

Steve Mastrianni

TITLE: OS/2 2.0 Programming Tools Arrive - Finally

Numerous OS/2 2.0 development tools are finally starting to appear

Now that IBM has released OS/2 2.0, development tools are beginning to emerge. The 32-bit version 2.0 runs almost every program available for DOS, Windows, and OS/2. Except for a few installation bugs, OS/2 2.0 works well. It's fast and easy to use, and it offers a wide range of configuration options never before supported. Best of all, developers have all the tools they need.

Early Beta Versions

IBM realized early on that it had to provide development tools for OS/2 2.0. Only 16-bit tools were available, and IBM's only C compiler, C/2, was based on an obsolete version of the Microsoft C compiler. While the IBM C compiler was being developed, IBM released beta versions of it, along with a debugger and development environment called WorkFrame/2.

For professional developers, the OS/2 2.0 beta program was a nightmare. The toolkit releases lagged behind the operating-system releases, so developing software with the latest beta release of the tools meant using an obsolete version of the operating system. The documentation with the beta toolkits was full of errors and omissions, and some manuals had references to obsolete OS/2 1.x functions. IBM was beating the 32-bit drum, but it was incapable of providing developers with timely releases of the tools necessary to develop new 32-bit applications.

IBM kept everyone informed through mailings and CompuServe's OS2DEV and IBMOS2 conferences. The company made no attempt to disguise or hide problems with the beta version and required no confidential disclosures to obtain the code. This was a refreshing change that went a long way toward reestablishing IBM's credibility with developers.

The First Steps

A few months after IBM released the OS/2 2.0 General Availability (GA) code, it began shipping version 1.0 of its 32-bit C compiler, C Set/2, as part of the IBM C Developer's WorkSet/2. Included in WorkSet/2 are the Presentation Manager debugger (IPMD), the WorkFrame/2 development environment, the kernel debugger (KDB), sample DLLs, the PMSpy program, the resource compiler, include files, migration tools, and many well-written source code examples.

WorkFrame/2 is a plug-in environment that lets you specify the compiler, assembler, debugger, and linker you will use. It lets you set the compile, link, or debug options to any value you want. It can generate make files and libraries. You can configure it through a simple user window. WorkFrame/2 works with projects rather than individual files and directories.

You establish a project by entering the project parameters in the Project Control window. You can enter information such as the project name, project description, name of the make files, and compile/link/run options. Once you've entered the information about the project, you can build a new version of the target code by clicking on the "new" button in the Project Control window.

C Set/2 is a full 32-bit ANSI 1989 optimizing compiler that generates code for OS/2 2.0. The compiler supports 16- and 32-bit run-time coexistence, static and dynamic run-time libraries, HPFS (High Performance File System), and memory-mapped file I/O. It provides migration support for converting programs from OS/2 1.x to OS/2 2.0. C Set/2 produces tight, fast, and consistent code. It can't be used to develop virtual or physical device drivers, but C Set/2 is perfect for developing 32-bit applications.

The WorkSet/2's IPMD makes debugging 32-bit applications a breeze. However, the WorkSet/2's initial price of \$895 turned off developers. Developers complained loudly, and IBM dropped the price to \$295 until September 1. It wasn't clear at press time if IBM would extend this policy.

Support Your Local ISV

IBM has also taken steps to do a better job of supporting ISVs (independent software vendors), who are critical to OS/2 2.0's success. IBM technical support personnel have appeared on all major BBSes and conferencing systems, including CompuServe, BIX, Usenet, and Fidonet.

Several other OS/2 2.0 support programs are in place as well. The Developer Assistance Program ((407) 982-6408) helps commercial developers. IBM has a toll-free order line ((800) 342-6672) for OS/2 software and support material, and the IBM I.V. League supports authors and publishers. IBM is sponsoring several OS/2 2.0 tools conferences, where developers can get the most up-to-date information on OS/2 2.0 and associated development tools, and OS/2 migration workshops, where developers can get technical assistance in converting their applications to run under OS/2 2.0.

The Coming Onslaught

Some vendors began developing OS/2 2.0 tools before the GA code was released. Other vendors, noting the overwhelming response to OS/2 2.0, have announced products or plan to release products for OS/2 2.0 later this year. Current offerings include languages, CASE tools, debuggers, and other tools.

In the language area, C and C++ compilers for OS/2 2.0 have been announced by Borland International, Clarion Software, MicroWay, Symantec, and Watcom. Watcom also has a 32-bit FORTRAN compiler, and Clarion has announced OS/2 2.0 versions of its Pascal and Modula-2 compilers. IBM is rumored to be working on its own C++ compiler, while Arity is shipping a 32-bit Prolog compiler for OS/2 2.0. Digitaltalk has released an OS/2 2.0 version of Smalltalk/V PM. Micro Focus and Liant Software have announced COBOL compilers for OS/2 2.0.

New CASE tools for OS/2 2.0 PM development have been announced by Caseworks, the Stirling Group, Guild Products, Guidance Technologies, Gpf Systems, VZ, Vleermuis Software Research, Software Engineering International, Enfin Software, ImageSoft, and Intelligent Environments. If you're migrating Windows applications to OS/2, check out Micrografx's Software Migration Kit.

I doubt that you'll need more debugging tools than the ones IBM provides. However, you might want to consider Periscope's OS/2 2.0 version of the Periscope debugger and Soft & GUI's Error Manager debugging tool. SourceLine Software is shipping a hypertext source code browser for OS/2 2.0. Personal Systems Software sells a C-callable toolkit for writing OS/2 2.0 device drivers. Intersolv has announced OS/2 2.0 versions of PVCS, PolyMake, PolyAwk, and the Sage Professional Editor. Hamilton Laboratories has a 32-bit version of its C shell. GammaTech has a 32-bit version of its HPFS utilities. And Parallel PC's is shipping an OS/2 2.0 version of the Synectics SDK (Software Development Kit).

For those on a budget, several good public domain and shareware tools are available for OS/2 2.0. The public domain GNU C/C++ compiler for OS/2 2.0 is available on BIX, CompuServe, and other BBSes. You can also download several GNU utilities (e.g., rcs, make, awk, grep, and diff) and the GNU emacs editor.

The Written Word

IBM has announced the OS/2 Technical Library, a set of manuals for OS/2 developers that's priced at \$295. The manuals are a necessity for anyone programming for OS/2 2.0. For an in-depth technical overview of OS/2, get *The Design of OS/2* by H. M. Deitel and M. S. Kogan (ISBN 0-201-54889-5) from Addison-Wesley.

Van Nostrand Reinhold has published several new books, including *Client-Server Programming with OS/2 2.0* by Robert Orfali and Daniel Harkey (ISBN 0-44201219-5), *Writing OS/2 2.0 Device Drivers in C* by Steve Mastrianni (ISBN 0442-01141-5), and *OS/2 Presentation Manager GPI* by Graham Winn (ISBN 0-44200739-6). Van Nostrand also offers a library of six books at a special price.

The Timing Is Right

Interest in OS/2 2.0 is growing by leaps and bounds. Even its most stubborn opponents have been impressed with its capabilities. The old OS/2 1.x supporters are still around, and they have been joined by an even larger group of users and developers eager to tap the multitasking and multiplatform support offered by OS/2 2.0.

IBM's aggressive pricing has prompted many Windows users to upgrade to OS/2 2.0 for only \$49.95; DOS users can upgrade for only \$99. Interest in OS/2 2.0 is also evident by the many messages that appear in public electronic conferences.

Have the tools arrived to develop the new-generation 32-bit software for OS/2 2.0? You better believe it. The time is right to begin development. Sure, you'll want to keep some of your DOS and Windows applications around, but you can realize the full power of OS/2 only with new 32-bit OS/2 2.0 applications. As PC users become more demanding, they'll begin to appreciate the power and flexibility of OS/2 2.0. The ability to download a file over the telephone while simultaneously updating a database, printing several files, and editing a document should convince the most skeptical user that OS/2 2.0 represents the best solution for desktop software applications.

COMPANY INFORMATION

Arity Corp. (Prolog/32) (508) 371-1243

Borland International, Inc. (C++ for OS/2 2.0) (408) 438-8400

Caseworks, Inc. (CASE:PM 2.2, CASE:PM VIP (CUA 91)) (404) 399-6236

Clarion Software, Inc. (TopSpeed C, C++, Modula-2, Pascal) (305) 785-4555

Digitalk, Inc. (Smalltalk/V PM) (310) 645-1082

Enfin Software Corp. (Enfin/2) (619) 549-6606

GammaTech (GammaTech Utilities) (405) 359-1219

Gpf Systems, Inc. (Gpf 2.0) (203) 873-3300

Guidance Technologies, Inc. (Choreographer) (412) 231-1300

Guild Products, Inc. (Guild) (415) 593-3200

Hamilton Laboratories (C shell) (508) 358-5715

ImageSoft, Inc. (CommonView) (516) 767-2233

Intelligent Environments, Inc. (AM (Applications Manager)) (508) 640-1080

Intersolv (PVCS, PolyMake, PolyAwk) (503) 645-1150

Liant Software Corp. (RM/COBOL-85) (512) 343-1010

Micro Focus, Inc. (Micro Focus/2 COBOL) (415) 856-4161

Micrografx, Inc. (Software Migration Kit) (214) 234-1769

MicroWay, Inc. (NDP FORTRAN 386/486, C-C++ NDP 386/486) (508) 746-7341

Parallel PC's (Synectics SDK) (215) 670-1710

The Periscope Co., Inc. (Periscope/32) (404) 875-8080

Personal Systems Software, Inc. (C-Callable DevHlp Driver Library) (203) 242-8711

Soft & GUI, Inc. (Error Manager) (718) 769-8017

Software Engineering International (Primary Window Class) (407) 241-3428

SourceLine Software (SourceLink) (619) 587-4713

The Stirling Group (TbxShield, InstallShield) (708) 307-9197

Vleermuis Software Research (GUI Master) fax: 31-30-32-49-44

VZ Corp. (VZ Programmer) (801) 595-1352

Watcom (C 9.0/386, FORTRAN 77/386 9.0) (519) 886-3700

Steve Mastrianni is president of Personal Systems Software in Bloomfield, Connecticut. He specializes in device drivers, operating systems, and realtime applications for OS/2 and Windows NT. You can reach him on BIX as "smastrianni" or on CompuServe at 71501,1652.