infoWAT

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WATCOM MAINTENANCE AND CUSTOMER SUPPORT

A strong commitment to the quality of products, continuing improvement based upon user feedback, and responsive support for customers are a tradition at Waterloo dating from the early 1960's when the University's first WATFOR compiler became popular. WATCOM's mainframe software has also been licensed with maintenance and support services included and is not sold on an "as is" basis.

The broad marketplace and relatively low price of microcomputer software have made it impractical to offer the same level of support services to individual users. As well, in larger organizations microcomputers are frequently purchased from different budgets than mainframes and no provision is made for ongoing maintenance and support costs. Thus, we have not offered these services with our microcomputer software until now.

Many of our mainframe software customers have begun to purchase multiple microcomputers for use in labs or distributed throughout their organizations. Often the microcomputers are connected to networks and utilize mainframe file facilities with our software (see article on Waterloo PC Network in this issue). These customers are accustomed to responsive support from Waterloo and WATCOM in their mainframe experience. To satisfy their needs, we have decided to offer a comprehensive maintenance and support plan to users of multiple copies (10 or more) of our software on the IBM Personal Computer. Other serious users of this software may wish this kind of support.

Subscribers to our multiple-copy maintenance and support service will receive without additional charge software maintenance releases, telephone support and a subscription to our newsletter. Maintenance releases of the software will resolve reported user problems and possible incompatibilities with new versions of the operating systems. Performance and minor functional enhancements may also be included in maintenance releases. If new versions of the software are offered with major functional enhancements at a higher price, these will be offered to maintenance customers at an incremental cost. A telephone "hotline" is staffed with personnel able to handle user problems and committed to efficient response. Our newsletter provides new product information and frequently includes helpful tips and techniques related to our software.

Networks

A great deal of flexibility is gained by having compatible software on micros and mainframes. In order to distribute work effectively, however, communication between machines is needed. Sharing of common data is important in most organizations. Sharing of common resources such as file storage, printers and other devices can be an important economic consideration allowing micro workstations to operate without expensive local peripheral equipment. Here are two network configurations offered by WATCOM Products.

Waterloo PC Network: A Network for IBM PC's and Series/1 File Servers

Designed by the Computer Systems Group at the University of Waterloo, the PC Network uses the best features of IBM PC's and larger IBM processors. Tested for 5 semesters at the University of Waterloo, Waterloo PC Network is available now from IBM.

The network is made up of an IBM 3000 or 4300 series computer running the VM/SP operating system. Up to three Series/1 microcomputers, servicing 30 IBM PC's each, can be connected to the host computer. The network can also be run on a standalone Series/1 providing network file services for up to 30 IBM PC's.

Waterloo PC Network allows easy transfer of files between the PC's and the VM system. The PC's can also be used as 3277 terminals connected to VM. Programs can be developed on the VM system which are intended to be run on the PC or programs can be developed on the PC which are to be run on the VM system. Programs are not limited by the capacity of the PC.

One of the most important features of the Waterloo PC Network is that the user is provided with a native development system on the IBM PC and a cross-development system from VM as well as WATCOM language interpreters that run compatibly on VM/CMS or the PC. Components of the development system include: Waterloo Systems Language Compiler (WSL), assembler, linker, WSL library and the WATCOM host-to-micro file utilities. WSL allows the user to develop his own add-ons while keeping the same technology and flavour of the system itself.

The Waterloo PC Network supports DOS based application software as well as WATCOM interactive language interpreters for APL, BASIC, COBOL, FORTRAN and Pascal plus WATCOM's full screen editor. WATCOM languages are portable and fully compatible versions are available for the IBM PC and the IBM mainframe running VM/CMS.

Waterloo PC Network is currently marketed by IBM. For further information reference IBM form #GB30-2339-0 when contacting your IBM Marketing representative. For more information on the development system, WSL, contact WATCOM Products Inc.*

JANET: An IBM PC Local Area Network

Developed by the Department of Computing Services, University of Waterloo, Just Another Network (JANET) was designed for departments needing up to 30 workstations and where the capacity and host communications features of a Series/1 - PC Network

(see Waterloo PC Network article this issue) are not required.

The JANET Network consists of a PC which acts as a network controller and a number of PC's which act as workstations. The network controller uses a hard disk to hold the files for all users of the network. It also has a printer which is used to provide hard copy for network users. The workstations do not have any local file storage.

The workstations are connected in series to the network controller using an IEEE-488 protocol with standard "off-the-shelf" interface boards from Techmar. A chip supplied by WATCOM Products Inc., must be inserted in each workstation.

The user gains access to the network with a logon procedure involving a userid and password which have been assigned by the installation. Once logged on, the network is transparent to the user in that he uses the familiar IBM DOS system with a few additional network commands. This means that not only the WATCOM interactive language interpreters, but most software that runs under DOS will run on JANET.

The user's file space is defined as "virtual" diskettes which can be allocated in different sizes. Files can be retrieved from one's personal virtual diskettes or from public diskettes which have been read-only protected. Similarly, files can be stored on one's personal disk. Printing can be accomplished by sending a file or screen contents to the network controller where queing occurs if necessary.

An important feature of JANET is that files are tagged by user ID not workstation. This allows access from any workstation on the network. Further, JANET permits both public and private files to be formed maintaining confidentiality where required.

For more information on JANET, contact WATCOM Products Inc.*

WATCOM APL Runtime System

Developers are telling us that WATCOM APL is extremely useful in producing a wide range of application software. There has been an increasing demand for a run-time

policy on WATCOM APL and we are pleased to announce it now.

Companies wishing to use WATCOM APL software to develop and sell application programs can be provided with a 'run only' subset of WATCOM APL to include with the application programs. This allows the developer to include an unlimited number of run-time systems with his applications software without any royalties owing.

The run-time license fee to the developer is $1500 per year, and the developer is required to have a maintenance and customer support agreement signed with WATCOM Systems Inc., (price depends on the number of CPU's used by you to develop your application). This ensures that the developer receives WATCOM APL updates and enhancements as well as telephone and written support with respect to the use of our product.

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* For further information write or call WATCOM Products Inc., 415 Phillip St., Waterloo, Ontario, N2L 3X2. (519) 886-3700 Telex 06-955458

WATCOM Disk-based Editor

A version of the editor, called the WATCOM Disk Editor, is available for the IBM Personal Computer. It employs a "virtual" memory system wherein the disk or diskette drive is used as a secondary storage for main memory. When the IBM PC's main memory can no longer contain the entire file that is being edited, it creates a temporary work file on the default disk drive. Very large files can be edited. In fact, the upper limit on the size of a file that can be edited can exceed 1800K bytes (over 1,800,000 bytes).

The WATCOM Disk Editor comes with an extensive on-line help subsystem that may be invoked using the editor's "HELP" command.

This version of the editor includes extra features which are not present in the memory-based version of the editor. These features are described below.

The **fill** command causes the text within the specified range of lines to be "filled out" between the specified left and right margins. In addition, a positive or negative indentation for the first line in the resulting "filled" lines may be specified.

The **print** command copies a specified range of lines into a file. Special control sequences, found in any lines, are converted to single byte values before being transmitted to the file. Control sequences must take one of the following forms:

<acc>   where "acc" is a valid mnemonic for the ASCII control codes (e.g., SOH, ACK, BEL, BS, CR, FF, ...)

<ddd>   where "ddd" is a valid decimal number representing a value from 0 to 255.

<$hh>   where "hh" is a valid hexadecimal number representing a value from "00" to "FF".

This command is primarily intended to be used in conjunction with a printer that supports ASCII control sequences to enable special features. These features may include bolding, underlining, etc.

The **talk** command was enhanced to allow the user to specify the port number of the serial port to be used for terminal communications to a host computer. Previous versions of the software allow terminal "pass-through" using port 1 only.

SuperPET Patch

The following program is used to fix problems in the Waterloo microLanguages V1.1 on the Commodore SuperPET. Enter the program using Waterloo microBASIC exactly as shown. To fix a problem in Waterloo microBASIC with passing arrays when using the NAMES option on the CHAIN statement, add the following new lines exactly as shown:

```
 70 dim a%(33)
 80 data 24,30,39,-1
 90 data 26,182,0,-1
100 data 54,40,221,-1
110 data 55,346,158,70,48,1,18,159,72,158,72
120 data 159,74,111,132,48,6,18,159,76,-1,-1
130 open #2,"disk/1.BASIC,PRG",input
```

```
140 open #3,"disk/0.BASIC,PRG",output
```

To fix problems in Waterloo microFOR-TRAN with passing arrays to a program unit when the dimension specification is a param-eter, and the printing of numbers with more than eight digits under F format, add the fol-lowing new lines to the starter program exactly as shown:

```
 70 dim a%(43)
 80 data 5,421,231,100,106,100,45,20,236,228
 90 data 52,6,236,248,4,189,176,96,237,228
100 data 174,98,48,2,175,98,32,232,-1
110 data 69,408,29,-1,69,445,0,193,10,-1
120 data 73,250,247,-1,-1
130 open #2,"disk/1.FORTRAN,PRG",input
140 open #3,"disk/0.FORTRAN,PRG",output
```

The program reads the existing version of the interpreter from disk/1 and creates a new version on disk/0.

It is recommended that you not erase your existing copies of BASIC and FORTRAN once this patch has been applied, but rather copy all the other files from disk/1 to disk/0 thereby creating a new system disk. The diskette in disk/1 should be kept for backup purposes.

```
 10 !
 20 ! NOTE - this program takes approximately
 30 ! 31 minutes to patch BASIC, and
 40 ! 40 minutes to patch FORTRAN
 50 !
 60 !
150 x = peek(86)*256 + peek(87) + 4
160 y = peek(x)*256 + peek(x+1) + 1
170 poke y,0,0
180 mat read a%
190 i% = 0
200 j% = 1
210 k% = 1
220 loop
230   for j%=j% to a%(i%)
240    for k%=k% to 512
250     get #2,x%
260     print #3,chr$(x%);
270    next k%
280    k% = 1
290   next j%
300   i% = i% + 1
310   for k%=k% to a%(i%)
320    get #2,x%
330    print #3,chr$(x%);
340   next k%
350   i% = i% + 1
360   loop
370    get #2,x%
380    print #3,chr$(a%(i%));
390    i% = i% + 1
400    k% = k% + 1
410   until ( a%(i%) = -1 )
420   i% = i% + 1
430   j% = j% + int(k%/513)
440   k% = mod(k%,513)
450   if k% = 0 then k% = 1
460  until ( a%(i%) = -1 )
470  on eof ignore
480  loop
490   get #2,x%
500   if io_status = 2 then quit
510   print #3,chr$(x%);
520  endloop
530  close #2
540  close #3
```

ANNOUNCEMENT: INFOWAT AND WATNEWS

In the enclosed letter you read of the joint efforts on the part of the University of Waterloo and The WATCOM Group to expand and improve customer service and distribu-tion through the newly formed company WATCOM Products Inc. With this in mind, our next issue of infoWAT will be combined with WATNEWS, a publication of the Com-puter Systems Group at the University of Waterloo.

The new publication is called WATCOM NEWS and will appear on a more frequent basis. In order to provide you with the best possible information, we encourage reader feedback and suggestions for articles. WATCOM NEWS will continue to bring you new product announcements, technical infor-mation, news of updates and patches. Please write to: Jack Schueler, Executive Editor, WATCOM NEWS, 415 Phillip Street, Water-loo, Ontario, N2L 3X2, or call (519) 884-2700.