 1205, 1206	A	4000	A
Computek		Research	
200, 300	A	Teleray 3300, 3311, 3712	A
Conrac		Raytheon	
401, 480	A	PTS-100	A
Control Data		Singer	
713	A	30	E
Computer Transceiver Systems		Scientific Measurement	
Execuport	E	Systems	
DEC		1440	A
GT40, LA34, LA36, LA38, LA120, ‡ LS120, ‡ VT05, VT50, VT100, VT132	A	Tally	
Datamedia		1812‡	A
1500, 2000, 2100, 2500	A	Tec	
Datapoint		400 Series, 1440	A
1100, 3000, 3300	A	Tektronix	
Delta Data		4012, 4013, 4014, 4023,	
5000, 5100, 5200	A	4025	A
Digi-Log		Teletype	
33, 209, 300	A	33, 35	D
General Electric		38	B
Terminet		43	A
300, 1200	G	Texas Instruments	
Gen-Corn		720, 725, 733, 735	E
300	A	743, 745, 783, 785, 771, ‡	
Hazeltine		820	A
1200, 2000	A	Texas Scientific	
Hewlett-Packard		Entalkon 10	A
2615, 2616, 262X Series, 263X Series, 264X Series	A	Typograph	
Hydra		DP-30	C
Model B	I	Tymshare	
IBM		100, 110, 212, 213	E
2741	P↵	200	D
Interdate		310, 311	C
Carousel 300	E	125, 126, 225, 315, 316, 325, 350, ‡ 470, 430,	
Incoterm		440W, 444, 1100‡	A
SPD 10/20, 20/20, 900	A	Wang Laboratories	
Infoton		220 OB	A
Vistar	A	Westinghouse	
		1600, 1620	A
		Xerox	
		BC100, BC200	A

† The symbol ↵ represents a carriage return  
 ‡ During log in, enter Control R immediately before typing your user name (see footnote \*).

The following is an example of use of the TYMNET network showing an access to the Lockheed Dialog System in California:

user name: lraa7777rs ← Tymnet user name for the Lockheed Dialog system  
password:  
tc> host is online

ENTER YOUR DIALOG PASSWORD  
XXXXXXXXX  
BBBBBBBB  
password ← Password to the Lockheed Dialog System  
MMMMMMMM  
WWWWWWW LOGON File1 Thu 21feb80 3:07:23 Port068

POP BIB (FILE 91) AND TSCA (FILE 52)  
NOW AVAILABLE. SEE ?NEWS..  
FOR LIST OF PHONE NUMBERS FOR ACCESS  
TO NEW DIALOG FACILITY SEE ?PHONES

---

? begin2  
21feb80 3:11:09 User10814 Working with  
\$1.60 0.064 Hrs File1\* the Dialog database  
File22:EIS PLANTS NOV79 (TYPES \$0.50 EACH) No. 22  
(Copr. EIS Inc.)  
Set Items Description (+=OR;\*=AND;-=NOT)  
-----

? expand bn=telenet ;  
Ref Index-term Type Items RT  
E1 BN=TELEMARK CORP----- 1  
E2 BN=TELEMARKS INC----- 1  
E3 BN=TELEMATION INC  
(HX=18109)----- 1  
E4 BN=TELEMET CO  
(HX=12322)----- 1  
E5 BN=TELEMOTIVE IND  
CONTROLS (HX=11792)-- 1  
E6 -BN=TELENET-----  
E7 BN=TELENET CORP  
(HX=01926)----- 1  
E8 BN=TELEPHONAX INC----- 1  
E9 BN=TELEPHONE ENGG CO---- 1  
E10 BN=TELEPHONE INDUSTRIES  
INC----- 1  
E11 BN=TELEPHONE REPAIR &  
SUP----- 1  
E12 BN=TELEPHONIC EQUIPMENT  
CORP----- 1

-more-

? select e7  
1 1 BN=TELENET CORP (HX=01926)

? type 1/5/1  
1/5/1  
082268

TELENET CORP  
8330 OLD COURTHOUSE ROAD  
VIENNA, VIRGINIA 22180  
COUNTY : FAIRFAX  
703-827-9200

3661 TELEPHONE & TELEGRAPH APPARATUS

SALES MIL \$ : 013.0 INDUSTRY % : 0.12  
EMPLOYMENT : 5 (250-499)

GENERAL TELEPHONE&ELCTRN 01926 \* PUBLIC  
1 STAMFORD FORUM  
STAMFORD, CONNECTICUT 06904 203-357-2000

? end :

21feb80 3:17:08 User10814  
\$9.09 0.101 Hrs File22 1 Descriptor  
\$0.50 1 Types  
\$9.59 Estimated Total Cost

? logoff : ◀ termination of the Dialog session  
21feb80 3:26:18 User10814  
\$0.90 0.010 Hrs File22

LOGOFF 3:26:21 ◀ System message Dialog

tc> dropped by host system ◀ System message TYMNET

## 2.4 TELENET sign-on procedure and network messages

---

### Telenet Sign-On Procedure

---

The instructions below explain how to connect to your computer through Telenet if you are using an ASCII-type terminal. If you are using a selectric-based terminal (like the IBM 2741) or if you are accessing an APL service, Steps 1 and 3 will be different. See page 2. In the example  = your response, cr = carriage return and sp = space. All other messages are automatically sent by Telenet.

#### Steps

- 1 Turn on the terminal and coupler.
- 2 Dial the nearest Telenet access number. When you hear a high-pitched tone, place the telephone receiver in the coupler.  
For data sets (Bell 103 or 113 type), depress the DATA button.
- 3 Type two carriage returns.
- 4 Telenet will give you a port identification number and ask you to identify your terminal. Type in the four character ID for your terminal (see page 4), followed by a carriage return.

(Ex.) TELENET  
202 DL9  
TERMINAL = cr

- 5 After Telenet prompts with an @, type a C, skip a space and type the network address of your computer, followed by a carriage return.

(Ex.) @ C sp cr

- 6 Telenet will respond with a connection message. You are now ready to begin your conversation with the computer.

(Ex.) (address) CONNECTED

- 7 To disconnect from your computer, log off as usual. Telenet will send you a disconnected message.

(Ex.) (address) DISCONNECTED

Hang up to disconnect from Telenet.

---

## Other Sign-On Procedures

---

In the following cases, some steps in the basic sign-on procedure will be different or additional steps required.

**1. For IBM 2741 or Other Selectric-Based Terminals**

Step 1: switch to OFFLINE or LOCAL.

Step 3: switch to REMOTE or COMM.

Then type    cr.

**2. For Terminals with APL Keyboards**

ASCII terminals: Step 3—type    cr.

Selectric terminals: Step 3— type   cr.

**3. For Half-Duplex ASCII Terminals**

The network assumes that all ASCII terminals are operating in full-duplex mode. To operate in half-duplex, type    cr in step 3.

**4. For Terminals Wired Directly to Telenet**

After your terminal has been turned on, type one carriage return and begin with Step 5.

**5. When Using Telenet WATS Service (only in the U.S.A.)**

After Step 4, Telenet will ask for your telephone area code. Type the three digit code, followed by a carriage return.

(Ex) AREA CODE    cr

ID/Passwords may be required before your connection is completed. See ID/Password section below.

**6. When Using ID/Passwords**

Some computer centers will require an identification code and password before accepting your connection. In this case, after Telenet prompts with an @ in Step 5, type ID, skip a space and type your ID code, followed by a carriage return.

(Ex) @         cr

Type in your password.

(Ex) PASSWORD =         cr

With some types of ID s, your computer connection will be made automatically. If it is not, the network will prompt with an @ and you should type in the computer network address as shown in Sign-On Procedure, Step 5, after completing the ID/Password sequence.

## Terminal Model Identifiers

Enter the identifier for your terminal model in response to the network inquiry TERMINAL= . If the list below does not contain an ID for your terminal, call Customer Service to see if one is available, or simply use one carriage return. In most cases this will work satisfactorily.

Terminal Model	Identifier
Anderson Jacobson 630	AJ63
Anderson Jacobson 830 & 832	AJ83
Anderson Jacobson 841	.
Applied Digital Data Sys. 520, 580 & 980	ADDS
Beehive MiniBee 2	BHMB
Computer Devices CDI 1030	CD30
Computer Devices CDI 1132	CD11
Computer Devices CDI 1202 & 1203	CD12
Computer Transceiver Execuport 300	CT30
Computer Transceiver Execuport 1200	CT12
Data Products Portaterm	DPPT
Data Terminal & Communications DTC 300	DT30
Datapoint 2200	DP22
Datapoint 3000 & 3300	DP30
Diablo Systems 1550 & 1620	DS16
Digital Equipment LA35/36 DECwriter II	DECW
Digital Equipment VT50 & VT52	DECV
Digi-Log 33 & Telecomputer II	DGLG
Gen-Comm Systems 300	GS30
G.E. TermiNet 30	TN30
G.E. TermiNet 120	TN12
G.E. TermiNet 300	GE30
G.E. TermiNet 1200	GE12
Hazeltine 2000	HZ20
Hewlett-Packard 2640, 2644 & 2645	HP26
IBM 2741 EBCD (with type)	
963, 996, 998	IBM1
938, 939, 961, 962, 997	IBM2
942, 943	IBM3
947, 948	IBM4
IBM 2741 Correspondence (with type)	
001, 005, 007, 008, 012, 022, 030	
050, 053, 067, 070, 085	IBM5
006, 010, 015, 019, 059, 090	IBM6
021, 025-029, 031-039, 060, 068,	
086, 123, 129-145, 156, 161	IBM7
043, 054	IBM8
IBM 3767 & 5100	
Infoton Vistar Display	IFVD
Lear Siegler ADM1, ADM2 & ADM3	LSAM
Memorex MRX 1240	
NCR 260	NC60
Research Inc. Teleray 3300 & 3700	RI33
Tektronix 4002-4023	TK40
Teletype 33	TT33
Teletype 35	TT35
Teletype 40	TT40
Teletype 43	TT43
Texas Instruments 725	TI25
Texas Instruments 733	TI33
Texas Instruments 735	TI35
Texas Instruments 743 & 745	TI45
Texas Instruments 763 & 765	TI65
Trendata 1000	.
Trendata 4000	TD40
Univac DCT 500	UV50
Western Union EDT 300	WU30
Western Union EDT 1200	WU12

\*Same as IBM 2741

## Explanation of Network Messages

<b>Messages that appear at call set-up time</b>		<b>Other messages</b>	
@	A Telenet prompt character that indicates that the network is waiting for a command.	STILL CONNECTED	Your terminal is still actively connected to this address. If you wish to resume your session, enter the CONT command.
TERMINAL	A request to enter your terminal model identifier	STILL PENDING	You have a request still pending for connection to the address given. If you wish to connect to a different network address, you must disconnect with the D command.
?	The network does not understand your command. Check to see if you have made a typing error. If not, contact Telenet Customer Service	DISCONNECTED	This message normally appears when you have logged off your computer or when you have given the D command to the network. If it appears by itself, it indicates your connection has been reset due to a problem. Follow normal connection procedures to continue your session. See Sign-On Procedure, Step 5.
<b>Messages that appear after you have requested a computer connection</b>			
CONNECTED	Your computer connection has been established. Follow normal log-in procedures.		
BUSY CONNECTIONS UNAVAILABLE	All computer ports are temporarily in use. Try again in a few minutes. If this condition persists, notify your computer center.		
NOT AVAILABLE NOT RESPONDING NOT OPERATING	Your computer is not currently available to network users. Check with your computer center to see when service will be resumed.		
ILLEGAL ADDRESS	Non-existent network address. Check for a typing error.		
ILLEGAL DESTINATION ADDRESS ILLEGAL SOURCE ADDRESS	You are not recognized as an authorized user of this computer system. No connection can be made by Telenet.		
SUBPROCESS UNAVAILABLE	The application program requested is not available at this time. If this condition persists, notify your computer center.		
NOT REACHABLE	Indicates a temporary network problem. Report condition to Telenet Customer Service.		
REFUSED COLLECT CONNECTION	You must obtain a "caller paid" identification code and password in order to access this system. Check with your computer center.		



---

## Network Commands

---

The following commands can be given to Telenet when you are in "network command mode," i.e. before your computer connection has been established and after you have logged off your system and received a DISCONNECTED message. You can return to network command mode at any time during your session by using the `cr@cr` command

- |   |  |
|---|--|
| <code>C</code>  | To request a connection to a computer address. The command is followed by a space, the computer address and a carriage return.   |
| <code>D</code> <code>cr</code>  | To disconnect from your computer system. This command is used in cases where the computer does not automatically send a DISCONNECTED message at logout time.   |
| <code>cr</code> <code>cr</code> <code>cr</code>                             | To interrupt your computer session to return to network command mode.  |
| <code>C</code> <code>O</code> <code>N</code> <code>T</code> <code>cr</code> | To return to your computer session after you have been in Telenet command mode.  |
| <code>F</code> <code>U</code> <code>L</code> <code>L</code> <code>cr</code> | To echo keyboard input on ASCII terminals.   |
| <code>H</code> <code>A</code> <code>L</code> <code>F</code> <code>cr</code> | To stop the network from echoing keyboard input on ASCII terminals.  |
| <code>S</code> <code>T</code> <code>A</code> <code>T</code> <code>cr</code> | To determine the identification number of the Telenet port you are using.  |
| <code>T</code> <code>A</code> <code>P</code> <code>E</code> <code>cr</code> | To signify that your input will be paper tape or cassette. After you have set up the computer utility program for tape transmission, return to Telenet command mode. Type the TAPE command. Then start your tape. When the tape is completed, depress the BREAK key. |
| <code>T</code> <code>E</code> <code>R</code> <code>M</code> <code>cr</code> | To change the terminal identifier specified at call set-up time. The command is followed by a new four-character terminal identifier and a carriage return.  |

The following example shows a short conversation with the Teleconferencing System "EIES" of the New Jersey Institute of Technology:

user name: tsaa47774rc ◀ user identification to TELENET

password: ◀ user password to TELENET  
p 30

telenet

@c 20125c ◀ command to TELENET: "please connect to NJIT system  
(host # 20125c)

telenet: call connected

WELCOME

NAME OR #?393 ◀ NJIT user identification

CODE?XXXXXXXXXXXX ◀ NJIT user password

NJIT ELECTRONIC INFORMATION EXCHANGE SYSTEM (020880)

I SEBESTYEN (393) ON AT 2/13/80 7:55 AM EST ON LINE 12

LAST ACTIVE: 2/ 8/80 4:07 AM

EIES HEADLINE 2/10/80 3:43 PM

---

LIST THOSE NOW ON-LINE (Y/N)?n

working with the teleconferencing system

WAITING:

2 CONFIRMATIONS

ACCEPT ABOVE COMMUNICATIONS (Y/N/#)?y

M 4817 RECEIVED BY MICHAEL PEARSON (MIKE2,420) 2/ 8/80 4:28 AM

M 4817 RECEIVED BY PETER HOSCHKA (IPES,244) 2/ 8/80 6:30 AM

INITIAL CHOICE?2

CONFERENCE (NAME/#)?244

TEMPORARY CONFERENCE: GMD-IIASA (244)

THERE ARE NOW 1 MEMBERS ACTIVE.

MEMBER STATUS (Y/N/A/O)?y

UP TO 36: PETER HOSCHKA (IPES,244)

UP TO 2: I SEBESTYEN (393)

UP TO 36: MICHAEL PEARSON (MIKE2,420) (MODERATOR)

36 ITEMS. CC 36 WRITTEN ON 2/ 8/80 7:44 AM

2 NEW TEXT ITEMS.

ACCEPT NEW ITEMS (Y/N/#)?y

C244 CC35 PETER HOSCHKA (IPES,244) 2/ 8/80 6:34 AM L:3

KEYS:/D/SANTO/

Text of Conference Comment 35



C244 CC36 PETER HOSCHKA (IPES,244) 2/ 8/80 7:44 AM L:15  
KEYS:/E/SANTO/  
A: 34

Text of Conference Comment 36



CONFERENCE CHOICE?++  
NO MESSAGES WAITING.

INITIAL CHOICE?-- ◀ logoff command to the NJIT system  
NO MESSAGES WAITING.

I SEBESTYEN (393) OFF AT 2/13/80 8:06 AM	} logoff command accepted by the NJIT system
TIME USED: 0:11	
CUMULATIVE: 0:26	
ALLOCATED: 25: 0	

telenet: call cleared ◀ logoff TELENET network

3. PUBLICLY AVAILABLE COMPUTER CENTERS (HOSTS) ON  
TYMNET/TELENET

3.1 Abbreviations of TELENET host names

The following page contains a list of company name abbreviations. Please note that only selected TELENET subscribers are listed in this directory. The underlined abbreviations are those also available on TYMNET, but which should preferably be used on TELENET with no monthly basic charge to the TYMNET/TELENET host.

TELENET COMMUNICATIONS

# Index of Subscriber Abbreviations

<b>AAE</b>	Arens Applied Electronics	<b>LIS</b>	Lockheed Information Systems
<b>ADP</b>	ADP Network Services	<b>LS</b>	Landart Systems
<b>AHS</b>	American Hospital Supply Corporation	<b>MACC</b>	Madison Academic Computing Center (University of Wisconsin)
<b>ALGOR</b>	Algor Interactive Sciences	<b>MACG</b>	Multiple Access Computer Group
<b>AMS</b>	American Management Systems	<b>MACI</b>	Management Analysis by Computer, Inc.
<b>AOS</b>	A.O. Smith Data Systems	<b>MC</b>	Management Concepts, Inc.
<b>APC</b>	Alexander Programming Corporation	<b>MCAUTO</b>	McDonnell Douglas Automation, Co.
<b>AVCO</b>	Avco Computer Services	<b>MDDCS</b>	Memorial Dose Distribution Computation Service
<b>BBN</b>	Bolt Beranek & Newman	<b>MDS</b>	Management Decision Systems
<b>BIS</b>	Bowne Information Systems	<b>M&amp;E</b>	Metcalf & Eddy
<b>BROD</b>	Brodart, Inc.	<b>MERIT</b>	MERIT Computer Network
<b>BRS</b>	Bibliographic Retrieval Services	<b>MIC</b>	Mellonics Information Center
<b>BSI</b>	Broker Services, Inc.	<b>MIT</b>	Massachusetts Institute of Technology
<b>BURR</b>	Burroughs Corp./NYC Data Center	<b>MP&amp;C</b>	Meincke, Pearce & Co.
<b>B&amp;W</b>	Babcock & Wilcox Computer Services	<b>M&amp;S</b>	Marshall & Swift Publication Company
<b>CCA</b>	Computer Corporation of America	<b>MSU</b>	Michigan State University
<b>CCS</b>	Concap Computer Services	<b>NAC</b>	Network Analysis Corp.
<b>CD</b>	CallData Systems, Inc.	<b>NCN</b>	National Computer Network
<b>CHAR</b>	Chargit	<b>NJIT</b>	New Jersey Institute of Technology
<b>CIS</b>	Commodity Information Systems	<b>NLM</b>	National Library of Medicine
<b>COMPEDA</b>	Compeda, Inc.	<b>OBS</b>	On-Line Business Systems
<b>COMPUTA</b>	Computapipe	<b>OI</b>	Olcott International
<b>CSI</b>	Corporate Services, Inc.	<b>PRC</b>	PRC Computer Center
<b>CSS</b>	Computer Sharing Services	<b>PRD</b>	PRD Electronics Division
<b>CTSS</b>	Corporate Time-Sharing Services	<b>PRIME</b>	Prime Computer Inc.
<b>CU</b>	Cornell University	<b>QE</b>	QE Systems, Inc.
<b>DART</b>	Dartmouth College	<b>QL</b>	QL Systems, Ltd.
<b>DBC</b>	Digital Broadcasting Corporation	<b>RAC</b>	RAC Information Systems, Inc.
<b>DDA</b>	Dr. Dvorkovitz & Associates	<b>RHA</b>	Robert Heller Associates, Inc.
<b>DSL</b>	Dataline Systems, Ltd.	<b>RICE</b>	Rice University
<b>DTSS</b>	DTSS Incorporated	<b>SA</b>	Science Applications
<b>EDN</b>	Environmental Data Network	<b>SCIP</b>	Stanford University
<b>EDUNET</b>	EDUNET	<b>SDC</b>	SDC Search Service
<b>EIS</b>	Envirotech Information Systems	<b>SDL</b>	SDL
<b>ETC</b>	Electronic Tabulating Corp.	<b>S&amp;P</b>	Standard & Poor's
<b>FCI</b>	Florida Computer, Inc.	<b>SPR</b>	Scientific Process & Research
<b>FD</b>	First Data/Div. of ADP Network Services	<b>STSC</b>	Scientific Time-Sharing Corporation
<b>FHLBB</b>	Federal Home Loan Bank Board	<b>SUNY</b>	State University of New York
<b>FVC</b>	Flexi-Van Corporation	<b>TIMSA</b>	Teleinformatica de Mexico. SA
<b>GC</b>	Gallaudet College	<b>TMS</b>	Telmar Media Systems
<b>GIS</b>	Global Information Services	<b>TRW</b>	TRW Defense and Space Systems Group
<b>HDN</b>	Honeywell Datanetwork	<b>TSA</b>	Time-Sharing Associates (Time Sharing Consultants)
<b>HOPP</b>	Hopper Associates	<b>TSC</b>	Time Share Corporation
<b>HYDRO</b>	Hydrocomp, Inc.	<b>TSI</b>	Telstat Systems, Inc.
<b>IB</b>	The Information Bank	<b>TSR</b>	Time-Sharing Resources, Inc.
<b>ICI</b>	Information Consultants, Inc.	<b>TTCS</b>	Typetronic Computer Systems
<b>III</b>	III Systems, Inc.	<b>TUCC</b>	Triangle Universities Computation Center
<b>IMS</b>	Interactive Market Systems	<b>U.Del</b>	University of Delaware
<b>IMSI</b>	Interactive Management Systems, Inc.	<b>U.Ill</b>	University of Illinois—Urbana
<b>INFOR</b>	Informatics	<b>U.Mich</b>	University of Michigan
<b>INSCO</b>	INSCO	<b>U.ND</b>	University of Notre Dame
<b>IPSA</b>	I.P. Sharp Associates, Ltd.	<b>USC</b>	University of Southern California
<b>IS</b>	Interactive Systems	<b>U.Wash</b>	University of Washington
<b>ISC</b>	Interactive Sciences Corporation	<b>WCS</b>	Warner Computer Systems
<b>ITEL</b>	IteI Utility Data Services	<b>WSU</b>	Wayne State University
<b>JFS</b>	John F. Steffen Associates	<b>YALE</b>	Yale University
<b>LCS</b>	Litton Computer Services		

### 3.2 Abbreviations of TYMNET host names.

#### COMPANY NAME ABBREVIATIONS

Note: Only selected TYMNET subscribers are listed in this directory.  
Underlined abbreviations are those also available on TELENET.

AAI	Amherst Associates, Inc.	MARC	MARC Analysis Research Corp.
ADG	Advanced Data Group, Inc.	MBM	Market Buy Market
APLS	APL Services, Inc.	MGH	Massachusetts General Hospital
ATAS	ATA Services, Inc.	MJK	MJK Associates
BALLOTS	Stanford Center for Information Processing	<u>NCN</u>	National Computer Network of Chicago, Inc.
BAT	Battelle Columbus Laboratories	NERA	National Economic Research Associates, Inc.
BCS	Bloodstock Computer Services, Inc.	<u>NLM</u>	National Library of Medicine
BIS	Business Information Systems, Inc.	OCLC	OCLC, Inc.
BTI	Basic Timesharing, Inc.	OLS	On-Line Systems, Inc.
CMS	Coordinated Management Systems	OSI	Optimum Systems, Inc.
COMNET	Computer Network Corporation	OSU	Ohio State University
CON	Consejo Nacional de Ciencia y Tecnologia	PCS	Proprietary Computer Systems
<u>COR</u>	Cornell University	PSI	Polysystems, Inc.
<u>CRC</u>	Computer Resources Corp.	RCC	Remote Computing Corp.
<u>CSS</u>	Computer Sharing Services, Inc.	RDA	Rapidata
CTSH	Citishare Corp.	RSI	Ross Systems, Inc.
CUC	Computer Usage Company	RU	Rutgers University
CULC	Commercial Union Leasing Corp.	<u>SDC</u>	System Development Corp.
DATA-TEK	Data Tek	<u>SDL</u>	Systems Dimensions, Ltd.
DI	Dalgety, Inc.	<u>SIGMA</u>	Sigma Design West, Ltd.
DJ	Dow Jones & Company, Inc.	SIS	Sun Information Services
DLC	Dialcom, Inc.	SRII	SRI International
DMW	DMW Group, Inc.	STC	STC Timesharing Services
DRI	Data Resources, Inc.	<u>STSC</u>	Scientific Time Sharing, Corp.
ESA/SDS	European Space Agency/ Space Documentation	SUMEX	Stanford University Medical Center
<u>HDN</u>	Honeywell Datanetwork	<u>SUNY</u>	State University of New York
<u>HDR</u>	HDR Systems, Inc.	TCC	The Computer Company
<u>IB</u>	The Information Bank	TCI	Timesharing Consultants, Inc.
<u>ICC</u>	Citibank, N.A. Interactive Computer Center	TMH	The Methodist Hospital
IDC	Interactive Data Corp.	TRW	TRW
<u>IMS</u>	Interactive Marketing Systems, Inc.	TSSI	Timesharing Systems, Inc.
INF	Infomedia	TYM	Tymshare, Inc.
<u>INSCO</u>	INSCO Systems	UCC	University Computing Company
<u>IPSA</u>	I.P. Sharp Associates Ltd.	UNICOLL	Uni-Coll Corp.
ISD	Information Systems Design, Inc.	UTHSCD	University of Texas Health Science Center at Dallas
LBL	Lawrence Berkeley Lab.	WEST	West Publishing Company
LHJ	Lockheed Jetplan		
<u>LIS</u>	Lockheed Information Systems		

### 3.3 List of TYMNET hosts publicly available

The following is a list of selected TYMNET subscribers that offer interactive services to the public through the network. Each entry includes the subscriber's name, address, contact people, and telephone numbers, followed by a brief description of company services and computers. Computers that subscribers access exclusively for internal use are not included.

## TYMNET SUBSCRIBERS

ADVANCED DATA GROUP, INC.  
20370 Town Center Lane, Suite 255  
Cupertino, California 95014

Contact:  
T. A. Christenson (408) 446-4346

ADG, Inc. provides a complete spectrum of timesharing services, including management consulting, customized programming, and facilities management. Languages supported are BASIC, FORTRAN, COBOL, RPG, and SPL in an interactive or batch environment. The data base language Image-Query/3000 is also provided.

Computer: HP 3000-11/111

AMHERST ASSOCIATES, INC.  
210 Old Farm Road  
Amherst, Massachusetts 01002

Contact:  
Danielle Lochhead (413) 256-8306

An interactive timeshared financial modeling system for the health care industry. Cost and management reporting, budgeting, rate setting, forecasting and analysis, long-range planning, payroll simulation, and cash management.

Computer: PDP-11/70

ATA SERVICES, INC.  
1616 P Street, N.W.  
Washington, D.C. 20036

Contact: Ronald Knott (202) 797-5373

ATA Services, Inc. (ATAS) offers general timesharing services with particular expertise in the areas of transportation, association work, computerized phototypesetting, and telecommunications network analysis. This full service facility provides both computer resources and complete software support, ranging from system design and analysis through end product and user training.

Computer: DECSystem-10

BTI COMPUTER SYSTEMS (BTI)  
870 West Maude Avenue  
Sunnyvale, California 94086

Contact:  
Sam Cohen (408) 733-1122

Manufacturers of the BTI 4000/5000 medium-scale interactive timesharing system (over 900 installed as of January 1, 1979), and of the new BTI 8000 high-performance 32-bit multiprocessor system, which introduces Variable Resource Architecture, and state-of-the-art system software, including the crash-proof DBMS-X data base management system. The BTI service computer performs on-line system diagnosis from BTI's national service center. TYMNET service provides demonstration and pre-delivery customer access.

Computers: BTI 5000  
BTI 8000

BATTELLE  
Columbus Laboratories  
505 King Avenue  
Columbus, Ohio 43201

Contact: Al Siegel (614) 424-4664

Specialized timesharing, batch processing, and information retrieval services to meet a variety of research, development, and educational needs. Services include: BASIS, an information retrieval and analysis service; HELPS, an objective-based, resource retrieval system for education; and BECUN, an educational computing network for colleges and high schools.

Computer: CDC 6400

BLOODSTOCK COMPUTER  
SERVICES, INC.

1750 Alexandria Drive, P.O. Box 4097  
Lexington, Kentucky 40504

Contact: R. L. Murray (606) 278-0411

A general timesharing company specializing in accounting, manufacturing, distribution, and data base management. Specific expertise in the area of large data bases supporting pure breed registrations, including a data base of over 900,000 thoroughbred horses foaled since 1920, and race records. FORTRAN-BASIC-PLUS.

Computer: PDP-11/70

BUSINESS INFORMATION  
SYSTEMS, INC.

747 3rd Avenue  
New York, New York 10017

Contact:  
Joseph P. O'Connell (212) 752-0831

General timesharing service specializing in the development and support of customized software systems.

Computer: DECsystem-20 (2)

CITISHARE CORP.  
Box 1127  
New York, New York 10043

Contact:  
Seymour Brooks (212) 559-0787

Citishare Corp., a subsidiary of Citibank, N.A., is a general timesharing service specializing in financial applications. In addition to an outstanding financial modelling and reporting system, Citishare offers an excellent general ledger package, security and economic data bases, and a wide choice of programming languages.

Computers: DECsystem-2050 (2)  
DECsystem-10



**COMMERCIAL UNION LEASING CORP.**  
115 East 57th Street  
New York, New York 10022

Contact:  
Samuel J. Dressler (212)644-0920  
Specialized timesharing, under UNIX.  
Computer: DEC PDP-11/70

**COMNET**  
Computer Network Corporation  
5185 MacArthur Boulevard  
Washington, D.C. 20016

Contact:  
A.C. Lewis (202)244-1900  
A general timesharing service.  
Computer: IBM SYSTEM360/65

**THE COMPUTER COMPANY**  
1905 Westmoreland Avenue  
Richmond, Virginia 23230

Contact:  
Ron Barbaree (804)358-2171  
A full-service computer company offering ACTION/APL.SV timesharing, specializing in large data bases in such areas as the airlines and petroleum industries. The Micro-media Services Division produces microfilm and microfiche from machine readable or hard copy output. The Minicomputer Division is involved in designing and installing turnkey mini- and micro-processing computers. The Social Services Division performs facilities management and consulting in the health and social science areas for local and federal government.

Computers: IBM SYSTEM370/145  
IBM SYSTEM370/155

**COMPUTER RESOURCES CORP.**  
5680 South Syracuse Circle, Suite 118  
Englewood, Colorado 80111

Contact: Mike H. Seeb (303)771-8930  
Computer: DEC PDP-11/70

**COMPUTER SHARING SERVICES, INC. (CSS)**  
2498 West 2nd Avenue  
Denver, Colorado 80223

Contact:  
Dan Walkovitz (303)934-2381  
Computer Sharing Services (CSS) offers interactive timesharing, remote batch, and remote job entry. Hardware is the Honeywell 6600 series; software is Dartmouth Timesharing System (DTSS). A large applications library is available to users. Especially strong are the mining applications, plotting and graphics, illumination engineering programs, and financial applications, including financial modelling, a comprehensive bond program, forecasting, and report generation. CSS is well known for outstanding customer support. Industry specialists for mining, financial applications, and other areas are available for customers.

Computer: Dual Honeywell 66/17

**COMPUTER USAGE COMPANY**  
1105 Kern Avenue  
Sunnyvale, California 94086

Contact: Jack Dodson (408)738-4300  
Computer: Amdahl 470

**COMPUTONE SYSTEMS, INC.**  
1 Dunwoody Park  
Atlanta, Georgia 30338

Contact:  
Frank Mulherin (404)393-3010

Provides financial planning services to life insurance and financial community. Lease cost formulation, product pricing, inventory services to formula feed manufacturers and sausage companies. All services provided from terminals manufactured and serviced by Computone Systems.

Computer: IBM SYSTEM360/65

**CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA**

Servicio de Consulta a Bancos de Information  
Barranca Del Muerto, No. 210, 3 Piso  
Mexico 20, D.F., Mexico

Contact:  
Gerardo Gonzalez Lara (905)575-26-56

**COORDINATED MANAGEMENT SYSTEMS**

8401 Wayzata Boulevard  
Minneapolis, Minnesota 55340

Contact: Larry Perkins (612)546-0600  
Marketing information specialists.

Computer: DECsystem-10

**CORNELL UNIVERSITY  
OFFICE OF COMPUTER SERVICES**

G-24 Uris Hall  
Ithaca, New York 14853

Contact:  
Mariann Carpenter (607)256-7341

General purpose interactive computing facilities under VM/370-CMS, with special emphasis on academic applications. Remote job submission and retrieval facilities to OS/MVT-HASP batch processor. Comprehensive collection of standard language processors, utilities, mathematical libraries, and statistical packages, with emphasis on econometric analysis, policy analysis, and chemical mass-spectral identification. Floating Point Systems AP-190L Array Processor is available for high speed calculations. Specific applications are listed in this directory's "Major Applications/Software Facilities Available Through TYMNET" section. However, access to certain proprietary programs may be limited to educational and not-for-profit organizations.

Computer: IBM SYSTEM370/168

**DMW GROUP, INC.**  
2975 Hickory Lane  
Ann Arbor, Michigan 48104

Contact:  
Dr. Dixon R. Doll (313)971-5234

Diversified telecommunications consulting firm specializing in development of advanced software for network analysis, cost reduction, cost allocation, performance prediction, and general planning. Services and software packages available for voice and data applications.

Computer: IBM SYSTEM370/158

DALGETY, INC.  
1 Maritime Plaza  
San Francisco, California 94111  
Contact: Tom Lemmer (415)956-0500  
James Wempe

A timesharing service emphasizing financial applications.

Computer: DEC PDP-11/70 (2)

DATA RESOURCES, INC. (DRI)  
29 Hartwell Avenue  
Lexington, Massachusetts 02173

Contact: Donald McLagan (617)861-0165

Specialists in economic information services to support planning and research. DRI's services include forecasts, econometric models, model building, software, and economic data bases, as well as general timesharing. APL, FORTRAN, COBOL, BASIC, and PL/I are supported.

Computer: Burroughs 7700 (2)

DATA TEK  
1211 Chestnut Street, Suite 400  
Philadelphia, Pennsylvania 19107

Contact: Gus Mekalas (215)564-4133

Data Tek offers on-line services, turnkey computer systems, and programming consulting.

Computers: HP 3000  
Xerox Sigma 7

DIALCOM, INC.  
1104 Spring Street  
Silver Spring, Maryland 20910

Contact: David Smith (301)588-1572

A general timesharing service.

Computer: Honeywell 1648 (2)

DIALOG  
325 Hanover Street, Code 5020/201  
Palo Alto, California 94304

Contact: Fran Spigai (800)227-1960

See Lockheed Information Systems.

DOW JONES & COMPANY, INC.  
P.O. Box 300  
Princeton, New Jersey 08540

Contact: Paul Sternberger (609)452-2000

Dow Jones & Company, Inc., publishers of the *Wall Street Journal*, *Barron's National Business and Financial Weekly*, the Dow Jones News Services, and Dow Jones Books, offers Dow Jones News/Retrieval Service. DJN/RS is a broad-based business, economic, and financial data base. DNJ/RS also offers 15-minute-delayed stock quotes of the over 6,000 stocks on the NYSE, AMEX, and NASDAQ.

Computers: IBM SYSTEM370/138  
IBM SYSTEM370/148

ESA/SDS  
EUROPEAN SPACE AGENCY/  
SPACE DOCUMENTATION SERVICE  
Via Galileo Galilei, C.P. 64  
00044 Frascati, Italy

Contact: (06)9422401  
Noel I.C. Isotta tx 61637 ESRINROM

A data base/data bank service offering access to some 10 million references from 17 scientific and technical files. Subjects covered are aerospace, agriculture, biology, chemistry, computers, earth sciences, electronics, engineering, environment, oceanology, science citation index, U.S. Government reports. Both European and U.S. originated files are treated.

Computer: IBM SYSTEM360/65

HDR SYSTEMS, INC.  
8404 Indian Hill Drive  
Omaha, Nebraska 68114

Contact: Robert Rauscher (402)399-1400

Provides timesharing and deferred batch computing services.

Computer: CDC 6400

HONEYWELL DATANETWORK  
Honeywell Plaza  
Minneapolis, Minnesota 55408

Contact: (612)870-6594  
John Madden HOTLINE (612)870-6000

A full service teleprocessing utility featuring timesharing remote batch, and interactive remote job entry dimensions. The service utilizes a multiprocessing and multiprogramming configuration of Honeywell 6080 central processor systems operating under GCOS with Honeywell 355 FNPs with GRTS and 2780-compatible operating disciplines. Users may access a comprehensive library of language processors, conversion aids, utility programs, application packages, and data base systems. The service is available on a 24-hour day, 7-day week basis with around-the-clock HOTLINE support through Customer Service. Four-way nationwide toll-free access is provided at 10 to 30 cps and 120 cps low speed and from 2400 to 9600 baud high speed communications. Standard and guaranteed volume discounts are provided with project accounting and detail billing reports.

Computer: Honeywell 6080 Multi-Processor System using 355 FNPs (2)

THE INFORMATION BANK  
1719A Route 10  
Parsippany, New Jersey 07054

Contact: Jack Walsh (201)539-5850

A data base containing abstracts of selected articles published by the *New York Times*, along with those of 70 additional national and international publications. Data is retrieved through English language search parameters. The data base includes approximately 1.5 million articles.

Computers: IBM SYSTEM370/148  
DEC PDP-11

INFORMATION SYSTEMS DESIGN, INC. (ISD)  
3205 Coronado Drive  
Santa Clara, California 95051

Contact: Gary Churchey (408)249-8100

A full service computer utility providing all computer-related services in both batch and conversational modes. ISD offers comprehensive libraries of application programs in the areas of civil, mechanical, and structural engineering (ANSYS, MARC, NASTRAN, SPAR, ICES/STRUDL, and GIFTS); electrical engineering (ASPEC, SPICE, and LOGIS); data base (System 2000, OMNI-DATA); and graphics (DISSPLA, Surface DISPLAY LIBRARY, and PLOT 10). Available languages include FORTRAN, COBOL, BASIC, APL, and ASSEMBLER.

Computers: UNIVAC 1108  
UNIVAC EXEC-8 (5)

INFOMEDIA  
530 Lytton Avenue, Suite 303  
Palo Alto, California 94301  
Contact: Sal Suniga (415)321-2682  
Management control services.

Computer: DEC 2020

INSCO  
3501 Route 66  
Neptune, New Jersey 07753  
Contact: John Tym (201)922-1100

A general purpose computing service composed of interactive timesharing under VM/370 GMS and Remote Job Entry under OS/X52 with JE 52.

Computers: IBM SYSTEM370/162 (2)  
IBM SYSTEM3033

INTERACTIVE DATA CORPORATION  
486 Totten Pond Road  
Waltham, Massachusetts 02154  
Contact: (617)890-1234  
Manager, Product Development

Interactive Data Corporation, a subsidiary of The Chase Manhattan Bank, N. A., was formed as an independent company in December 1968, as the result of a merger between Computer Communications Center, Incorporated, then developing timesharing software for the IBM SYSTEM360 Model 67 computer, and the Interactive Data Services Division of White, Weld and Company.

From its inception, Interactive has developed its services around two major facilities: large, on-line data bases and proprietary software to access the data. Today, Interactive offers over 5 million series of data and a variety of programs to access them. In addition, Interactive offers general-purpose timesharing services, including program development and debugging tools, which are available in conversational and remote batch environments.

Computers: IBM SYSTEM370/168 (2)  
IBM SYSTEM370/135

INTERACTIVE MARKET SYSTEMS, INCORPORATED  
19 West 44th Street  
New York, New York 10036

Contact: Richard Makely (212)869-8810

Over 65 professionals provide advertising and marketing systems to analyze syndicated and proprietary research. Over 200 clients analyze Simmons, TG1, Starch, Nielsen, ARB, BAR, NRS, EBR5, PES, MES, PMB, Purchase Influence, Census, and others. Complete survey processing service.

Computer: DEC-20 system

LAWRENCE BERKELEY LABORATORY  
One Cyclotron Road  
Berkeley, California 94720

Contact: (415)843-2740 x 5351  
Eric Beals via FTS: 451-5351

A general purpose scientific and engineering computer center operated for the U.S. Department of Energy.

Computers: CDC 6400  
CDC 6600  
CDC 7600

LOCKHEED INFORMATION SYSTEMS  
3251 Hanover Street, Code 5020/201  
Palo Alto, California 94304

Contact: Fran Spigai (800)227-1960

The DIALOG® information retrieval service is the world's leading on-line interactive information retrieval service. This service is available worldwide and is used by several thousand customers. DIALOG currently offers access to more than 100 data bases—many more than other services—covering a variety of fields in the sciences, engineering, medicine, business, industry, education, social sciences, and the humanities.

DIALOG offers its customers access to a wide range of various types of information: more than 20 million abstracts of published journal articles, conference proceedings, etc.; descriptions of current research projects as yet undescribed in the published literature; information about funding organizations and sources of grants; both historical data and forecasts of industries, products, and end-use data for all countries of the world; and a computational ability affording businesses and other organizations the opportunity to enter their own data and perform regression analysis and other statistical computations. DIALOG is available on-line daily, over 100 hours per week, and all data bases are available continuously.

Computers: IBM SYSTEM3032  
IBM SYSTEM370/165

LOCKHEED JETPLAN  
121-A Albright Way  
Los Gatos, California 95030  
Contact: Lou Reinkens (408)866-7613

The personalized flight advisory service for Jet and Turbo Prop Pilots.

JETPLAN is an on-line interactive flight planning system. Using a portable data terminal, a pilot anywhere in the world can access the following in minutes: computerized flight plans for over 100 different types of aircraft; worldwide weather conditions; ground handlers, worldwide; aircraft and route analysis; worldwide communications; and international flight handling.

Computer: IBM SYSTEM360/44

**MARKET BUY MARKET (MBM)**

A Division of Golden West Broadcasters  
5858 Sunset Boulevard  
Los Angeles, California 90028

Contact: Gil Bond (213)469-5341

Analysis of media delivery, offering solutions for media mixes and separate evaluations for radio, television, newspaper, and magazine. Specific expertise is offered in optimizing media plans for radio advertisers.

Brand-and-product user profiles are available for Simmons and TGI data bases. User profiles are also cross-tabulated by sex, age, and income. TGI income profiles are also available for separate radio stations in the top-20 U.S. markets.

Computer: PRIME 500

**MJK ASSOCIATES**

2343B Homestead Road  
Santa Clara, California 95050

Contact: Michael A. Marriott (408)247-5102

A commodity data information service (CDIS). The data base stores information on 317 commodities and provides daily market quotes. Subscribers use standard programs to obtain such information as spread charts and histories, bar graphs, and moving averages. Customized programs can be created to research investment ideas, systematize trading guidelines, and test strategies. Typical users are individual traders, financial advisors, and commodity brokers.

Computer: HP 3000 Series II

**MARC ANALYSIS RESEARCH CORPORATION (MARC)**

260 Sheridan Avenue, Suite 314  
Palo Alto, California 94306

Contact: T. J. Dwyer (415)326-7511

MARC provides a general purpose finite element computer program covering capabilities for solving the widest spectrum of problems in structural analysis. The program has a large library of elements and an extensive selection of material behaviors, both linear and non-linear. Users range from linear elastic analysis of 2- and 3-dimensional solids, shells, and beams, to applications in which non-linear material and geometric effects dominate and must be included in conjunction with sophisticated geometric modelling. Applications have included welding, low cycle fatigue of piping systems, post-buckling behavior of steel liners in a containment vessel, and analysis from the smallest components to the largest structures.

Computer: Prime 400

**MASSACHUSETTS GENERAL HOSPITAL**

Gray Building  
Fruit Street  
Boston, Massachusetts 02114

Contact: Dr. G. Octo Barnett (617)726-3951

Computer-aided instruction in the medical field.

Computer: DEC PDP-15

**THE METHODIST HOSPITAL**

Texas Medical Center  
6516 Bertner  
Houston, Texas 77030

Contact: William J. Blevins (713)790-2070

An on-line interactive system for filing and interpretation of pulmonary function data. Patient's demographic information and raw data is entered. Immediate printout of the values with predicted, percents of predicted, and complete interpretation is returned in chart-ready format.

Computer: IBM SYSTEM370/148

**NATIONAL COMPUTER NETWORK OF CHICAGO, INC. (NCN)**

1929 North Harlem Avenue  
Chicago, Illinois 60635

Contact: Len Bole (312)622-6666

General timesharing service.

Computers: DECsystem 2040  
Honeywell 1648

**NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. (NERA)**

80 Broad Street  
New York, New York 10004

Contact: Bob Weightner (212)747-3939

NERA is a firm of consulting economists specializing in the application of micro-economics analysis to complex issues of business and public policy. In the course of its assignment, NERA applies econometric and computer techniques to large bodies of statistical data; relates engineering, accounting, environmental, and social considerations to economic issues; and presents the results of its work in clear and comprehensive form, often as testimony.

Computer: HP 3000, Series 2

**NATIONAL LIBRARY OF MEDICINE (NLM)**

8600 Rockville Pike  
Bethesda, Maryland 20014

Contact: Melvin Day (301)496-6661

NLM's on-line information retrieval services in the health sciences are provided through a series of data bases, including a 500,000-citation file of references and abstracts of journal articles. Retrieval is by structured vocabulary of text words in article abstracts and titles.

For access, prior arrangements must be made by health institutions, profit and non-profit. Potential U.S. users apply through a Regional Medical Library. International access is based on special bilateral arrangements between the National Library of Medicine and non-U.S. countries.

Computer: IBM SYSTEM370/158 MP

**NORTHWEST INDUSTRIES, INC.**

6300 Sears Tower  
Chicago, Illinois 60606

Contact:  
Ronald E. Morgan (312)876-7000

Internal usage facility to support business, financial, and merger analysis and planning. Applications consist of an integrated system of decision support systems and mathematical models.

Computers: IBM SYSTEM370/158  
IBM SYSTEMVM370  
IBM SYSTEMMCP/CMS

**OCLC, INCORPORATED**

1125 Kinnear Road  
Columbus, Ohio 43212

Contact:  
Mollie Pharo (614)486-3661

A library cataloging and management service providing access to an expanding on-line union catalog that currently contains over 3.4 million bibliographic records.

Computer: Sigma 9 (4)

**OHIO STATE UNIVERSITY**

Division of Computing Services for Medical Education and Research College of Medicine  
376 West 10th Avenue  
Columbus, Ohio 43210

Contact:  
Ronald C. Comer (614)422-6192

Computer-aided instruction in the medical field.

Computer: IBM SYSTEM370/158

**ON-LINE SYSTEMS, INC. (OLS)**

115 Evergreen Heights Drive  
Pittsburgh, Pennsylvania 15229

Contact: Paul Chu (412)931-7600

A general timesharing, computer services firm offering information processing, software development, and related consulting. OLS supports 16 major computer language and applications systems, and has an extensive library of specialized programs. Major packages are available in the areas of data base management, financial planning, and modelling, statistical analysis, budgeting, project management, materials management, graphics, and securities data base analysis.

Computer: DECsystem-10

**OPTIMUM SYSTEMS, INCORPORATED (OSI)**

2801 Northwestern Parkway  
Santa Clara, California 95051

Contact: A. Chacharone (415)987-4444

A national computer services company serving commercial banks; construction firms; telephone communication companies; health care agencies; local, state, and federal governments; manufacturing firms; law firms; utilities; and professional sports clubs. OSI operates a network information system offering both on-site and remote data processing services.

Computers: IBM SYSTEM370/158 (2)  
IBM SYSTEM370/165  
IBM SYSTEM370/168 (2)

**POLYSYSTEMS, INC.**

55 East Jackson Boulevard, Suite 400  
Chicago, Illinois 60604

Contact: Guy Nadeau (312)663-5670

Actuarial software and processing.

Computer: Burroughs B-6700

**PROPRIETARY COMPUTER SYSTEMS (PCS)**

16625 Saticoy Street  
Van Nuys, California 91406

Contact: Bill Barancik (213)781-8221

A general timesharing service offering APL.SV, PCS/TEXT (text editing), and high speed remote job entry (RJE).

Computer: IBM SYSTEM360/65 (2)

**RAPIDATA**

20 New Dutch Lane  
P. O. Box 1049  
Fairfield, New Jersey 07006

Contact: Art Ragucci (201)227-0035

A computer services firm that specializes in integrated financial information systems. Rapidata's three premier products are: FISCAL (financial modelling and reporting language), PROBE (statistical analysis and econometric modelling language), and X2C (data management service that accesses either sequential or DBMS-10 network files).

Rapidata provides many unique capabilities. Rapidvoice® is its voice response I/O capability that utilizes a Touch Tone® phone and a VOTRAX® Voice Synthesizer. Rapidlink allows high speed data transmission between an in-house IBM 360/370 and Rapidata's computers. Numerous public and proprietary data bases are also offered.

Rapidata provides remote access computing services, financial consulting services, seminar services, and custom program development, facilities management, and data base design services.

Computers: Honeywell 437 (7)  
DECsystem-10 (3)

**REMOTE COMPUTING CORPORATION**

1076 East Meadow Circle  
Palo Alto, California 94303

Contact:  
C. G. Calderaro (415)494-6111

A computer services firm which specializes in securities, commodities, and option data bases; financial planning models for savings and loan associations and mutual savings banks; securities portfolio management and accounting systems for savings and loan associations, commercial banks, municipal/state governments, and institutional investment managers; and timesharing, remote batch, batch, and facilities management services.

Computers: Burroughs B-5700 (4)  
Burroughs B-6700  
Burroughs B-7700

ROSS SYSTEMS, INC. (RSI)  
1900 Embarcadero Road, Suite 208  
Palo Alto, California 94303  
Contact: Ken Ross (415)326-1054  
Management consulting and computer time-sharing, emphasizing financial modelling and reporting.  
Computer: DEC PDP-11/70 (2)

RUTGERS UNIVERSITY LCSR  
COMPUTING FACILITY  
Laboratory for Computer Science Research  
Hill Center for Mathematical Sciences  
Busch Campus  
New Brunswick, New Jersey 08903  
Contact: Saul Levy (201)932-3523  
A research computer resource, partly funded by the Biotechnology Resources Program of the National Institutes of Health, supporting a national community of projects applying artificial intelligence techniques to medical research areas such as clinical diagnosis and psychological modelling. Access is limited to authorized research projects and their collaborators.  
Computer: DEC 2050 T

SCIENTIFIC TIME SHARING  
CORPORATION  
7316 Wisconsin Avenue  
Bethesda, Maryland 20014  
Contact:  
Robert Schmidt (301)657-8220  
General timesharing services based on APL PLUS, an enhanced version of the APL programming language, featuring shared data base facilities. Application programs are offered in accounting, financial planning, insurance, materials management, and forecasting.  
Computer: Amdahl 470

I.P. SHARP ASSOCIATES, INC.  
183 Main Street East, Suite 1150  
Rochester, New York 14604  
Contact:  
Fletcher McTaggart (716)546-7270  
Computer timesharing services based upon Sharp APL, featuring proprietary international packet switching network for access. Applications programs offered in accounting, financial planning, engineering, and forecasting.  
Computers: Amdahl 470-V6-2  
IBM SYSTEM360/75 (2)

SIGMA DESIGN WEST, LTD.  
13693 East Iliff Avenue, Suite 109  
Aurora, Colorado 80014  
Contact: Bill Bollinger (303)751-7936  
Provides and designs fire protection engineering software, offered in a timesharing environment. Marketed around the world with full graphics and hydraulic capabilities. Call (800)525-8041 for more information on inbound walls service.  
Computer: DEC PDP-11/70

SRI INTERNATIONAL  
333 Ravenswood Avenue  
Menlo Park, California 94025  
Contact:  
Michael Tyler (415)326-6200 x 4643  
SRI International is a multidiscipline research institute serving diversified research requirements for government and commercial clients. There are some restrictions associated with use of SRI computers.  
Computers: Burroughs B-6700  
DEC PDP-KL10

STANFORD CENTER FOR  
INFORMATION PROCESSING  
Stanford University, Encina Hall, #30  
Stanford, California 94305  
Contact: Peter Vesanovic (415)497-3105  
A general timesharing and batch processing service. Special applications include the Ballots Library Service (by special arrangement only), the SPIRES data base management system, and text editing. Access is available to educational and non-profit institutions and to others for limited use by special arrangement.  
Computer: IBM SYSTEM370/168

STATE UNIVERSITY OF NEW YORK  
State University Plaza  
Albany, New York 12246  
Contact:  
Kenneth Hapeman (518)473-1814  
Provides alternate site and backup services for the MEDLINE System operated by the National Library of Medicine.  
Computer: IBM SYSTEM370/158

STC TIMESHARING SERVICES  
Storage Technology Corporation  
2270 South 88th Street  
Louisville, Colorado 80027  
Contact: Stan Huntting (303)666-6581  
An interactive computing utility providing raw resources to the self-sufficient user on a tight budget. Unlimited disk storage capacity, powerful KL-10 processors, and TOPS-10 software support a wide range of languages and data management tools.  
Computer: DECsystem 1090

SUMEX COMPUTER PROJECT  
Department of Genetics, TB105  
Stanford University Medical Center  
Stanford, California 94305  
Contact:  
Tom Rindfleisch (415)497-5141  
A research computer resource, funded by the Biotechnology Resources Program of the National Institute of Health, supporting a national community of projects applying artificial intelligence techniques to medical research areas such as clinical diagnosis, molecular structure determination, and psychological modelling. Access is limited to authorized research projects and their collaborators.  
Computer: DEC Dual KI-10,  
TENEX Operating System

**SUN INFORMATION SERVICES**

7 Executive Mall  
680 East Swedesford  
Wayne, Pennsylvania 19087

Contact:  
Dr. Charles R. Lansberry (215)293-0660

A general timesharing service offering basic interactive programs dealing with graphics, science, plotting, engineering, NOS/BE-intercom.

Computer: CDCCyber172

**SYSTEM DEVELOPMENT CORPORATION (SDC)**

SDC Search Service  
2500 Colorado Avenue  
Santa Monica, California 90406

Contact: William Burgess (800)421-7229

An information retrieval service offering access to data bases covering business management, chemistry, agriculture, biology, education, energy, engineering, geosciences, grants, paper chemistry, patents, pharmaceutical industry, petroleum/energy business news, pollution, research in progress, U.S. government research and development, U.S. congressional reports, including the Congressional Record, and U.S. government statistical reports.

Computer: Amdahl 470/V5

**SYSTEMS DIMENSIONS LTD. (SDL)**

770 Brookfield Road  
Ottawa, Ontario K1V 655

Contact:  
Robert Allison (613)731-6910

USA: SDL INTERNATIONAL, INC.  
1701 North Fort Myer Drive  
Arlington, Virginia 22209

Contact:  
Robert Schmonsees (703)527-7304

A general timesharing/remote processing company serving the United States and Canada. Services include batch processing under either MVT or MVS, and interactive systems TSO, WYLBUR, APL, and SDI/INFO. Specific applications expertise exists in statistics, econometrics, project management, data base management systems, financial planning, and graphics.

Computers: IBM SYSTEM370/168  
Attached Processor (MVS)  
IBM SYSTEM360/85 (MVT)  
IBM SYSTEM3033 (MVS)

**TIMESHARING CONSULTANTS, INC. (TCI)**

4400 East Broadway, #606  
Tucson, Arizona 85711

Contact:  
M. Ernest Huber (602)881-8888

A general timesharing service using DECsystem-20s with application programs in the general business area (AP, GL, IR, PR) along with packages for financial modelling. Applications also exist for statistical and engineering users.

Computers: DECsystem 2040  
DECsystem 2050

**TIMESHARING SYSTEMS, INC.**

2150 North Prospect Avenue  
Milwaukee, Wisconsin 53202

Contact: Chuck Wolf (414)276-6776  
Christopher Reed

A general timesharing and batch processing facility featuring a customized software development service in addition to a general purpose library of programs. Specialties include credit union processing, manufacturing, construction job accounting, and insurance processing.

Computer: Burroughs B-6700 (2)

**TRW**

Information Services Division  
505 City Parkway West  
Orange, California 92668

Contact: Frank De Sarro (714)937-2284

TRW's Information Services Division provides business and consumer credit information through its NACIS and CREDIT DATA data bases. NACIS contains business credit data on 3 million company locations, including trade payment data, bank relationships and inquiries, and summary business data. NACIS also offers 6-month trend analysis on these company locations.

CREDIT DATA contains consumer credit data on over 70 million consumers, including identification, factual payment, and selected public record information.

Computers: IBM SYSTEM3033  
Amdahl 470 V/611

**TYMSHARE, INC.**

20705 Valley Green Drive  
Cupertino, California 95014

Contact: USA:  
Walter Eissmann (408)446-6236  
International:  
Wendell Sawyer (408)446-7168

A general timesharing service offering solutions to business problems in the area of information analysis and data management. Specific expertise is available in the areas of accounting, telephone, finance, banking, investment, government, manufacturing, and distribution. Special programs are available for income tax processing, hospital accounting, travel agent accounting and ticketing, portfolio evaluation, and data base management.

Computers: DECsystem-10 (14)  
IBM SYSTEM370/158 (7)  
HP 2000 (10)  
XDS 940 (24)

UNI-COLL CORPORATION  
3401 Science Center  
Philadelphia, Pennsylvania 19104

Contact:  
Jeffrey D. Balling (215)387-3890

A full-service company operating an MP370/168 under MVS with TSO, APL, and JE52. Software available includes application development aids, assemblers, compilers, utilities, mathematical libraries, statistical libraries, engineering routines and packages, simulation and graphics packages, data base management packages, and economic model building and forecasting libraries.

Computer: IBM SYSTEM370/168 MP

UNIVERSITY COMPUTING COMPANY  
1930 Hi Line Drive  
Dallas, Texas 75207

Contact:  
Bob Kramer (214)655-8665

A general remote access timesharing service (keyboard and batch terminals).

Computers: UNIVAC 1108-EXEC 8 (2)  
UNIVAC 1108-UCCEXEC (4)  
IBM SYSTEM370/158 MVS  
CDCCyber175 NOSBE  
CDC6600-NOSBE  
DEC PDP-9 (6)

UNIVERSITY OF TEXAS HEALTH  
SCIENCE CENTER AT DALLAS  
5323 Harry Hines Boulevard  
Dallas, Texas 75235

Contact:  
Dr. David Mishelevich (214)688-3681

Medical research and information systems, computer-assisted instruction, RENTRAN kidney transplant matching system.

Computer: DECsystem-10

WEST PUBLISHING COMPANY  
P. O. Box 3526  
St. Paul, Minnesota 55165

Contact: Bill Newpower (612)228-2692

WESTLAW is a computerized legal research system containing the full text and headnotes covering decisions of all federal courts and reported decisions of all 50 states. Documents are retrieved which contain search terms supplied. Other criteria, such as time period, court jurisdiction, title, or citation of case, may also be used.

Computer: IBM SYSTEM370/150 MP



### 3.4 List of TELENET hosts publicly available

#### **ADP FIRST DATA/DIVISION OF ADP NETWORK SERVICES**

40 Second Avenue, Waltham, MA 02154  
Contact: Simon Wieczner, Product Marketing Manager  
Telephone: 617/890-6701

General timesharing service with application programs designed to assist users in the consulting, banking, marketing and manufacturing industries in organizing, analyzing and presenting information for decision making. Special applications include data base management systems, financial modeling and planning, minicomputer and microcomputer development systems, statistical analysis and simulation software and the DYNAMO Systems Dynamics language. A wide variety of programming languages and statistical packages are available.

Computers: DECSys-10 (multiple)  
Programming Languages: ALGOL, APL, BASIC, COBOL, FORTRAN, CPL (PL/1), MACRO

#### **ADP NETWORK SERVICES, INC.**

175 Jackson Plaza, Ann Arbor, MI 48107  
Telephone: 313/769-6800

Remote computing services for industry, finance and government. A wide variety of information management systems can be implemented through proprietary systems for data base management, time series analysis, financial modeling, graphics and management reporting, plus an extensive series of corporate, financial and economic data bases.

Computers: DECSys 10  
Programming Languages: FORTRAN IV, COBOL, BASIC, APL, MACRO-10

#### **ALEXANDER PROGRAMMING CORPORATION**

270 Madison Avenue, Suite 1401  
New York, NY 10016  
Contact: John Tucker, President  
Telephone: 212/686-4915

Customized time-sharing and software development, utilizing FORTRAN, COBOL, BASIC and Prime Macro Assembler (PMA) programming languages.

Computers: Prime 400  
Programming Languages: FORTRAN, COBOL, BASIC, PMA

#### **ALGOR INTERACTIVE SYSTEMS**

Essex House-L3-Essex Square,  
Pittsburgh, PA 15206  
Contact: Michael L. Bussler  
Telephone: 412/661-2100

An engineering-oriented timesharing service with applications programs in most aspects of structural engineering, heat transfer and manufacturing engineering. General Finite Element Stress and Frequency analysis program (SAPIV, enhanced). Custom-developed software for other engineering applications.

Computers: Prime  
Programming Languages: FORTRAN, BASIC

#### **AMERICAN HOSPITAL SUPPLY CORP.**

1400 Waukegan Road, McGaw Park, IL 60085  
Contact: Local Divisional Sales Rep.  
Telephone: 312/473-1400 (Headquarters Office)

Computerized order-entry system allows AHS customers to order supplies directly through interactive terminal/computer communication. An order-confirmation capability is also available for purchase order printouts.

Computers: Burroughs B7700

#### **AMERICAN MANAGEMENT SYSTEMS, INC.**

1901 N. Moore Street, Arlington, VA 22209  
Contact: Marketing Department  
Telephone: 703/841-6030

AMS is an approved Federal government (TSP) vendor. Services include management consulting, interactive, remote and local batch computing services. Application areas: DBMS, statistical, financial, graphics, Xerox 9700 and OCR. Using Dual DEC System 20's, dual IBM 370/165's and IBM 3033-U6 hardware.

Computers: DEC System 2050, IBM 370/165, IBM 3033

Programming Languages: FORTRAN, COBOL, MACRO, BASIC + 2, APL, FORTRAN IV, G&H, PL/1, COBOL V4, ALC, WATFIV, WATBOL

**A. O. SMITH DATA SYSTEMS DIVISION**  
 8797 North Port Washington Road,  
 Milwaukee, WI 53217  
 Contact: Laurence D. Flora, National Sales Manager  
 Telephone: 414/447-4472

Computer services include remote and on-line processing and computing consulting. Proprietary software is available for sale or lease. Major areas of special attention are Manufacturing Data Systems applications, as well as financial (EFT), ATM (Automatic Teller Machine), and POS (point of sale) transaction processing.

Computers: AMDAHL 470 V6 and IBM  
 Programming Languages: NAS COBOL,  
 FORTRAN, PL/1.

**ARENS APPLIED ELECTRONICS, INC.**  
 15801 White Rock Road, Gaithersburg, MD 20760  
 Contact: Virgil R. Arens, President  
 Telephone: 301/948-6249

AAE provides several specialized computer services, including hydraulic design of fire protection systems, hydraulic network design, antenna design/analysis, and geophysical mapping. Computer graphics capabilities include production of viewgraphs and overhead transparencies.

Computers: Hewlett-Packard 3000 Series III  
 Programming Languages: FORTRAN, COBOL,  
 BASIC, RPG-II

**AVCO COMPUTER SERVICES**  
 201 Lowell Street, Wilmington, MA 01887  
 Contact: Edwin A. Mercer, Jr., Marketing Manager  
 Telephone: 617/729-7700

Avco Computer Services provides remote batch processing, walk-in batch processing and time-sharing via IBM's Time Sharing Option (TSO). Also available is an extensive computer graphics capability utilizing an Information International FR80 Graphic Recorder and a graphics software library consisting of DISSPLA, CALCOMP ROUTINES, TEKTRONIX PLOT 10 and others. Large library of applications software including SIMPLAN (a financial planning and budgeting system), PANVALET (a program management and security system), MARK IV (a file management system), EZSTOCK (a stock market system) and EZCHART (a stock market charting system). Also available are SYNCHSORT, IMS and BMDP.

Computers: Multiple IBM 370/158  
 Programming Languages: COBOL, COBOL Interactive Debug, FORTRAN, FORTRAN Interactive Debug, Assembler, VS BASIC, PL/1, RPG, Speakeasy, Script

**BABCOCK & WILCOX COMPUTER SERVICES**  
 P. O. Box 1260, Lynchburg, VA 24505  
 Contact: W. H. Mullan, Senior Marketing Representative  
 Telephone: 804/384-5111 (ext. 3512)

Timesharing services oriented to the scientific community with particular strength in the areas of nuclear analysis, applied mechanics and mathematical analysis.

Computers: CDC Cyber 76/Cyber 73/Cyber 171  
 Programming Languages: FORTRAN, COBOL,  
 COMPASS

**BIBLIOGRAPHIC RETRIEVAL SERVICES, INC.**  
 702 Corporation Park, Scotia, NY 12302  
 Contact: Cathy Anderson, User Liaison  
 Telephone: 518/374-5011

National on-line information retrieval service provides access to major bibliographic data bases in many subject disciplines. Primary users of the service include university, government and corporate libraries and information centers. BRS also provides a complete range of consultative and technical support services for the design, construction, implementation and maintenance of data bases of all sizes and types.

Computers: IBM 370/155

**BOLT BERANEK AND NEWMAN INC.**  
 50 Moulton Street, Cambridge, MA 02138  
 Contact: Stephen G. Chipman, Associate Manager, Computer Center  
 Telephone: 617/491-1850

General time-sharing services utilizing the TENEX and TOPS-20 operating systems. BBN offers a wide range of scientific, engineering and research-oriented languages. BBN also features the electronic mail system, HERMES, which allows users to send, read, organize, edit, forward and reply to messages, with little background or training. More advanced capabilities are available as users' expertise grows.

Computers: DECSYSTEM 10, DECSYSTEM 20  
 Programming Languages: ALGOL, BASIC+2,  
 BCPL, BLISS-10,  
 COBOL, FORTRAN-10,  
 FASBOL, GLOB, INTERLISP, LOGOS, MACRO,  
 PAL11X, PPL,  
 HERMES, TECO,  
 SNOBOL, SOS,  
 SRCCOM, XED,  
 EMACS, PASCAL

**BOWNE INFORMATION SYSTEMS**  
 160 Water Street, New York, NY 10038  
 Contact: Paul Ebeltoft, Manager, National  
 Accounts—Sales  
 Telephone: 212/952-4400

Major application areas include word processing, textual data base management, photocomposition and electronic mail. Specialties include litigation support, along with manual, specification, proposal, contract and report preparation.

Computers: IBM 370/155 (Two)

**BRODART, INC.**  
 1609 Memorial Avenue, Williamsport, PA 17705  
 Contact: Melodye Pompa, Manager, On-Line  
 Support Services  
 Telephone: 717/326-2461

On-line ordering services allow users to access data base of over 750,000 title records of English language monographs, displaying title, author, publication status (i.e., out of print), publisher code, bind, LC card number, ISBN and current list price. Simple, alphanumeric "search keys" are employed, eliminating the need for programming languages or extensive experience in computer use. Users can place orders for available titles on an interactive basis, if desired.

Computers: DEC PDP 11/70

**BROKER SERVICES, INC.**  
 8525 East Orchard Road, Suite 305, Englewood,  
 CO 80110  
 Contact: James Donahue, President  
 Telephone: 303/773-6883

Timesharing computer service offering real-time market pricing data in common stocks, options and commodities. FORTRAN, COBOL and PL/1 programming languages are supported and several application packages are available in the areas of financial analysis, forecasting, econometric modeling and investment analysis.

Computers: Prime 400  
 Programming Languages: FORTRAN, COBOL,  
 PL/1

**BURROUGHS CORP. NYC DATA CENTER**  
 80 Pine Street, New York, NY 10005  
 Contact: Bernard Cherin, Data Center Manager  
 Telephone: 212/952-7337

A general timesharing and remote batch processing service. Languages include FORTRAN, COBOL, ALGOL, BASIC and APL. Among applications programs available are BASIS statistical and regression analysis; QUICK real estate financial investment analysis, and NUMATH radio media advertising analysis.

Computers: Burroughs 6700  
 Programming Languages: ALGOL, BASIC,  
 FORTRAN, COBOL,  
 PL/1, APL, APT,  
 DYNAMO, GASP,  
 SIMULA

**CALLDATA SYSTEMS INC.**  
 A GRUMMAN Company  
 20 Crossways Park N., Woodbury, NY 11797  
 Contact: Director of Marketing  
 Telephone: 516/575-3298

CallData employs Amdahl, CDC, DEC, Honeywell and IBM computer equipment to provide a variety of application based remote computing services in the following disciplines: financial planning and reporting, legal, project management, data base management, retail store management, engineering, statistics, marketing management, computer programming and graphics.

Computers: Amdahl 470 V5, Honeywell 66/07,  
 DECSystem 10, CDC Cyber/173  
 Programming Languages: BASIC, FORTRAN,  
 PL/1, COBOL, S BASIC,  
 BATCH/BASIC,  
 PASCAL, ALGOL, APL,  
 DYNAMO, LISP,  
 SNOBOL, PILOT,  
 MACRO

**CHARGIT**  
 401 Seventh Avenue, Second Office Floor  
 New York, NY 10001  
 Contact: Thomas C. Miller, President  
 Telephone: 212/760-9876

Chargit offers computerized ticket reservation systems for the theater, sports and restaurant industries, along with software development and time-sharing services for credit-card processing bureaus. Software packages available include on-line reservation transaction processing, inventory, accounting and Box-Jenkins forecasting.

Computers: Hewlett-Packard 3000  
 Programming Languages: COBOL, FORTRAN,  
 RPG, BASIC, SPL

**COMMODITY INFORMATION SERVICES**  
 175 W. Jackson Boulevard, Suite 1021  
 Chicago, IL 60604  
 Contact: Donald L. Jones, President  
 Telephone: 312/922-3661

Interactive timesharing services offer access to several data bases with information on all commodity futures, interest rate futures and currency futures. Application programs include analysis, charting and interactive margin accounting. Customers may also write their own programs to analyze data base information.

Computers: Harris 210  
 Programming Languages: FORTRAN

**COMPEDA INCORPORATED**

P. O. Box 392, 524 Brighton Avenue, Suite 12  
Spring Lake, NJ 07762  
Contact: Michael Causer, Engineering Manager  
Telephone: 201/449-0340

Multi-purpose service bureau for engineers. Application programs include: Plant Design Management for piping layout, interference checking, drawing, material reporting; GAELIC for integrated circuit design, function checking and logic simulation; AUTOMAT, an MTM-2 type work study system; NUSLIP for production line balancing; COMPUTE, work standards for machine shops; GFUN, for analysis of three-dimensional static magnetic fields; THESEUS, for finite element data preparation and result interpretation; SAMMIE, a 3-D man/machine interaction modeling program; and SPLICE, Spline curve synthesis.

Computers: Prime 400

**COMPUTAPIPE**

17610 Beach Boulevard,  
Huntington Beach, CA 92647  
Contact: Ian Dickson, Proprietor  
Telephone: 714/536-4975

Computerized pipe layout program assists pipe company engineers and designers in determining and optimizing actual layout of pipeline projects. Input, design and output stages of the program are completely interactive, including validation checks at critical points in the design. Four types of summary reports are produced: pipeline layout, materials, bevel and elbow pipe. Summary reports can then be used to simplify bidding, manufacturing and billing.

Computers: PDP 11/70

**COMPUTER CORPORATION OF AMERICA**

575 Technology Square, Cambridge, MA 02139  
Contact: Jeffrey B. Holden, Director,  
Communications Technology Div.  
Telephone: 617/491-3670

COMET, a terminal-oriented electronic mail system, provides for (1) creation of messages, including editing (word processing) facilities; (2) message distribution, including management of distribution lists; (3) computerized filing and retrieval; and (4) auxiliary services, such as message forwarding and access protection. The COMET system is mini-computer based and is also suitable for inhouse installation.

Computers: PDP 11/40

**COMPUTER SHARING SERVICES, INC.**

2498 West Second Avenue, Denver, CO 80223  
Contact: Dan Walkovitz, Vice President, Marketing  
Telephone: 303/934-2381

Interactive timesharing, remote batch and remote job entry using Dartmouth Time Sharing System software. A large applications library is available. Especially strong are financial applications, including corporate modeling and simulation, forecasting, report generation, and comprehensive bond programs. Other areas of expertise include mining applications, plotting and graphics, and illumination engineering. Among CSS's customer support services are industry specialists in finance, mining and other areas.

Computers: Honeywell 6000 Series  
Programming Languages: ALGOL, APL, BASIC,  
CPS, FORTRAN,  
COBOL, LISP, SNOBOL,  
PL/1, COGO, DYNAMO,  
GMAP

**CONCAP COMPUTING SYSTEMS**

7770 Edgewater Drive, #700, Oakland, CA 94621  
Contact: Ronald K. Sawyer, Vice President  
Telephone: 415/635-5750

Concap provides technical timesharing services for civil engineers, land surveyors and structural engineers. Application programs include: coordinate geometry, field survey stakeout and reductions, earthwork quantities, frame and truss analysis, etc. The coordinate geometry programs also interface with graphics programs to produce subdivision plots, grading plans, etc. The library is also available on an inhouse turnkey minicomputer system complete with on-line terminals and plotter.

Computers: PDP 11/45  
Programming Languages: FORTRAN

**CORNELL UNIVERSITY**

Office of Computer Services  
G-24 Uris Hall, Ithaca, NY 14853  
Contact: Mariann Carpenter, User  
Support Specialist  
Telephone: 607/256-7341

General interactive computing services using VM/370 CMS with special emphasis on academic applications; remote job submission and retrieval to OS/MVT batch processor. A comprehensive library of programming languages, statistical packages and mathematical routines is available as well as special purpose applications in econometric analysis, policy analysis and chemical mass spectral identification. Users performing high speed calculations may interface to an Array Processor.

Computers: IBM 370/168  
Programming Languages: Assembler, PL/1,  
FORTRAN, VS BASIC,  
APL, COBOL

**CORPORATE SERVICES INC.**

3410 E. McDowell Road, Mesa, AZ 85203  
Contact: Don R. Horrocks, President  
Telephone: 602/832-8230

A general timesharing service utilizing the APL programming language and specializing in qualified pension and profit-sharing plans. General business applications and sales aids, including Section 79, IRA and other types of illustrations, can be prepared by users unfamiliar with programming. APL programming may be done entirely by the user, or CSI will customize programs for specific applications. Data set access and file storage is readily available through the APL file system.

Computers: IBM 370/165 and Amdahl  
Programming Languages: APL

**CORPORATE TIME SHARING SERVICES INC.**

30 Rockefeller Plaza, #3340, New York, NY 10020  
Contact: Robert L. Chambers, Executive Vice President  
Telephone: 212/246-7733

A general timesharing service based on Dartmouth Time Sharing System software. CTS also offers a plan which allows large companies or institutions to economically consolidate their timesharing activity and to eventually move timesharing in-house.

Computers: Honeywell Level 66  
Programming Languages: ALGOL, BASIC, CPS, FORTRAN, COBOL, LISP, APL, DYNAMO

**DARTMOUTH COLLEGE**

Hanover, NH 03755  
Contact: Eugene A. Fucci, Director of Regional Activities and Telecommunications, Kiewit Computation Center  
Telephone: 603/646-2644

A general timesharing service with background (batch) option, utilizing the DTSS operating system. The applications library consists of over 500 programs in 30 categories including many education-oriented programs developed at Dartmouth. DTSS timesharing uses an English-language command structure and has a built in "explain" system. Most programs developed at Honeywell for its Series 6000 systems operate on DTSS. Access is limited to educational, governmental and other non-profit institutions.

Computers: Dual Honeywell 66/80's  
Programming Languages: ALGOL, BASIC, CLI-COBOL, COBOL, CPS, FORTRAN, LISP, SNOBOL, APL, DYNAMO, TEACH, PL/1, TRAC, GASP, SHCP, GIFTS, ELIZA, PASCAL, IMSL, MPS

**DATALINE SYSTEMS LIMITED**

175 Bedford Road, Toronto, Ontario  
CANADA M5R 2L2  
Contact: Don Johnston, Manager, Technical Writing and Education  
Telephone: 416/964-9515

Dataline offers interactive programming facilities and batch processing facilities, complemented by extensive documentation and education programs. In addition, the company has available comprehensive software packages designed and customized for members of the business and scientific communities; some of these packages include a business and reporting system, a financial modeling system, a portfolio management system and a management information system for tour wholesalers.

Computers: DECSYSTEM 10  
Programming Languages: FORTRAN, COBOL, BASIC, APL, ALGOL, SNOBOL, MACRO

**DIGITAL BROADCASTING CORPORATION**

7670 Old Springhouse Road, McLean, VA 22101  
Contact: Marketing Department  
Telephone: 703/821-0003

INFOCAST, an electronic mail service, provides high-speed distribution of hard copy "broadcast" messages via Telenet and commercial FM stations.

COMPUCOM service offers off peak general timesharing at reduced rates. Various general business, engineering, scientific/technical and other types of application programs are available. An electronic mailbox is offered, as well as access to popular interest data bases, including: classified ads, financial summaries, sports scores, restaurant/theater guides and horoscope/biorhythms.

Computers: Tandem, Interdata

**DR. DVORKOVITZ & ASSOCIATES**

P. O. Box 1748, Ormond Beach, FL 32074  
Contact: John S. Cronin, Associate  
Telephone: 904/677-7033

Specialists in technology transfer, Dr. Dvorkovitz & Associates maintains the largest data base of licensable technology in the world. Technical abstracts are stored in up to five different languages. Each abstract provides the source, a description of the technology, its main use, advantages, type of license terms, etc. and contains information relative to the appropriate technology. A wide variety of services, tailored to the client's needs, are offered.

Computers: IBM 360

#### **EDUNET/EDUCOM**

P. O. Box 364, Princeton, NJ 08540  
Contact: Rodney Mebane, EDUNET Information  
Coordinator  
Telephone: 800/257-9505 or 609/921-7575

EDUNET, a national computing network for higher education and research, facilitates use of computer resources at 16 educational institutions. EDUNET Information Services provide documentation and a keyword-searchable data base on network hosts, software/hardware, and publications available. User Support Services provide consultation on data communications, terminal procedures, log-on and resource use. Administrative Services provide account initiation, central billing, document ordering, software placement. Participation is limited to colleges, universities and qualified non-profit organizations. For details on services offered by 14 EDUNET suppliers, see listings in this directory of Cornell U., Dartmouth College, U. of Illinois, U. of Michigan, Michigan State U., Wayne State U., Massachusetts Institute of Technology, TUCC, U. of Notre Dame, Rice U., Stanford U., State U. of New York/Albany, U. of Wisconsin and Yale U.

#### **ELECTRONIC TABULATING CORPORATION**

1100 Union Avenue, Newburgh, NY 12550  
Contact: Aaron Ruscitti  
Telephone: 800/431-9984 (US WATS)  
800/942-5856 (NY WATS)  
914/564-6000

Specialists in computing services for the insurance industry. Staff members experienced in insurance transactions and production are available to review client requirements and make recommendations. Access is limited to insurance agents and insurance companies.

Computers: IBM 360 (multiple), Data General  
Eclipse  
Programming Languages: BASIC, FORTRAN,  
COBOL, PL/1

#### **ENVIRONMENTAL DATA NETWORK, INC.**

120 S. Central, Suite 922, St. Louis, MO 63105  
Contact: Craig Toder, President  
Sam Frisella, Vice President  
Telephone: 314/725-4220

Real-time global weather data base retrieval system. Allows access to current and historical data from reporting stations throughout the world. Forecasts are provided by EDN meteorologists. Products can be accessed in either graphic or alphanumeric format.

Computers: PDP 11/70, PDP 11/34  
Programming Languages: FORTRAN IV

#### **ENVIROTECH INFORMATION SYSTEMS**

15 North West Temple, Salt Lake City, UT 84103  
Contact: Kenneth J. Carter, Manager for Scientific  
Applications  
Telephone: 801/533-8384

General timesharing, computer-aided design and interactive graphics on an IBM VSPC timesharing system supporting APL and FORTRAN. The system primarily serves divisions of Envirotech but is available to others by special arrangement.

Computers: IBM 370/158  
Programming Languages: FORTRAN, COBOL,  
APL, ICES, APT, PL/1

#### **FEDERAL HOME LOAN BANK BOARD**

1700 G Street, N.W., Washington, D.C. 20552  
Contact: Thomas P. Wood, Manager, FHLBB  
Computer Center  
Telephone: 202/377-6110

Concurrent local batch and interactive timesharing for development and production, based predominantly on the COBOL programming language. Current application involves district banks editing in corrections (on an interactive basis) to batch processed reports. Access is limited to FHLBB employees, contractors working on projects for the FHLBB and FHLBB personnel.

Computers: DECSYSTEM 10  
Programming Languages: COBOL, BASIC,  
FORTRAN

#### **FLEXI-VAN CORPORATION**

One Gilbert Drive, Secaucus, NJ 07094  
Contact: Albert Vincent, Technical Manager  
Telephone: 201/866-0500 (ext. 244)

Accounting and general business software packages available for clients in the transportation industry. Several standard programming languages are supported, including BASIC, COBOL, FORTRAN, PL/1 and Assembler languages.

Computers: Honeywell 6680  
Programming Languages: COBOL, Assembler,  
PL/1, IDS-1, FORTRAN,  
IDS-2, BASIC

#### **FLORIDA COMPUTER, INC.**

99 N. W. 183rd Street, #126, North Miami, FL 33169  
Contact: John H. Wright, President  
Telephone: 305/652-1710

An on-line service bureau and software house specializing in data base management software and micrographic retrieval systems, using the PDP 11 under RSTS/E.

Computers: Dual PDP 11  
Programming Languages: BASIC, FORTRAN,  
COBOL, RPG

**GALLAUDET COLLEGE**

7th and Florida Avenue, N.E.,  
Washington, D.C. 20002  
Contact: Kevin B. Casey, Director, Computer  
Center  
Telephone: 202/447-0519

Computer services related to deafness. Included are computer-aided instruction on the college level as well as CAI support for high school and grade school levels. A special computer communications interface for five-level Baudot teletype may be used for person-to-person contact among the deaf.

Computers: DEC 10  
Programming Languages: ALGOL, BASIC,  
FORTRAN, COBOL,  
LISP, SNOBOL, APL,  
SIMULA

**HONEYWELL DATANETWORK**

Honeywell Plaza, MN12-1124,  
Minneapolis, MN 55408  
Contact: Marketing Support  
Telephone: 612/870-6000

DATANETWORK provides concurrent processing in remote batch and timesharing with access to common files by either operating mode. Access to a comprehensive library of remote batch and timesharing programs and sub-routines. Multiple output options including microfiche (com) and the page printing system. Support for many types of terminals with speeds ranging from 110-9600 bps. Extensive conversion aids are available for both programs and files. User support, including systems engineering and data control services, plus software and applications development.

Computers: Multiple Honeywell Series 6000 and Series 60 (Level 66), each with front-end network processors.  
Programming Languages: FORTRAN, COBOL, GMAP, ALGOL, JOVIAL, APL, BASIC, DATABASIC, TEXT EDITOR

**HOPPER ASSOCIATES**

27888 Orchard Lake Road,  
Farmington Hills, MI 48018  
Contact: James M. Taylor, Senior Consultant  
Telephone: 313/851-6030

Consultants in management, manufacturing, insurance, accounting and financial systems, both manual and computerized. Services include: management and administrative organization, hardware selection assistance, production scheduling, inventory control, actuarial systems, billing and collection services, automated general ledger and financial statements, fixed asset systems, property management systems, payroll systems, banking and credit union systems, chemical information systems and system conversions from batch or timesharing to minicomputers.

Computers: Hewlett-Packard 3000 MPE III  
Programming Languages: COBOL, FORTRAN,  
BASIC, RPG, SPL

**HYDROCOMP, INC.**

1502 Page Mill Road, Palo Alto, CA 94304  
Contact: Jack Kittle, Manager of Computer Services  
Telephone: 415/493-5522

Computer services in water resources. Application software for flood studies, water supply management, reservoir operations, water quality studies, stochastic modeling of hydrometeorological data, urban flood plain management, agricultural land conservation practices, irrigation studies and ground water modeling. Hydrocomp also provides the use of such EPA models as ARM (Agricultural Runoff Management), NPS (Non-Point Source Loading) and HSPF (Hydrologic Simulation Program in FORTRAN). In addition, HEC 2 (Army Corps of Engineers Backwater Flooding) and several Hydrocomp models, UROS (Urban Runoff Simulation) and HSPII (Hydrocomp Simulation Processor, used on IBM systems) are available for use. IBM 370 services can be utilized over an RJE line.

Computers: HP 3000 Series II  
Programming Languages: FORTRAN, SPL, PL/1

**III SYSTEMS INC.**

763-A Concord Avenue, Cambridge, MA 02138  
Contact: Sally Hatch, Customer Service  
Telephone: 617/868-1453

III Systems Inc. offers a wide range of services, including on-line interactive computing, remote batch processing, page printing. Special services for the financial industry include back office brokerage systems, portfolio analysis, current stock market price data base and security investment management base; custom developed software capability for states, municipalities, banks, U.S. government agencies. Also offered are consulting services on system definitions, modification, enhancement and communications support.

Computers: 6060 Honeywell  
Programming Languages: FORTRAN, COBOL, GMAP

**INFORMATICS, INC.**

Data Services Division  
6 Kingsbridge Road, Fairfield, NJ 07006  
Contact: Mr. Richard Smith, Vice President, Sales  
Telephone: 201/575-2800

Information processing services, software products and professional consulting. General timesharing and remote batch services utilizing large-scale IBM-compatible resources provide both management-oriented and service-oriented information. There is special emphasis on financial and planning application products.

Computers: AS/6, AS/5 and IBM 158  
Programming Languages: Assembler, BASIC, COBOL, FORTRAN, PL/1, APL



**THE INFORMATION BANK**

1719A Route 10, Parsippany, NJ 07054  
Contact: James L. Bauer, Vice President  
Telephone: 201/539-5850

A data base of 1.5 million abstracts of current affairs, business and financial information compiled from The New York Times and 60 additional general circulation publications. The data base is updated nightly. The service is used in large corporations, governmental agencies, the media, research centers and universities.

Computers: IBM 370/148.

**INFORMATION CONSULTANTS, INC.**

1012 20th Street, N.W., Washington, D.C. 20036  
Contact: Martin Beer, Vice President, Technical  
Robert Henry, Vice President, Marketing  
Telephone: 202/785-0115

ICI provides general purpose timesharing services utilizing its Digital Equipment Corp. DECSYSTEM-2050. This service consists of a wide range of processing speeds, both batch and on-line interactive operations, an extensive library of application programs and virtually all of the commonly used programming languages. In addition to the timesharing services, ICI's Washington, D.C. based staff provides systems consulting services, systems design development and implementation.

Computers: DECSYSTEM-2050  
Programming Languages: MACRO, COBOL,  
FORTRAN, APL, PL/1,  
ALGOL, BASIC,  
SNOBOL

**INSCO**

3501 Route 66, Neptune, NJ 07753  
Contact: John M. Tym  
Telephone: 201/922-1100

A general purpose computing service composed of interactive timesharing under VM/370 CMS and remote job entry under OS/VS2 with JES2.

Computers: IBM 370/168 (Multiple), IBM 3033  
Programming Languages: BASIC, FORTRAN,  
COBOL, RPG, APL,  
PL/1, COGO, ICES,  
GPSS, SIMSCRIPT

**INTERACTIVE MANAGEMENT SYSTEMS, INC.**

375 Concord Avenue, Belmont, MA 02178  
Contact: Mr. Michael R. Carabetta, Marketing  
Director  
Telephone: 617/489-3550

Interactive Management Systems, Inc. is a professional firm specializing in the development of business, accounting, financial and manufacturing applications. Software applications are designed for use on Digital Equipment Corporation PDP-11 minicomputers and are available on a timesharing basis or in conjunction with a DEC Datasystem installation. In addition, IMSI maintains a large programming and technical staff that is available for custom programming and consulting.

Computers: Two DEC PDP-11/70s  
Programming Languages: BASIC + , BASIC + 2,  
FORTRAN IV, COBOL,  
RPG

**INTERACTIVE MARKET SYSTEMS,  
INCORPORATED**

19 West 44th Street, New York, NY 10036  
Contact: Richard Makely, President  
Telephone: 212/869-8810

More than 65 staff professionals provide advertising and marketing analysis support, utilizing both syndicated and proprietary research. Complete media and market services include questionnaire design, simulations and statistical analysis. 350+ clients analyze Simmons, TGI, ARB, Nielsen, Starch, BAR, PMB, NRS, PES, Purchase Influence, INA, BMRB, etc. Available in U.S., Canada and United Kingdom.

Computers: DEC-2050

**INTERACTIVE SCIENCES CORPORATION**

60 Brooks Drive, Braintree, MA 02184  
Contact: Joann Sexton, Manager, Marketing  
Services  
Telephone: 617/848-2660

ISC is a Braintree, MA based remote computing and consulting firm providing their services throughout the United States. They specialize in data base management, model building, statistical analysis, financial modeling, forecasting and reporting. ISC's software packages cover a wide spectrum of offerings to the financial and business world, including the NIH/EPA Chemical Information Systems, which are noted for their reliability, ease-of-use and cost-effectiveness. ISC's Consulting and Systems Division professionals provide the expertise to customize an efficient computerized business system.

Computers: Five PDP-10  
Programming Languages: BASIC, FORTRAN,  
COBOL



**INTERACTIVE SYSTEMS CORPORATION**

1526 Cloverfield Boulevard,  
Santa Monica, CA 90404  
Contact: Ms. Paula Mellon, User Services  
Department  
Telephone: 213/829-7741

General timesharing use of PDP 11/70 and VAX 11/780 running Interactive's version of the UNIX\* Time Sharing Operating System. Several application programs are available for text processing and photocomposition, along with the Programmer's Workbench and other software development tools.

\*UNIX is a trademark of Bell Laboratories

Computers: DEC PDP 11/70 and DEC VAX 11/780  
Programming Languages: COBOL, FORTRAN

**I. P. SHARP ASSOCIATES LIMITED**

145 King Street West,  
Toronto, Ontario, CANADA M5H 1J8  
Contact: J. Morgan Smyth, Toronto Branch  
Manager  
Telephone: 416/364-5361

SHARP APL timesharing and consulting services. Numerous application packages covering financial, statistical, corporate planning, econometric, actuarial and graphics areas. Public data bases available to SHARP APL users cover airlines data, socioeconomic, petroleum, banking and securities data.

Computers: Two AMDAHL V6-II's  
Programming Languages: APL

**ITEL UTILITY DATA SERVICES**

7540 LBJ Freeway, Suite 510, Dallas, TX 75251  
Contact: Richard H. Coleman, Vice President  
Marketing  
Telephone: 214/233-0679

Timesharing services for statistical analysis, linear programming, and data base management; remote batch service for engineering applications; computer centers include large-scale CDC, IBM, and Univac computers.

Computers: CDC 176, UNIVAC 1100/81, IBM 158  
Programming Languages: COBOL, FORTRAN

**JOHN F. STEFFEN ASSOCIATES, INC.**

2333 Grissom, St. Louis, MO 63141  
Contact: Carol Boeckmann, Data Processing  
Manager  
Telephone: 314/567-1700

Timesharing and program development for all phases of property design, project planning and control and real estate evaluation. Consulting A&E firms analyze investment feasibility in building projects, and use computerized engineering, estimating, energy analysis and energy management software. General contractors use JFS budget allocation and control programs for construction management. Real estate brokers find property, qualify clients, determine costs, analyze investment and manage firms through reporting and accounting programs offered.

Computers: Prime 400  
Programming Languages: FORTRAN

**LANDART SYSTEMS, INC.**

135 William Street, New York, NY 10038  
Contact: John Gilmour, President  
Telephone: 212/962-7781

A multi-language timesharing service that also provides programming, systems design and conversion assistance. BASIC, COBOL, FORTRAN and Assembler languages are offered. Companies purchasing DEC 20 computers often use Landart's pure DECSystem for predelivery conversion work. A backup DEC 20 is available on-site.

Computers: DEC 20  
Programming Languages: BASIC, COBOL,  
FORTRAN,  
ASSEMBLER

**LITTON COMPUTER SERVICES**

1831 Michael Faraday Drive, Reston, VA 22090  
Contact: James Harrington, Assistant General  
Manager  
Telephone: 703/471-9200

LCS offers interactive timesharing and remote batch processing services on an IBM 370/3033 processor complex, running under MVS 3.7 and JES2 nationwide. Accessible software includes data base management systems, financial, statistical, graphics and transportation planning packages. Users have access to services via communication lines up to 4800 bps for interactive and 19.2 kb for batch processing.

Computers: IBM 370/3033 Processor Complex  
Programming Languages: COBOL, APL, PL/1,  
FORTRAN, VSBASIC,  
ALC

**LOCKHEED INFORMATION SYSTEMS**

Code 5020/201  
3251 Hanover Street, Palo Alto, CA 94304  
Contact: Frances G. Spigai, Director of Marketing  
Telephone: 415/493-4411, ext. 45066

The DIALOG on-line information retrieval service currently offers access to more than 100 data bases covering a variety of fields in the sciences and the humanities. DIALOG customers access a wide variety of information: more than 25 million abstracts of published journal articles, conference proceedings, etc.; descriptions of current research projects; information about funding organizations and sources of grants; both historical data and forecasts of industries, products and end-use data for all countries of the world. In addition, a computational ability allows businesses and other organizations to enter their own data and perform regression and other statistical analyses. DIALOG is available on-line daily for over 100 hours per week, and all data bases are available continuously.

Computers: IBM 3032 and IBM 370/165

**McDONNELL DOUGLAS AUTOMATION COMPANY**

P. O. Box 516, St. Louis, MO 63166  
Contact: W. R. Vickroy, Vice President of Marketing  
Telephone: 314/232-8021

Nationwide data services include: remote job processing, timesharing, on-line data base management, consulting, systems design, programming, software (package or custom designed), data entry/data conversation, computer graphics, computer output microfilming, engineering applications, project management, manufacturing systems, numerical control, management services, financial, insurance and business programs, hospital-shared computer services and educational services.

Computers: IBM 370/168 (multiple), CDC  
Cyber 175  
Programming Languages: ALGOL, BASIC,  
FORTRAN, COBOL,  
APL, PL/1, GPSS, CADD

**MANAGEMENT ANALYSIS BY COMPUTER, INC.**

6803 Boulevard East, Guttenberg, NJ 07093  
Contact: Dr. Virgil C. Harrington, President  
Telephone: 201/869-2418

Timesharing with accounting and statistical programs for financial reporting in budgeting, forecasting, revenue/expense accounting and product line sales analysis.

Computers: AM 100  
Programming Languages: BASIC, FORTRAN,  
LISP, PASCAL,  
Assembler Languages

**MANAGEMENT CONCEPTS, INC.**

#8 Executive Park West, Atlanta, GA 30329  
Contact: Ed Solomon, President  
Telephone: 404/321-0140

Remote timesharing via terminals at 110-1200 bps. Interactive accounting applications include: general ledger and financials, payroll, accounts payable, job/project costing, econometric modeling, billing and accounts receivable, tenant receivables and management, inventory control.

Computers: Prime 400  
Honeywell 1648  
Programming Languages: FORTRAN, X BASIC,  
COMPILER BASIC,  
COBOL

**MANAGEMENT DECISION SYSTEMS, INC.**

300 Third Avenue, Waltham, MA 02154  
Contact: Walter E. Lankau, Vice President  
Telephone: 617/890-1100

EXPRESS, an on-line, interactive information analysis system, is available for both remote access and for in-house installation. In addition, MDS offers consulting expertise in marketing, finance, and planning to help clients solve business problems using EXPRESS. EXPRESS is a fully integrated system containing data base management, powerful data manipulation and statistical analysis features, extensive display capabilities including a report generator and plotter/graphics, and model building features.

Computers: Prime 400  
Programming Languages: FORTRAN

**MARSHALL AND SWIFT PUBLICATION COMPANY**

1617 Beverly Boulevard, Los Angeles, CA 90026  
Contact: Robert Pollack  
Telephone: 213/624-6451

Marshall and Swift building costs data (published continuously since 1932) is offered in an on-line, interactive valuation service for appraisers, insurance agents, construction engineers, designers, developers and others. Clients access a comprehensive data base of building component costs, which are then depreciated and adjusted for local area differences. Users enter building descriptions to the computer via a remote terminal. Complete cost reports are then generated and printed out on the terminal.

Computers: Prime 400

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**  
Information Processing Services  
Room 39-565, Cambridge, MA 02139  
Contact: Brenda L. Ferriero, Supervisor of  
User Services  
Telephone: 617/253-4102

Multics timesharing system is a virtual environment with characteristics that facilitate writing single programs or entire subsystems. Multics incorporates an easily learned user interface, a rich command language, a mail and message system, on-line documentation in the form of help files and an on-line consultant. Access is limited to institutions of higher education and qualified non-profit organizations. MIT also offers TROLL, an interactive data analysis package designed specifically for the study of time-dependent data and systems. TROLL capabilities include simulation; regression analysis; and data analysis, transformation and plotting. Access to TROLL service is unlimited.

Computers: Honeywell 6180, IBM 370/168  
Programming Languages: APL, BASIC, COBOL,  
FORTRAN, LISP, PL/1

**MEINCKE, PEARCE & CO .**  
60 Hackensack Plank Road, Weehawken, NJ 07087  
Contact: Michael J. McMahon, President  
Telephone: 201/866-3912

Custom software for distributed systems and IBM communications interface. Custom business and accounting software.

Computers: Hewlett-Packard 3000  
Programming Languages: APL, RPG, BASIC,  
COBOL, FORTRAN, SPL

**MELLONICS INFORMATION CENTER, LITTON  
SYSTEMS, INC.**  
6701 Variel Avenue, Canoga Park, CA 91303  
Contact: John Cudworth, Director of Marketing  
Telephone: 213/887-5100

Mellonics Information Center is a full-service data processing center running MVS, JES2 on two IBM 370/3033's. Local batch and remote processing are available with a variety of data base, statistical, and scientific packages. SPF, IMS, SPSS, APT and a variety of application programs are also offered. A staff of senior software specialists provides technical assistance. TSO (with several MIC enhancements) is available for program development.

Computers: IBM 370, IBM 3033  
Programming Languages: COBOL, FORTRAN,  
PL/1, VSBASIC, LISP

**MEMORIAL DOSE DISTRIBUTION  
COMPUTATION SERVICE**  
Memorial Hospital  
1275 York Avenue, New York, NY 10021  
Contact: Dr. Radhe Mohan, Director  
Telephone: 212/794-7486

MDDCS offers programs to perform radiation dose distribution computations for external beam (x-rays and electrons), implants and irregular fields. Access is limited to medical institutions having adequate radiation treatment facilities and employing qualified medical physicists.

Computers: PDP 11/55  
Programming Languages: FORTRAN

**MERIT COMPUTER NETWORK**  
University of Michigan  
2200 Bonisteel Blvd., Ann Arbor, MI 48109  
Contact: Christine Wendt, Merit User Liaison  
Telephone: 313/764-9423

Merit is a packet-switching network developed and operated by four Michigan universities. The network couples the computers and operating systems of Michigan State University, University of Michigan, and Wayne State University. A DECSys-tem 1090 at Western Michigan University will be added to the network later this year.

Individuals with valid accounts at any of these hosts may access them by specifying Merit's Telenet address and then selecting the desired host system. Some further information about the host services may be found under their respective names in this directory. In addition, Merit maintains an on-line directory of host computer programs and other available software resources. Questions about the hosts and their services may be directed to Merit.

**METCALF & EDDY**  
50 Staniford Street, Boston, MA 02114  
Contact: Glenn S. Orenstein, Director of  
Engineering Computer Applications  
Telephone: 617/367-4290

Metcalf & Eddy offers a computer-aided data collection and report generation service for Waste-water Treatment Plants. Clients from municipal, regional and industrial concerns may enter data by means of a low-speed terminal connected to Telenet. Operation is monitored, and state, federal and local operational reports are generated. In addition, several applications programs are available in the fields of civil and sanitary environmental engineering. Usage is limited to Metcalf & Eddy consulting engineers and authorized clients.

Computers: DEC PDP 11/70  
Programming Languages: FORTRAN, BASIC,  
MACRO

**MICHIGAN STATE UNIVERSITY**

Computing Laboratory  
E. Lansing, MI 48824  
Contact: Christine Wendt, Merit User Liaison  
Telephone: 313/764-9423

SCOPE/HUSTLER is a locally modified version of the Control Data SCOPE Operating System. The principal difference is HUSTLER's ability to process both batch and interactive jobs, using a unified scheduling algorithm. A variety of programming languages and special application packages are available, including Mathematical Programming APX III.

Computers: CDC 6500  
Programming Languages: FORTRAN, BASIC,  
COBOL, PASCAL, APL

**MULTIPLE ACCESS COMPUTER GROUP**

885 Don Mills Road, Don Mills, Ontario,  
Canada M3C 3H1  
Contact: Don Mattson, Manager, Marketing  
Services  
Telephone: 416/443-3939

General processing services are available as both conversational timesharing and batch services via low-speed interactive terminals and high-speed RJE terminals. Application programs include corporate/financial modeling and simulation, data base management systems, management sciences, mathematics and the various scientific and engineering disciplines. Three interconnected Control Data configurations operate primarily under the CDC NOS operating system supporting the latest versions of all major programming languages including APL, BASIC, COMPASS, COBOL and FORTRAN.

Computers: CYBER Series 70, CDC 6600, Cyber 170  
Programming Languages: APL Version 2, BASIC  
Version 3, COMPASS  
Version 3, COBOL  
Version 4 (ANSI '68),  
COBOL Version 5  
(ANSI '74), FORTRAN  
Extended Version 4

**NATIONAL COMPUTER NETWORK**

1929 N. Harlem Avenue, Chicago, IL 60635  
Contact: Jeff Copersmet, Sales Manager  
Telephone: 312/622-6666

A general time-sharing service. Basic application programs are available in addition to specific packages for stock option analysis, stock and portfolio pricing, microcomputer programming and plotting/graphics. Customized programs can be developed in many areas for specialized application needs or for users unfamiliar with computer programming.

Computers: Honeywell 1648A (multiple), DEC 20  
Programming Languages: BASIC, FORTRAN IV,  
COBOL, APL, TEACH,  
SOLVE, TEXT EDITOR,  
PASCAL

**NATIONAL LIBRARY OF MEDICINE**

8600 Rockville Pike, Bethesda, MD 20014  
Contact: Kent Smith, Deputy Director, NLM  
Telephone: 301/496-6661

NLM's on-line information retrieval services in the health sciences are provided through a series of data bases, including a 500,000 citation file of references and abstracts of journal articles. Retrieval is by structured vocabulary or text word in article abstracts and titles. For access, prior arrangements must be made by health institutions, profit and nonprofit. Potential U.S. users apply through a Regional Medical Library. International access is based on special bilateral arrangements between the National Library of Medicine and another country.

Computers: IBM 370/158 MP

**NETWORK ANALYSIS CORP.**

130 Steamboat Road, Great Neck, NY 11024  
Contact: Norman Brust, Vice President of Client  
Services  
Telephone: 516/829-5900

NAC is the sole supplier of MIND (Modular Interactive Network Designer), a family of programs for designing centralized data communications networks. MIND simulates line performance to allow accurate response time/throughput analysis; automatically provides least-cost multi-drop line layouts; provides dynamic computerized data base of network facilities.

MIND users must be licensed by NAC. The service is generally intended for in-house network designers. Vendors of communications equipment, consultants and common carriers must make special arrangements.

Computers: DECSYSTEM 10

**NEW JERSEY INSTITUTE OF TECHNOLOGY**

Computerized Conferencing and Communications  
Center  
323 High Street, Newark, NJ 07102  
Contact: Murray Turoff  
Telephone: 201/645-5018

NJIT operates a computerized conferencing system providing messages, conferences and notebooks. The system is designed to permit geographically dispersed groups of five to 50 people to deal jointly with a problem or project through computer conferencing, message processing, word processing and other techniques. Access is limited; write for policy.

Computers: Interdata 7/32

**OLCOTT INTERNATIONAL & COMPANY**  
P. O. Box 3014, 62 Hackensack Plank Road,  
Weehawken, NJ 07087  
Contact: Joseph B. McDermott, Vice President  
Telephone: 201/863-4200

Patent and trademark data base management systems; patent annuity payment and trademark renewal systems. Patent and trademark attorney workload and management docket summaries and reports.

Computers: Hewlett-Packard 3000  
Programming Languages: APL, RPG, BASIC,  
COBOL, FORTRAN, SPL

**ON-LINE BUSINESS SYSTEMS, INC.**  
115 Sansome Street, San Francisco, CA 94104  
Contact: Gilbert J. Jacobs, Vice President/Sales  
Telephone: 415/391-9555

Customized program development, using integrated on-line and batch processing services. On-line distribution system includes order/entry, invoicing, accounts receivable, inventory and sales analysis, offered either as a package or modified for a special client. WYLBUR processing and licensing are also available.

Computers: IBM 370/158  
Programming Languages: OS/MVS, COBOL,  
FORTRAN IV, H-  
Extended Compiler,  
FORTRAN IV Library  
Mod II, PL/1

**PRC COMPUTER CENTER, INC.**  
7670 Old Springhouse Road, McLean, VA 22070  
Contact: Norman Potter  
Telephone: 703/893-4880

A full service computing facility supporting time-sharing, batch, and remote job entry requirements. PRC offers technical support for and access to a large library of specialized software products. The systems development and maintenance staff provides a diversity of services to government and non-government users with emphasis on data base management systems: ADABAS, SYSTEM 2000, INQUIRE. The operating environment consists of two shared spool processors utilizing IBM's Multiple Virtual Storage (MVS) & TSO/WYLBUR.

Computers: Itel Advanced System/5 I and III  
Programming Languages: COBOL, FORTRAN,  
PL/1, BASIC,  
Assembler, SNOBOL

**PRD ELECTRONICS DIVISION**  
6851 Jericho Turnpike, Syosset, NY 11791  
Contact: R. Lamk, Customer Services  
Representative  
Telephone: 516/364-0400 (ext. 2513)

General timesharing services for commercial, scientific or government users. FORTRAN, COBOL, and BASIC programming languages are supported.

Computers: Univac 1108  
Programming Languages: FORTRAN, COBOL

**QL SYSTEMS, LIMITED**  
220 Royal Bank Building, 90 Sparks Street,  
Ottawa, Ontario K1P 5Y6  
Contact: Adrienne Herron, Marketing Manager  
Telephone: 613/238-3499

QL Systems provides access to over 30 data bases concerned with Canadian law, the environment (particularly water pollution) and Canadian business. The system includes a natural language query capability and permits the use of phrase searching and boolean queries, as well.

Computers: IBM 370/138

**RAC INFORMATION SYSTEMS INC.**  
11 Middle Neck Road, Great Neck, NY 11021  
Contact: Howell Silverman  
Telephone: 516/829-9500

RAC specializes in financial applications, turnkey systems, and contract programming on both large-scale IBM and Univac systems, as well as mini-computer systems.

Computers: SEL 32/77  
Programming Languages: FORTRAN, BASIC

**RICE UNIVERSITY**  
The Institute for Computer Services and  
Applications  
P. O. Box 1892, Houston, TX 77001  
Contact: Farrell Gerbode, Manager of Systems  
Support  
Telephone: 713/527-4988

General purpose timesharing (TSO) and remote batch services under the SVS operating system. Standard programming languages are supported, as well as PL/C, Speakeasy, and VS APL. Mathematical/statistical packages and libraries include SAS, SPSS, BMDP, and MPSX/370.

Computers: Itel AS/6  
Programming Languages: FORTRAN-G,  
FORTRAN-G 1,  
FORTRAN-H, PL/1 Op-  
timizing, PL/1 Checkout,  
VS/COBOL, VS/APL,  
PL/C, Speakeasy,  
PL 360, PASCAL,  
EASYTRIEVE,  
MPSX/370, ALGOL  
(W & 68C), WATFIV,  
LISP (Waterloo & Stan-  
ford), SNOBOL,  
FORMAC, CSMP,  
GPSS, BCPL

**ROBERT HELLER ASSOCIATES, INC.**

715 Broadway, New York, NY 10003  
Contact: Marketing Department  
Telephone: 212/777-4500

RHA is an authorized GSA TSP Multiple Awards Schedule Contract (MASC) supplier. A full spectrum of business, engineering and scientific application programs are offered. Multiple Univac 1108 installations are utilized.

Computers: Univac 1108 (Exec 8)  
Programming Languages: APL, BASIC, ALGOL,  
RPG, JOVIAL,  
FORTRAN, COBOL,  
PASCAL, SNOBOL

**SCIENCE APPLICATIONS, INC.**

1200 Prospect Street, La Jolla, CA 92037  
Contact: C.E. Burgart, Manager Computer Services  
Telephone: 714/454-3811

A general timesharing service using a large DEC-10 (KL-10) system. System software and analyst support for scientific and business applications. System permits access to Lawrence Berkeley Laboratory and any other CDC site supporting dialup 200UT remote batch entry protocol. Support for PDP 11 software development available on the DEC-10.

Computers: DECSys-10  
Programming Languages: FORTRAN, COBOL,  
PASCAL, BASIC, BLISS,  
ALGOL

**SCIENTIFIC PROCESS & RESEARCH, INC.**

400 Cleveland Avenue, P. O. Box 1268  
Highland Park, NJ 08904  
Contact: Dr. I. Klein, President  
Telephone: 201/846-3477

SPR offers a computerized equipment design and diagnostic service for clients in the plastics processing industry. If the client desires, he may enter data directly to the computer by means of a remote terminal connected to Telenet. In addition, computerized analysis of research and development (R&D) data is available to clients in R&D labs for all industries, including chemical, pharmaceutical, cosmetics, plastics and rubber compounding, etc.

Computers: Prime 400  
Programming Languages: FORTRAN, BASIC,  
COBOL, PL/1

**SCIENTIFIC TIMESHARING CORPORATION**

7316 Wisconsin Avenue, Bethesda, MD 20014  
Contact: Robert Schmidt, Marketing Manager  
Telephone: 301/657-8220

General timesharing services based on APL\*PLUS, an enhanced version of the APL programming language, featuring shared data base facilities. Application programs are offered in accounting, financial planning, insurance, materials management, forecasting and communications network planning. Econometric and securities data bases are available.

Computers: Amdahl 470V/6, IBM 370/148  
Programming Languages: APL

**SDC SEARCH SERVICE**

2500 Colorado Avenue, Santa Monica, CA 90404  
Contact: Bill Burgess, Marketing Manager  
Telephone: 213/829-7511

SDC Search Service provides on-line interactive access to data bases covering published literature, legislation, grants, current research, marketing information, statistics, cataloging information, and references to major newspapers. Users develop bibliographies as well as obtain actual data on-line from SDC data bases. In addition to providing access to data bases, SDC Search Service offers an ordering service for documents cited, complete training, and customer support.

Computers: Amdahl

**SDL**

770 Brookfield Road, Ottawa, Ontario,  
Canada, 11V 6J5  
Contact: John J. Doerner  
Telephone: 613/731-6910

A broad range of computer-related services for business, government, educational and public institutions. Services are grouped into two basic product lines: SDL's Computer Services (C/S) which are essentially client-driven with extensive SDL staff support; and SDL's Application Services (A/S) with varying staff support depending on the nature of the project. Other services range from a variety of educational programs to a group of pre-planned packaged services for basic accounting functions, such as payroll and accounts receivable.

Computers: IBM 370/168, 360/85, 3033  
Programming Languages: FORTRAN, COBOL,  
RPG, APL, PL/1, COGO,  
ICES, CSMP, DYNAMO,  
SIMSCRIPT

**STANDARD & POOR'S CORPORATION**

Fixed Income Systems Division  
100 California Street, San Francisco, CA 94111  
Contact: C. James Reuter, General Manager  
Telephone: 415/398-4203

Fixed Income Management System (FIMS) enables investment managers, controllers and treasurers to instantly access every data item of significance on the fixed income securities in their portfolios. Summary and detailed information can be retrieved in minutes through the use of desk-top terminals, with either cathode-ray tube or hard copy capability. In addition, a full complement of monthly reports on accounting and control portfolio management is available.

Computers: HP-3000 Series II  
Programming Languages: COBOL, FORTRAN,  
BASIC, SPL

**STANFORD UNIVERSITY COMPUTING CENTER**  
Encina Hall, Stanford, CA 94305

Contact: Larry Rosen, Manager of Campus Facility  
Accounting  
Telephone: 415/497-3035

Full range of computing services, including user-controlled data base system, SPIRES. APL, WYLBUR, FORTRAN, PLC, BASIC languages supported for interactive timesharing. Access to EDUCOM facilities data base is available, and statistical systems (SPSS, SAS, STATPAK), word and text processing packages are offered. Usage is limited to educational and/or non-profit research organizations and to government research project personnel.

Computers: IBM 370/168-3  
Programming Languages: APL, FORTRAN,  
COBOL, SCRIPT, SORT,  
MARK-IV, WYLBUR,  
PL/1, PL/C, WATFIV,  
BASIC, Assembier-H,  
PASCAL

**STATE UNIVERSITY OF NEW YORK**

University Plaza, Albany, NY 12246  
Contact: Howard Richburg, Team Leader  
Telephone: 518/473-1041

Alternate site for the National Library of Medicine's MEDLINE system. For further information and arrangements for service, see listing under National Library of Medicine.

Computers: IBM 370/158

**TELEINFORMATICA DE MEXICO, S.A.**

Arenal #40, Col. Chimalixtac, Mexico 20, DF  
Contact: Raul Ortega, Director Division Informatica  
Telephone: 905/550-8033

A general timesharing service. Applications include data base management and financial planning, using APL.

Computers: IBM 370/145, IBM 370/148  
Programming Languages: FORTRAN, COBOL,  
APL, PL/1, COGO,  
ICES, STRESS,  
DYNAMO, GPSS

**TELMAR MEDIA SYSTEMS, INC.**

90 Park Avenue, New York, NY 10016  
Contact: Harry Appel, Vice President & Managing  
Director  
Telephone: 212/949-4640

Several application programs tailored for the advertising community, including spot broadcasting housekeeping and post-analysis computer systems, customized data base management and report generation facilities.

Computers: IBM 370/158; DEC PDP-10

**TELSTAT SYSTEMS, INC.**

150 East 58th Street, New York, NY 10022  
Contact: Eric Hauser, Manager of Marketing  
Telephone: 212/826-0640

Specialists in providing financial information to banks and brokerage houses. On-line and remote batch services are available utilizing a full complement of languages, including COBOL, FORTRAN, BASIC, APL and EDITOR, a powerful language for file, record and intrarecord editing.

Computers: Sigma 9  
Programming Languages: BASIC, FORTRAN,  
COBOL, RPG, APL,  
EDITOR

**TIME SHARE CORP.**

630 Oakwood Avenue, West Hartford, CT 06110  
Contact: Suzanne L. Crocco, Administrative  
Marketing Assistant  
Telephone: 203/522-0136

A Guidance Information System providing information on colleges, occupations and financial aid; Individualized Computational Skills Program—a remedial math program; and Skills in Teaching Reading Improvement, Development and Evaluation—a remedial reading program. Use is limited to educational institutions.

Computers: HP and DEC



**TIMESHARING CONSULTANTS**

4400 East Broadway, Suite 606, Tucson, AZ 85711  
Also: **TIMESHARING ASSOCIATES**  
2420 Hudchuca Drive, Tucson, AZ 85705  
Contact: Ernest Huber, President  
Telephone: 602/881-8888

A general timesharing service with many commercial applications. Also available is a complete set of programs processing open-pit and seam mining data. Custom applications can be developed as needed by individual users.

Computers: DEC 20  
Programming Languages: BASIC, FORTRAN,  
ALGOL, COBOL, LISP,  
SNOBOL, MATHLAB,  
SIMULA

**TIME-SHARING RESOURCES, INC.**

777 Northern Boulevard, Great Neck, NY 11022  
Contact: William E. Connor, Director of Product  
Development  
Telephone: 516/487-0101

A general timesharing service utilizing the APL programming language and various application packages. TSR specializes in applications in finance, investment analysis, data base management, statistical analysis, forecasting and project planning. A full-time staff of financial and systems analysts is available to provide support on a continuing basis.

Computers: IBM 360/75  
Programming Languages: APL

**TRW DEFENSE AND SPACE SYSTEMS GROUP**

Computer Systems Department, R3/1072  
One Space Park, Redondo Beach, CA 90278  
Contact: Dr. Thomas R. Carter, Staff Engineer  
Telephone: 213/535-0833

The TRW Timeshare System (TRW/TSS) consists of a Cyber 7418 linked to a Cyber 174 through common disks. Extensive modifications to the standard CDC software packages make all system control cards available to both batch and timeshare users, who access the system through more than 150 dial-up lines at speeds to 1200 bps. Classes in system use and programming languages are scheduled regularly.

Computers: CDC Cyber 174 and 74  
Programming Languages: BASIC, FORTRAN,  
JOVIAL, COBOL, LISP,  
APL, CSMP,  
SIMSCRIPT, ACSL,  
PASCAL, SYMPL

**TRIANGLE UNIVERSITIES COMPUTATION CENTER**

Box 12076, Research Triangle Park, NC 27709  
Contact: J. R. Ragland, Assistant Director for  
Information Services  
Telephone: 919/549-0671

A variety of application programs in engineering, simulation, statistical analysis and software development are available on an interactive basis or via RJE and RJE autobatch. A text processing facility is also provided. Services are available to the public, but educational institution representatives should contact Dr. Barry L. Berman at North Carolina Educational Computing Service (919/549-0671) to make arrangements.

Computers: IBM 370/165 and IBM 370/165-II  
Programming Languages: FORTRAN, PL/1,  
COBOL, Assembler,  
VS/APL, SPSS, SAS

**UNIVERSITY OF DELAWARE**

Computing Center  
192 South Chapel Street, Newark, DE 19711  
Contact: Bob Shaffer, Project Leader, Network  
Services  
Telephone: 302/738-8441

General timesharing services available on DEC-system 1090 (TOPS-10), Burroughs 7700 (MCP), PDP 11/70 (UNIX) and Hewlett-Packard 2000 computers. Extensive library of programs is available including many statistical, engineering, scientific and numerical applications. Major programming languages are supported, including ALGOL, FORTRAN, COBOL, BASIC, PL/1, APL and PASCAL. Access is generally limited to educational, governmental and non-profit organizations.

Computers: DECSYSTEM 1090, Burroughs 7700,  
PDP 11/70, Hewlett-Packard 2000

**UNIVERSITY OF ILLINOIS—Urbana**

Computing Services Office  
150 Digital Computer Laboratory, Urbana, IL 61801  
Contact: Larry Sautter  
Telephone: 217/333-2171

The Computer Services Office serves the academic community of the University of Illinois at Urbana. CSO maintains a professional staff of both systems and statistical consultants. It operates a CDC Cyber 175, IBM 360/75 and a Unix system. A variety of scientific and engineering application programs are available. Usage is normally limited to educational institutions, but will under special circumstances be made available commercially.

Computers: CDC Cyber 175  
Programming Languages: ALGOL, BASIC,  
FORTRAN, COBOL,  
LISP, SNOBOL, GPSS,  
SIMULA, GCS,  
SPITBOL, APEX-III,  
SOUPAC, SPSS,  
PASCAL



**UNIVERSITY OF MICHIGAN**

Computing Center  
1075 Beal Avenue, Ann Arbor, MI 48109  
Contact: Business Office  
Telephone: 313/764-8000

MTS, the Michigan Terminal System is a terminal-oriented, timesharing operating system that offers both batch and terminal facilities. It was originally developed at the University of Michigan and features a variety of program languages, data base management systems, special application packages, and an excellent graphics capability. MTS uses the virtual memory concept, and its command language, editor and file system are both powerful and easily learned.

Computers: Amdahl 470V/6  
Programming Languages: ALGOL, BASIC, FORTRAN, COBOL, LISP, SNOBOL, APL, PL/1, CSMP, GPSS, SIMSCRIPT, PL/C, WATBOL, WATFIV, IF, XPL, 360/370 Assembler, PIL/2, ALGOLW, MPS, PL 360, SPITBOL, SNAP, APLGM, REDUCE 2, PCM

**UNIVERSITY OF NOTRE DAME**

Computing Center  
Notre Dame, IN 46556  
Contact: James R. Wruck  
Telephone: 219/283-2811

General computing services operating under IBM MVS/JES/TSO operating system batch system also available. User's may access several scientific sub-routines (IMSL); modeling programs (GPSS, NDTRAN, GASP, DYNAMO, etc.); computer-assisted instruction in English, biology and history; graphics packages (SYMAP, SKETCH); or any of numerous MINI TAB, etc.). In addition several specialized data bases are available, including mosquito literature, medical information, U.S. shipping history 1542-1892, etc.

Computers: IBM 370/168  
Programming Languages: PL/1, SNOBOL, SAS, WATBOL, WATFIV, PL/C, SPSS, SCSS, DYNAMO, NDTRAN, GPSS, SPEAKEZ, PASCAL, ALGOL, FORTRAN/G1, FORTRAN/HX, GASP, GASP IV-E, BANKSIM, VSBASIC, COBOL

**UNIVERSITY OF SOUTHERN CALIFORNIA**

Engineering Computer Laboratory  
Powell Hall 204, University Park,  
Los Angeles, CA 90007  
Contact: Diane Eastman, Administrative Assistant  
Telephone: 213/741-5520

Timesharing and word processing on two DECSystem 10's with Tops-10 and Tenex operating systems.

Computers: DECSystem-10  
Programming Languages: FORTRAN, ALGOL, LISP, BLISS, COBOL, SAIL, SPSS

**UNIVERSITY OF WASHINGTON**

Department of Health Services Research  
USPHS Hospital, 1131 14th Avenue, South  
Seattle, WA 98114  
Contact: Dr. Robert W. Wood, Deputy Chief  
Telephone: 206/325-3353

On-line analysis of data relating to the care of patients with common illnesses for which care standards are being developed. Software is specifically designed for this University of Washington research project. Access to stored data is limited to participants in this project.

Computers: Honeywell 66/40A  
Programming Languages: Dartmouth BASIC

**UNIVERSITY OF WISCONSIN**

Madison Academic Computing Center  
1210 W. Dayton Street, Madison, WI 53706  
Contact: MACC User Services  
Telephone: 608/262-2054

A full-time research and instructional computing facility which supports timesharing and batch processing. Bibliographic data bases are supported by LEXICO and Wise; MISER supports research data bases. Statistics (Minitab, SPSS), time series (Box-Jenkins), graphics (GSP) and electronic mail are also provided. Access is limited to educational and non-profit organizations.

Computers: Univac 1100  
Programming Languages: ALGOL, BASIC, FORTRAN, LISP, SNOBOL, APL, PL/1, SIMSCRIPT, SIMULA

**WARNER COMPUTER SYSTEMS**

245 East 40th Street, New York, NY 10016  
Contact: Alan Krieger, Vice President of Sales  
Telephone: 212/697-0110

General timesharing services, with emphasis on financial modeling and analysis. WCS also provides access to several data bases, including COMPUSTAT and the TELSTAT data base of daily adjusted prices for stocks, bonds and options.

Computers: Xerox Sigma 9  
Programming Languages: APL, BASIC, FORTRAN, COBOL

**WAYNE STATE UNIVERSITY**

Computing Services Center  
5950 Cass Avenue, Detroit, MI 48202  
Contact: Barbara B. Wolfe, Systems Manager  
for Academic Services  
Telephone: 313/577-4777

MTS—the Michigan Terminal System—is run on an Amdahl 470V/6 processor with eight megabytes of main storage. IBM's MVS system is run in a virtual memory (VM) environment on another Amdahl 470V/6. MVS services are available through MTS. MTS is a terminal-oriented, timesharing operating system that offers both terminal and batch facilities. It features a variety of programming languages, data base management systems, special application packages, and graphics capability. Public sector customers in health care, education, and government are particularly welcome. Services in the commercial sector that are not of a research and development nature may be limited.

Computers: Amdahl 470V/6  
Programming Languages: ALGOL, ALGOLW, APL,  
Assembler H, BASIC,  
FORTRAN G, FORTRAN  
H Extended, LISP, PIL2,  
PL/1, SNOBOL 4,  
SPITBOL, WATBOL,  
WATFIV, XPL

**YALE UNIVERSITY COMPUTER CENTER**

175 Whitney Avenue, New Haven, CT 06520  
Contact: Richard J. Masotta, Manager User  
Services  
Edward J. O'Neill, Associate Director  
Telephone: 203/432-4080

General purpose IBM MBS TSO timesharing and remote batch services. Numerous programming languages, text editors and formatters, statistical and mathematical packages, and graphics and utility routines are available, including IMSL and SPSS. An experienced user services staff is available by telephone and terminal communication to assist and advise users regarding all aspects of the center's facilities. Access is limited to non-profit organizations qualified for tax exempt status under IRS Section 501(C)3 for work of an educational or scientific research nature.

Computers: IBM 370/158AP  
Programming Languages: FORTRAN IV, PL/1,  
COBOL, APL, BASIC,  
Speakeasy, PL/CS,  
SNOBOL 4, ALGOLW,  
Assembler, WATFIV

## Consulting and Other Commercial Services

Telenet subscribers that offer other computer-based services are listed below, along with a description of their services. In many cases, clients of these subscribers will not conduct interactive computing or data base search sessions, but rather will contract for consulting services; will subscribe for licensed software; or will work with staff professionals who assist clients in problem solving on a project-by-project basis.

### **DTSS INCORPORATED**

Box 799, Hanover, NH 03755  
Contact: Michael R. Vitale, Director of Marketing  
Telephone: 603/643-4672

DTSS Inc. is the sole supplier of the Dartmouth Time-Sharing System (DTSS) for large Honeywell systems. DTSS provides complete functionality through multiple languages, foreground/background modes, common file systems and strict security measures designed into the system. An entry-level version is available which can be increased to the full LICENSED DTSS as requirements grow. LICENSED DTSS features an X.25 software interface for the Telenet network; an extensive program library; comprehensive graphics, sort and editing packages; and a built-in tutor, "EXPLAIN," for new users. Training and documentation are also provided.

### **EDUNET/EDUCOM**

P. O. Box 364, Princeton, NJ 08540  
Contact: Rodney Mebane, EDUNET Information Coordinator  
Telephone: 800/257-9505 or 609/921-7575

EDUNET, a national computing network for higher education and research, facilitates use of computer resources at 16 educational institutions. EDUNET Information Services provide documentation and a keyword-searchable data base on network hosts, software/hardware, and publications available. User Support Services provide consultation on data communications, terminal procedures, log-on and resource use. Administrative Services provide account initiation, central billing, document ordering, software placement. Participation is limited to colleges, universities and qualified nonprofit organizations. For details on services offered by 14 EDUNET suppliers, see listings in this directory of Cornell U., Dartmouth College, U. of Illinois, U. of Michigan, Michigan State U., Wayne State U., Massachusetts Institute of Technology, TUCC, U. of Notre Dame, Rice U., Stanford U., State U. of New York/Albany, U. of Wisconsin and Yale U.

### **GLOBAL INFORMATION SERVICES, INC.**

43-23 Colden Street, Flushing, NY 11355  
Contact: Dr. Takeshi Utsumi, President  
Telephone: 212/461-8168

GIS provides international marketing, consultation and brokerage services for computerized information companies, utilizing public value-added networks (VANS) worldwide. Matching users to vendors, coordinating intracorporate information systems (including global video conferencing) and performing market surveys are typical GIS functions.

### **MERIT COMPUTER NETWORK**

University of Michigan  
2200 Bonisteel Blvd., Ann Arbor, MI 48109  
Contact: Christine Wendt, Merit User Liaison  
Telephone: 313/764-9423

Merit is a packet-switching network developed and operated by four Michigan universities. The network couples the computers of Michigan State University, University of Michigan, and Wayne State University. A DECSYSTEM 1090 at Western Michigan University will be added to the network later this year.

Individuals with valid accounts at any of these hosts may access them by specifying Merit's Telenet address and then selecting the desired host system. Some further information about the host services may be found under their respective names in this directory. In addition, Merit maintains an on-line directory of host computer programs and other available software resources. Questions about the hosts and their services may be directed to Merit.

### **PRIME COMPUTER INC.**

40 Walnut Street, Wellesley Hills, MA 02181  
Contact: Patrick Sansonetti, Product Manager,  
Data Communications  
Telephone: 617/237-6990

Prime licenses a CCITT X.25 software package for interfacing 350 to 750 level Prime computers to Telenet, Datapac and other X.25-based packet networks. The packet network interface runs in conjunction with PRIMENET and enables hosts to communicate with multiple remote asynchronous terminals at maximum efficiency and with minimum response time delay. It also provides for transparent file sharing and inter-program communications via a full set of X.25 program calls.

**QE SYSTEMS, INC./DIVISION OF BRS**

702 Corporation Park, Scotia, NY 12302  
Contact: Bob Hamilton  
Telephone: 518/374-5011

QE offers a unique Private Data Base Service (PDS). A full service offering, PDS includes all equipment, software and programming for many applications requiring private data bases (cost-effective implementation of library card catalogs, for example). QE provides clients the option of leasing specially configured microcomputers or using BRS' central computer.

**TIME SHARE CORPORATION**

3 Lebanon Street, Hanover, NH 03755  
Contact: Mary Beth Romano, Marketing  
Coordinator  
Telephone: 203/522-0136

TSC provides posters, textbooks, games, visual aids and multimedia teaching aids for classroom and professional use. This service may be used alone or in conjunction with TSC's computerized guidance and instruction services.

**TYPETRONIC COMPUTER SYSTEMS**

Division of Dollar Planning, Inc.  
806 Route 17, Ramsey, NJ 07746  
Contact: Peter L. Richards, President  
Telephone: 201/825-7770

Typetronic supplies multipurpose, multiterminal minicomputer systems for many distributed processing applications, including electronic mail, financial data reporting and retail chain store management. Typetronic systems (consisting of minis with .5 to 1 billion bytes of memory, disk drive and remote or local clustered terminals) are configured so that both hardware and software are totally compatible with the Telenet network. While originally designed for distributed data processing applications, the Typetronic systems can also operate as stand-alone units, in which case Telenet is used only to perform periodic software maintenance.

4. LIST OF USER SERVICE ACTIVITIES ON TYMNET/TELENET

4.1 List of databases on TYMNET/TELENET

All of the following computerized data bases can be accessed interactively. The last line of each listing tells which host offers that particular database.

Codes:

(TYMNET) = Available only on TYMNET

(TELENET) = Available only on TELENET

(BOTH) = Available on both TYMNET and TELENET

ABI/INFORM (BOTH)

Abstracts of significant articles of interest to management and administration.

Source/Compiler: Data Courier, Inc.

Offered by: SDC Search Service

ACCOUNTANTS INDEX (BOTH)

International coverage of accounting, auditing, taxation, and financial literature.

Source/compiler: American Institute of Certified Public Accountants

Offered by: SDC Search Service

ACF (TELENET)

Les arrêts de la cour federale du Canada. French language equivalent of the Federal Court Reports.

Offered by: QL Systems, Ltd.

ACS (TELENET)

Les arrêts de la cour supreme du Canada. French language equivalent of the Supreme Court Reports.

Offered by: QL Systems, Ltd.

ACTURIAL (BOTH)

Mortality data, projection and salary scales, withdrawal disability, and marriage rates.

Source/compiler: Society of Actuaries

Offered by: I.P. Sharp Associates, Inc.  
Time Sharing Resources

ACWS (TELENET)

All-Canada Weekly Summaries of judgments in civil cases received by Canada Book Limited.

Offered by: QL Systems, Ltd.

ADS (TYMNET)

A data base management system.  
Source/compiler: APL  
Offered by: The Computer Company

AGRICOLA (BOTH)

Bibliography of agricultural literature, food and nutrition,  
and agricultural economics.  
Source/compiler: National Agricultural Library  
Offered by: Lockheed Information Systems,  
SDS Search Service

AGRICULTURE/WEATHER (TELENET)

Acreage, yield, consumption, price, and weather data.  
Source/compiler: U.S. Department of Agriculture, Weather  
Services, Inc.  
Offered by: Data Resources, Inc.

AIM/ARM (BOTH)

Abstracts of instructional and research materials.  
Source/compiler: Ohio State University  
Offered by: Lockheed Information Systems

AIRES (BOTH)

U.S. telephone rate center data base  
Source/compiler: CCMI  
Offered by: Scientific Time-Sharing Corp.

AIRLINES (TYMNET)

Financial, carrier traffec, and passenger traffic data.  
Source/compiler: Civil Aeronautics Board  
Offered by: The Computer Company

AIRLINES ER586 (BOTH)

Economic Regulation 586--Service Segment data base  
Offered by: I.P. Sharp Associates

AIRLINES O-D (BOTH)

U.S. commercial air carrier passenger itineraries.  
Source/Compiler: CAB  
Offered by: I.P. Sharp Associates

AMERICA: HISTORY AND LIFE (BOTH)

Abstracts of historical and cultural literature.  
Source/compiler: ABC CLIO, Inc.  
Offered by: Lockheed Information Systems

APILIT (BOTH)

Abstracts of refining literature.  
Source/compiler: American Petroleum Institute  
Offered by: SDC Search Service

APIPAT (BOTH)

Refining patents, U.S. and foreign.  
Source/compiler: American Petroleum Institute  
Offered by: SDC Search Service

APTIC (BOTH)

Air pollution: effects and control.  
Source/compiler: U.S. Environmental Protection Agency  
Offered by: Lockheed Information Systems

AQUATIC SCIENCES AND FISHERIES ABSTRACTS (BOTH)

Life sciences of sea and inland waters.  
Source/compiler: UNESCO Oceanographic Commission  
Offered by: Lockheed Information Systems

ARBITRON RADIO (BOTH)

Radio ratings by MSA, TSA and ADI for demos, stations  
and dayparts in over 200 markets  
Source/compiler: American Research Bureau  
Offered by: Telmar Business Systems

ARBITRON TV (TELENET)

TV ratings in 200 markets for demos, stations, time  
period  
Source/compiler: American Research Bureau  
Offered by: Telmar Business Systems

ARMS II (TELENET)

Radio audience and market data for local radio stations  
and national networks  
Source/Compiler: Radio Advertising Bureau, Inc.  
Offered by: Interactive Market Systems, Inc.

ART MODERN (BOTH)

19th and 20th century art and design.  
Source/compiler: ABC CLIO, Inc.  
Offered by: Lockheed Information Service

ASI (BOTH)

American Statistics Index.  
Source/compiler: Congressional Information Service  
Offered by: SDC Search Service

AVLINE (BOTH)

Audio-visual materials in health sciences  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine

BANCALL (TELENET)

Financial data on 14,000 U.S. banks  
Source/compiler: FDIC  
Offered by: ADP/First Data, ADP Network Services,  
Warner Computer Systems

BANCOMPARE (TELENET)

Key financial items on 250 banks and bank holding  
companies  
Source/compiler: ADP Network Services  
Offered by: ADP Network Services

BANK OF AMERICA MONEY AND CREDIT STATISTICS (TYMNET)

Over 7000 financial, interest rate, foreign exchange,  
banking, and flow of funds series; updated daily.  
Source/compiler: Bank of America  
Offered by: Rapidata, Inc.

BANKING (BOTH)

Monthly asset and liability information for Chartered  
Banks of Canada  
Source/Compiler: Department of Finance (Canada)  
Offered by: I.P. Sharp Associates

BAR (BOTH)

Network and spot TV commercial activity by brand, station  
and name  
Source/compiler: Broadcast Advertiser Reports  
Offered by: Interactive Market Systems

BBM of Canada (TELENET)

Radio ratings for demos, stations and dayparts in over  
25 markets  
Source/compiler: BBM Bureau of Measurement  
Offered by: Telmar Media Systems

BCD (TELENET)

Time series from the publication of the U.S. BEA  
Source/compiler: U.S. Bureau of Economic Analysis  
Offered by: ADP Network Services

BESTS (TYMNET)

Insurance premium and expenses data.  
Source/compiler: Bests and Company  
Offered by: Data Resources, Inc.

BICODES (BOTH)

Biosis previews, category codes, taxonomic codes, and full  
names; cross-references.  
Source/compiler: Biosciences Information Service  
Offered by: SDC Search Service

BIOETHICSLINE (BOTH)

Citations from cross-disciplinary topics such as euthanasia,  
abortion, human experimentation  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine



BIOSIS REVIEWS (BOTH)

Biological abstracts and bioresearch index.  
Source/compiler: biosciences information service  
Offered by: ESA/SDS, Lockheed  
Information Systems, DSC Search Service

BNT (TELENET)

Boreal Northern Titles covering the circumpolar North,  
Canadian peoples, mid-Canada development and other  
related topics.  
Source/compiler: Boreal Institute for Northern Studies  
Offered by: QL Systems, Ltd.

BONDS (TELENET)

Price/yield and other information on corporate and  
and government securities.  
Source/compiler: ADP Network Services  
Offered by: ADP/First Data, Commodity Information  
Services

BRAND USAGE AND PRODUCT CATEGORY PROFILES (TYMNET)

Simmons and TG-I measured usage by sex-age and cross-  
tabulated by household income.  
Source/compiler: W.R. Simmons  
Offered by: Market Buy Market

CAB ABSTRACTS (BOTH)

Worldwide agricultural abstracts.  
Source/compiler: The Commonwealth Agricultural Bureaux.  
Offered by: ESA/SDS, Lockheed Information Systems.

CALIFORNIA DATA BAND (TYMNET)

California economy.  
Source/compiler: Security Pacific National Bank  
Offered by: Data Resources, Inc.

CANADIAN NATIONAL NEWSPAPERS (TELENET)

Sample of 2600 people in Canada containing media, product,  
use/ownership and demographic data  
Source/compiler: Canadian National Newspapers  
Offered by: Telmar Media Systems

CANADIAN STOCK OPTIONS (BOTH)

The Toronto, Montreal and TransCanada exchanges daily  
trading data  
Source/compiler: Telstat Systems  
Offered by: I.P. Sharp Associates, Time-Sharing Resources

- CANCERLINE (BOTH)  
Cancer information.  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine
- CANCERPROJ (BOTH)  
Ongoing cancer research projects.  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine
- CANSIM (BOTH)  
Canadian economic, internal activities, and external trade data.  
Source/compiler: Statistics Canada  
Offered by: Data Resources, Inc., Systems Dimensions, Ltd.,  
I.P. Sharp Associates, Inc.
- CAS 7276 & CAS 77  
Complete coverage of chemical literature, with chemical abstracts controlled vocabulary and registry numbers for searching.  
Source/compiler: Chemical Abstracts Service  
Offered by: SDC Search Service
- CASIA & CHEMNAME (BOTH)  
Chemistry.  
Source/compiler: Chemical Abstracts Service, Inc.  
Offered by: Lockheed Information Systems
- CATLINE (BOTH)  
Cataloging for medical monographs and serials.  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine
- CBPI (BOTH)  
Canadian Business Periodical Index.  
Source/compiler: Information Access of Toronto  
Offered by: SDC Search Service, OL Systems, Ltd.
- CCC (TELENET)  
Canadian Criminal Cases  
Source/compiler: Canada Law Book, Ltd.  
Offered by: QL Systems, Ltd.
- CDI (BOTH)  
Comprehensive Dissertation Index.  
Source/compiler: University Microfilm International  
Offered by: SDC Search Service
- CDI (BOTH)  
Commodity markets data.  
Source/compiler: MJK Associates  
Offered by: MJK Associates
- CENSUS (BOTH)  
U.S. demographic data.  
Source/compiler: U.S. Census Bureau  
Offered by: Computer Sharing Services; Data Resources, Inc.;  
National Economic Research Associates, Inc.;  
ADP/First Data; Call Data; Cornell University,  
Interactive Market Systems, Inc.; Michigan State  
University; The University of Michigan

CENSUS 71 (BOTH)

Canadian census information.

Offered by: Call Data; Cornell University; I.P. Sharp Associates

CENSUS OF COAL MINES DATA BASES (TELENET)

Information on each company headquarters and mine/plant units based on the Keystone Coal Industry Manual

Source/compiler: McGraw-Hill

Offered by: ADP Network Services

CHARTERED BANKS (annual) (BOTH)

Summary of year-end statements.

Source/compiler: Financial Post

Offered by: I.P. Sharp Associates, Inc.

CHARTERED BANKS (monthly) (BOTH)

Asset and liability facts.

Source/compiler: Canadian Department of Finance

Offered by: I.P. Sharp Associates, Inc.

CHARTERED BANKS (quarterly) (BOTH)

Revenue, expense, dividends, and balance sheet statements.

Source/compiler: Financial Post

Offered by: I.P. Sharp Associates, Inc.

CHASE ECONOMETRICS SERVICES (TYMNET)

Historical data, forecasts, forecast models, and report services for the U.S., regional, and international economies.

Source/compiler: Chase Econometrics Associates, Inc.

Offered by: Interactive Data Corporation

CHEM 7017 (BOTH)

Chemical Abstracts Condensates

Source/compiler: Chemical Abstracts Service

Offered by: ADP/First Data; SDC Search Service

CHEMDEX (BOTH)

Compound-oriented chemical dictionary

Source/compiler: Chemical Abstracts Service

Offered by: SDC Search Service

CHEMICAL ABSTRACTS CONDENSATES (BOTH)

Source/compiler: Chemical Abstracts Service

Offered by: ESA/SDS, Lockheed Information Systems, SDC Search Service, University of Michigan

CHEMICAL ABSTRACTS PATENT CONCORDANCE (BOTH)

Chemical patents.

Source/compiler: Chemical Abstracts service and Lockheed DIALOG

Offered by: ESD/SAS, Lockheed Information Systems

CHEMICAL INDUSTRY NOTES (BOTH)

Citations to literature in the chemical industry.

Source/compiler: Chemical Abstracts Service

Offered by: SDC Search Service

CHEMLINE (BOTH)

Chemical dictionary

Source/compiler: National Library of Medicine

Offered by: National Library of Medicine; State University of New York, Albany.

CHEMNAME (BOTH)

Chemical substances.

Source/compiler: Chemical Abstracts Service and Lockheed  
DIALOG

Offered by: Lockheed Informations Systems

CHILD ABUSE AND NEGLECT (BOTH)

Child abuse.

Source/compiler: National Center for Child Abuse and  
Neglect

Offered by: Lockheed Informations Systems

CIN (BOTH)

Chemical industry business news.

Source/compiler: Chemical Abstracts Service

Offered by: Lockheed Information Systems, SDC Search  
Service

CIS INDEX (BOTH)

Publications of the U.S. Congress.

Source/compiler: Congressional Information Service

Offered by: SDC Search Service

CIS (TELENET)

Chemical information on compounds

Source/compiler: NIH/EPA

Offered by: Interactive Sciences Corporation

CITIBASE (BOTH)

A machine readable time series databank, formerly maintained  
by the National Bureau of Economic Research (NBER), con-  
taining more than 3500 time series on the U.S. economy.

Source/compiler: Citibank

Offered by: Citishare Corp., INSCO

CITIDATA (TELENET)

U.S. economy indicators

Source/compiler: Citibank

Offered by: Massachusetts Institute of Technology

CITIQUOTE (TYMNET)

A securities data base system including daily updates of  
over 25,000 stocks, bonds, and options.

Source/compiler: Telestat Systems

Offered by: Citishare Corp.

CLAIMS/CHEM (BOTH)

Chemical patents.

Source/compiler: IFI/Plenum Data Company

Offered by: Lockheed Information Systems

CLAIMS/CLASS (BOTH)

Classification codes and title dictionary.

Source/compiler: IFI/Plenum Data Company

Offered by: Lockheed Information Systems

CLAIMS/GEM (BOTH)

General, electrical, and mechanical U.S. patents.

Source/compiler: IFI/Plenum Data Company

Offered by: Lockheed Informations Systems

- CNA (BOTH)  
Canadian News Index.  
Source/compiler: Information Access of Toronto  
Offered by: SDC Search Service
- CNI (BOTH)  
Canadian news index.  
Source/compiler: Information Access (Toronto)  
Offered by: QL Systems, Ltd; SDC Search Service
- COMPENDEX (BOTH)  
Engineering literature.  
Source/compiler: Engineering Index, Inc.  
Offered by: ESA/SDS, Lockheed Information Systems, SDC  
Search Service
- COMPREHENSIVE DISSERTATION ABSTRACTS (BOTH)  
American and Canadian Dissertations.  
Source/compiler: University Microfilms International  
Offered by: Lockheed Information Systems, SDC Search  
Science
- COMPUSTAT (BOTH)  
Financial and securities data for U.S. corporations.  
Source/compiler: Standard & Poor's  
Offered by: Data Resources, Inc., Interactive Data  
Corporation; ADP/First Data, ADP Network  
Services, Univeristy of Wisconsin, Warner  
Computer Systems
- COMPUSTAT INDUSTRIAL (TYMNET)  
Financial data for U.S. industrial companies.  
Source/compiler: S & P COMPUSTAT Services, Inc.  
Offered by: Interactive Data Corporation
- COMPUSTAT UTILITY (TYMNET)  
Financial data for U.S. utility companies.  
Source/compiler: S & P COMPUSTAT Services, Inc.  
Offered by: Interactive Data Corporation
- CONF (BOTH)  
Scientific and technical papers presented at conferences  
around the world  
Source/compiler: Data Courier, Inc.  
Offered by: SDC Search Service
- CONFERENCE BOARD (BOTH)  
U.S. conference board statistics.  
Source/compiler: Conference Board  
Offered by: Cornell University, Data Resources, Inc.
- CPS (TYMNET)  
Current population survey.  
Source/compiler: U.S. Census Bureau  
Offered by: Data Resources, Inc.
- CRECORD (BOTH)  
Capsulations of the Congressional Record  
Source/compiler: Capitol Servies, Inc.  
Offered by: SDC Search Service
- CREDIT DATA (TYMNET)  
Consumer credit data.  
Source/compiler: TRW  
Offered by: TRW

CSRF MASTER (TELENET)  
Construction specifications  
Source/compiler: Construction Sciences Research Foundation  
Offered by: Bowne Information Services

CURRENCY (BOTH)  
Daily exchange rates reported by New York, Toronto and  
London markets  
Offered by: I.P. Sharp Associates

CURRENT PRICE (TELENET)  
Daily prices for stocks, bonds, options and indices  
Source/compiler: Telstat Systems  
Offered by: III Systems, Time-sharing Resources,  
Warner Computer Systems

CURRENT RESEARCH INFORMATION SERVICE (CRIS) (BOTH)  
Agricultural research projects.  
Source/compiler: U.S.D.A. Cooperative State Research  
Service  
Offered by: QL Systems, Ltd.

CWA (TELENET)  
Fully abstracted and keyworded references to Canadian water  
resources and related topics.  
Source/compiler: WATDOC, Inland Waters Directorate,  
Environment Canada  
Offered by: QL Systems, Ltd.

DEFENSE MARKET MEASURES SYSTEM (DMMS) (TYMNET)  
U.S. Department of Defense contract awards.  
Source/compiler: Frost and Sullivan  
Offered by: Lockheed Information Systems

DEMOGRAPHIC (TYMNET)  
Statistics on 107 social and economic indicators for over  
300 market areas.  
Source/compiler: Bill Communications  
Offered by: On-Line Systems, Inc.

DIVISION I MASTER (TELENET)  
Specification text  
Source/compiler: Construction Sciences Research Foundation  
Offered by: Bowne Information Services

DMS (BOTH)  
Hydrologic and water quality data  
Source/compiler: U.S. Geological Survey, NOAA, EPA  
Offered by: National Computer Network

DOW JONES NEWS/RETRIEVAL SERVICE (TYMNET)  
Business, economic, and financial data base. Fifteen-  
minute-delayed stock quotes.  
Source/compiler: Dow Jones and Company, Inc.  
Offered by Dow Jones and Company, Inc.

DREF (TELENET)  
Data reference system. Detailed references to collections  
of water resources and environmental data collected and  
held in Canada.  
Source/compiler: WATDOC, Inland Waters Directorate,  
Environmental Canada  
Offered by: QL Systems, Ltd.

DUNSKY (BOTH)

Canadian market data.

Offered by: SDL

DWIGHT JAFFEE AND KENNETH ROSEN (TYMNET)

Long run housing and mortgage model and historical and forecast data.

Source/compiler: Dwight Jaffee and Kenneth Rosen

Offered by: Interactive Data Corporation

EIS PLANTS (BOTH)

Data on industrial plants.

Source/compiler: Predicasts, Inc.

Offered by: Lockheed Information Systems

ENERGY (TYMNET)

Supply, demand, stock, and price data for various energy materials, by country and state.

Source/compiler: U.S. Department of the Interior, FEA

Offered by: Data Resources

ENERGYLINE (BOTH)

Energy and environment information.

Source/compiler: Environment Information Center

Offered by: Lockheed Information Systems, SDC Search Science

ENVIRONLINE (BOTH)

Environment.

Source/compiler: Environmental Information Center

Offered by: ESA/SDS, Lockheed Information Systems, SDC Search Center

EPILEPSYLINE (BOTH)

Epilepsy information.

Source/compiler: National Library of Medicine

Offered by: National Library of Medicine

ER586 (BOTH)

Flight segment information

Source/compiler: Civil Aeronautics Board

Offered by: I.P. Sharp Associates, Inc.

ERIC (BOTH)

Abstracts of education and research literature.

Source/compiler: National Institute of Education

Offered by: Lockheed Information Systems, SDC Search Service

EUROPEAN BUSINESS READER STUDY (BOTH)

Media Data.

Offered by: Interactive Market Systems, Inc.

EXCEPTIONAL CHILDREN ABSTRACTS (BOTH)

Education and behavior for exceptional children.

Source/compiler: Council for Exceptional Children

Offered by: Lockheed Information Systems

EXCERPTA MEDICA (BOTH)

Medicine and related disciplines.

Source/compiler: Excerpta Medica

Offered by: Lockheed Information Systems

EXSTAT (BOTH)

Financial Statement items for 2,000 European and Australian companies.

Source/compiler: Extel Statistical Services Limited

Offered by: Interactive Data Corporation, ADP Network Services

F & S INDEX (BOTH)

Business and industry news briefs.

Source/compiler: Predicasts, Inc.

Offered by: Lockheed Information Systems

FAA MASTERSPECIFICATION (TELENET)

Comprehensive specifications used by FAA and all A & E firms involved in FAA administered construction.

Source/compiler: Federal Aviation Administration

Offered by: Bowne Information Services

FAPRS (TYMNET)

Inquiry system of the Catalog of Federal Domestic Assistance.

Source/compiler: OMB and Department of Agriculture.

Offered by: Dialcom, Inc.

FASTPRICE (TYMNET)

Daily closing prices 30 minutes after NYSE and ASE close.

Source/compiler: Interactive Data Services, Inc.

Offered by: Interactive Data Corporation

FASTOCK (BOTH)

Securities pricing from 1968

Source/compiler: Telstat Systems

Offered by: ADP/First Data, ADP Network Services, III Systems, National Computer Network, Warner Computer Systems

FCC TARIFFS (BOTH)

Communication common carrier rates.

Source/compiler: Federal Communications Commission

Offered by: Scientific Time Sharing Corporation

FCR (TELENET)

Headnotes of the Federal Court of Canada Reports

Offered by: QL Systems, Ltd.

FDIC REPORTS OF CONDITION AND INCOME (TELENET)

Federal Deposit and Insurance Corporation reports of condition and income for insured commercial banks and consolidated domestic subsidiaries.

Source/compiler: Federal Reserve Board

Offered by: Warner Computer Systems

FDIC (TYMNET)

Descriptive and financial items for 14,000 federally insured commercial banks.

Source/compiler: Federal Deposit Insurance Corporation

Offered by: Interactive Data Corporation

FEDERAL REGISTER (BOTH)

Citations gathered daily from the Federal Register

Source/compiler: Capitol Services, Inc.,

Offered by: SDC Search Service



FEDERAL RESERVE BANK OF SAN FRANCISCO (TYMNET)

Over 13,000 series on economic activity of financial institutions, employment, and industry sectors; updated daily.

Source/compiler: Federal Bank of San Francisco

Offered by: Rapidata, Inc.

FISCAL (BOTH)

Prices and descriptions on 30,000 stocks, bonds, options and government securities. Information is also provided on stock earnings and dividends, bond quality ratings and yields, and 200 indices.

Source/compiler: Telstat Systems

Offered by: National Computer Network

FLOW OF FUNDS (BOTH)

Sources and uses of funds in the U.S. economy

Source/compiler: Federal Reserve Board

Offered by: Data Resources, Inc., ADP Network Services, Time Sharing Resources.

FORM 41 (BOTH)

Balance sheet, expense, revenue, and traffic statistics.

Source/compiler: Civil Aeronautics Board

Offered by: I.P. Sharp Associates, Inc.

FOUNDATION DIRECTORY (BOTH)

Source/compiler: Foundation Center

Offered by: Lockheed Information Systems

FOUNDATION GRANTS INDEX (BOTH)

Current grants information

Source/compiler: Foundation Center

Offered by: Lockheed Information Systems

FPC DATA (TYMNET)

Federal Power Commission Data.

Source/compiler: Federal Power Commission

Offered by: National Economic Research Associates, Inc.

FSLIC (TELENET)

Information on federally insured savings and loan associations

Source/compiler: Federal Home Loan Bank Board

Offered by: Time-Sharing Resources

FSTA (BOTH)

Food science and technology; literature relating all human food commodities and aspects of food processing except production of raw foods.

Source/compiler: International Food Information Service

Offered by: Lockheed Information Systems, SDC Search Service

FUTURES (BOTH)

Commodity, monetary and interest futures

Source/compiler: Commodity Information Services

Offered by: ADP/First Data, Commodity Information Services, National Computer Network

- FX (TELENET)  
Foreign currency rates of 33 currencies from 1948  
Source/compiler: ContiCurrency  
Offered by: ADP/First Data, ADP Network Services
- GEO REF (BOTH)  
Earth Science Literature  
Source/Compiler: American Geological Institute  
Offered by: SDC Search Service
- GEOARCHIVE (BOTH)  
Geological and earth sciences.  
Source/compiler: Geosystems  
Offered by: Lockheed Information Systems
- GIS (TELENET)  
Guidance information on occupations, two and four year colleges, financial aid  
Source/compiler: Time Share Corporation  
Offered by: Time Share Corporation
- GRANT INFORMATION SYSTEMS (BOTH)  
Grants offered by governmental and private organizations  
Source/compiler: ORYZ Press  
Offered by: SDC Search Service
- GRANTS (BOTH)  
Information on more than 1500 grant programs in over 88 disciplines  
Source/compiler: ORYZ Press
- HEALTH PLANNING AND ADMINISTRATION (BOTH)  
A comprehensive file on planning, organization, financing, management, manpower and related subjects  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine
- HELPS (TYMNET)  
Educational resources.  
Source/compiler: Division of Special Education, State of Ohio  
Offered by: BATTELLE Columbus Laboratories
- HID (TYMNET)  
Housing data.  
Source/compiler: Housing Industry Dynamics  
Offered by: Data Resources, Inc.
- HISTLINE (BOTH)  
Bibliography of the History of Medicine (27,000 citations published between 1970 and 1978).  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine
- HISTORICAL ABSTRACTS (BOTH)  
Source/compiler: ABC CLIO, Inc.  
Offered by: Lockheed Information Systems
- HISTORICAL SECURITIES FILE (BOTH)  
Daily high, low and closing prices plus volume information on all NYSE, AMEX and Compustat TC stocks  
Source/compiler: ADP Network Services  
Offered by: ADP/First Data; National Computer Network; Warner Computer Systems

- HOQ (TELENET)  
Hansard oral questions and responses in the House of  
Commons (Canada)  
Offered by: QL Systems, Ltd.
- HORSE (TYMNET)  
All thoroughbred and race records in North America since  
1920.  
Source/compiler: Bloodstock Computer Services, Inc.  
Offered by Bloodstock Computer Services, Inc.
- HQE (TELENET)  
Hansard questions ecrites. French language equivalent of  
HWQ.  
Offered by: QL Systems, Ltd.
- HWQ (TELENET)  
Hansard written questions and responses in the House of  
Commons (Canada)  
Offered by: QL Systems, Ltd.
- IAA (TYMNET)  
International aerospace abstracts.  
Source/compiler: National Aeronautics and Space  
Administration  
Offered by: ESA/SDS
- I/B/E/S SUMMARY STATISTICS (TYMNET)  
Next two years' earnings forecasts for 1500 companies  
from 35 institutional brokerage firms beginning in 1973.  
Source/compiler: Lynch, Jones & Ryan, Inc.  
Offered by: Interactive Data Corporation
- ICPSR (BOTH)  
Social sciences data for survey research  
Source/compiler: Institute for Social Research,  
University of Michigan  
Offered by: Cornell University; Wayne State University
- IFS (TYMNET)  
Industry financial statistics.  
Source/compiler: DRI  
Offered by: Data Resources, Inc.
- IFS (BOTH)  
Financial statistics for more than 80 industries  
Offered by: I.P. Sharp Associates
- ILO (TYMNET)  
International economic and social development; industrial  
labor relations  
Source/compiler: International Labor Organization  
Offered by: SDC Search Service
- IMS (BOTH)  
International Monetary Fund data for 110 countries.  
Source/compiler: International Monetary Fund  
Offered by: I.P. Sharp Associates
- INFORM (BOTH)  
Business management literature.  
Source/compiler: ABI  
Offered by: Lockheed Information Systems, SDC Search Service

THE INFORMATION BANK (BOTH)

Abstracts of newspaper and magazine articles. The data base includes approximately 1.5 million articles.

Source/compiler: New York Times Information Service

Offered by: The Information Bank

INS (BOTH)

U.S. international air travel statistics

Source/compiler: U.S. Department of Transportation

Offered by: I.P. Sharp Associates

INSPEC (BOTH)

Abstracts of literature in physics, electrical and electronic engineering, and computer and control engineering.

Source/compiler: Institution of Electrical Engineers

Offered by: ESA/SDS, Lockheed Information Systems, SDC Search Service

INTERNATIONAL ANNUAL TIME SERIES (BOTH)

Source/compiler: Predicasts, Inc.

Offered by: Lockheed Information Systems

INTERNATIONAL FINANCIAL STATISTICS (BOTH)

Financial statistics based on approximately 215 countries.

Source/compiler: International Monetary Fund

Offered by: Data Resources, Inc., Rapidata, Inc., I.P. Sharp Associates, Inc.

INTERNATIONAL STATISTICAL ABSTRACTS (BOTH)

Source/compiler: Predicasts, Inc.

Offered by: Lockheed Information Systems

IPA (BOTH)

Abstracts of international pharmaceutical literature.

Source/compiler: American Society of Hospital Pharmacists

Offered by: Lockheed Information Systems

IRIS (Infrared Informations System) (TYMNET)

Infrared spectra for analytic chemists.

Source/compiler: Sadtler Research Laboratories

Offered by: University Computing Company

ISL DIV (TELENET)

Historical stock dividends.

Source/compiler: Telstat Systems

Offered by: Time Sharing Resources

ISMEC (BOTH)

Mechanical engineering.

Source/compiler: Data Courier, Inc.

Offered by: ESA/SDS, Lockheed Information Systems, SDC Search Service

JAPANESE ECONOMY (TYMNET)

Macro-, microeconomic data.

Source/compiler: Nihon Keizai Shimbun

Offered by: Data Resources, Inc.

LABOR DOC (BOTH)

Information on industrial relations, economic and social development, management, labor mobility and more.

Source/compiler: International Labor Organization

Offered by: SDC Search Service

LADB (TYMNET)

Laboratory animal data base.  
Source/compiler: National Library of Medicine  
Offered by: BATTELLE Columbus Laboratories

LIBCON/E (BOTH)

Library of Congress cataloging.  
Source/compiler: 3-M  
Offered by: SDC Search Service

LIBCON/F (BOTH)

Non-English language materials in the Library of Congress.  
Source/compiler: 3-M  
Offered by: SDC Search Service

LISA (BOTH)

Library and Information Science Abstracts.  
Source/compiler: Learned Information Services, Library  
Association, England  
Offered by: Lockheed Information Systems, SDC Search  
Service

LLBA (BOTH)

Linguistics and language.  
Source/compiler: Sociological Abstracts, Inc.  
Offered by: Lockheed Information Systems

MAGAZINE INDEX (BOTH)

Popular magazine literature.  
Source/compiler: Information Access, Inc.  
Offered by: Lockheed Information Systems

MANAGEMENT (BOTH)

Worldwide business literature.  
Source/compiler: Management Information Service  
Offered by: SDC Search Service

MANAGEMENT CONTENTS (BOTH)

Business and management information.  
Source/compiler: Management Contents, Inc.  
Offered by: Lockheed Information Systems, SDC Search  
Service

MARKET STATISTICS DATA BASE (TYMNET)

Over 300,000 demographic and economic indicators covering  
3,130 unique market areas; based on Sales and Marketing  
Management Magazine's "Annual Survey of Buying Power"  
and refined country data.  
Source/compiler: Bill Communications  
Offered by: Rapidata, Inc.

MASTERPIECE (TYMNET)

Weekly bid prices for 15,000 unlisted corporate bonds,  
7,000 non-NASDAQ over-the-counter issues, and yields to  
maturity for 15,000 unlisted corporate bonds.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: Interactive Data Corporation

MASTER SECURITIES FILE (BOTH)

Prices, description and other information on over 50,000 stock  
stocks, bonds, options and government securities.  
Source/compiler: ADP Network Services  
Offered by: National Computer Network; Time-Sharing Resources,  
Warner Computer Systems

MEDLINE (BOTH)

Medical literature.  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine; State  
University of New York/Albany

MEGAS ( BOTH)

Financial and security data for U.S. corporations  
Source/compiler: Media General, Inc.  
Offered by: Scientific Time Sharing Corporation

MERLIN (TYMNET)

Stock trades, options, bonds.  
Source/compiler: Remote Computing Corporation  
Offered by: Remote Computing Corporation

MERRILL LYNCH ECONOMICS (TYMNET)

Historical data, forecasts, forecast models, and report  
services for the U.S., regional, and international  
economies.  
Source/compiler: Merrill Lynch Economics, Inc.  
Offered by: Interactive Data Corporation

MESHLINE (BOTH)

Source/compiler: National Library of Medicine  
Offered by: State University of New York/Albany

METALS ABSTRACTS (BOTH)

Metallurgy and materials engineering abstracts.  
Source/compiler: American Society for Metals  
Offered by: ESA/SDS, Lockheed Information Systems

METALS WEEK DATA BASE (TELENET)

The cost of metals as reported in Metals Week Magazine.  
Source/compiler: McGraw-Hill  
Offered by: ADP Network Services

MGA (BOTH)

Meteorological and geostrophysical abstracts.  
Source/compiler: Data Courier/American Meteorological  
Society  
Offered by: Lockheed Information Systems

MMI (BOTH)

Local samples in largest markets, containing media, product,  
use/ownership and demographic data  
Source/compiler: AXIOM Market Research Bureau  
Offered by: Interactive Market Systems; Telmar Media  
Systems

MONTHLY/QUARTERLY SECURITIES DATA (TYMNET)

Quarterly earnings per share and monthly shares outstanding  
for 6500 equities and 100 indices. Quarterly short interest  
for NYSE and ASE issues.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: Interactive Data Corporation

MORTAB (BOTH)

Canadian mortality rates.  
Offered by: I.P. Sharp Associates

- MRIS ABSTRACTS (BOTH)  
Maritime research information.  
Source/compiler: Maritime Research Information Service  
Offered by: Lockheed Information Systems
- MUNDIB (BOTH)  
Ratings for evaluating and pricing municipal bonds  
Source/compiler: Telstat Capital Market Systems  
Offered by: III Systems; National Computer Network
- MUNICIPAL BOND PRICES (TYMNET)  
Daily prices for 1.1 million municipal bonds since mid-1976,  
plus descriptive information.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: Interactive Data Corporation
- NACIS (TYMNET)  
Business credit data.  
Source/compiler: TRW  
Offered by: TRW
- NAHB (TYMNET)  
Short term regional housing and mortgage model. National,  
regional, and state housing data and forecasting models.  
Source/compiler: National Association of Home Builders  
Offered by: Interactive Data Corporation
- NATIONAL AUDIENCE DATABANK (TELENET)  
Sample of over 12,000 people in Canada containing media,  
product, use/ownership demographic data.  
Source/compiler: National Audience Databank  
Offered by: Telmar Media Systems
- NAVFEC (TELENET)  
Master specifications of the Navy facilities Engineering  
Command  
Source/compiler: NAVFEC  
Offered by: Bowne Information Services
- NBER DATA BANK (BOTH)  
U.S. economy indicators.  
Source/compiler: National Bureau of Economic Research  
Offered by: Cornell University; Informatics; I.P. Sharp  
Associates; Scientific Time Sharing Corporation;  
Time Sharing Resources; The Computer Company;  
Rapidata, Inc.; SDL
- NDC DRUG (TYMNET)  
Drug profile and pricing.  
Source/compiler: Cobol  
Offered by: Data Tek
- NDEX (BOTH)  
Covers *Washington Post*, *Houston Post*, *Los Angeles Times*,  
*New Orleans Times Picayune*, *Detroit News*.  
Source/compiler: Bell & Howell  
Offered by: SDC Search Service
- NEELS (BOTH)  
Information on locating equipment and materials in case of  
environmental emergency.  
Source/compiler: Environment Canada  
Offered by: I.P. Sharp Associates, Inc.

- NEWS (TELENET)  
Water-related news stories from English language Canadian newspapers.  
Source/compiler: WATDOC, Inland Waters Directorate,  
Environment Canada  
Offered by: QL Systems, Ltd.
- NEW YORK ADI (TELENET)  
Sample of 5200 people in New York ADI, containing media, product, use/ownership and demographic data  
Source/compiler: Simmons Market Research Bureau  
Offered by: Telmar Media Systems
- NFS (BOTH)  
The results of the large econometric model CANDIDE, economic time series from 1967 to 1983  
Source/compiler: Economic Council of Canada  
Offered by: I.P. Sharp Associates
- NICEM (BOTH)  
Nonprint educational material.  
Source/compiler: National Information Center for Educational Media  
Offered by: Lockheed Information Systems
- NIELSEN FOOD AND DRUG (BOTH)  
Product movement and price data by hand/package size.  
Source/compiler: A.C. Nielsen Company  
Offered by: Interactive Market Systems
- NIELSEN STATION/TV INDICES (TELENET)  
TV ratings and audience estimates.  
Source/compiler: A.C. Nielsen Company  
Offered by: Telmar Media Systems
- NIELSEN TV (TELENET)  
Spot and network TV rating levels by station, day and time within market  
Source/compiler: A.C. Nielsen Company  
Offered by: Telmar Media Systems
- NIPA (TELENET)  
National income and product accounts.  
Source/compiler: U.S. Department of Commerce  
Offered by: Time Sharing Resources
- NOTEPAD (TYMNET)  
Project management control system.  
Source/compiler: Macro  
Offered by: Infomedia
- NOTIFICATION SERVICES (BOTH)  
Dividend advancements, registered bond interest, called bond service.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: INSCO
- NOUVELLES (TELENET)  
Water-related news stories from French language Canadian newspapers.  
Source/compiler: WATDOC, Inland Waters Directorate,  
Environment Canada  
Offered by: QL Systems, Ltd.



NTIS (BOTH)

Government sponsored R & D reports.  
Source/compiler: National Technical Information Services  
Offered by: ESA/SDS, Lockheed Information Systems, SDC  
Search Service

OAG (BOTH)

International & American flight information  
Source/compiler: Reuben H. Donnelley Corporation  
Offered by: I.P. Sharp Associates

OASES (TYMNET)

Securities data base. Current and historical trading,  
financial, and descriptive information for approximately  
30,000 security issues for all types.  
Source/compiler: Telstat  
Offered by: On-line Systems, Inc.

OCEANIC ABSTRACTS (BOTH)

Oceanography literature.  
Source/compiler: Data Courier/NOAA  
Offered by: ESA/SDS, Lockheed Information Systems, SDC  
Search Service

OECD (BOTH)

Principal economic indicators and national income accounts  
for 25 countries, Trade Series A and C.  
Source/compiler: Organization for Economic Cooperation  
and Development  
Offered by: Data Resources, Inc., ADP Network Services;  
I.P. Sharp Associates

OECDNIA (TELENET)

National income accounts of the OECD members  
Source/compiler: OECD  
Offered by: ADP Network Services

OILMARKET (TYMNET)

Oil industry statistics.  
Source/compiler: American Petroleum Institute  
Offered by: The Computer Company

ON-LINE TARIFF GUIDE (TYMNET)

Telecommunications tariffs and rates.  
Source/compiler: Federal Communications Commission  
Offered by: DMW Group, Inc.

ON-LINE UNION CATALOG (TYMNET)

Bibliographic records  
Source/compiler: OCLC subscribers, OCLC  
Offered by: OCLC, Inc.

OPTDAT (BOTH)

Complete stock option data base  
Source/compiler: Fortran  
Offered by: National Computer Network

ORC YOUTH (TELENET)

Research and planning tool for the teenage market  
Source/compiler: Options Research Corporation  
Offered by: Telmar Media Systems

ORIGIN-DESTINATION (BOTH)

Passenger itinerary survey results.  
Source/compiler: Civil Aeronautics Board  
Offered by: I.P. Sharp Associates. Inc.

PAPERCHEM (BOTH)

Scientific literature in paper chemistry, including patents.  
Source/compiler: Institute of paper Chemistry  
Offered by: SDC Search Service

PAIS INTERNATIONAL (BOTH)

Social and political science.  
Source/compiler: Public Affairs Information Service  
Offered by: Lockheed Information Systems

PASCAL (TY,NET)

Earth sciences, physics, computers, engineering, chemical physics, energy, metallurgy, and chemistry.  
Source/compiler: Informascience Centre National de la Recherche Scientifique  
Offered by: ESA/SDS

PBM/STIRS (BOTH)

Chemical mass-spectral identification information for over 40,000 compounds.  
Source/compiler: John Wiley & Sons, Professor F.W. McLafferty  
Offered by: Cornell University

P/E NEWS (BOTH)

Business news in petroleum and energy.  
Source/compiler: American Petroleum Institute  
Offered by: SDC Search Service

PES (BOTH)

Pan-European study of media usage  
Source/compiler: Research Services, Ltd.  
Offered by: Interactive Market Systems

PETROCHEMICAL (TYMNET)

Production, exports, imports, and price data.  
Source/compiler: Chemical Marketing Reporter, et al.  
Offered by: Data Resources, Inc.

PETROLEUM DRILLING AND EXPLORATION (TYMNET)

A data base which is updated daily, containing all exploration activity in 10 Rocky Mountain states.  
Source/compiler: Hot Line Energy Reports  
Offered by: Computer Resources, Corp.

PETROSERIES (BOTH)

Statistics on refinery input and output; stocks and imports of crude oil and finished petroleum products; domestic crude oil production  
Source/compiler: U.S. Department of Energy and American Petroleum Institute  
Offered by: I.P. Sharp Associates

PIRA (BOTH)

Paper-and-board printing and packaging industries.  
Source/compiler: Pira  
Offered by: Lockheed Information Systems

- PLANET (TYMNET)  
Project management control system.  
Source/compiler: Macro  
Offered by: Infomedia
- PLASFRIC (TELENET)  
Frictional property data base on plastics  
Source/compiler: Scientific Process & Research, Inc.  
Offered by: Scientific Process & Research, Inc.
- PLASPROC (TELENET)  
Processing property data on plastics  
Source/compiler: Scientific Process & Research, Inc.  
Offered by: Scientific Process & Research, Inc.
- PMB OF CANADA (BOTH)  
Sample of 13,000 respondents in Canada containing media demographics, product use/ownership data  
Source/compiler: Canadian Print/Measurement Bureau  
Offered by: Interactive Market Ssystems, Inc., Telmar-Media Systems
- PNI (BOTH)  
Pharmaceutical news index.  
Source/compiler: Data Courier, Inc.  
Offered by: Lockheed Information Systems, SDC Search Service
- POLLUTION (BOTH)  
Pollution and environmental literature.  
Source/compiler: Pollution Abstracts.  
Offered by: ESA/SDS, Lockheed Information Systems, SDC Search Service
- POLLUTION ABSTRACTS (BOTH)  
Literature on pollution, its sources and its control  
Source/compiler: Data Courier, Inc./Pollution Abstracts  
Offered by: QL Systems, Ltd., SDC Search Service
- PROMT (BOTH)  
Market research data  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service
- PSYCHOLOGICAL ABSTRACTS (BOTH)  
Source/compiler: American Psychological Association  
Offered by: Lockheed Information Systems, SDC Search Service
- PTS: F & S INDEXES (BOTH)  
Domestic and international company, product, and industry information.  
Source/compiler: Predicasts, Inc.  
Offered by: Lockheed Informations Systems, SDC Search Service
- PTS: FEDERAL INDEX (BOTH)  
Federal actions such as regulations, executive orders, court decisions, etc.  
Source/compiler: Predicasts, Inc.  
Offered by: Lockheed Information Systems, SDC Search Service
- PTS INTERNATIONAL ANNUAL TIME SERIES (BOTH)  
Annual data on consumption, production, price, foreign trade and income; time series on production and other economic data.  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems

- PTS INTERNATIONAL STATISTICAL ABSTRACTS (BOTH)  
Forecasts with historical data on industries, products,  
end-use; abstracts of general economic information  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems
- PTS REGIONAL TIME SERIES (BOTH)  
Time Series by States, by SMSA and by business and economic  
areas.  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems
- PTS U.S. ANNUAL TIME SERIES (BOTH)  
500 time series on employment, per capita income, foreign  
trade, and production for many industries  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems
- PTS U.S. STATISTICS ABSTRACTS (BOTH)  
Historical base period data; long-and short-term forecasts.  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems
- PTS WEEKLY (BOTH)  
Weekly data incorporated into PTS F & S or PTS PROMT  
Source/compiler: Predicasts, Inc.  
Offered by: SDC Search Service, Lockheed Information Systems
- QUEBEC-ACTUALITE (BOTH)  
Coverage of articles in four French-Canadian newspapers.  
Source/compiler: Nicrofor, Inc.  
Offered by: SDC Search Service
- QUOTE\*PLUS (TELENET)  
Daily commodity prices. AMOE, CBOE and regional option  
exchange prices, including put and call options.  
Source/compiler: GTE Information Services  
Offered by: Commodity Information Services
- RADIO AUDIENCES (TYMNET)  
Arbitron data for 175 measured markets.  
Source/compiler: Arbitron  
Offered by: Market Buy Market
- RAPIDQUOTE DATA BASE (TYMNET)  
Historical price, volume, and other information on over  
12,000 stocks, bonds, and options; updated daily.  
Source/compiler: Telstat Stock Market Data Base  
Offered by: Rapidata, Inc.
- REG (TELENET)  
Reglement de la Chambre des Communes, French language  
equivalent of STO.  
Offered by: QL Systems, Ltd.
- REGIONAL (TYMNET)  
State, SMSA, and Federal Reserve District economic data.  
Source/compiler: DRI  
Offered by: Data Resources, Inc.
- RINGDOC (BOTH)  
Chemico-medical and pharmaceutical literature.  
Source/compiler: Derwent Publications  
Offered by: SDC Search Service

- RSC (TELENET)  
Revised statutes of Canada.  
Source/compiler: Department of Justice (Canada)  
Offered by: QL Systems, Ltd.
- SAE ABSTRACTS (BOTH)  
Papers concerned with self-propelled vehicles in the automotive, aerospace, and transportation industries.  
Source/compiler: Society of Automotive Engineers, Inc.  
Offered by: SDC Search Service
- SAFETY SCIENCE ABSTRACTS (BOTH)  
Information on the multi-disciplinary field of safety science.  
Source/compiler: Cambridge Science Abstracts  
Offered by: DSC Search Service
- SANITARY MASTER (BOTH)  
Specification text for wastewater treatment projects.  
Source/compiler: Sanitary Associates  
Offered by: National Computer Network
- SBC (TELENET)  
Statutes of British Columbia  
Source/compiler: Department of Justice (British Columbia)  
Offered by QL Systems, Ltd.
- SCISEARCH (BOTH)  
Life sciences literature.  
Source/compiler: Institute of Scientific Information  
Offered by: Lockheed Information Systems
- SCR (TELENET)  
Headnotes of the Supreme Court Reports (Canada)  
Offered by: QL Systems, Ltd.
- SDL LINE (BOTH)  
Source/compiler: National Library of Medicine  
Offered by: State University of New York/Albany
- SECURITIES DATA BASE (BOTH)  
Daily information from all U.S. exchanges.  
Offered by: Scientific Time Sharing Corporation
- SECURITIES PRICING DATA (BOTH)  
Daily and weekly stocks, bonds, options, and indicators.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: INSCO
- SECURITY MASTER (TYMNET)  
Descriptive information for 42,000 corporate equities and bonds.  
Source/compiler: Interactive Data Corporation
- SECURITY PRICES (TYMNET)  
Daily prices and volumes for 31,000 securities since 1968.  
Source/compiler: Telstat Systems, Inc.  
Offered by: Tymshare, Inc.
- SERLINE (BOTH)  
Biomedical serial records.  
Source/compiler: National Library of Medicine  
Offered by: National Library of Medicine

- SIDS (TELENET)  
Current and historical trading information and financial data for thousands of security issues of all types on all major exchanges.  
Source/compiler: Interactive Sciences Corp.  
Offered by: Interactive Sciences Corp.
- SIMMONS-SMRB (BOTH)  
Media/product syndicated research.  
Offered by: Interactive Market Systems, Inc.
- SITE II (TELENET)  
Demographic data  
Source/compiler: U.S. Bureau of the Census  
Offered by: ADP Network Services
- SMRB (TELENET)  
Sample of 15,000 people, containing media, demographic, product use/ownership data  
Source/compiler: W.R. Simmons & Associates  
Offered by: Interactive Market Systems; Telmar Media Systems
- SMS (BOTH)  
Price-volume, earnings, dividends, shares outstanding, etc., for common stocks and indices.  
Source/compiler: III Systems  
Offered by: National Computer Network
- SNB (TELENET)  
Statutes of New Brunswick  
Source/compiler: Department of Justice (New Brunswick)  
Offered by: QL Systems, Ltd.
- SOCIAL SCISEARCH (BOTH)  
Social science citation index  
Source/compiler: Institute for Scientific Information  
Offered by: SDC Search Service, Lockheed Information Systems
- SOCIOLOGICAL ABSTRACTS (BOTH)  
Source/compiler: Sociological Abstracts, Inc.  
Offered by: Lockheed Information Systems
- SPIN (BOTH)  
Current physics information.  
Source/compiler: American Institute of Physics  
Offered by: Lockheed Information Systems
- SPLIT & DIVIDEND (TYMNET)  
Stock splits and cash dividends for 12,000 securities since 1971.  
Source/compiler: Interactive Data Services, Inc.  
Offered by: Interactive Data Corporation
- SOGS (TELENET)  
Saudi Oriented Guide Spec  
Source/compiler: Army Corps of Engineers  
Offered by: Bowne Information Services
- SOL (TELENET)  
Detailed references to solid waste management projects undertaken in Canada since 1970.  
Source/compiler: Environmental Protection Service and WATDOC, Environment Canada  
Offered by: QL Systems, Ltd.

- SSIE (BOTH)  
Research in progress in the life, physical, social and engineering sciences.  
Source/compiler: Smithsonian Science Information Exchange  
Offered by: SDC Search Service, Lockheed Information Systems
- STAR (TYMNET)  
Scientific and technological aerospace reports.  
Source/compiler: National Aeronautics and Space Administration  
Offered by: ESA/SDS
- STEEL (TYMNET)  
Steel industry data.  
Source/compiler: American Iron and Steel Institute  
Offered by: Data Resources, Inc.
- STOCK EXCHANGE (BOTH)  
Daily stock exchange dat.  
Source/compiler: Financial Post  
Offered by: I.P. Sharp Associates, Inc.
- STO (TELENET)  
Standing Orders of the House of Commons (Canada)  
Offered by: QL Systems, Ltd.
- STOCK OPTIONS VALUATIONS (TYMNET)  
Daily theoretical values for puts and calls on all U.S. options exchanges.  
Source/compiler: Fischer Black  
Offered by: Interactive Data Corporation
- T6 AIR CHARTER (BOTH)  
Detail on all charter flights within the U.S. or in/out of the U.S.  
Source/compiler: National Archives & Records Service  
Offered by: I.P. Sharp Associates
- TECSPEC (TELENET)  
Specification text: Div. 15 (mechanical) Div. 16 (electrical)  
Source/compiler: AEP Associates  
Offered by: Bowne Information Services
- TELPRICE 70 (BOTH)  
Daily stocks, bonds, options  
Source/compiler: Telstat Systems  
Offered by: Avco Computer Services, III Systems, Interactive Sciences Corp., National Computer Network, Time-Sharing Resources
- TGI (BOTH)  
Target Group Index on consumer purchasing.  
Source/compiler: AXIOM Market Research Bureau  
Offered by: Interactive Market Systems, Telmar Media Systems
- TGI-UK (BOTH)  
Product and media data.  
Source/compiler: British Market Research Bureau  
Offered by: Interactive Market Systems
- TITUS (BOTH)  
Information on the textile industry.  
Source/compiler: Institut Textile de France  
Offered by: SDC Search Service

- TOXLINE (BOTH)  
Toxicology literature.  
Source/compiler: National Library of Medicine.  
Offered by: National Library of Medicine
- TRANSCOM FMS (TYMNET)  
Generalized multi-dey ISAM with financial applications.  
Source/compiler: Transcom Data Systems, Inc.  
Offered by: Dalgety, Inc.
- TRIS (TYMNET)  
Transportation data base.  
Source/compiler: U.S. Department of Transportation  
Offered by: BATTELLE Columbus Laboratories
- TSCA 1977 CANDIDATE LIST (BOTH)  
Toxic substances.  
Source/compiler: U.S. Environmental Protection Agency  
Offered by: Lockheed Information Systems
- TTI (TELENET)  
Target Teen Index on teen purchasing.  
Source/compiler: AXIOM Market Research Bureau  
Offered by: Telmar Media Systems
- TULSA (BOTH)  
Petroleum abstracts and patents  
Source/compiler: University of Tulsa  
Offered by: DSC Search Service
- TYMQUOTE (TYMNET)  
Daily stocks, bonds, options.  
Source/compiler: Tymshare, Inc.  
Offered by: Tymshare, Inc.
- UCC (TYMNET)  
Joint committee on powder diffraction data base and program.  
Infrared diffraction data base.  
Source/compiler: Sadtler Research  
Offered by: University Computing Company
- UKCSO (BOTH)  
Financial and economic data relating to the United Kingdom.  
Source/compiler: United Kingdom Central Statistics Office  
Offered by: I.P. Sharp Associates, Inc.
- U.S. ANNUAL TIME SERIES (BOTH)  
Market statistics on U.S. products.  
Source/compiler: Predicasts, Inc.  
Offered by: Lockheed Information Systems, SDC Search Service
- U.S. CENSUS DATA BASE (BOTH)  
Source/compiler: U.S. Department of Commerce, Bureau of the  
Census  
Offered by: Cornell University
- U.S. REGIONAL TIME SERIES (BOTH)  
Market statistics on U.S. products.  
Source/compiler: Predicasts, Inc.  
Offered by: Lockheed Information Systems, SDC Search Service
- U.S. STATISTICAL ABSTRACTS (BOTH)  
Market statistics on U.S. products.  
Source/compiler: Predicasts, Inc.  
Offered by: Lockheed Information Systems, SDC Search Service



VALUE LINE BUSINESS LINE (TYMNET)

Forty-eight annual items covering sales, pretax income, SIC codes, and descriptions for 1380 industrial, retail, and utility companies.

Source/compiler: Arnold Bernhard & Co., Inc.

Offered by: Interactive Data Corporation

VALUE LINE FINANCIAL (TYMNET)

Financial, statistical, and ratio items for 100 financial organizations.

Source/compiler: Arnold Bernhard & Co., Inc.

Offered by: Interactive Data Corporation

VALUE LINE INDUSTRIAL (TYMNET)

Financial, statistical, and ratio items for 1400 industrial, transportation, retail, and utility companies.

Source/compiler: Arnold Bernhard & Co., Inc.

Offered by: Interactive Data Corporation

VALUELINE (TELENET)

Financial data/14,000 U.S. corporations.

Source/compiler: Standard & Poor's

Offered by: ADP/First Data

WARD'S AUTOINFORBANK (TYMNET)

Delivery, production, inventory, and shipment data for the automotive industry.

Source/compiler: Ward's Communications, Inc.

Offered by: Interactive Data Corporation

WCB (TELENET)

Bulletins of judgments in criminal cases.

Source/compiler: Canada Law Book, Ltd.

Offered by: QL Systems, Ltd.

WESTLAW (TYMNET)

Court decisions of all federal courts and reported decisions of all 50 states.

Source/compiler: National Reporter System, West Publishing Company

Offered by: West Publishing Company

WHARTON ECONOMETRIC FORECASTING ASSOCIATES SERVICES (TYMNET)

Basic economic data from the federal statistical system, financial institutions, and private sources for the U.S., regional, and international economics.

Offered by: UNI-COLL Corporation

WISER (TELENET)

Western Information System for Energy Resources. Contains data on all oil and gas wells in British Columbia, Alberta and Saskatchewan.

Source/Compiler: Energy Resource Conservation Board (Alberta); Dept. of Mineral Resources (Saskatchewan and British Columbia)

Offered by: QL Systems, Ltd.

WOOD PRODUCTS (TYMNET)

Production, consumption, and price data.

Source/compiler: Pulp and Paper Institute, U.S. Department of the Interior

Offered by: Data Resources, Inc.

WORLD ALUMINUM ABSTRACTS (BOTH)

Source/compiler: American Society for Metals  
Offered by: ESA/SDS, Lockheed Information Systems,  
QL Systems, Ltd.

WORLD BANK OF LICENSABLE TECHNOLOGY (TELENET)

Worldwide data base of licensable technology  
Source/compiler: Dr. Dvorkovitz & Associates  
Offered by: Dr. Dvorkovitz & Associates

WORLD TEXTILE ABSTRACTS (BOTH)

Textile information.  
Source/compiler: Shirley Institute  
Offered by: Lockheed Information Systems

WPI (BOTH)

Worldwide patents information.  
Source/compiler: Derwent Publications  
Offered by: SDC Search Service

WPI/CPI (BOTH)

All published price data for the U.S. Economy.  
Source/compiler: Bureau of Labor Statistics  
Offered by: ADP Network Services; Time-Sharing Resources,  
Data Resources, Inc.

XREF (TELENET)

Cross reference to mergers, acquisitions and name changes.  
Source/compiler: Telstat Systems  
Offered by: III Systems, Warner Computer Systems

YKB (TELENET)

Yukon bibliography, containing documents which pertain to  
all aspects of the Yukon, including its literature.  
Source/compiler: Boreal Northern Institute for Northern  
Studies  
Offered by: QL Systems, Ltd.

4.2 List of application-oriented services available through TYMNET

**MAJOR APPLICATIONS/SOFTWARE FACILITIES AVAILABLE THROUGH TYMNET**

This section presents major applications offered through TYMNET and the programming languages and other software facilities that individual subscribers provide for these applications. Subscribers are listed by the company name abbreviations given in the last section of this directory.

<b>ACCOUNTING</b>			<b>CIVIL ENGINEERING</b>	
ATTORNEY ACCOUNTING	CRC		ANSYS	ISD, UNICOLL
GENERAL LEDGER	CRC		CEP	HDN
PAYABLES	CRC		COGO	CSS, D.L.C, HDN, ISD,
PAYROLL	CRC			INSCO, UCC
PROJECT COST	CRC		ICES	INSCO, ISD, SDL, UCC,
RECEIVABLES	CRC			UNICOLL
			ICES/STRUDL	UCC
<b>ALGEBRAIC MANIPULATION</b>			MARC	ISD
ABACUS	HDN		MARC/FORTRAN	MARC
ADA	HDN		NASTRAN	ISD, SDL
MATHLAB	SUMEX		NISA	HDN
MPS	HDN		POSTEN	UCC
REDUCE MLAB	SUMEX		PROJECT/2	UNICOLL
			PSUICES/STRUDL	UNICOLL
<b>APL-BATCH INTERFACE</b>			SPAR	ISD
CAESAR	TCC		STRESS	HDN, ISD, UCC
VSAPL	SDL		STRUDL	INSCO, ISD
			UTPS	UNICOLL
<b>BANKING SYSTEMS</b>			<b>COMPILER WRITING</b>	
GENERAL	OSI		BCPL	SUMEX
<b>BUSINESS</b>			<b>COMPUTER-AIDED DESIGN</b>	
APL	SDL		AIDEX	UCC
BASIC	CSS, DI, HDN, INSCO,		ANSYS	UNICOLL
	RSI, SDL, SRII		CHEMSHARE	UCC
BASIC-X	BTI		CORNAP	UNICOLL
BDMS II	SRII		ERL LIGHTING DESIGN	
BPS	TCI		PACKAGE	CSS
COBOL	ATAS, BIS, BTI, COR, CSS,		FLANGE	UCC
	DRI, HDN, IDC, INSCO, ISD,		ICES	UNICOLL
	MJK, OSI, PSI, RCC, RDA,		ICES/STRUDL	ISD, OSI
	SRII, STC, TCC, TCI, TYM,		ICS LIGHTING DESIGN	
	UCC, UNICOLL		PACKAGE	CSS
<b>CASH MANAGEMENT</b>			ITL LIGHTING DESIGN	
BAR	HDN		PACKAGE	CSS
CAR	HDN		LUMEN-II	CSS, UCC
HABIT	HDN		PANE	UNICOLL
			PCAP	UNICOLL
<b>CHEMISTRY</b>			PSUICES/STRUDL	UNICOLL
PBM/STIRS	SDL		ICES/STRUDL	ISD
	COR		SSI 100/DR01	UCC
			VESSEL	UCC
			<b>COMPUTER-AIDED INSTRUCTION</b>	
			MGH, OSU, UTHSCD	
			ATS	COR
			BASIC	HDN
			IMI	HDN
			TUTOR	HDN
			<b>COMPUTERIZED</b>	
			PHOTOTYPESETTING	ATAS

**COMPUTER MAIL UTILITIES**

FORTTRAN	HDN, SRII
IDS	HDN
MARK IV	UNICOLL
PANVALET	UNICOLL
PL/I	SDL
PROJECT/2	UNICOLL
REPORTER	SRII
RPG	INSCO, MJK, OSI, SDL
RPGII	BTI

**CONSTRUCTION MANAGEMENT**

ASTRA	HDN
CMS	OSI
COAC	CSS
GENERAL LEDGER	CRC
N5500	UCC
PAC-II	HDN
PAYABLES	CRC
PAYROLL	CRC
PMCS	HDN
PROJECT/2	UNICOLL
PROJECT COST	CRC
RECEIVABLE	CRC
SYSTEM FIVE	TSSI

**CORRESPONDENCE MANAGEMENT SYSTEM**

CCS	ATAS, DLC
OTIS	OLS
SCRIPT	UNICOLL

**CREDIT PROFILES**

TRW

**CREDIT UNION PROCESSING**

CUCEPT	TSSI
--------	------

**CROSS ASSEMBLERS/SIMULATORS**

ASMB8080	COR
DATANET30	CSS
DP2200	UCC
FAIRCHILD	UCC
HONEYWELL 716	CSS
INTEL	DLC, ISD, RCC, TYM
INTERDATA	RCC
MOS TECHNOLOGY	UCC
MOTE K	UCC
MOTOROLA	UCC
NOVA	CSS, UCC
PDP-8	UCC
PDP-9	CSS, UCC
PDP-10	SUMEX
PDP-11	SUMEX, UCC
VARIAN	TYM
8080	CSS

**DATA BASE MANAGEMENT**

ADS	TCC
BANK	STC, SUMEX
BASIS	BAT
CICS	SDL
CSS-DMS	CSS
DATA-BASIC	HDN
DATATRIEVE-11	RSI
DBIV	UCC
DBMS 10	STC
DBMS-X	BTI
DM IV	HDN
DMS II	TSSI
DMS 1100	ISD
EASYTRIEVE	INSCO, OSI
FASTPATH	CSS
FIND	CSS
FOCUS	TYM
HIMAX	CSS

IDMS	SDL
IDS	HDN
IDS/II	HDN
IMAGE/QUERY	ADG, MJK
IMS	OSI, SDL
IMS/VS	UNICOLL
INQUIRE	UNICOLL
INSYTE	RCC
MDQ	HDN
MDQS	HDN
MAGNUM	TYM
MARK IV	COR, OSI, UNICOLL
OLIVER	OLS
RAMIS	INSCO
RETRIEVE	TYM
SYSTEM 2K	ISD, TYM
SYSTEM 2000	SDL
X2C	RDA
XDMS	IDC
XSIM	IDC

**DATA PROCESSING**

**DATA-TEK**

**DEBUGGING AIDS**

BASIC DEBUGGER	CSS
DATAMACS	UNICOLL
DEBUG	HDN
FDS	HDN
FORTTRAN DEBUGGER	CSS
ISD	IDC
PL/I CHECKOUT	UNICOLL
PL/I OPTIMIZER	UNICOLL
SYMBUG C and F	INSCO
TRACE	HDN

**ECONOMICS**

APL	SDL
DAMSAL	UNICOLL
DATABANK	SDL
DYNAMO	SDL
EPLAN	INSCO
MACRO	CSS
MASSAGER	SDL
SIMSYS	SDL
TROLL	COR, SDL

**EDUCATIONAL SERVICES**

	OCLC, UNICOLL
PROGRAMMER KNOWLEDGE	
SURVEY	INSCO

**ELECTRONICS**

ASPEC	ISD
CORNAP	UNICOLL
DLASAR	UCC
I/CAP	CSS
LOGIS	ISD
ORACLE	INSCO
PANE	UNICOLL
PCAP	UNICOLL
R/M PREDICTOR	UCC
SCEPTRE	UCC
SPICE	COR, HDN, ISD, UCC
TRAC	DLC
UCCAP	UCC

**ENGINEERING**

ADA	HDN
COGO	TCI
COGO-PLOT	TCI
NISA	HDN
SPICE	HDN

**FINANCIAL MANAGEMENT**

APARS INSCO  
 APL CSS  
 APL/SF ICC  
 BASIC CSS, HDN, ICC  
 BASIC-PLUS-2 ICC  
 BUDGET ATAS  
 BOND CSS  
 COBOL CUR, CSS, HDN, ICC, TCI  
 EMPIRE CSS  
 FISCAL RDA  
 FMS HDN  
 \$FLOWS ADG  
 FORTRAN COR, CSS, HDN, ICC  
 FPS ISD  
 GENERAL OSI  
 MAPS RSI  
 MORT CSS  
 RAMIS DFO INSCO  
 TRANSCOMM FMS DI

**FINANCIAL MODELLING**

AMY AAI  
 BBL TYM  
 BPS TCI  
 BUDGET ATAS  
 DAMSAL UNICOLL  
 EMPIRE CSS  
 ENTERPRISE CTSH  
 EXPRESS TYM  
 FINAR CRC  
 FPS HDN  
 HSL AAI  
 INFL04 AAI  
 MAPS RSI  
 MPS-F UCC  
 OLSFMS OLS  
 PAYSIM AAI  
 PLPORT BIS

**FORECASTING**

AMS FORECASTING SDL  
 DATABANK SDL  
 MASSAGER SDI  
 TIME SERIES ANALYSIS SDL

**GENERAL LEDGER**

LEDGER CTSH

**GOVERNMENT MANAGEMENT**

GEMUNIS OSI

**GRAPHICS**

APL GRAPH SDL  
 APL GRAPH II UNICOLL  
 CALCOMP CSS  
 CALCOUP HDN  
 CONTOUR CSS  
 CSMPPLOT UNICOLL  
 DISSPLA IDC, INSCO, ISD  
 EZPERT INSCO, UCC  
 GCS INSCO  
 GSP INSCO  
 HISTT/WHIST UNICOLL  
 HOUSTON  
 INSTRUMENTS CSS, HDN  
 IPP INSCO  
 OLSGDS OLS  
 OMNIGRAPH SUMEX  
 PLOT I UNICOLL  
 PLOT 10 ISD, SDL, UNICOLL  
 PLOTLIB UNICOLL  
 PREVIEW UNICOLL  
 PROBE RDA  
 SDL ISD  
 SPLOT/WPLOT UNICOLL  
 SYMAP UNICOLL  
 SYMVU UNICOLL

TECHTRONICS AGII-TCS10 HDN  
 TEXTRONIX CSS  
 TEKTRONICS AG-II COR  
 TEKTRONICS TCS-10 COR  
 TELL-A-GRAPH INSCO  
 THREED UNICOLL  
 UNIPLOT UCC  
 VISAID UNICOLL  
 WEST POINT HDN  
 ZETA CSS  
 ZETA RES.Z547-Z553 HDN

**GRAPHICS STRUCTURES**

SUPERTAB UCC

**INFORMATION RETRIEVAL**

CSS, DJ, IB, LIS, NLM, OCLC, SDC  
 DATA-QUERY HDN  
 DM IV-QURY HDN  
 MARKIV SDL  
 MDQS HDN  
 RIS HDN  
 SDL/ALFRID SDL  
 SDI/INFO SDL  
 SYSTEM 2000 SDL

**INSURANCE PROCESSING**

CAPSIL TSSI

**KIDNEY TRANSPLANT MATCHING**

UTHSCD

**LEGAL SERVICES**

GENERAL OSI  
 WESTLAW WEST

**LIBRARY MANAGEMENT**

BALLOTS, OCLC

**LINEAR PROGRAMMING**

FMPS/GAMMA3 UCC  
 LINPRO HDN  
 LINPROG UNICOLL  
 LP/6000 HDN  
 LQPROG UNICOLL  
 MFOR/360 UNICOLL  
 MPS HDN  
 MPSX SDL, UNICOLL  
 MPSX/360 COR  
 REVSIMPX CSS  
 ZERO ONE UNICOLL

**MACHINE TOOL CONTROL**

APT COR, HDN, ISD

**MANUFACTURING**

IMS SDL  
 PSC HDN  
 HDN

**MANUFACTURING SYSTEMS**

INFORM TSSI

**MARKETING/ADVERTISING**

AID-ONLINE IMS  
 CRANK IMS  
 OPTIMIZATION IMS  
 R & F SCHEDULES IMS  
 SUPER SERIES IMS

**MATH/STATISTICS**

APL SDL  
 BMD SDL  
 BMPD SDL  
 BRAS SDL  
 OSIRISIII SDL  
 SAS SDL  
 SCSS SDL  
 SPSS SDL  
 TPI. SDL

**MECHANICAL ENGINEERING**

ANSYS ISD  
 GIFTS ISD  
 ISIS/STRU DL ISD  
 MARC ISD  
 MARC/FORTRAN MARC  
 NASTRAN ISD  
 SPAR ISD

**MEDIA ANALYSIS**

MAGAZINE MBM  
 MEDIA MIX MBM  
 NEWSPAPER MBM  
 PROFILE MBM  
 RADIO MBM  
 TV MBM

**MEDICAL DIAGNOSTICS**

RU, SUMEX, TMH, UTHSCD

**MEDICAL SYSTEMS**

BIO-MEDICAL HDN, OSI  
 MEDICARE OSI

**MELT OPTIMIZATION PACKAGE**

OLSMOP OLS

**MINING**

CONTOUR PLOTTING CSS  
 GEOPAC CSS  
 IMAGE ENHANCEMENT CSS  
 MINE SIMULATION CSS  
 REMOTE SENSING CSS  
 STATISTICAL ANALYSIS CSS  
 URANIUM LEACHING (TRACER) CSS

**MULTIPURPOSE LANGUAGES**

APL APLS, COR, CSS, DRI, HDN, INSCO, ISD, PCS, PSI, STC, STSC, TCC, UCC, UNICOLL.  
 ASSEMBLER UNICOLL.  
 BASIC ADG, CSS, UCC  
 BASIC-X BTI  
 COBOL ADG, UNICOLL  
 FORTRAN ADG, CSS, UNICOLL  
 PASCAL COR, HDN  
 PASCAL-X BTI  
 PL/C COR, UNICOLL  
 PL/I COR, CSS, DRI, IDC, INSCO, ISD, PSI, TCC, UCC, UNICOLL  
 RPG ADG  
 SPEAKEASY COR, OSI, TCC  
 SPL ADG  
 VS BASIC INSCO

**NUMERICAL ANALYSIS**

EISPACK COR, UNICOLL  
 FUNPACK COR  
 IMSL COR, HDN, INSCO, UCC, UNICOLL

**PIPING**

ADLPIPE ISD, UCC  
 AUTOFLEX UCC  
 DYNAFLEX UCC  
 EZFLEX UCC  
 INTERCOMP UCC  
 PMCS UCC  
 TRIFLEX UCC

**OPERATING SYSTEM**

RSTS-E SIGMA

**PLANNING AND BUDGETING**

ORBIS OLS

**PROJECT CONTROL/ MANAGEMENT**

ASTRA HDN  
 PAC-II HDN  
 OSCAR OLS  
 PMCS HDN  
 PMS IV SDL  
 PROJECT/2 SDL  
 PROSE/EMSCO SDL  
 PSRO DATA-TEK

**SCIENTIFIC**

AID SUMEX  
 ALGOL COR, CSS, DRI, HDN, ISD, OSI, PSI, RCC, SRII, STC, TSSI, UCC, UNICOLL, SDL, SRII  
 APL SDI, SRII  
 BASIC ADG, BIS, BTI, CSS, D.L.C, DRI, HDN, IDC, INSCO, ISD, MJK, PSI, RCC, RDA, SDL, STC, SUMEX, TSSI, TYM, UCC  
 BLISS SRII  
 CPS CSS  
 FOCAL STC  
 FORTRAN ADG, BIS, BTI, COR, CSS, D.L.C, DRI, HDN, IDC, INSCO, ISD, MJK, OSI, PSI, RCC, RDA, RSI, SDL, SRII, STC, SUMEX, TCC, TSSI, TYM, UCC, UNICOLL  
 JOVIAL HDN  
 LISP SRII, UNICOLL  
 Array Processor FORTRAN COR  
 MACRO SRII  
 MAINSAIL SUMEX  
 PASCAL SRII  
 SAIL SRII, SUMEX, TYM  
 SNOBOL UNICOLL  
 WATFIV COR, SDI, UNICOLL

**SELECTION SERVICES**

GENERAL OSI  
 XSCAN IDC

**SIMULATION**

CSMP	COR, IDC, SDL, UCC, UNICOLL
DYNAMO	CSS, DRI, IDC
DYNAMOII	UNICOLL
GASP	ISD, HDN
GASPII	UNICOLL
GASPIV	UNICOLL
GPSS	COR, DRI, HDN, IDC, INSCO, ISD, OSI, UCC
MIMIC	ISD, UCC
PROSE	ISD
SAAM25	UNICOLL
SIMSCRIPT	COR, HDN, INSCO, ISD, OSI, SDL, UCC, UNICOLL
SIMULA	SUMEX, ISD, STC, UCC
SPSS	SDL
SPSS/V	UNICOLL

**STATISTICS**

SAS	UCC
-----	-----

**STATISTICAL ANALYSIS**

APL STAT	NERA INSCO
APL STATLIB	UNICOLL
BMD	COR, HDN, IDC, INSCO, TCI, UCC, UNICOLL
BMDP	COR, HDN, IDC, INSCO, OSI, UCC, UNICOLL
GENSTAT	COR
GEOPAC	CSS
GLIM	COR
GPSS	INSCO
IFS	CSS
IMSL	HDN, INSCO, ISD, UCC, UNICOLL
MINITAB	COR
OLSSAS	OLS
OSIRIS	COR, UNICOLL
SAS	COR, OSI, UNICOLL
SOUPAC	INSCO, UNICOLL
STAT BASIC	INSCO
SPSS	COR, HDN, ISD, OSI, UNICOLL
STATPAC	CSS
STATPACK-II	COR, UNICOLL
STP	TCI
TPL	COR, UNICOLL
TROLL	COR

**STRING AND LIST PROCESSING**

FORTRAN	HDN
LISP	COR, CSS, UNICOLL
LIST	SUMEX
SNOBOL	COR, CSS, ISD, STC, SUMEX, UNICOLL
SUPERWYLBUR	OSI
SPITBOL	COR
TRAC/CASH	UCC

**STRUCTURES**

ANSYS	ISD, UCC, UNICOLL
ICES	SDL
MARC/FORTRAN	MARC
MARC, GIFTS	ISD
MSC/NASTRAN	ISD, UCC
NASTRAN	HDN
NISA	HDN, ISD, UCC
PSUICES/STRUDL	UNICOLL
RGFRM1	CSS
SACS II	UCC
SAP IV, V, VI	ISD, UCC
SPACE IV	ISD, UCC
SPAR	ISD
STRUDL	INSCO, ISD, UCC
SUPERTAB	UCC
UAI/NASTRAN	UCC

**SYSTEMS PROGRAMMING  
LANGUAGE**

PASCAL-X	BTI
SPL	MJK

**TAX PROCESSING**

TAX	TYM CSS
-----	------------

**TELECOMMUNICATION NETWORK  
ANALYSIS AND DESIGN**

ANDMS	DMW
ATAPAK	ATAS
DBBT	DMW
NDMS	DMW
RESPONSE 1	DMW
RESPONSE 2	DMW
WATSTOLL	DMW

**TEXT EDITORS**

CANDE	TSSI
CMS EDITOR	COR, INSCO
COMPOSE/RUNOFF	HDR
COMPUTER MAIL UTILITIES	SRII
DOCUMENT COMPILERS	SRII
EDI	HDN
EDIT	BTI, CSS, MJK, TCI
EDITOR	HDN
QED	CSS, UNICOLL
SCRIPT	IDC, INSCO, UNICOLL
VS SCRIPT	INSCO
W SCRIPT	INSCO
SOS	ATAS, STC, SUMEX
STRING EDIT	CSS
SUPERWYLBUR	OSI
TECO	ATAS, STC, SUMEX, TCI
TEX	HDN
TEXT	OLS
TEXT EDIT	CSS
TSO/EDIT	UNICOLL
TV-EDIT	SRII, SUMEX
WRITE	RDA
XED	TCI

**TEXT FORMATTING**

COMPOSE/RUNOFF	HDR
CONCORDANCE	HDN
EDM	ISD
RUNOFF	ATAS, CSS, HDN, STC, TCI
SCRIPT	COR, INSCO
VS SCRIPT	INSCO
W SCRIPT	INSCO
TYPESET-10	ATAS

**TEXT PROCESSING**

SCRIPT	SDL
WYLBUR	SDL

**TIME SERIES ANALYSIS**

AIRMARKET	TCC
APL	SDL
BMD	IDC, UNICOLL
BMDP	IDC, UNICOLL
GDAN	HDN
IFS	CSS
IMSL	UNICOLL
PROBE	RDA
PROJECT II	OSI
TROLL	COR

**TIMESHARING**

ALGOL		TSSI
APL	CSS, HDN, HDR, INSCO,	HDN, PSI
		PSI, UNICOLL
BASIC	ADG, ATAS, CSS, HDN,	
	HDR, INSCO, PSI, TSSI	
COBOL	ADG, ATAS, CSS, HDN,	
	HDR, INSCO, PSI, TCI,	
		TSSI
FORTTRAN	ADG, ATAS, COR, CSS,	
	HDN, HDR, INSCO, PSI,	
		TCI, TSSI
FORTTRAN-BASIC-PLUS		BCS
JOVIAL		HDN
MACRO		ATAS
MAXBASIC		TCI
SIMSCRIPT	COR, HDR, INSCO	
TSO		UNICOLL

**TRANSPORTATION**

APL		SDL
-----	--	-----

**TRAVEL AGENCY**

ACCOUNTING		TYM
------------	--	-----

**UTILITIES LOCATION**

ON-CALL		OLS
<b>VOICE RESPONSE</b>		
RAPIDVOICE		RDA
VOTRAX		CSS
<b>WORD PROCESSOR</b>		
UNIX		CULC
<b>MISCELLANEOUS</b>		
BLISS		STC, SUMEX
CAPS		HDN
DXPL (PL/I type)		CSS
EPL		DRI
EPS		DRI
FAIL		STC
FMPS, GAMMA 3		ISD, UCC
GMAP Assembler Language		CSS, HDN
LISP		CSS
MACRO		STC
MODSIM		DRI
SNOBOL		CSS
SPSS	COR, ISD, HDN, SUMEX, TCC	
STP		STC, SUMEX
XEPL		DRI



4.3 List of application-oriented services available through TELENET

## Application Programs

Telenet subscribers offering application programs in the following areas are listed by abbreviations. See the last page of the directory for the full name of the organization.

### GENERAL BUSINESS

Accounting:	ALGOR, AOS, AVCO, BSI, CD, CHAR, CIS, CSI, CSS, CTSS, DART, DBC, DSL, EIS, FVC, HDN, HOPP, ICI, III, IMSI, INFOR, ISC, MACG, MACI, MC, MCAUTO, MIC, NCN, OBS, PRD, SDL, SPR, STSC, TIMSA, TSA	Mailing List Maintenance:	AVCO, AMS, BIS, CD, CHAR, CIS, CSS, DART, DBC, DSL, HDN, HOPP, ICI, IMSI, IPSA, ISC, LS, MACC, MACG, MC, MIC, MP&C, NCN, RHA, SCIP, TMS, TSR, U.DEL, WSU
Cash Management:	ADP, AVCO, CD, CHAR, CSS, DART, DBC, DSL, HDN, ICI, III, MACI, MDS, MIC, TSR, WCS	Message Processing:	AVCO, AMS, BBN, CCA, CD, CHAR, DART, DBC, DSL, GC, ICI, IPSA, IS, LS, MACC, MCAUTO, MIC, MIT, OBS, QL, RHA, STSC, TSR, USC, WSU
Data Base Management:	ADP, AOS, AVCO, AMS, BBN, BIS, BURR, CD, CHAR, CIS, CSS, CU, CTSS, DART, DSL, FCI, FD, HDN, HOPP, ICI, III, INFOR, ISC, ITEL, LCS, LS, MACG, MCAUTO, MIC, MIT, MP&C, MSU, NCN, PRD, RHA, SCIP, SDL, STSC, TIMSA, TMS, TRW, TSR, U.DEL, U.MICH, U.WASH, WCS, WSU	Order Entry:	AHS, AOS, AMS, CD, CHAR, DART, DBC, ICI, IMSI, OBS
Financial Analysis:	ADP, AOS, AVCO, AMS, BSI, BURR, CD, CHAR, CIS, CSS, CTSS, DART, DBC, DSL, EIS, FD, HDN, ICI, III, IMSI, INFOR, IPSA, ISC, ITEL, JFS, LCS, MACG, MACI, MC, MCAUTO, MIC, NCN, SDL, STSC, TIMSA, TSR, U.DEL, WCS, WSU	Payroll:	AOS, AVCO, AMS, BSI, CD, CSI, DART, DBC, FCI, ICI, IMSI, MC, MIC, NCN, SPR, STSC, TIMSA, TSA
Income Tax Computation:	CSS, DBC, DSL, TIMSA	Personnel Management:	CD, CHAR, FD, ICI, MCAUTO, MIC, NCN, STSC, TIMSA, TMS, TSR
Inventory Control:	AOS, CD, CHAR, CSI, DSL, FD, FVC, HDN, III, IMSI, ISC, MIC, NCN, OBS, TSR	Pension Management:	DART, III, IPSA, MIC, NCN, STSC, TSR
Job Costing:	ALGOR, AVCO, DART, DSL, IMSI, MC, MIC, NCN, SPR	Photocomposition:	ADP, BIS, CD, ICI, IS, QL, RHA, WSU
		Professional Time and Cost Records:	ALGOR, CD, DBC, ICI, IMSI, NCN
		Project Planning & Control:	ADP, AOS, AVCO, AMS, CD, COMPUTA, DART, FD, HDN, ICI, INFOR, ISC, JFS, LCS, MACG, MCAUTO, MIC, NCN, RHA, STSC, TSR, WSU
		Text Processing:	ADP, ALGOR, APC, AVCO, AMS, BBN, BIS, CCS, CD, CSS, CTSS, CU, DART, DBC, DSL, GC, HDN, HOPP, ICI, III, IPSA, IS, ISC, LCS, LS, MACC, MACI, MC, MCAUTO, MDDCS, MIC, NCN, OBS, QL, RHA, RICE, SA, SCIP, SDL, SPR, STSC, TRW, TSR, TUCC, U.DEL, U.ILL, U.MICH, USC, WCS, WSU, YALE

**ENGINEERING APPLICATIONS**

**Architectural:** AAE, AOS, AVCO, BBN, BIS, CD, CU, HDN, ISC, M&E, M&S, RHA, U.MICH, USC

**Chemical/  
Petrochemical:** ADP, AOS, AVCO, COMPEDA, CU, DART, DBC, EDN, FD, HDN, ISC, MACG, MCAUTO, RHA, SDL, SPR, U.DEL, USC

**Civil/Structural:** AAE, ALGOR, AOS, AVCO, BIS, CONCAP, CD, COMPEDA, COMPUTA, CSS, CU, DBC, EIS, HDN, HYDRO, ISC, ITEL, LCS, MACC, MACG, MCAUTO, M&E, M&S, MSU, NCN, RHA, RICE, SDL, TIMSA, TRW, TSR, TUCC, U.DEL, U.ILL, USC, WSU

**Electrical:** AAE, AOS, AVCO, BIS, CD, COMPEDA, CSS, CU, DART, DBC, DSL, FD, HDN, ISC, JFS, LCS, MACC, MACG, MCAUTO, M&E, MIC, MIT, NCN, PRD, RHA, RICE, STSC, TRW, TSR, TUCC, U.DEL, U.MICH, USC, WSU

**Mechanical:** AAE, ALGOR, AOS, AVCO, BIS, CD, COMPEDA, CSS, CU, DART, FD, HDN, ITEL, JFS, LCS, MACC, MACG, MCAUTO, M&E, NCN, PRD, RHA, SPR, TSR, TUCC, U.MICH, USC

**Plotting/Graphics:** AAE, ADP, AOS, AVCO, AMS, CONCAP, CD, CIS, COMPEDA, CSS, CTSS, CU, DART, DBC, DSL, EDN, EIS, FD, HDN, HYDRO, ICI, INFOR, IPSA, ISC, ITEL, LCS, MACC, MACG, MCAUTO, MDS, M&E, MIC, MIT, MSU, NCN, PRD, RAC, RICE, SA, SCIP, SDL, SPR, STSC, TRW, TSA, TSR, U.DEL, U.ILL, U.MICH, USC, WCS, WSU, YALE

**Simulation:** AOS, AVCO, AMS, CD, CHAR, COMPEDA, CSS, CTSS, CU, DART, DBC, DSL, EDN, FD, HDN, HYDRO, INFOR, IPSA, ISC, ITEL, JFS, LCS, MACC, MACG, MCAUTO, MDS, M&E, MIC, MIT, MSU, NCN, RHA, RICE, SDL, SPR, STSC, TRW, TSR, TUCC, U.DEL, U.ILL, U.MICH, USC, U.WASH, WCS, WSU, YALE

**Statistical Analysis:** AAE, ADP, AOS, AVCO, AMS, BSI, BURR, CD, CHAR, CIS, CSS, CTSS, CU, DART, DBC, DSL, EIS, FD, HDN, ICI, INFOR, IPSA, ISC, ITEL, LCS, MACC, MACG, MACI, MCAUTO, MDDCS, MDS, MIC, MIT, MSU, NCN, PRD, RHA, RICE, SA, SCIP, SDL, SPR, STSC, TIMSA, TRW, TSA, TSR, TUCC, U.DEL, U.ILL, U.MICH, USC, U.WASH, WCS, WSU, YALE

**SCIENTIFIC AND TECHNICAL**

**Communications  
Network Design:** CU, DBC, DSL, STSC

**Econometric Modeling:** ADP, AOS, AVCO, AMS, BSI, CD, CHAR, CIS, CSS, CU, DART, DBC, EDN, FD, INFOR, IPSA, ITEL, LCS, MACG, MIT, RHA, RICE, SDL, TIMSA, TSR, U.DEL, U.MICH, WSU, YALE

**Energy Auditing:** DART, JFS, M&E

**Forecasting:** ADP, AVCO, AMS, BSI, CD, CHAR, CIS, CSS, DART, DBC, EDN, FD, HDN, ICI, INFOR, IPSA, ISC, JFS, LCS, MACC, MACG, MACI, MCAUTO, MDS, MIC, NCN, SDL, STSC, TIMSA, TRW, TSR, U.DEL, WCS, WSU

**Numerical Control:** BURR, CU, DBC, HDN, ISC, LCS, MACG, MCAUTO, MIC, PRD, RHA, WSU

**Optics:** CD, CSS, DART

**SOFTWARE DEVELOPMENT TOOLS**

**Compiler Writing:** AVCO, CU, DART, DBC, FD, IS, ISC, ITEL, MIT, MP&C, RHA, SA, U.DEL, U.MICH, WSU

**Cross-Assemblers/  
Simulators:** ALGOR, CD, CSS, CU, DART, DBC, FD, ICI, IS, ISC, MP&C, NCN, PRD, RHA, SA, SCIP, TRW, U.DEL, U.ILL, U.MICH, USC, WSU, YALE

**Flow Charting:** AVCO, CD, CU, DART, DSL, ICI, LCS, MACG, NCN, PRD, RHA, SA, TRW, TUCC, U.MICH, WSU

**Program Debugging:** ADP, AOS, APC, AVCO, AMS, CD, CSS, CU, DART, DSL, FD, ICI, INFOR, IS, LCS, LS, MACG, MIC, MIT, MP&C, NCN, OBS, PRD, RHA, SA, TRW, TSR, TUCC, U.DEL, U.MICH, USC, WCS, WSU, YALE

**OTHER**

Advertising Planning: IMS, TMS

Computer-Aided Instruction: AAE, CD, CSS, CTSS, CU, DART, DBC, ICI, MACC, MIT, MSU, TSC, TSR, USC, WSU

Computerized Conferencing: NJIT

Investment Analysis: ADP, AVCO, BSI, CD, CHAR, CIS, CSS, DART, DBC, DSL, EDN, HDN, III, ISC, JFS, M&S, NCN, RAC, TSR, WCS

Market Research: IMS

Medical Diagnostics: DART, USC, YALE

Real Estate Appraisal: IMSI, JFS, M&S

**SPECIAL INDUSTRIES SERVED**

Architectural/Engineering: ALGOR, CSS, FD, JFS

Automotive: DDA

Banking & Financial: AOS, BURR, CIS, CSS, CTSS, RAC, S&P, STSC

Brokerage: BURR, CIS, RAC, S&P, STSC

Construction: DDA, FCI, JFS, MCAUTO, SPR, STSC, TIMSA, TSA

Education/Research: CTSS, CU, DART, GC, MACC, MERIT, MIT, MSU, NJIT, RICE, SCIP, SUNY, TSC, TUCC, U.DEL, U.ILL, U.MICH, USC, U.WASH, WSU, YALE

Energy: ALGOR, JFS, NCN

Food Processing: DDA

Government: DART, FD, S&P

Insurance: CSI, ETC, MCAUTO, M&S, STSC, TSA, WCS

Land Development: M&E

Law: BIS, CD, OI

Manufacturing: ALGOR, AOS, MCAUTO, MIC, STSC

Market Research: FD, IMS, NCN, TMS

Mining: CSS, TSA

Newspaper: MACI

Oil & Gas: MCAUTO

Patent/Trademark Administration: OI

Pharmaceutical: DDA

Plastics: DDA, SPR

Public Utilities: FCI, MCAUTO

Real Estate: BURR, JFS, M&S, STSC

Restaurant/Theater/Sports: CHAR

Retail: CD

Tourism: DSL, OBS

Transportation: FVC, LCS, MCAUTO

5. TYMNET/TELENET COMMUNICATION CHARGES FOR INFORMATION ON  
TYMNET/TELENET INTERNATIONAL ACCESS POINTS

The TYMNET and TELENET networks are accessible from many locations in the world through different TYMNET/TELENET nodes. The charges for using TYMNET and TELENET vary, however, from region to region. A comparison of the TYMNET/TELENET price structure is provided in a table format at the end of this section. This comparison shows that North American TYMNET/TELENET charges are considerably lower than European ones, almost by a factor of ten. The relatively expensive TYMNET/TELENET data communication charges for Austria would indicate that use of these networks by IIASA users should be restricted to the following applications:

1. If specialized services are needed such as
  - a) special data bases (Lockheed, SDC)
  - b) teleconferencing, message-sending systems
  - c) where software and hardware is not available at IIASA
2. If a TYMNET/TELENET host computer is used for collaborative research between IIASA and external research organizations.

For the latter case, we have included some information about the different international TYMNET/TELENET gateways to which our partners should turn.

The costs quoted in this document are only the communications charges between users and host on the TYMNET/TELENET networks. It does not include any computation charges for computer services accessed via the network from the companies that subscribe to the network service. Charges for traffic must be paid by the user.

U.S. INTERNAL COMMUNICATION CHARGES

a) TYMNET

Contact: Corporate Office  
20665 Valley Green Drive  
Cupertino, California 95014  
408/446-7000

Regional Sales Offices

8150 Leesburg Pike, Suite 1412  
Vienna, Virginia 22180  
703/827-9110

6400 Southwest Freeway  
Houston, Texas 77074  
713/870-4455

(see also corporate office above)

TYMNET RATE SCHEDULE

A. Measured Use

1. Access ports (connect time)

Hourly charges					
Transmission speed (baud)	"High density areas"	"Low density areas"		Foreign exchange	WATS
		hours/month	charge		
110-300	\$1.00	First 500	\$4.00	\$5.00	\$14.00
		Next 500	2.00		
		Over 1000	1.00		
1200	2.00	First 500	5.00	6.00	15.00
		Next 500	3.00		
		Over 1000	2.00		
2000-4800	5.00	all	8.00	N/A	N/A

2. Characters transmitted

Transmission speed (baud)	Character volume per month	Cost per 1000 characters
110-300	First 40 million	\$.10
110-300	Next 40 million	.08
110-300	Over 80 million	.05
1200	all	.03
2000-4800	all	.03

B. Dedicated Host Ports

In lieu of measured access and characters for 110-1200 baud services, users may elect Dedicated Host Ports. Connections utilizing Tymnet-provided WATS facilities do not qualify and will be charged as indicated above.

Dedicated Host Port	Quantity	Monthly cost	Measured usage, non-dedicated ports
110-300 baud	First 1-15	\$475.	\$8.00 per hour
110-300 baud	16 and over	300.	8.00 per hour
1200 baud	First 1-15	650.	10.00 per hour
1200 baud	16 and over	400.	10.00 per hour

b) TELENET

Contact:

GTE TELENET COMMUNICATIONS CORPORATION

**CORPORATE HEADQUARTERS**

GTE Telenet Communications Corporation  
8330 Old Courthouse Road  
Vienna, Virginia 22180  
Telephone: 703/827-9200  
Telex: 248419 (TCC UR)

**REGIONAL SALES OFFICES**

Ann Arbor, MI	313/665-3132	Houston, TX	713/871-1243
Arlington, VA	703/243-7510	Marlton, NJ	609/983-9600
Atlanta, GA	404/955-9025	Minneapolis, MN	612/831-2127
Chicago, IL	312/782-6119	New York, NY	212/594-6644
Cupertino, CA	408/255-6450	St. Louis, MO	314/434-1730
Garden Grove, CA	714/891-4481	Tampa, FL	813/872-7555
		Waltham, MA	617/890-0202

**CUSTOMER SERVICE\***

In Virginia	800/572-0408	Outside USA	703/893-6026
Outside VA	800/336-0437	Telex	248 361 (TCC UR)

\*For users needing assistance

TELENET RATE SCHEDULE

1. Network Access Charge

<u>Dedicated Access Facilities</u>		The rates below include a leased channel port at a Telenet Central Office (TCO), the access line between the customer's location and the TCO, and the associated modems or digital interface units.	
Port Speed	Installation Charge	Monthly Charge	
50-300 bps	\$400	\$ 300	
1200 bps	500	340	
1800 bps	550	380	
2400 bps	600	600	
4800 bps	700	800	
9600 bps	800	1,100	
56,000 bps	900	2,100	

<u>Public Dial-in Service</u>		
	Port Speed	Hourly Charge
Local Dial	110-300 bps	\$ 3.25
	1200 bps	3.25
In-WATS	110-300 bps	15.00
	1200 bps	15.00

2. Traffic Charge

Regular Service		Hotline Data Service	
\$.50 per thousand packets. Each packet contains up to 128 characters of user data.		An optional service arrangement providing for a fixed monthly traffic charge in lieu of packet charges for all traffic between two specific network stations. Monthly charge:	
US\$ 0,0039	price per Kchar	US\$0,5	for pessimistic case
for bulk data transmission		\$25 - 50-110 bps ports	
		\$50 - 134.5-300 bps ports	
		\$75 - 1200 bps ports	

3. Monthly Account Charge

Regular Account	\$100
ID/Password Account	10

4. Volume Discount Plan

Customers who accumulate monthly billings of \$5000 or more in discountable charges receive a discount on these charges. Charges marked with (\*) are fully discountable. Half of the charges marked with (\*\*) are eligible for the discount rate.

Eligible Monthly Charges Before Discount	Amount of Discount
\$ 5,000 - \$ 9,000	20% of amount over \$5,000
\$ 9,000 - \$13,000	\$800 + 30% of amount over \$9,000
\$13,000 - \$18,000	\$2000 + 40% of amount over \$13,000
\$18,000 or more	\$4000 + 50% of amount over \$18,000

INTERNATIONAL COMMUNICATION CHARGES TO TYMNET/TELENET

For international connections to the above networks, there is no difference in prices between TYMNET and TELENET access.

1. \*Alaska              05 Dec 79

Contact:                      Mike Nichols  
ALASCOM  
949 East 36th Ave.  
Anchorage, AK 99503

Telephone: 907-264-7398

The phone number for computer connection is 907-586-6611. This phone number is toll free from anyplace in Alaska. This service is billed to U.S. hosts at the following rates.

Rate:              CONNECT                      \$6.50 per hour  
                    CHARACTERS                      0.30/Kcharacters  
                    SESSION MINIMUM  
                    SUBSCRIPTION  
                    DEPOSIT

2. \*Argentina            17 Dec 79              Exchange    .00068 (peso)

Contact:                      Major Eugenio J. Mattiuzzi  
Entel  
San Martin 320  
Buenos Aires

Telephone: 54-1-49-9787  
Telex: 12-1873

All prices are given in gold francs \$1 = 2.54 gfr (converted prices are about \$12/hour and \$.24/Kchar)



Rate:	Connect	30 gfr/hour	1 hour min.
	Characters	.60 gfr/Kchar	
	Telephone access charge	none	

If a leased line is desired instread of dial-up  
Dedicated line installation  
Dedicated line rental

The following are WDTS collection rates that they are charging their oversears customers who use the WDTS service.

Access charge - \$11.82/hour and/or fraction thereof  
Volume charge - \$ .60/Kchar

1200 baud service is available. VADIC V21 MODEMS

Interconnecting carriers: ITT World Communications  
RCA Globcom

Gateway Location: Buenos Aires

3. \*Australia 21 Feb 79

Contact: Customer Systems Manager  
Overseas Telecommunications Commission  
32-36 Martin Place  
Sydney, Australia 2000

Telephone: Mr. C.C. Vonwiller 320-5210  
Telex: AA20591

Rate:	Connect:	0.20/minute
	Characters	0.60/Kcharacters
	Session min.	none
	Subscription	none
	Deposit	none
	Telephone access charge	none

Interconnecting carriers: ITT World Communications  
RCA Globcom  
Western Union International

4. \*Austria 2 Sep 79 Exchange: .07669

Contact: Mr. Hans Kummer (Subscriptions and Tariffs)  
Radio Austria AG  
Renngasse 14  
A-1010 Wien 1

Telephone: 63 66 51 Ext. 65  
Telex (Radio Austria): 74732

Rate: Connect: 8.50 A.S./Minute (average)  
(Distance and time of day will  
cause rate variation)

Telephone  
access  
charge: Varies with distance from Vienna  
(3.00 A.S./Minute for IIASA users)

Characters: 10 A.S./Kcharacter  
Session min.:  
Subscription: 100 A.S./User name per month

Interconnecting carrier: ITT World Communications  
Western Union International

Gateway location: Vienna

Telex connection to the network possible (Telex #47706)

5. \*Bahrain 27 June 79 Exchange 2.5

Contact: Bahrain International Communications  
P.O. Box 14  
Manama  
Bahrain

Telephone: 256655

Currently this service is a multiplexor attached to TYMNET  
via the Hong Kong node.

Rate: The following rates are in Bahrain dinars

Connect 300 baud	0.095 baud/minute
Characters	0.290 baud/Kcharacter
Session minimum	1.400 baud
Subscription	25.000 baud per month (in advance)
Modem rental (300 bps)	20.000 baud per month
Modem installation	25.000 baud
Telephone access charge	none

Interconnecting carriers: ITT World Communications  
RCA Globcom  
Western Union International

Gateway location: Hong Kong

6. \*Belgium 26 Feb 79 Exchange: .0344

Contact: Mr. Henderieckx  
Regie Telegraphe et des Telephones  
Blvd. Emile Jacqmain 164  
B-1000 Brussels, Belgium

Telephone: 233 30 05  
Telex: 29 257

Rate: Connect 300 baud 8.00 FB/minute  
 Connect 1200 baud 10.00 FB/minute  
 Characters 16.00 FB/Kcharacter  
 Session mininum none  
 Subscription 400 FB/user name bi-monthly  
 Deposit 5000.00 FB  
 Telephone access charge none

Interconnecting carriers: ITT World Communications

Gateway location: Brussels

7. \*Canada<sup>1</sup> 13 April 79 Exchange: .8590

a) Tariff rates for TYMNET/DATAPAC billing:

Billing	
Rate area band	TYMNET \$/K-CH
1	\$.15
2	.16
3	.20
4	.27
5	.36

Access rate: 110-300 baud \$2.10/hour

TYMNET will invoice the host customer using the TYMNET/DATAPAC tariff described above.

b) Non-DATAPAC access:

\$4.00/hour and \$.15/Kcharacter

8. \*Denmark 8 Nov 78 Exchange: .1928

Contact: Mr. Arne Jorgensen  
 General Directorate of Posts and Telegraph  
 Farvergade 17  
 DK-1007 Copenhagen

Telephone: (01) 116605 x250  
 Telex: 22323

Rate: Connect 75.00/hour - all costs in DKR  
 Characters 3.60/Kcharacter (Danish kroner)  
 Subscription 240.00/year  
 Installation 475.00/year  
 Telephone access charge to the Netherlands: 2.80

<sup>1</sup> More details about DATAPAC are available from the Informatics Group

Interconnecting carriers: Western Union International

Gateway location: Amsterdam, Netherlands

9. \*England (UK - IPSS) 19 Jul 79 Exchange: 2.148

Contact: Mr. Allen Jenkins  
British Post Office  
External Telecommunications Executive  
7th Floor  
St. Alphage House  
Fore Street  
London, England EC2 Y5DA

Telephone: 01-606-4671 or 10-432-5573

Telex: 8890188

WRU SERVE-G

Rate: Connect 10 pence/minute  
Characters 4 pence/ 10 segments  
Subscription 5/user name per quarter  
with a maximum of 50/company/quarter

1 "segment" may contain up to 64 characters per user data. The "segment" is the basic unit of data transmission in IPSS (International Packet-Switching Service)

Telephone access charge: Varies with distance from London

Interconnecting carriers: Western Union International  
ITT World Communications  
RCA Globcom

Gateway Location: London

10. \*Finland 8 Nov 78 Exchange: .2598

Contact: General Director of Posts and Telegraphs  
Foreign Division  
Mr. Leif Nyserg  
Post Box 528  
00101 Helsinki 10, Finland

Telephone: Telephone: 195 4805

Telex: 12557

Rate: Connect: .80/minute (all rates in FMK)  
Characters: 2.37/Kcharacter  
Subscription 6.45/per month  
Minimum 3.10/call  
Telephone  
access to  
Netherlands 3.50/minute  
Installation 300

Interconnecting carrier: Western Union International

Gateway location: Amsterdam, Netherlands

11. \*France 2 Sep 78 Exchange: .2366

Contact: Mr. R. Feuvrier  
D.T.R.I. (French PTT)  
246 rue de Bercy 75584  
Paris Cedex 12, France

Telephone: 346-12-55  
Telex: 670372

Rate:	Connect	1.8 F/minute
	Characters	2.5 F/Kcharacter
	Session min.	none
	Subscription	30 F/user name/month
	Deposit	none
	Local call	anywhere in France free of charge

Interconnecting carriers: ITT World Communications  
Western Union International

Gateway location: Paris

12. \*Federal Republic of Germany 1 Jan 79 Exchange: .5526

Datapaketswitching network

Contact: Mr. Hellmuth Wolf  
Telegrafenam  
Frankfurt/Main Germany  
Stiftstrasse 25  
Dienststelle U.T.

Telephone: (611) 211-33-20  
Telex: 100308

The new access-rates (January 1, 1980) to datapaketswitching network the U.S.A. (TYMNET), in Canada (DATAPACK) and Japan for users of the Federal Republic of Germany (Node 1252) up to 1200 bits.

Time charge:	1.15DM/minute
Volume charge:	1.35 DM/Kcharacter
or	0.36 DM/10 segments
Session minimum	2.50 DM/complete connection
Subscription	15.00 DM/the first user name monthly
	5.00 DM/each additional user name for the same host/monthly
Deposit	none
Phone call	free from anywhere in Germany
Datex call	(Included in the time charge)

1200 baud service available

Interconnecting carrier: RCA Globcom

Gateway location: Frankfurt

13. \*Hawaii (U.S. user names may be used)

Contact: Mr. Robert Van Scriber  
Western Union International

Telephone: 808-531-2781

Any user name that works in the U.S. will work for Hawaii usage. Node phone number is: 808-526-3333.

The following amounts are billed to the host for Hawaii usage:

Rate:	Connect	\$0.30 per 6 minutes
	Characters	.20/Kcharacter
	Session minimum	\$1.50

14. \*Holland (The Netherlands) Exchange: .5029 (Guilder)

Contact: PTT Headquarters  
P.O. Box 30,000  
Hortenaerkade 12  
2500 The Hague  
Attention: Mr. B. van Moorsel

Telephone: 070-753652

Telex: 32575

Rate:	Connect	DFL 0.42/minute
	Characters	DFL 1.25/Kcharacters
	Session min.	DFL 1.67/session
	Subscription	DFL 10./user name per month

Deposit none

Telephone

access

charge

Varies with distance from  
Amsterdam

Interconnecting carriers: Western Union International

Gateway location: Amsterdam

15. \*Hong Kong 2 Sep 78 Exchange: .1974  
IDAS (International Database Access Service)

Contact: Mr. J.G. Armstrong  
Commercial Manager  
Cable and Wireless Limited  
P.O. Box 597  
New Mercury House  
22 Fenwick Street  
Wanchai, Hong Kong

Telephone: 5-2831225  
5-283111  
5-2831303 (Trouble reporting)  
Telex: 83000 CWCOW HX

Rate: Connect HK\$ 1.00/minute  
Characters HK\$ 3.00/Kcharacter  
Session min. HK\$ 15.00/session  
Subscription HK\$300.00/month  
Deposit none  
Modem (300BPS) HK\$155.00/month  
Line HK\$111.00/month (central district)  
Installation HK\$420.00 for line and modem  
Local call anywhere in Hong Kong free

Interconnecting carriers: ITT World Communications  
RCA Cedocom  
Western Union International

Gateway location: Hong Kong

16. \*Israel 25 Nov 78 Exchange: .03518

Contact: Mr. Ben Ganani  
Ministry of Communications  
Koresh Street  
Gad Building  
Jerusalem, Israel

Telephone: 02-242936  
Telex: 25269

Rate: Connect 180/hour (pounds)  
Characters 9/Kcharacter  
Registration 1250 - one time charge  
1st user name 250/month  
Additional user names 125/month  
Modem connection 840/installation  
Modem rental 950/month  
Switching unit 1680/installation  
Switching unit 120/month  
Fault limiting 1000/installation  
Fault limiting 100/month  
Telephone access charge Varies with distance from  
Tel Aviv

Interconnecting carriers: Western Union International

Gateway location: Tel Aviv

17. \*New Zealand 19 Sep 79 Exchange: .997

Contact: Mr. Alan E. Ryan  
Telecommunications Division "Overseas"  
Post Office Headquarters  
Waterloo Quay  
Wellington 1, New Zealand

Telephone: 64 4738 444  
Telex: NZ3381

Rate: Connect 0.20 N.Z. \$ per minute  
Characters 0.60 N.Z. \$ per Kcharacter  
Session minimum none  
Subscription none  
Telephone access  
charge none

Interconnecting carriers: RCA Globcom  
Gateway location: New Zealand

18. \*Italy 18 Oct 78 Exchange: .001229

Contact: Mr. Di Norcia (Sales Department)  
Mr. Colla (Marketing Department)  
ITALCABLE  
Via Callabria 46-48  
00187 Roma, Italy

Telephone: (06) 4770326  
Telex: 62146

Rate: Connect 10590 Lire/hour  
Characters 530 Lire/Kcharacter  
Session minimum 1 minute + 1 Kcharacter  
Subscription none  
Telephone access  
charge none

Interconnecting carriers: ITT World Communications  
RCA Globcom  
Western Union International

Gateway Location: Rome and Milan



19. \*Norway 8 Nov Exchange: .2001 (Krone)

Contact: Teledirektoratet, Datelkonotret  
Postboks 6701  
St Olaus Pl., Oslo 1, Norway

Telephone: Oslo 48 87 24  
Telex: 11203

Rate: Connect 1.20 NKR/min  
Characters 3.6 NKR/Kcharacter  
Subscription 20 NKR/month  
Minimum 4.80 NKR/call  
Installation 480 NKR  
Telephone access  
charge to the  
Netherlands 3.40 NKR/min

Interconnecting carriers: Western Union International  
Gateway Location: Amsterdam, Netherlands

20. \*Philippines 13 April 79 Exchange: .1360 (peso)

a) Service provided through ITT World Communications

Contact: Mr. Antonio M. Urera  
Marketing Director  
Globe Mackey Cable and Radio Corporation  
ITT Building  
669 United Nations Avenue  
Manila, RP 2801

Telephone: 50-60-81

Rate: Connect \$12.00/hour  
Characters \$00.60/Kcharacter  
Session minimum 15 minutes  
Subscription none  
Deposit none  
Telephone access  
charge Varies with distance from Manila

b) Service provided through RCA Global Communications

Contact: Mr. Alfredo Y. Bacolod  
U.P. Marketing and Sales  
Philippine Global Communications, Inc.  
8755 Paseo de Roxas  
Makati 3117, Metro Manila

Telephone: 89-18-61, 87-99-71  
Telex: 22388 GMPH

Rate: Connect \$12.00/hour  
Characters \$00.60/Kcharacter  
Session minimum \$ 3.00  
Subscription none  
Deposit none  
Telephone access charge Varies with distance from Manila

Modems: Customer supplied. Philcom supports VADIC 3400 and CCITT V.21 Modems

c) Service provided through Western Union International

Contact: Mr. Alan Brigden  
ETPI  
Electra House  
115-117 Esteban Street  
Makati, Rizal

Telephone: 85-60-11

Rate: Connect \$12.00/hour  
Characters \$00.60/Kcharacter  
Session minimum \$ 3.00  
Subscription none  
Deposit none  
Telephone access charge varies with distance from Manila

Gateway location: Manila

21. \*Portugal 07 Jan 80

LSDS Service

Contact: Mr. Cipriano Marques Vieira  
Companhia Portuguesa  
Radio Marcon (CPRM)  
Praca Marques de Pombal, 15, 4  
Lisbon 1, Portugal

Telephone: 534191  
Telex: 12384

Rate: Connection charge: 18.50 escudos/min  
Volume charge: 32 escudos/Kchar  
Subscription charge: 1200 escudos/month  
Minimum monthly charge: none  
Lease of modems: none (presently customers must supply own type-approved modem for 300/1200 BPS access over telephone network  
Port charge: 1750 escudos (one time)  
Telephone set: 12000 escudos installation (one time)  
400 escudos/month telephone rental

22. \*Puerto Rico 2 Sep 79

Contact: Mr. John Acosta  
ITT World Communications, Inc.  
665 Ponce de Leon  
San Juan, Puerto Rico 00904

Telephone: 809-723-2520  
Telex: 345-3241

Mr. Moise Abibol  
General Manager  
Caribbean Operations  
701 Ponce de Leon Boulevard  
San Juan, Puerto Rico 00907

Telephone: 809-723-4094  
Telex: 325-2496

Rate: Connect \$10.00/hour  
Characters \$ .45/Kchar  
Session minimum none  
Subscription none  
Deposit none  
Telephone access charge Varies with distance from San Juan

Interconnecting carriers: ITT World Communications  
RCA Globcom

Gateway location: San Juan

23. \*Mexico

Contact: Tereinformatika de Mexico, S.A.  
Arenal 40  
Mexico 20, DF  
Attn: Raul Ortega  
Telephone: 905/550-8033

Rate: Connect 170P/hour (US\$7.50)  
Characters 120P/Telenet Kilopacket (US\$5.30)  
Equipment (line, modem, port) 4653P/month (US\$206.00)  
Initial installation fee 22,575P (US\$1,000.)

24. \*Singapore 16 Nov 79 Exchange: .4635 (dollar)

Contact: Miss Ying Lai Chang  
Engineer (Special Services Sales)  
Telecommunication Authority of Singapore  
Comcentre  
31 Exeter Road  
Singapore 0923  
Republic of Singapore

Telephone: 7343344  
Telex: RS 21246

Telegraphic Address: TELECOMS Singapore

1200 Baud Service uses VADIC V3400 modems

Rate: S\$ = Singapore dollars

Connect	S\$ 0.50/min
Characters	S\$ 1.50/Kcharacter
Session minimum	S\$10.00
Subscription	S\$50.00/month (300/1200 BPS dial-up)
Dedicated ports	S\$150.00/month (300/1200 BPS) S\$300.00/month (2400 BPS)
Telephone access charge	S\$0.10/3 minutes

Contact: Data Engineering Problems  
Mr. Hoo, Yuen Chong  
Manager (Data/Teletype Department)  
Address as above

Contact: Fault Reporting  
Mr. Que, Chin Swee  
Engineer (International Network Operation)  
Telecoms Building  
35, Robinson Road  
Republic of Singapore

Telephone: 983111  
Telex: SDCC RS25832

Interconnecting carriers: RCA Globcom  
Gateway location: Singapore

25. \*Spain 2 Sep 79 Exchange: .01514 (Peseta)

Contact: Mr. Jaime Carvana  
Compania Telefonica Nacional de Espana  
Plaza des Espana  
Madrid, Spain  
Telephone 248-8531  
Telex: 27774

Rate:       Connect               \$10.15/hour  
          Characters           \$ .51/Kcharacter  
          Session minimum     \$ 1.02  
          Subscription       none  
          Deposit             none  
          Telephone access  
          charge               Varies with distance from Madrid

Interconnecting carrier: Western Union International  
Gateway location: Madrid

26. \*Sweden       8 Nov 79               Exchange: .2371

Contact     Mr. Hedberg  
            Data Section  
            Central Administration of Telecommunications  
            S - 123 86 Farsta, Sweden

Telephone: (08) 713 2862  
Telex: 19290

Rate:       Connect               .80/min (rate in Swedish Krone)  
          Characters           2.30/Kcharacter  
          Subscription       40.00/quarter  
          Minimum charge:     3.10  
          Telephone access  
          charge to  
          the Netherlands 3.30/min.  
          Installation  
          charge               300

Interconnecting carriers: Western Union International  
Gateway location: Amsterdam, Netherlands

27. \*Switzerland       12 Jan 79              Exchange: .6154 (franc)

DATA service to the U.S.A. and Canada 110-1200 baud

Contact:    Mr. Jean-Louis Hayoz  
            Radio Suisse, Ltd.  
            Sales Division  
            12, Quai de la Poste  
            CH-1204 Geneva 11, Switzerland

Telephone: 022 28 71 17  
Telex: 22107

For technical problems:contact:

Radio Suisse, Ltd.  
Mr. A.R. Sermet  
Technical Division  
61, Schwartztorstr.

Telephone: 031/64 91 11  
Telex: 32192

Rate: (SFR = Swiss franc)

Connect: (110-1200 baud) SFR 1.00/minute  
Characters: 110/1200 baud) SFR 0.80/Kcharacter (1 Sept 78)  
Session minimum none  
Subscription none  
Monthly minimum SFR 100/invoice  
Local call From anywhere in Switzerland free  
of charge  
Phone number for 1200 baud service: 031 260 444  
Modem for 1200 baud is RIXON T-212A switchable from 300 BPS  
to 1200 BPS.

Access via leased channels is also offered

Interconnecting carriers: RCA Globcom  
Western Union International  
ITT World Communications

Gateway location: Bern

28. \*Taiwan 10 Jan 80 Exchange: .0277 (NT dollars)

Contact: Mr. C.Y. Chow  
Chief of the Commercial Division  
International Telecommunications Administration (ITA)  
Taipei, Taiwan

Telephone: 344-3770  
Telex: 11127

Rate: Connect 480 NT dollars/hour  
Characters 27 NT dollars/Kcharacter  
Session minimum none  
Monthly minimum 2400 NT dollars per month

COMPARISON BETWEEN INDIVIDUAL TYMNET/TELENET PRICES

Country	Exchange Rate US\$/local)	Connect charge/hour (in US\$)	Transmission charge/kcharacter (in US\$)	Subscription fee (in US\$)
USA - TYMNET	1	4 - 8	0.03 - 0.1	-
USA - TELENET	1	3.25	0.0039 - 0.5	100
ALASKA	1	6.5	0.3	-
ARGENTINA	2.54	30.0	0.6	-
AUSTRALIA	1.1235	12.0	0.6	-
AUSTRIA	0.07669	13.8*	0.76	7.7
BAHRAIN	2.5	14.25	0.74	62.50
BELGIUM	0.0344	16.32	0.82	30.60
CANADA	0.8590	1-2.1***	0.01-0.36	-
DENMARK	0.1928	14.46	0.69	3.85
ENGLAND (UK)	2.148	12.9	0.17-8.59	40.00
FINLAND	0.2598	12.47	0.62	-
FRANCE	0.2366	25.55	0.59	7.1
GERMANY	0.5526	38.12	0.75	2.76
HAWAII	1	3.0	0.2	-

\* IIASA price

\*\* non-DATAPAC

\*\*\* DATAPAC

\*\*\*\* Connect charges are based on the internal US TYMNET charge of \$4.00.

\*\*\*\*\* Transmission charges are based on the internal US TYMNET charge of \$0.10.

COMPARISON BETWEEN INDIVIDUAL TYMNET/TELENET PRICES

Country	Exchange Rate US \$ (local)	Connect charge/hour (in US\$)	Transmission charge/Kcharacter (in US\$)	Subscription fee (in US\$)
HOLLAND	0.5029	12.67	0.63	5.03
HONG KONG	0.1974	11.84	0.59	59.22
ISRAEL	0.03518	6.3	0.31	8.8
NEW ZEALAND	0.997	11.96	0.6	-
ITALY	0.001229	13.0	0.65	-
NORWAY	0.2001	14.4	0.72	4.
PHILIPPINES	0.1360	12.0	0.60	-
PORTUGAL	0.0182	20.28	0.58	21.9
PUERTO RICO	-	10	0.45	-
MEXICO	0.0441	7.5	0.04-5.3	206
SINGAPORE	0.4635	13.9	0.69	23.75
SPAIN	0.01514	10.15	0.51	-
SWEDEN	0.2371	11.1	0.53	3.08
SWITZERLAND	0.6154	36.92	0.49	-
TAIWAN	0.0277	13.3	0.74	-



REFERENCES

- [1] Marcharik, R. (1979) The International Spread of Packet-Switching Networks. Pages 103 - 104 in Telecommunications. Cupertino, California: TYMNET, Incorporated, September.
- [2] TYMNET Directory of Computer and Data Services (1979) Cupertino, California: TYMNET, Incorporated, June.
- [3] TELENET Directory of Computer Based Services Offered by Databases, Service Bureaux, Colleges and Universities via TELENET (1979) Vienna, Virginia: TELENET Communications Corporation, Spring.