News about the Microsoft Language Family

New Microsoft® LISP Offers a Complete LISP Programming Environment

Microsoft has extended its six-year relationship with Soft Warehouse, Inc. of Hawaii by renewing the licensing agreements for muLISP™ and muMATH™ products. Microsoft LISP, the newly updated release of Microsoft muLISP, is the most powerful LISP development environment available for MS-DOS® today. Not only is Microsoft LISP three times faster than its competitors, it also allows larger artificial intelligence programs and expert systems to be developed. The new LISP provides over 400 Common LISP functions, macros, special forms, and control variables. Microsoft LISP comes with an integrated window-oriented LISP editor and debugger, tutorial lessons, and several demonstration LISP programs.

Mixed Memory Model Dynamic Allocation in Microsoft C—Part 1

The standard method of dynamic heap allocation in C is provided by the malloc and free library routines. In Microsoft C this has been extended to allow mixed memory model dynamic allocation and deallocation in both near and far heaps for all memory models by using the undocumented routines below:

```c
extern char near* _nmalloc(unsigned int); /*near heap*/
extern void _nfree(char near*);
extern char far* _fmalloc(unsigned int); /*far heap*/
extern void _ffree(char far*);
```

For example, a small memory model C program can be written that can dynamically allocate and access more than 64K of data by using far heap allocation and far pointers. Similarly, the efficiency of large model programs can be improved by using near pointers and the near heap. However, with mixed model programming, care must be taken when accessing library routines that take pointers for parameters.

Part II to follow next month.

Microrim's R:BASE™ 5000 Developed in Microsoft FORTRAN and C

The core R:BASE 5000 database management system product contains about 40,000 lines of Microsoft FORTRAN code. New modules for R:BASE were developed in Microsoft C. Fred Gray, Microrim's Director of Development said, "Interlanguage calling allows us to migrate our code from FORTRAN to C without having to rewrite the entire product at once."

Microrim also provides the R:BASE Program Interface, which is a library of relocatable FORTRAN routines for accessing R:BASE databases. The interlanguage calling support in Microsoft FORTRAN, Pascal, and C allows application developers to call any routine in the Program Interface.

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