



## Niakwa Announces Support of NetBIOS

**Mundelein, IL** Niakwa announces support of the Niakwa Development Environment for NetBIOS-compatible local area networks. Niakwa will support NetBIOS operating system technology while continuing to support Novell NetWare.

NPL for NetBIOS will provide true multi-user capabilities with file sharing, print sharing, and unique terminal identification fully supported. In addition, NPL for NetBIOS will be available for all three MS-DOS environments; MS-DOS, MS-Windows, and the 386/DOS-Extender. Version 1.20 of NDM for each environment will also be supported with NetBIOS.

In recognition of the increasing popularity of peer-to-peer networks, the first NetBIOS compatible operating systems to be certified by Niakwa will be for NetWare Lite by Novell and LANtastic by Artisoft.

Peer-to-peer networking technology is designed to be less expensive and easier to use than traditional networks. Peer-to-peer networks are less expensive for the initial licensing, and for the hardware required for

operation. As an example, traditional networks require a dedicated file server while peer-to-peer networks do not need a file server, allowing first time network users to connect existing PCs with minimal expense. Peer-to-peer networks are easier to use because system administration has been reduced.

Although peer-to-peer operating system suppliers such as Artisoft (LANtastic) advertise support for hundreds of users, peer-to-peer networks are usually installed at end-user sites needing less than 10 users. We encourage you to carefully evaluate your end-users' performance requirements when installing peer-to-peer networks.

NetWare Lite, one of Niakwa's first NetBIOS offerings, is a DOS-based peer-to-peer network operating system for two to 25 users who require basic network features and functions. NetWare Lite requires 22K workstation PC RAM and 46K server PC RAM. See Figure 1 for a partial listing of NetWare Lite's features.


NetWare Lite can coexist on the same network as NetWare v2.2 or v3.11. This

allows you to take advantage of the Novell compatible third-party network products currently on the market.

LANtastic is also a DOS-based peer-to-peer network operating system. LANtastic supports up to 300 users. According to Artisoft, LANtastic is the most RAM-efficient network operating system. LANtastic uses 17K per workstation and 43K per server (using default settings).

Testing for Windows for Workgroups, another DOS-based peer-to-peer operating system, is currently being conducted. Further information regarding this operating system will be forthcoming upon completion of all testing.

It is anticipated that the Niakwa Development Environment will operate without modification on other NetBIOS-based operating systems. However, it is important to note, Niakwa has only tested and certified Netware Lite and LANtastic at this time. Niakwa will not support other NetBIOS compatible operating systems until they have been officially certified by Niakwa. Please contact us if there is a specific NetBIOS compatible operating system you would like us to test or have had success with on your own.

While the NetBIOS version of NPL will be available late January 1994, the beta test version is available now. For further information, please contact your Authorized Niakwa Distributor or the Niakwa Sales Department at (708) 634-8700. 

### NetWare Lite by Novell

- Easy installation and operation
- Simple management of network directories and printers
- On-screen help system
- Each PC can share its resources or the resources of other PCs
- Network management from any PC on the network
- Distributed user accounts
- Security system with passwords and user privileges
- Automatic logging of network activity and network errors
- Message transmission for interoffice communication
- Auto-reconnection between workstation and server PCs

### LANtastic by Artisoft

- Smallest RAM overhead of any LAN
- Peer-to-peer resource sharing
- No dedicated server required
- LANcache software boosts network speed
- Unloadable from memory
- Easy installation with option flexibility
- Multiple levels of security
- E-Mail with Chat and pop-up message notification
- De-spools to multiple printers simultaneously
- Overcomes DOS limitations

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Comments, questions, and suggestions can be directed to the Editor, NIAKWANEWS, Niakwa.

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A Bluebird Company

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## Niakwa Completes AS/400 Port

October 29, 1993, is the day a new world opened up for Niakwa Resellers. For on that day, NPL Developers were given an additional 200,000 opportunities to sell NPL applications.

Niakwa is proud to announce support for the IBM AS/400 family of computers.

**Note:** The following is a condensed version of Marketing Bulletin No. 59.

#### A Bit About the AS/400

Since its introduction in 1988, the AS/400 has become the most popular general-purpose commercial computer in the world. There are now 250,000 AS/400s installed worldwide.

According to *The ADM Consulting Update (The AS/400 And Client/Server Computing)*, the AS/400 has been successful cause it brought simplicity and ease-of-use to distributed commercial computing. AS/400 owners tend to be very pleased with their platform decision, **but not necessarily with the software solution offered.**

IBM is positioning the AS/400 to be an integral part of their thrust into client/server computing.

#### What is Client/Server?

Client/server computing is the latest technological trend in the computer industry. In the literal sense, client/server is a type of computing in which work is divided between two or more computers. This allows each computer in an organization to perform the task to which it is best suited.

#### Client/Server Computing on the AS/400 with NPL/NDM

The implementation of NPL/NDM on the IBM AS/400 uses a client/server technique referred to as Cooperative Processing. In the Cooperative Processing environment, NPL/NDM and the application execute on a PC connected to the AS/400. The NPL/NDM programs communicate with the AS/400 using the Advanced Program-to-Program

Communications (APPC) protocol. The PC and the AS/400 are connected with an APPC support physical link, such as Token Ring or Ethernet. Operation of the application is exactly like operation on a PC or PC based network. However, the applications data is stored on the AS/400 server in a native AS/400 database format compatible with all native AS/400 utilities and programs.

In other words, a PC running MS-DOS or MS-Windows will process locally while using the AS/400 as a database server. By using the client/server approach, NPL developers have the best of both worlds; the ability to write programs with NPL/NDM (or use existing NPL/NDM applications), and the ability to use the powerful central relational database of the AS/400.

NPL applications running on the PC will access data stored on the AS/400 through an NDM external library. The NDM library communicates with a custom database server on the AS/400 through IBM's PC Support Router. The PC Support Router is used as the link to the AS/400, where an NDM server and the IBM database can be found.

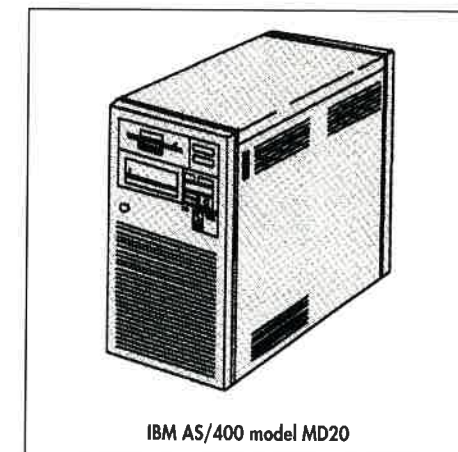
The NDM server running on the AS/400 has been developed by Niakwa. Access to AS/400 files is accomplished using NDM calls. NDM for the AS/400 fully supports the use of native AS/400 database files with NDM applications.

**Note:** Existing NPL applications using NDM are compatible with the AS/400 port.

#### Market Opportunities

The AS/400 is installed in the same vertical markets Niakwa Resellers are already working in. A considerable opportunity exists for incremental add-on software sales and new revenue potential for NPL Applications. You have probably come across a prospect or two with an AS/400 and know that more modern displays and applications will be of interest to this market.

A way to generate sales of software on the AS/400 is through the IBM National Solution



IBM AS/400 model MD20

Center (NSC). IBM provides software directories listing applications for various vertical markets through its NSC. This is IBM's tool for locating software solutions. This extensive database of software is used by the IBM sales force, as well as Systems Engineers and Business Partners across the country, to find solutions for their customers.

Another short term opportunity is available — Wang 2200 upgrades. The Wang sales force has already targeted the Wang VS customer base to upgrade to the AS/400. As the VS upgrade potential slows down, the Wang sales force will be hungry for new AS/400 prospects, such as converting the remaining 2200 base. With NPL available on the AS/400, the Wang sales force will have the conversion tool they need to sell more AS/400s.

Additional opportunities exist for Niakwa Resellers interested in selling, distributing, and marketing the IBM AS/400 and associated hardware. Information regarding these IBM reseller opportunities can be found in "Bluebird's MIR Program Takes Flight" on page 7.

#### NPL/NDM Pricing and Availability

The MS-DOS based version of NPL and NDM for the AS/400 is available now. The MS-Windows version is scheduled for delivery during the first quarter of 1994.

For more information and pricing, please contact your Authorized Niakwa Distributor or the Niakwa Sales Department by phone at (708) 634-8700 or fax at (708) 634-8718.

## POINTS of INTEREST

**Montvale, NJ** Cardinal Data Systems has recently completed development of WISEMAN, a remote order entry system which allows customers in one country to enter their order at their convenience and have them placed as a local call to the receiving company, in a second country, resulting in a significant savings in the cost of the call. This program, utilizing X.25 international packet switching networks and Niakwa, works in almost every country in the world.

**Mundelein, IL** Release IV of NPL has already shown very promising signs. In the first month alone, over a third of all NPL Developers upgraded to Release IV. This occurred with the MS-DOS/Novell NetWare/MS-Windows/386/DOS-Extender version alone. Even more development will occur once the Intel Unix version is available in early 1994.

**Netherlands** A customer of BM Computeradvies of Belgium has received the *Scepter of the Dutch Export (De scepter van de Nederlandse export) Award* for the second time! His Royal Highness Prins Bernhard of the Netherlands was in attendance at the October ceremony. The customer, Het Fort, exports wheelbarrows, primarily to Canada, Germany, Italy, Portugal and Belgium. They run customized software originally developed for their Wang CS system, and now are operating smoothly with NPL on a MS-DOS/Novell Network.

## The Graphics Arts Industry Survives with PACE *by Jay Farr*

**Jacksonville, FL** Springfield Computer Systems, Inc., sells, installs, trains, and supports THE PACE SYSTEM, a computer management system for the graphic arts industry. All modules in THE PACE SYSTEM integrate with each other and offer far more features than most competitive software. All modules have the same quality and consistency, which makes learning to use the system very easy. Modules available include: ESTIMATING, ORDER ENTRY, PRODUCTION MANAGEMENT, ELECTRONIC and PRINTED JOB TICKETS, REAL TIME DATA COLLECTION, JOB TRACKING and DYNAMIC SCHEDULING. The system can be customized to address a customer's specification, but is designed with a complete and thorough understanding of what it takes to run a print shop efficiently. THE PACE SYSTEM has been installed on IBM stand-alone PC computers, Novell networks, and WANG systems. All current software is using NPL to assure reliable and interchangeable hardware which can be easily maintained to guarantee performance, capacity, and growth potential. PACE enjoys considerable success in the market along with an upstanding reputation for performance and service.

Springfield Computer Systems, Inc., is a family owned and operated business started in 1974. Their customer base is primarily commercial sheetfed print shops that range in size from 10 to hundreds of employees. Some customers include major accounts like K-Mart, Springs Industries, Princeton University, and GTE. The PACE customers running NPL daily range from small installations like ProColor Graphics with 3 employees to large commercial printers like Ambrose Printing in Nashville, Tennessee with 140 employees.

The PACE SYSTEM, originally designed for the WANG 2200 and CS Series, embarked on the technological journey into networks in the late 1980's when the demand for flexibility outgrew the WANG.



Customers were increasingly sensitive to system response time, expansion, and the continued concern for convenient hardware support with uninterrupted service. It became more attractive to have software that could operate on a variety of computers rather than one configuration. K-Mart could easily process 30,000 orders in one month in their Forms Management division and required the assurance of long term and reliable computerization. It was becoming popular in the graphic arts market to have more software operate on less hardware. PACE recognized this need and acted quickly to convert existing WANG customers over to the NPL platform.

During the economic crisis, when small businesses were calling it quits, PACE methodically spent the "slow time" working on the system. With the use of MS-DOS, NPL, and Novell NetWare, PACE emerged with the same comprehensive software package, but now, it was without many of the WANG imposed limits and with fewer hardware woes. The industry responded positively. Springfield Computer Systems, Inc. survived and is now aggressively pounding the pavement with the latest release 'PACE 2000'. Springfield Computer does and will always support their WANG customers but expect all WANG based customers to move to NPL within the next two to three years.

Niakwa plays an intricate part in this success story. The conversion of the PACE SYSTEM to run with NPL has given the PACE customers exactly what they need: a good, efficient and virtually limitless operating system, the assurance of continued support, and no hardware dependence. A piece of the action...with peace of mind.

## NPL Beyond the 640K DOS Barrier

*by April Weinberg, Phar Lap Software, Intl.*

**Cambridge, MA** Anyone who has programmed for the PC has probably encountered the 640K DOS memory barrier. DOS was originally designed for 8086 PCs with one megabyte of memory, and despite significant advances in PC hardware technology since the days of the 8086, today's DOS still incorporates the same one-megabyte addressing limit. The top 384K of this one megabyte is reserved for operating system use, limiting all programs to the remaining 640K, no matter how many megabytes of memory are physically installed in the PC. In other words, even powerful 386 and 486 PCs with megabytes of memory must emulate 8086 machines and restrict

programs to 640K in order to run DOS. This 8086-emulation mode is called real mode.

80286 and higher processors also have a protected mode, in which programs can access extended memory (installed memory beyond one megabyte). But DOS cannot run in protected mode. So how can a program use the advanced features of protected mode and access extended memory while still running under DOS? The solution is to use a DOS extender.

### What is a DOS extender?

A DOS extender is a development tool that runs a program in protected mode, while still allowing it to make DOS calls



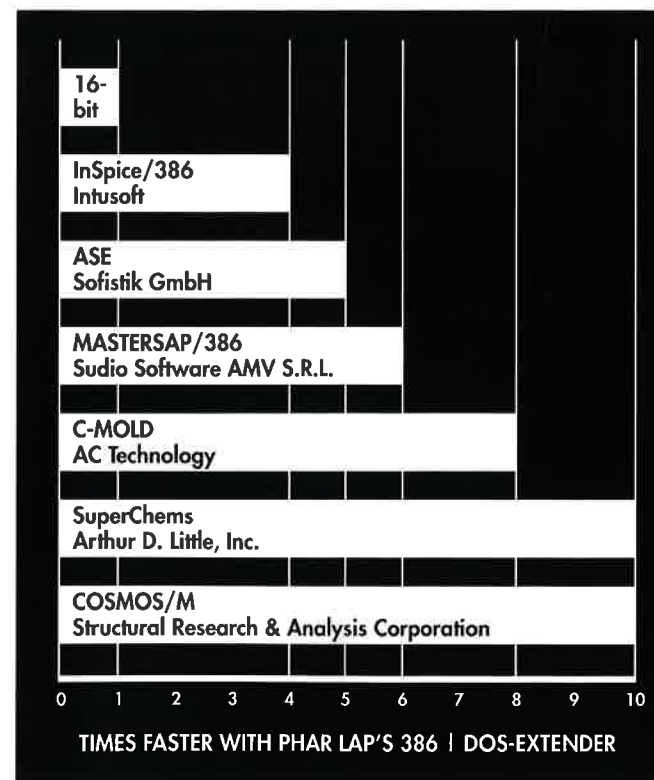
April Weinberg, Phar Lap Software, Intl.

and run as a regular DOS program. The DOS extender acts as a transparent layer between the program running in protected mode and DOS running in real mode. Applications that use the DOS extender are invoked from the DOS command line in exactly the same way as ordinary DOS programs. When the application is invoked, the DOS extender takes control. It loads the application into memory and sets up the addressing information and descriptor tables the application will need to run in protected mode. The DOS extender then switches the computer into protected mode and runs the application.

An Extended-DOS program makes DOS and BIOS system calls exactly as real mode programs do, by using software interrupts. The DOS extender intercepts the interrupt and either handles the request itself or passes it through to DOS or BIOS in real mode and then passes the response back to the application in protected mode. It automatically handles moving data between the real and protected mode address spaces. The DOS extender is invisible to the end-user and transparent to the application, so Extended-DOS programs look just like normal DOS programs to their end-users and do not require any special programming to access extended memory.

*Continued on page 8, see DOS-Extender*

### Programs run faster with 386 | DOS-Extender: (COMPARED TO 16-BIT REAL MODE VERSION)



## RothTec Engraving Corp. Expands with the Help of Onimkee and NPL by Van McGregor

**Hamden, CT** Today, RothTec Engraving Corp., located in New Bedford, Massachusetts, is the world's largest producer of textile screens. They own and run manufacturing facilities in Massachusetts, North Carolina, and Mexico. RothTec, growing at a 25% rate (even during recessionary times), continues to rely on leading edge computer imaging systems to produce textile screens for its customers. Much of their success can be attributed to the business savvy of Fred and Bruce Roth, their business relationship with Onimkee Ltd., and the Niakwa Programming Language (NPL).

RothTec's business relationship with Onimkee Ltd. began four years ago, when Onimkee rescued RothTec from a vendor who was abandoning the Wang 2200 market. Gary Ashworth, RothTec's controller, called on Onimkee to inquire if they could support RothTec's present software. Onimkee discovered, after arriving at Mr. Ashworth's office, that RothTec anticipated replacing the Wang 2200 and TOM accounting software. RothTec had already installed a Novell LAN and was investigating a solution to replace their TOM accounting software. At that point, Onimkee asked Mr. Ashworth if he liked his present TOM software, and he responded that he liked it and it was doing the job. However, they needed more hardware capacity and more software sophistication to address their business needs. When Onimkee informed Mr. Ashworth that his accounting software could be migrated to their new system, he was astonished.

As a result of this initial conversation with RothTec, Onimkee migrated RothTec's TOM accounting software to the Novell LAN using NPL. In addition, RothTec

contracted with Onimkee to write a custom job tracking system for them in NPL.


Over the years, Onimkee has addressed a number of Rothtec's TOM/NSG, NPL, and network issues; setting up system printers, expanding network nodes, and assisting with technical hardware and software concerns, particularly with RothTec's North Carolina LAN installation. Currently, RothTec is upgrading their Novell LAN from a 386 file server to an ALR Pentium server being rewired to accommodate twisted pair 10BaseT Ethernet cable instead of coaxial Ethernet. The NPL RunTime will be expanded to accommodate 32 users on the network.

RothTec's most recent expansion into Mexico called for Onimkee to make changes to the accounts receivable package to enable billing in pesos or dollars at the head office in New Bedford. The expansion continues; at the head office, manufacturing facilities will increase by 40,000 square feet within the coming year.

In the future, RothTec plans to install a LAN system with Niakwa's NPL in their Mexican facility. This will expand the scope of the job tracking system to integrate barcode scanning, enhanced sales reporting, and include greater customer order process tracking. RothTec is also exploring the possibility of opening up data files preserved in their platter images.

Onimkee, in the past, has concentrated on migrating Wang 2200 users over to open systems. With the unfortunate demise of Wang Labs and the almost unlimited availability of different software solutions, many businesses currently using Wang 2200s are opting for vertical market software instead of migrating their present Basic2 code. The developments in the market have


prompted Onimkee to create a vertical market orientation to expand its client base. Onimkee is looking for NPL-based vertical market software to market and support.

There are probably other NPL Developers who have vertical market software and would like to expand their client base. These resellers could take advantage of Onimkee's marketing and technical expertise. In Onimkee's opinion, the growth of NPL will no longer come from Wang migrations, but from developing vertical markets. Onimkee welcomes discussions regarding reseller arrangements with other Niakwa resellers who have vertical market packages. Interested resellers should contact their Authorized Niakwa Distributor or the Niakwa Sales Department at (708) 634-8700. 

### News Flash...

*The Basic-2 Report* has recently been acquired by MidWare, the North American Distributor for KCML.

By MidWare taking over the publication, it will inevitably lose any credibility it enjoyed as a third party publication serving the Basic-2 Community. It will become the MidWare Newsletter.

As such, Niakwa can no longer support this publication. 

## Bluebird's MIR Program Takes Flight by John Lawson

**Carlsbad, CA** Bluebird Systems, like many other companies, finds little more exciting than new business. The Managing Industry Remarketer (MIR) program Bluebird entered in 1992 has brought a substantial amount of new business to the company. Bluebird's charter as an MIR for IBM is to sell IBM mid-range systems to other value-added computer resellers. In this capacity, Bluebird has sold over 125 AS/400s and RISC/System 6000s since the program's inception.

IBM developed the elite MIR program to attract companies like Bluebird; a proven leader in the VAR community with the ability to lead marketing and technical support efforts for small to medium-sized opportunities. IBM's plan to penetrate the vast VAR market through indirect sales complements their orientation to large system transactions. MIRs can cultivate the mid-range market and develop business in the \$25,000 to 200,000 transaction size. While supporting the MIRs efforts to develop the mid-range market, IBM is still able to focus on their traditional bread and butter market - big systems. By placing the MIR in the primary role of marketing and technical support, IBM channels their own resources more effectively while keeping the door open to VARs who, because of their size, are better served by an MIR.

Several Bluebird VARs and Niakwa Distributors have been approved for the program as Industry Remarketer Affiliates (IRAs). By providing a value added enhancement (VAE) and demonstrating sales and technical capabilities, these Bluebird/Niakwa Resellers can offer the IBM mid-range solution as part of their product line. In situations where IBM is the preferred provider, the IRA business partner relationship carries a lot of weight.

There are many compelling reasons to join the IRA program. First of all, Bluebird/Niakwa Resellers may place their applications in the IBM National Solution Center database. This on-line system is available to IBM marketing representatives nationwide and is used by 95% of them



when sourcing industry specific applications. The referrals from the NSC alone can justify participation in the program.

Application Solution Marketing is another attractive feature of Bluebird's MIR program. All local IBM branch offices are equipped to work with IRAs in their marketing efforts. By holding seminar programs at IBM facilities, IRAs can take advantage of IBM equipment and expertise to present a professional image to prospective customers.

IBM also provides the best educational resources in the industry, which IRAs can gain access to through Bluebird. Whether seeking sales and marketing training, or technical classes on hardware and operating system platforms, this resource will prove itself to be invaluable to Bluebird/Niakwa Resellers as they continue to develop industry skill sets.

Bluebird/Niakwa Resellers seeking a business partner relationship with IBM realize several other benefits as well:

- Access to IBM's on-line information systems
- IBM service - the benchmark for the industry
- End-user financing through IBM Credit Corporation
- First class marketing collateral and sales support materials


IBM looks to the MIR business partners to provide the incremental revenue at the low end. For this, IBM is diligently working with each MIR to develop their marketing plans. Currently 9 MIRs market the AS/400 and 15 the RISC/System 6000. Bluebird has the distinction of being the only MIR authorized to sell both of these mid-range systems. Therefore, they've received a lot of attention within the IBM ranks, and their success has become an important part of IBM's MIR program strategy. Bluebird provides a home for other business partners

who are better served with an IRA relationship with IBM. For those current business partners who will not make their revenue hurdle in the coming year, Bluebird's IRA program offers the best alternative to going directly to IBM for products and services.

After spending the better part of 1992 in the MIR program, Bluebird has risen to the top as the fastest growing Managing Industry Remarketer for IBM, recruiting more Industry Remarketer Affiliates than any other MIR. Bluebird found the multifaceted approach to the MIR program to be the key to its success: from providing strong internal leadership at IBM to external sales, marketing, and technical acumen, Bluebird remains well-positioned for change in an ever-changing industry.

As an NPL Reseller, you have the unique ability to run your applications on both IBM platforms: the RS/6000 and now the AS/400. This a great selling point to your potential customers interested in an IBM solution. In addition, IBM salespeople will love your "openness" because now they can provide customers a choice of hardware platforms based upon the portability of your NPL applications.

Bluebird/Niakwa is the *only* MIR that allows you, as a Niakwa distributor, the flexibility to buy the AS/400 one day and the RS/6000 the next. This makes doing business with us for IBM systems very convenient and cost effective. *Plus*, in Bluebird's program, your NPL and SuperDOS dollar volume are added on top of your hardware purchase volume. This is used to determine your discounts on those machines, which gives you more buying power, and thus improves your bottom line.

VARs who feel their company could benefit from a business partner relationship and would like more information may contact Bluebird Systems by phone at (619) 438-2220 ext. 428 or by fax at (619) 438-4560 or the Niakwa Sales Department by phone at (708) 634-8700 or fax at (708) 634-8718. 

DOS-Extender Continued from page 5

**DOS extenders and NPL**


Many powerful PC applications use DOS extenders to access the memory they need. Releases III and IV of the Niakwa Programming Language (NPL) offer an Extended-DOS version, which uses Phar Lap Software's 386|DOS-Extender to run under DOS. 386|DOS-Extender is a 32-bit extender that lets NPL run in protected mode on a 386 or higher PC. 386 protected mode is a 32-bit environment, enabling the application (in this case, NPL itself) to access all available extended memory, run with 32-bit speed and use an unsegmented, workstation-like address space. Because NPL runs in protected mode, users can build NPL

programs without running into the 640K DOS barrier. They automatically benefit from the DOS extender.

NPL users who are writing part of their applications in C can also use 386|DOS-Extender to build 32-bit protected-mode C modules that can be called from NPL code. To do this, developers need a 32-bit C compiler and Phar Lap's 386|DOS-Extender Software Development Kit (SDK). The 32-bit C code produced by the compiler uses 386|DOS-Extender to run in protected mode under DOS. With these tools, programmers can build high-performance 32-bit NPL add-in modules.

Developers who want to redistribute their

mixed-language applications to customers will need to purchase Phar Lap's 386|DOS-Extender RunTime Kit (RTK) once their development is complete. The RTK includes a version of 386|DOS-Extender that can be bound into the C module so that it can be run by users without Phar Lap's tools. (Both NPL-only and NPL-and-C applications require Niakwa's NPL RunTime Package for redistribution).

NPL developers interested in creating protected-mode C modules (or C programs) may contact Phar Lap Software at (617) 661-1510 or fax (617) 876-2972 for more information on 386|DOS-Extender. 

## How To Protect Your WANG 2200 Investment

We'll pay you \$1,000, that's right, *one thousand dollars* if you're not absolutely delighted with our SuperDOS system. That's how certain we are that you'll enjoy the same benefits as thousands of companies who have switched to NPL from the WANG 2200.

**Benefits like:**

- Speed improvements of *ten to fifty* times that of the 2200
- No retraining of your personnel
- No re-cabling required
- Use existing CRTs and printers
- *Dramatic* savings in hardware maintenance costs

In addition to running your current software, why not connect some of your personal computers and run *Lotus, Excel or WordPerfect*, not to mention all the popular MS-DOS software available.

Bluebird's staff is ready to help you. Call us for an assessment of your needs and you'll have an answer within 48 hours. And remember, we'll write you a check for \$1,000 if you aren't completely satisfied with our installation.

Toll free in U.S. (800) 346-8232 or (619) 438-2220, ext. 337

  
5900 La Place Court  
Carlsbad, California 92008  
USA

"The Bluebird System is at least ten times faster than the WANG 2200!"  
-Berthe O'Neil, Eastern Propane Gas, Rochester, New Hampshire

"We run our Bluebird system 24 hours a day, 7 days a week, and have not had any downtime! Thank You!"  
-Edward Bandola, Watra Co., Chicago, IL.

"The conversion to SuperDOS was far easier than I ever imagined. We turned the old 2200 system off on Friday, and started running the new system Monday morning."  
-Michael Morris, E-Z 8 Motels, San Diego, CA.

"It's been nearly four years since we converted to SuperDOS and we couldn't be happier. We've grown from 12 to over 50 terminals and the system continues to perform flawlessly. We have added additional SuperDOS systems in other PLATZ facilities. I'd recommend this to any WANG 2200 user!"  
-Tony Colby, PlatZ Wholesale Florist, Morton Grove, IL.

"It's hard to believe, but our current 41-user SuperDOS system is a minimum of 5 times faster than our original 20-user WANG 2200 system. Just ask me how much I like SuperDOS! Call me at (708) 859-3603."  
-Paul Mefford, Hahn Industries, Aurora, IL.

## NPL/NDM on the IBM AS/400 Technical Features

**Overview**

NPL/NDM implementation on the IBM AS/400 uses a client/server technique referred to by IBM as Cooperative Processing. In the Cooperative Processing environment, NPL/NDM and the application execute on a PC connected to the AS/400. NPL/NDM programs communicate with the AS/400 using the Advanced Program-to-Program Communications (APPC) protocol. The PC and AS/400 are connected with an APPC support physical link such as Token-Ring or Ethernet. Application operation is exactly like operation on a PC or PC-based network. However, the application's data is stored on the AS/400 server in a native AS/400 database format compatible with all native AS/400 utilities and programs.

**Product Components**

NPL/NDM for the AS/400 consists of three primary components:

**NPL** — Implementation of NPL is nearly identical to the standard MS-DOS version of NPL. Revision 4.00 features are fully supported.

**NDM** — Implementation of NDM is fully compatible with other platforms, but uses the AS/400 database as its native ISAM. All NDM 1.20 features are supported. NDM is heavily optimized for the AS/400.

**Server Task** — A special server task developed by Niakwa is automatically executed when NPL is started. The server task responds to all requests issued by NPL/NDM.

**Hardware/Operating System Requirements**

IBM AS/400 implementation of the Niakwa Programming Language is designed to operate on IBM-compatible PC systems, as a workstation (client), attached to and communicating with an IBM AS/400 (server). In addition to the NPL/NDM products from Niakwa, specific hardware and software is required. The AS/400 and

PC requirements are as follows:

**IBM AS/400 Server Operating System and Hardware Requirements**

- IBM OS/400 V2R2MO or greater.
- AS/400 ICF with PC Support/400.
- Any associated networking hardware (Token-Ring and Ethernet cards) must be configured and working properly.
- A QIC-compatible 1/2" tape drive.

**PC Client Operating System and Hardware Requirements**

- IBM-compatible 80286 or greater PC.
- 1MB of RAM.
- MS-DOS version 5.0 or greater.
- One diskette drive must be present (either a 3 1/2" or 5 1/4").
- PC Support/400 (Basic or Extended) Version 2.2.0 or greater.
- IBM LAN Support Program Version 1.2 (or equivalent).
- A hard disk is strongly recommended.
- The MS-DOS version of the client NPL RunTime with the NDM Quick Library requires 640K of base memory. NPL applications requiring more memory should use the MS-Windows version (available soon).
- PC Support/400 (extended version) requires a minimum of 384K Extended Memory.
- In addition, each PC client must be properly configured with PC Support/400 and have all appropriate network connections (Token-Ring adapter and cabling) to the AS/400. Refer to the PC Support/400 DOS Installation and Administration Guide for details.

**Technical Features**

NPL for the AS/400 is a fully functional MS-DOS version of NPL. All standard MS-DOS features are fully supported including color, raw diskette, diskimage files use, 2227 emulation driver support, etc.

The most significant difference between

the AS/400 and standard MS-DOS/Novell NetWare versions is in the area of security. The AS/400 version uses a new security scheme designed specifically for AS/400 implementation. In this new design, the NPL RunTime is tied to the AS/400 serial number by a registration procedure. NPL for the AS/400 will only operate when an AS/400 host is present and when the serial number of the AS/400 matches that which NPL is registered for.

NPL for the AS/400 supports the use of AS/400 print devices and Remote Procedure Calls (RPC) via \$SHELL. \$SHELL can still execute DOS programs as well.

**NDM for the AS/400**

NDM for the AS/400 fully supports the use of native AS/400 database files with NDM applications. Access to existing AS/400 physical files is consistent with current NDM calls. Access to AS/400 logical files is supported by treating these logical files as an NDM index. All AS/400 native field types are supported as of Version 2 Release 2 of OS/400.


NDM for the AS/400 works only with the special NPL implementation for the AS/400.

**Application Requirements**

Applications must use NDM for primary data management routines. NPL supports the use of Shared Folders for shared access to diskimage files stored on the AS/400, but performance overhead makes it unsuitable for heavy use.

Where feasible, end user systems should be configured to have local (on the PC hard disk) copies of program diskimages.

**Product Availability**

MS-DOS versions of NPL and NDM for the AS/400 are currently available. The MS-Windows versions are scheduled for delivery in the first quarter of 1994. For further details, please contact your Authorized Niakwa Distributor or Niakwa directly. 

## DDE Library Accesses MS-Windows Applications

Scarsdale, NY Strategic Planning Services, Ltd. is pleased to announce the release of their Dynamic Data Exchange (DDE) Library Program.



Paul F. Felton

The DDE Library provides a set of external routines for the Niakwa Programming Language (NPL) running under Microsoft Windows. These DDE routines will enable NPL Developers to interface with other MS-Windows applications containing DDE capabilities. The DDE mechanism allows programs to exchange data with each other while they're running.

The DDE mechanism works on a client/server approach. With Strategic Planning Services' DDE Library, the NPL application can operate as either the client or server. A DDE call is as simple as executing any other external call with NPL. Your application could communicate with as many as 16 simultaneous MS-Windows tasks using the DDE Library. The DDE interface has purposely been kept simple and transparently handles such details as initialization and cleanup.

Strategic Planning Services' DDE Library gives developers access to all MS-Windows-based applications such as Excel, Word for Windows, Access, and the Windows Clipboard. It can also access other third party MS-Windows applications such as Word Perfect for Windows and Aldus PageMaker. Strategic Planning Services' DDE Library uses the basic MS-Windows text format for all its data transfers. Since all MS-Windows applications handle the MS-Windows text format, any MS-Windows DDE aware application is accessible to the Library.

To illustrate what this library can do for a Niakwa Developer, here is an example: an NPL database may link to a word processor as a client. This allows the database to import text from word processing documents, as required. Simultaneously, NPL could link to a spreadsheet application as a server. This

## Platform Update as of November 1, 1993

### Shared Logic Systems

ALTOS x86 SERIES  
 ALTOS SERIES 2000  
 ALTOS x00 SERIES  
 BLUEBIRD APPROVED IBM COMPATIBLE  
 BULL XPS 100  
 BULL DPX/2 x00 SERIES  
 BULL MICRAL 600/ix  
 DEC MICROVAX II  
 DEC VAX SERIES  
 IBM AT & 100% COMPATIBLE\* 286  
 IBM PS/2 SERIES  
 IBM 100% COMPATIBLE\* 386+  
 IBM 100% COMPATIBLE\* 386+  
 IBM RISC SYSTEM/6000 SERIES  
 NCR SYSTEM 3000 SERIES  
 NCR TOWER 32 SERIES  
 WANG 280  
 WANG 380  
 WANG APC  
 WANG APC  
 WANG DX 2000 (DYNAMIX)  
 WANG PC 300/33C SERIES  
 WANG PC 480/25C  
 WYSE x000 SERIES

XENIX 3  
 XENIX V  
 SYSTEM V  
 SUPERDOS  
 UNIX V  
 BOS  
 BOS 386  
 VMS  
 VMS  
 SCO XENIX V 286  
 SCO XENIX V  
 SCO UNIX V/386, 486  
 INTERACTIVE 386/ix UNIX  
 AIX  
 AT&T UNIX (NCR)  
 SCO UNIX V  
 SCO XENIX V 286  
 SCO XENIX V 386  
 XENIX 3.0  
 XENIX V  
 SCO UNIX V/386  
 SCO UNIX V/386  
 SCO UNIX V/386  
 AT&T UNIX (WYSE)

### Distributed Logic Systems - Client/Server (Networking)

IBM & 100% COMPATIBLE\*  
 IBM & 100% COMPATIBLE\* with MS-WINDOWS  
 IBM & 100% COMPATIBLE\* with 386/DOS-EXTENDER

IBM AS/400 SERVER and  
 IBM & 100% COMPATIBLE with MS-DOS\*

NOVELL NETWARE ELS I  
 NOVELL NETWARE ELS II  
 NOVELL NETWARE ELS 386  
 NOVELL NETWARE ELS 4.0  
 NOVELL ADVANCED NETWARE  
 OS/400  
 PC-SUPPORT/400

### Single User MS-DOS

IBM & 100% COMPATIBLE\*  
 IBM & 100% COMPATIBLE\* with MS-WINDOWS  
 IBM & 100% COMPATIBLE\* with 386/DOS-EXTENDER

MS-DOS  
 PC-DOS

\* Niakwa no longer performs testing on PC compatible systems due to the high level of compatibility of the Niakwa Programming Language in the PC compatible marketplace and the tremendous infusion of compatibles on the market.

allows the spreadsheet to dynamically query the NPL database for current data.

Strategic Planning Services has already installed this DDE Library at one of their client sites and made a noticeable impact on their productivity. The client is a nonprofit organization that must submit many lengthy reports to the Internal Revenue Service. One report, which used to take as long as a week to prepare, can now be completed in as little as a few hours with the DDE Library.

The DDE Library can run with NPL Revision 3.20 and will be optimized for Release IV. Strategic Planning Services plans to enhance their DDE Library to include support for Microsoft Object Linking and Embedding (OLE) and provide event driven capabilities. This will allow your Niakwa application to launch other MS-Windows applications as well as exchange data. When available, the upgrade for OLE support will be free.

## Current Product Revisions

The following is a complete list of the current Niakwa Development Environment products and their respective revision numbers as of December 1, 1993. If your version is not current, contact the Niakwa Sales staff for an update.

NOTE: New releases since the last NIAKWANEWS are shown in bold.

PRODUCT NUMBER	PRODUCT NAME	DEVELOPMENT PACKAGE REVISION NUMBER	RUN TIME PACKAGE REVISION NUMBER	REVISION DATE
<b>1A</b>	<b>Dropped 9/6/93</b>			
<b>1A-DEM</b>	<b>Dropped 9/6/93</b>			
<b>1A-SCD</b>	<b>Dropped 9/6/93</b>			
<b>2A+B</b>	<b>IBM MS-DOS</b>	<b>3.20.02.00.I</b>	<b>3.20.02.00.I</b>	<b>10/1/92</b>
		<b>4.00.20.00.I</b>	<b>4.00.02.00.I</b>	<b>9/6/93</b>
		<b>NA</b>	<b>3.20.02.00.I</b>	<b>10/1/92</b>
		<b>NA</b>	<b>4.00.20.00.I</b>	<b>9/6/93</b>
		NA	2.00.00	7/15/88
2A+B-SCD	IBM MS-DOS SCD	3.20.13.00.X	3.20.13.00.X (286 RTP)	12/6/91
3A	WANG APC XENIX 3 or V	3.20.13.00.X	2.00.00	7/15/88
3A-SCD	WANG APC SCD	NA	2.00.00	7/15/88
<b>4A+B</b>	<b>Novell NetWare</b>	<b>3.20.02.00.I</b>	<b>3.20.02.00.I</b>	<b>10/1/92</b>
		<b>4.00.20.00.I</b>	<b>4.00.20.00.I</b>	<b>9/6/93</b>
5A	ALTOS XENIX 3	3.20.13.00.X	3.20.13.00.X (286 RTP)	12/6/91
6C,D,E	DEC MicroVAX	2.01.02	2.01.02	6/15/87
<b>7A+B</b>	<b>SuperDOS</b>	<b>3.20.02.00.S</b>	<b>3.20.02.00.S</b>	<b>9/9/91</b>
		<b>4.00.20.00.S</b>	<b>4.00.20.00.S</b>	<b>9/6/93</b>
8A	Bull XPS-100 - frozen	3.01.03.04.U	3.01.03.04.U	8/1/91
9A	ALTOS 2000 XENIX V	3.20.13.00.X	3.20.13.00.X (286 RTP)	12/6/91
10A+B	SCO XENIX V	3.20.13.00.X	3.20.13.00.X (286 RTP)	12/6/91
13A	WANG APC XENIX V	Merged with 3A	NA	NA
15A	ALTOS 600, 1000, 2000	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
16A	ALTOS 400, 500, 700	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
18A+B	SCO System V 386 UNIX	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
19A	Bull DPX/2 - frozen	3.01.03.04.U	3.01.03.04.U	8/1/91
20A+B	INTERACTIVE UNIX	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
21A	NCR TOWER 32 - frozen	3.01.03.04.U	3.01.03.04.U	8/1/91
22A	ALTOS 5000	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
23A+B	AT&T UNIX (Intel)	3.20.14.01.A	3.20.13.00.A (386 RTP)	12/6/91
<b>24A+B</b>	<b>MS-Windows/ MS-DOS</b>	<b>3.20.02.00.I</b>	<b>3.21.07.00.N*</b>	<b>3/1/93</b>
		<b>4.00.20.00.I</b>	<b>4.00.20.00.N</b>	<b>9/6/93</b>
<b>24A+B-DEMO</b>	<b>MS-Windows/ MS-DOS Demo</b>	<b>NA</b>	<b>3.21.07.00.N*</b>	<b>3/1/93</b>
		<b>NA</b>	<b>4.00.20.00.N</b>	<b>9/6/93</b>
<b>25A+B</b>	<b>MS-Windows/ Novell NetWare</b>	<b>3.20.02.00.I</b>	<b>3.21.07.00.N*</b>	<b>3/1/93</b>
		<b>4.00.20.00.I</b>	<b>4.00.20.00.N</b>	<b>9/6/93</b>
<b>26A+B</b>	<b>DOS/386/ MS-DOS</b>	<b>3.20.02.00.I</b>	<b>3.20.15.00.P</b>	<b>10/1/92</b>
		<b>4.00.20.00.I</b>	<b>4.00.20.00.P</b>	<b>9/6/93</b>
<b>27A+B</b>	<b>DOS/386/ Novell NetWare</b>	<b>3.20.02.00.I</b>	<b>3.20.15.00.P</b>	<b>10/1/92</b>
		<b>4.00.20.00.I</b>	<b>4.00.20.00.P</b>	<b>9/6/93</b>
30B	IBM RS/6000	3.20.15.11.U	3.20.15.11.U	8/26/92
<b>32A+B</b>	<b>MS-Windows/ 386/DOS-Extender/ MS-DOS (combined)</b>	<b>4.00.20.00.I</b>	<b>4.00.20.00.P</b>	<b>9/6/93</b>
<b>33A+B</b>	<b>MS-Windows/ 386/DOS-Extender/ Novell NetWare (combined)</b>	<b>4.00.20.00.I</b>	<b>4.00.20.00.P</b>	<b>9/6/93</b>
<b>35A</b>	<b>IBM AS/400/MS-DOS</b>	<b>4.00.20.00.I</b>	<b>4.00.24.00.I</b>	<b>10/29/93</b>
<b>102A**</b>	<b>NDM for MS-DOS Environments</b>	<b>1.20.07</b>	<b>NA</b>	<b>11/24/93</b>
<b>103A**</b>	<b>NDM for Intel UNIX</b>	<b>1.20.06</b>	<b>NA</b>	<b>11/24/93</b>
<b>130B**</b>	<b>NDM for the IBM RS/6000</b>	<b>1.20.06</b>	<b>NA</b>	<b>11/24/93</b>
<b>135A**</b>	<b>NDM for the IBM AS/400</b>	<b>1.20.06</b>	<b>NA</b>	<b>10/29/93</b>
<b>202A+B</b>	<b>IQ for MS-DOS</b>	<b>3.00.14</b>	<b>3.00.14</b>	<b>11/29/93</b>
<b>203A+B</b>	<b>IQ for Intel UNIX</b>	<b>3.02.10</b>	<b>3.02.10</b>	<b>7/1/93</b>
<b>204A+B</b>	<b>IQ for Novell NetWare</b>	<b>3.00.14</b>	<b>3.00.14</b>	<b>11/29/93</b>
<b>230B</b>	<b>IQ for the IBM RS/6000</b>	<b>3.02.10</b>	<b>3.02.10</b>	<b>7/1/93</b>

\* NPL MS-Windows Update is now available on Niakwa's BBS.

\*\* NDM RunTimes will no longer be shipped as the unsecured version of the NDM Pak is now available.

## Bluebird Systems Introduces 32-bit Version of SuperDOS

by John Lawson

Carlsbad, CA Bluebird Systems recently announced availability of SuperDOS 6.0 to the VAR community. As the first 32-bit implementation, version 6.0 takes advantage of processor technology to turn the crank once again on SuperDOS performance. Once the premier operating system on the IBM PC, SuperDOS has consistently moved forward in terms of the power and functionality it provides to resellers and their end-users.

SuperDOS version 6.0 combines improved performance with hardware support for the DigiBoard DigiChannel C/X system. Using the DigiBoard product, SuperDOS users can provide connectivity for up to 256 users on a single system! With the new high-capacity fast SCSI-2 disk drives support in version 6.0, performance is better than ever.

Some of the highlights for version 6.0 include:

- Support for 255 tasks - this enables users to optimize their systems by providing terminal access to multiple SuperDOS sessions, using Bluebird's Flip Screen product.
- Support for 255 ports - connectivity at this level requires only 2 slots in the system!
- Ability to have up to 32 megabytes of RAM disk, providing rapid access to most frequently used programs and files.
- New system configuration options allow the user to determine what course the system will take in the event an error occurs in the boot-up process.
- The ability to configure any number of disk cache buffers gives more control to the user, so memory can be efficiently allocated based on your application's utilization of memory.
- Much faster file opening if the file is already opened by another user.
- Much faster file creations when the bit map starts to fill up.
- Support for the DigiBoard DigiChannel C/X system intelligent port controllers - improves throughput and can reduce hardware costs and communication line charges for remote locations.
- Support for 525mb and 1050mb Fast

# SuperDOS®

SCSI-2 disk drives, average seek time of 12 milliseconds.

Resellers can expect other product enhancements to accompany version 6.0. Modifications and enhancements have been made to Bluebird's Business BASIC, SDINSTAL, SuperLAN Backup/Restore and a host of utilities.

So, what is it about 32-bit technology that enables SuperDOS 6.0 to provide enhancements such as those mentioned above? For one thing, it means that some CPU operations can be done with many less instructions. Take multiplication for instance. There are numerous times when SuperDOS must multiply large numbers. For a sixteen bit CPU, SuperDOS would have to actually perform four separate multiplications and keep track of the individual sums. With the 386, one instruction is used.

There are other examples of code reductions, such as when a table is being searched. With 32-bit registers, one instruction can replace a loop of more than ten instructions.

Thirty-two bit CPUs not only allow more efficient instructions, but also allow expanded capacities. For instance, in 16-bit SuperDOS there are restrictions on the size of tables and buffers within memory. The addressability doesn't merely double, but increases by the square. That means, instead of being able to access a table 65,536 bytes in size, SuperDOS could have a table larger than 4 billion bytes!

SuperDOS 6.0, however, is not a complete make-over because it would affect thousands of programs that currently run under SuperDOS. Instead, SuperDOS 6.0 is designed to take advantage of many of the features of the 32-bit architecture and yet allow older style programs to run. This approach results in upward compatibility for every SuperDOS application as well as an increase in throughput.

As with all dynamic products, SuperDOS continues to change in response to the needs of the users. Going to 32-bit architecture is a significant step for Bluebird. On the one hand, it means that all future enhancements of SuperDOS will only be supported on machines based on 32-bit Intel CPUs. On the other hand, SuperDOS is positioned internally for much greater growth in functionality and performance. This, in turn, will allow Bluebird to meet your needs and the needs of your users for years to come.

Both NPL versions 3.20 and 4.00 have been fully tested with SuperDOS 6.0 and are fully supported. *h*

### Library Availability

The following is a current listing of available NPL Libraries. For your convenience, we've included the author's name, order contact, and phone and fax numbers. For a complete explanation of the following libraries, please refer to the Library Catalog and/or the Library Briefs.

- DDE/OLE Support Library for NPL under MS-Windows Strategic Planning Services  
Contact: Niakwa, Inc.  
Phone: (708) 634-8700  
Fax: (708) 634-8718
- ESA Graphical Package 4.0 SCIA GROUP  
Contact: Mr. E. Backx  
Phone: int. +32-13-55 17 75  
Fax: int. +32-13-55 41 75
- ESA Interactive User Interface 1.0 SCIA GROUP  
Contact: Mr. E. Backx  
Phone: int. +32-13-55 17 75  
Fax: int. +32-13-55 41 75
- Prism Data Manager (PDM) TEP srl  
Contact: Paolo Raggi  
Phone: int. +39 6 44291047  
Fax: int. +39 6 4272874

## Niakwa Rolls Out NPL, Release IV

### Chapter I...Release IV - where it all began.

It was the completion of one project and the beginning of the next. Fall of 1989 saw Niakwa shift gears from Release III for Basic-2C to the Niakwa Programming Language (NPL), Release IV.

The climate was right for the inception of a new project. The goal - to provide NPL Developers a modernized base language and increased programmer productivity as soon as technically possible. The strategy - to add modules, functions, procedures, and long identifiers while maintaining 100% upward compatibility.

1990 conference attendees participated in preliminary discussions involving development plans and the technical direction of Release IV. In 1991, Bluebird Systems (Niakwa's parent company) committed resources to the project. Later that year and early into 1992, the Niakwa R&D Department in Winnipeg, Canada, detailed specifications for the project. Then, in mid-

*1992... the proverbial ball began to roll.*

1992, Niakwa published the specifications to inform NPL Developers of Release IV product development plans.

1992 was definitely the year the proverbial ball began to roll. The Technical Department began reorganizing and writing documentation incorporating the "modern look and feel" NPL Developers enjoy today. The packaging also experienced a face lift with all documentation and software migrating to the new black, blue, and white Niakwa colors.

September brought with it the first prototype which Niakwa demonstrated at the 1992 European Conference in Strasbourg, France, October 11 - 13. In addition, the Technical Department began quality assurance testing in Mundelein.

Then came 1993. Niakwa rang in the new year with the January release of SDK I (the premiere phase of Release IV). Following

*NPL,  
Release IV*

further testing and the addition of still more modern features, Niakwa released SDK II, in May. During the summer of 1993, developers at over 100 SDK test sites experimented with the new features and provided Niakwa constructive feedback. July and August, the height of Release IV activity, found every Niakwa department immersed in preparations for the impending release of NPL, Release IV.

The Niakwa R&D Department in Winnipeg, including Joe Brekelmans, Manager of Software Development; Shawn Baker, Senior Systems Programmer; Mark Balitsky, Associate Systems Programmer; Marvin Ben-Ari, Systems Programmer; Pat Legg, Senior Systems Programmer; Wayne Morris, Senior Systems Programmer; and Danny Robinson, Associate Systems Programmer continued to add and refine new features. Further south, in the Mundelein office, Harry Cohn, Director of Research and Development, oversaw the coordination of development and testing. Dana Schwartz, Senior Systems Analyst-R&D, performed quality assurance testing assisted by Brian Funke, Product Analyst. In

addition, Niakwa hired two temporary QA Analysts, Lucy Nemtsev and Dimitry Marchenko, specifically to aid in the roll out of Release IV.

At the same time, Andy Warzecha, Manager of Technical Services, coordinated testing and documentation for the final Release IV features as they were instituted by the R&D Department. Kurt Skaronea, Lead Product Analyst; Erik Coleman, Senior Product Analyst; Paul Brown, Senior Product Analyst; and Mike Albert, Temporary Junior Product Analyst were all deeply immersed in testing and documentation for the majority of the summer months. Kurt also faced the challenge of updating the in-house-system to deal with the 96 new upgrade options.

Preparations for actual product production also began in early summer. Jan Strickland, Production Coordinator, began ordering and coordinating raw materials and training the new Temporary Production Assistant, Evie

*1993... not a single employee was left untouched by the vigor of Release IV.*

Adler (hired to help with the influx of Release IV RunTime orders). In addition, Production Assistant, Mitch Wright designed the new diskette labels and helped produce product in his spare time.

Both Cyndee Philyaw, International Account Manager and Jeff Morgan, North American Account Manager readied NPL Developers for the coming of NPL, Release IV. Cyndee visited several customers in Europe over the summer months and helped

form upgrade policies (she's one of the few Niakwa employees who actually recalls the roll out of NPL, Release II). She also helped coordinate the September 13 - 14 European Passport to Profit Conference in Köln, Germany. Meanwhile, Jeff kept in contact with the North American Developers and prepared for the October 13 - 16 Niakwa/NSG Conference in Orlando, Florida.

Gearing up for NPL, Release IV, the Administrative Department also became increasingly busy. Sheri Nemes, Office Manager, helped design "the Grid" (Release IV upgrade directory), the upgrade forms, many of the upgrade policies, and directed the production of several conference materials as well. Both Debbie Benson, Customer Service Representative, and Joyce Craig, Office Services Specialist assisted with the production of several conference materials. In addition, Debbie helped create order entry policies related to Release IV. Joyce also worked on conference materials and the numerous Release IV - related mailings. Carolyn Winiarski, Administrative Assistant, geared up for shipping of the Release IV orders.

During this time, the Marketing Department had a hand in setting upgrade policies, creating the pricing, forms, grid, promotions, and Library Program, while also producing marketing materials and planning two fall conferences. Marketing Manager, Lesslee Dort, directed these efforts with the

assistance of Marketing Associate, Amy Swab. Believe it or not, every Niakwa department played its role in the design of the upgrade policies and forms. Not a single Niakwa employee was left untouched by the vigor of Release IV. Then came the moment everyone had been waiting for. On September 10, 1993, NPL, Release IV

*Still to come — NPL, Release IV for:*

- Intel Xenix/UNIX
- IBM RS/6000
- DEC VAX

became available to the Niakwa Development Community.

**Thus begins — Chapter II...the onslaught of upgrade orders.**

Only days after mailing the Release IV upgrade Packet, at the Passport to Profit Conference in Köln, Germany, Niakwa received the first of many Release IV upgrade orders. Several conference participants received a free upgrade swap from NPL 3.XX to Release IV. The swap, offered to encourage attendance, included software only. To walk home with a complete Release IV upgrade, one NPL Developer

purchased the conference demonstration documentation. With his upgrade swap and newly purchased demonstration documentation in hand, he became the first NPL Developer to upgrade.

Then the upgrade orders began flooding in. Both Cyndee and Jeff have been busy, ever since, upgrading their NPL Developers to Release IV. The orders are piling up at Debbie's desk, where she, with "the Grid" in hand, checks and enters each order. From there, the orders travel to the Shipping Department where Carolyn pulls the product, fills out paperwork, and boxes the orders. Jan concurrently performs quality control to insure all orders are correct. Wally Maczkowski, the TNT Sky Pak courier; Brad Larson, the UPS courier; and Kim Battin, from Federal Express, pick up the orders in the afternoon, and the NPL Developers receive them shortly thereafter.

Three and one-half months after NPL, Release IV began shipping, Niakwa sold over 400 new and upgrade orders, and the volume increases daily. The Production Department is finding it rather difficult to keep the shelves stocked. They're not complaining, mind you. They enjoy keeping busy.

Future Release IV products to look for, include NPL, Release IV for Intel Xenix/UNIX, the IBM RS/6000, and DEC VAX. *n*

## NDM Update

Since it was introduced in July of 1991, the Niakwa Data Manager (NDM) has been well received by Niakwa's developers. Many developers have updated and are already selling enhanced applications using NDM. In addition, the elimination of NDM security and RunTime fees has resulted in record NDM sales.

NDM is an Application Program Interface (API) which allows NPL applications to utilize state-of-the-art native ISAM products to store data, while retaining full portability. This allows for data independence as your NPL applications easily integrate with third party products.

Several changes have been made to the distribution of the product since its introduction. Some of the most significant changes were the creation of the NDM Pak, the elimination of NDM security, and the elimination of NDM RunTime fees.

NDM Paks are available to any licensed Niakwa Developer. Because of the nature of this product, it will be sold on a per developer rather than per company basis. This means that one NDM Pak is intended for one developer/programmer. If more than one programmer at a developer's site requires NDM, more than one NDM Pak should be ordered. Manuals and software will not be sold separately.

To accommodate developers with multiple programmers, Niakwa provides NDM 2-Paks and 4-Paks in addition to the 1-Paks. NDM Pak pricing and availability is detailed in Marketing Bulletin #47.

**Note:** NDM Paks are a mandatory purchase for resellers wishing to sell NDM. If you want to sell NDM, you must purchase an NDM Pak for each platform you support under NDM.

As part of the new NDM Pak program, Niakwa has added new NDM features and enhancements. These new features are designed to give more flexibility and productivity when using NDM in NPL applications. We implemented the NDM Pak pricing policy first and then released the updated product. The physical product,

NDM 1.2, with new features included, is now available. NDM 1.2 was sent to all registered NDM Pak owners. If you have not received a copy, please contact the Niakwa Technical Department.

A summary of the new features in NDM 1.2 is described below:

**No Copy Protection or User Level Checks with NDM**

Included with each NDM Pak are unsecured NDM end-user files and NDM development software. The end-user portion of the software can be copied and distributed to any end-user system which uses NDM. NDM RunTimes no longer need to be installed.

**New Block Read Function**

NDM now has the capability to read multiple records at a time. This can significantly improve performance.

**Support For More Than 24 Index Segments Per File**

This is a native ISAM dependent feature. This feature was added to take advantage of the more than 24 key segments feature allowed under Btrieve 6.00 for MS-DOS and Novell NetWare. This feature is also available under C-ISAM on the UNIX and AIX platforms. Implementation of this feature requires the NDM Toolbox. Please refer to the NDM documentation, Release Notes for NDM version 1.2 and Technical

Note No. 55 for more details.

**Release IV Named Function Support**

When used in conjunction with NPL Release IV, NDM functions can now be called by function name as well as the current function number method. For example, the NDM Open File function can be called as follows when using Release IV:

```
GOSUB 'NDM_OPEN_FILE
('Customer',File_Share_Mode$,Index_
Number,FileHandle$,Return_Code)
```

**Note:** NDM 1.2 can be used with Revision 3.20 NPL using the original GOSUB' Integer method.

**NDM Utilities Update**

The NDM Utilities have been updated to provide fixes to bugs reported and not corrected up to this point. Mouse support has been added for MS-DOS platforms.

The NDM "Export Data Dictionary to IQ" Utility has been updated to provide support for IQ 3.0 data dictionaries on MS-DOS, Novell NetWare, UNIX, and AIX platforms. IQ 2.67 (Niakwa IQ version 1.0) is also supported by this utility. Details on how to use this utility can be found in the NDM documentation and Release Notes for NDM 1.2.

For further information, please contact your Authorized Niakwa Distributor or the Niakwa Sales Department at (708) 634-8700. *n*

## An excerpt from the journals of Data Systems International

**DSI 7:13**

*And so great was the faith of Lon [Williams, President of Data Systems International] that he led the people of DSI, and their clients requested service of them; and he spoke the work of Niakwa Release IV, and the network trembled, and the hard disks fled, even according to his command;*

*and the rivers of data were turned out of their course; and the roar of the computers was heard out of the office; and all competitors feared greatly, so powerful was the word of Lon, and so great was the power of the language which Niakwa had given him.*

By: Max Cloward, Programmer





## Niakwa's Product Priority Calendar

Following are Niakwa's **current** development plans. The purpose of this list is to communicate to our valued customers our upcoming plans. Please use this as a **guide**, not as a list of promised release dates.

As time changes, so may Niakwa's product priority calendar. This simply reflects our efforts to keep up with the needs of our customers and the ever changing technology of the computer industry. Therefore, the following table lists Anticipated Availability dates for products due to be released within three months of the NIAKWANEWS publication date. The remaining products are listed in order of priority sequence.

Please contact our Sales and Marketing Staff with your comments, suggestions, or questions. 

## Product Priority Calendar

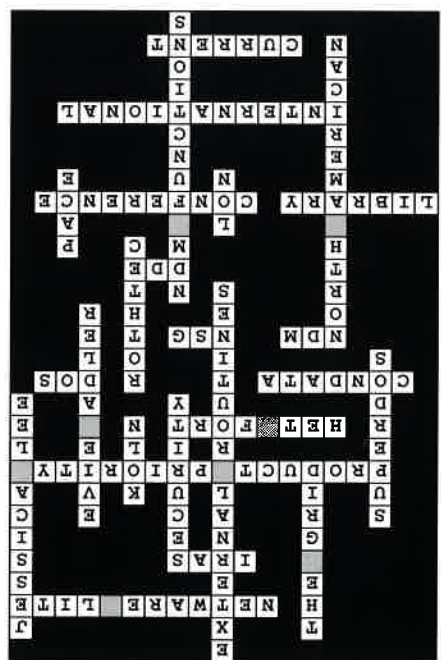
Product Priority	Status	Anticipated Availability
NDM 1.2	Final	December 1993
NDM 386/DOS-Extender	Final	December 1993
IQ 3.0 Upgrade	Final	December 1993
NetBIOS, Release IV	Beta	December 1993
Release IV Training		February 1994
NetBIOS, Release IV	Final	
Windows API*	SDK	
NSR	SDK	
Windows API	Final	
Intel UNIX, Release IV*	Beta	
NSR	Final	
AS/400 Windows	Beta	
Intel UNIX, Release IV	Final	
AS/400 Windows	Final	

\*Due to customer response, the Windows API has become a higher Niakwa priority than NPL, Release IV for Intel UNIX.



### TOP SECRET!

Don't look until you've tested your knack for NIAKWANEWS. This box contains the solution to the puzzle on page 23. Simply turn this page upside down to read.



## Niakwa... The Year in Review

Looking back on 1993, one can't help but recognize the significant advancements of the Niakwa Development Environment. In just one short year, Niakwa completed Release IV of NPL, developed a port to the IBM AS/400, began the Niakwa Library Program, produced three interactive conferences, revised policies to suit customer needs, and accomplished many other important goals. All of these accomplishments were aimed at improving the general appeal of NPL applications.

As you may well know, NPL, Release IV was a major focus of Niakwa's effort this past year. Beginning with the Software Development Kit (SDK) I in January, Niakwa released three stages of NPL, Release IV; SDK I, SDK II, and the General Release. Prior to the completion of NPL, Release IV, over 100 NPL Developers had begun to explore, if not develop with, the numerous, new features and enhancements.

The General Release began shipping in mid-September. Now, with the release of IQ 3.0 and NDM 1.20; the debut of the Library Program; and work on the Niakwa Screen Routines (NSR) and MS-Windows Application Program Interface (API), the Niakwa Development Community is reaping the benefits of increased portability, flexibility, and strength of the Niakwa Development Environment.

Niakwa further expanded revenue opportunities for the customer base by porting to the IBM AS/400. With a port to this popular high-end IBM platform, NPL Developers can now customize their applications to suit the needs of an expansive market (IBM predicts a total of 250,000 AS/400 installations by the end of 1993).

The creation of the Niakwa Library Program has also opened up a world of opportunities for the Niakwa Development Community. NPL Developers cannot only market their routines and subroutines to the entire Niakwa Development Community, but also use other libraries to enhance their

own applications. Both options create innumerable possibilities for additional revenue growth. Best of all, NPL Developers can now work together to modernize and empower the entire NPL Community.

To keep the Niakwa Community apprised of the exciting 1993 developments, Niakwa sponsored three interactive conferences in: San Diego, CA; Köln, Germany; and Orlando, FL. As a result, NPL Developers received important development information, an opportunity to meet and interact with other NPL Developers, and valuable industry communications from featured speakers and the Showcase of Products. Three roadshows and extensive customer visits also helped Niakwa realize the VARs' many needs and desires.

As a result, Niakwa revised select policies to better suit the needs of the entire Niakwa, Development Community. NPL Developers can now appreciate the lower cost of NDM (NDM RunTime fees have been eliminated and the NDM Pak, packaging according to operating system, introduced). In addition, cross platform exchanges now allow greater mobility between Niakwa supported platforms at substantial savings.

Financially, Niakwa exceeded the FY 1993 profit goal and is now reinvesting in product, as evidenced by the heavy 1994 product schedule (Niakwa's Product Priority Calendar can be found in the Platforms section).


It's also important to look at the 1993 software industry trends in regard to Niakwa and NPL. Industry trends tend to affect all businesses within a specific industry. Therefore, it's important to understand how Niakwa and, thus, the Niakwa Development Community as a whole were affected by 1993 trends.

Niakwa maintained steady sales throughout the year, despite a widespread European recession and unstable governments in several key NPL development countries. With the United

States' recession over, North American VARs bolstered NPL sales, causing the European recession to have little effect upon Niakwa's revenue/profit. Due to Niakwa's international appeal and the NPL Resellers' wide variety of vertical markets, Niakwa has maintained a stable flow of business. In addition, Niakwa's stability during these times of relative economic instability has helped build a stronger Niakwa network.

In addition, multi-user sales have increased substantially over the last few years. This is a result of VARs focusing more on the training and support revenue associated with multi-user sales. A testament to the popularity of multi-user sales is the fact that Novell NetWare has become the best selling operating system platform in the United States for Niakwa. In addition, UNIX sales have been very strong, due in part to the RS/6000 market. MS-Windows sales have also grown substantially, many of them being sold on top of Novell NetWare platforms. As a result of this trend, Niakwa is focusing on development of new multi-user markets, such as the AS/400.

According to Niakwa's business plan, development of additional new markets will increase during 1994. With development of NPL, Release IV (all platforms) and the development tools nearing completion, Niakwa will now have the time and energy to investigate new market possibilities. As a result, NPL Developers can expect to not only develop more powerful applications, but applications for a wider variety of platforms and markets. The Niakwa Development Community will also benefit from the revenue and longevity (of the language) generated by new market opportunities.

All in all, 1993 has been an extremely busy and productive year for the Niakwa staff, and 1994 shows no signs of slowing down. Thank you for your support, and please join Niakwa in celebrating the successes of 1993 and welcoming in the new year. 

## Passport to Profit — Köln

European NPL Developers found their Passport to Profit in Köln, Germany, this September.


The attendees, who traveled from all over Europe to Köln, proclaimed the September 13 - 14 conference to be the most interactive in Niakwa's history.

The VARs enjoyed an opportunity to visit with one another and Niakwa as well. In addition, such exhibitors as EDEFSoft, who displayed MARCO (an imaging product written in NPL); Rudolf Klostermeyer, who demonstrated his Screen Management Library for MS-Windows (written in NPL and C); and Bluebird, who showed imageABLE, drew great reviews. Niakwa also demonstrated products ranging from Release IV to Niakwa Screen Routines (NSR) and the Windows Application Program Interface (API).

During the course of the conference, several NPL Developers enjoyed individual

meetings with Niakwa personnel. Then, following the conference, the Niakwa personnel split up to visit another 16 European VARs.

While we'd like to think we had everything to do with the success of the conference, we mustn't forget to mention the excellent 5-star accommodations at the Excelsior Hotel Ernst. The Excelsior, situated across the street from the Dom Cathedral in downtown Köln, provided the VARs an intimate atmosphere and exquisite food.

The top rate accommodations combined with a variety of Showcase exhibits, Niakwa presentations, and NPL Developer interaction contributed to a highly successful conference. 



Köln's waterfront



From left: Maurice van Cauwenbergh, Group 2000, Andres Camps, Group 2000, and Michel Beckx, BM Computeradvies engage in development discussions at the Showcase of Products in Köln, Germany.

## Niakwa, NSG, and the VARs Experience Orlando

Conference goers found the Niakwa/NSG conference in Orlando to be not only informative and interactive, but also lots of fun.

During the day-and-a-half Niakwa portion, attendees experienced such products as the 386/DOS-Extender, AS/400, IQ 3.0, NDM 1.2, Release IV; and previews of new Niakwa products, such as Niakwa Screen Routines (NSR), and the MS-Windows Application Program Interface (API).

In addition, such speakers as Frank Watts from Bluebird Systems, and Mike Uliss from Computer Reseller News discussed aggressive sales strategy and software industry trends respectively.

The Showcase of Products also added to the excitement. Attendees enjoyed ample time each day to browse through the exhibits and receive personal demonstrations.

Then, everyone was a winner at the Niakwa raffle. Niakwa awarded prizes

(donated by Niakwa Suppliers) ranging from sand-filled balloon paperweights to two tickets for Busch Gardens in Tampa, Florida.

In addition, most attendees took advantage of the Release IV Upgrade Swap (offered to conference participants only). Niakwa awarded each attendee the opportunity to return one NPL Revision 3.XX single-user MS-DOS RunTime and receive a Release IV single-user MS-DOS/386/DOS-Extender RunTime absolutely free.


Thursday at noon, when the Niakwa portion drew to a close, most attendees remained to soak in another two days worth of valuable information from Northwest Source Group.

NSG presented FourD demonstrations and a look at the new NSG notebooks, followed by FourD training on Saturday.



Left to right: Frank Watts, Bluebird Systems; Tom Foltz, Total Systems, Inc.; Peter Ettinger, Bluebird Systems; and Bud Harris, System 18 Corp. enjoy lunch and a friendly discussion.

The Showcase of Products also remained open and included additional demonstrators.

In the end, conference attendees received an abundance of valuable information and a little bit of sunshine as well. 

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 and ask for John Lawson.

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**Bluebird Systems**  
 5900 La Place Court  
 Carlsbad, CA 92008  
 1 800 669-2220, ext. 428





August 20, 1993

Mr. Dick Drew  
Niakwa Management Services  
23600 N. Milwaukee Avenue  
Mundelein, IL 60060

Dear Sir,

Thank you for recognizing the problems of a 'flood victim'. Although we consider ourselves one of the few lucky companies because we were able to secure temporary office space and were able to take some of the important things to continue business out with us the day it flooded, the flood still has caused a tremendous amount of confusion, inconvenience, expense, and weeks of unproductiveness in terms of actual work being performed.

Receiving the runtime order for the network is certainly appreciated and of great help during these times. Thank you again for your thoughtfulness and assistance.

Sincerely yours,

*Joseph W. Larimore*  
Joseph W. Larimore

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Marketing Bulletins are mailed to Resellers of NPL. If you are not a Reseller of NPL, but would like to receive a specific Marketing Bulletin, please contact an authorized Niakwa Reseller, or Niakwa directly.

## Welcome...



**Evie Adler** joined Niakwa in June as a part-time Production Assistant. She earned a Bachelor of Science Degree from Northern Illinois University in 1975, and most recently worked at Success Unlimited Magazine in Accounts Payable/Customer Service. Evie lives in Buffalo Grove, Illinois with her husband, Doug and two daughters Jaclyn, 13 and Mandy, 7.



**Jeff Morgan** joined Niakwa in June as the North American Account Manager. He comes to Niakwa with over four years experience in the microcomputer industry. He has worked for a software developer managing corporate accounts and implementing site licenses for an architectural drafting and design application, and most recently sold computer training and consulting services. An aspiring computer game developer, Jeff spends his limited free time pursuing volleyball, scuba, and telescope making.

## Congratulations...



...to new Mom and Dad, Lesslee and Bryan Dort, on the birth of their first child, Jessica Lee Dort. Now seven months old, Jessica was born last May. Pictured here are Mom and Daughter relaxing on the couch (Dad's behind the camera).

## Release IV Upgrades Made Simple

You've decided it's time to upgrade your NPL 3.00 Novell NetWare RunTime to Release IV. The packet of forms seems endless; Form A, Form B, Form N, Form U. How will you ever decide which form to use?

Don't worry. Flip to the first page of the upgrade packet, and discover "The Grid". This user-friendly Release IV upgrade directory tells you what your options are and which form to use for each type of upgrade. What a concept, and look at all of those choices!

Go ahead, try it. Suppose you want to upgrade to Release IV for MS-Windows.

Place your finger on row four of "The Grid;" MS-DOS/Novell NetWare 3.XX. Now, drag it across to the right, landing on column #3. You'd use Form J. Now, try upgrading to the new, combined product. Simply follow your finger to column five. Form L is the correct form to use in this instance.

Hey, this upgrade process isn't so scary. As a matter of fact, it's rather fun...when you use "The Grid."

Know what you have (current product). Decide what you want (Release IV platform). It's that simple.

Your Upgrade Options are: →

If You Currently Have: ↓

	4.0X	MS-WINDOWS 4.0X	386/ DOS-EXTENDER 4.0X	MS-WINDOWS/ 386/DOS-EXTENDER (combined) 4.0X
MS-DOS NOVELL NETWORK 3.2X <i>RunTime Revision 3.2X</i> <i>Gold Key Revision 3.20</i>	A	B	C	D
MS-DOS (MS-DOS or NOVELL NETWORK) 3.2X <i>RunTime Revision 3.2X</i> <i>Gold Key Revision 3.20</i>		E		F
386/DOS-EXTENDER 3.2X (MS-DOS or NOVELL NETWORK) <i>RunTime Revision 3.2X</i> <i>Gold Key Revision 3.20</i>			G	H
MS-DOS NOVELL NETWORK 3.XX <i>RunTime Revision 3.XX</i> <i>Gold Key Revision 2.01/3.0X</i>	I	J	K	L
MS-DOS NOVELL NETWORK 2.0X <i>RunTime Revision 2.0X</i> <i>Gold Key Revision 2.0X</i>	M	N	O	P

## Business Opportunity...

Advertising space is now available in the NIAKWANEWS newsletter.

Interested parties should contact the Niakwa Marketing Department for further details.

Phone (708) 634-8700, Fax (708) 634-8718

## Converting a Release III External GOSUB' to a Release IV Function by Marvin Ben-Ari

A Release III external **GOSUB'** can be converted easily to a Release IV **FUNCTION**. Therefore, you can use the full power of a function without having to drastically alter existing Release III code.

The **FUNCTION** interface introduced in Release IV offers many advantages over the pre-Release IV **GOSUB'** call.

There is no way to control which parameters are input or output in a **GOSUB'**. There is the danger that an external routine may change the input parameter because calls to external subroutines are passed by reference. Functions enforce the class of parameters and pass parameters by value or by reference using the new **/POINTER** variable type.

It's difficult to provide return values from a **GOSUB'**. It requires passing return values in variables that are part of the parameter list. Also, it's possible for the code calling the **GOSUB'** to ignore the return value. Functions, however, return numeric or string values. The return value of a function must be used and the programmer is less likely to 'forget' to check for error conditions.

It's possible to code a call to a **GOSUB'** that has not yet been defined. Therefore, there is no way to check the number and types of the parameters. When the external routine is loaded, there may be incorrect calls to it that must be modified. The program that uses **FUNCTIONs** won't run at all unless the function has been declared and the parameters are correct in number and type. So, any errors of this type are caught early in the development cycle.

**GOSUB'** routines are identified with a number. A function has a unique identifier name that provides a more meaningful explanation of its purpose.

### Examples

The Niakwa Data Manager external routines lend themselves well to the use of numeric functions. The **NDM** subroutines always return a numeric return code indicating success or failure.

For example, this Release III code:

```
0010 GOSUB'31340(N$,M$,I,F$,R): REM NDM OPEN FILE
0020 IF R<>0 THEN ... : REM IF ERROR THEN
```

where **N\$** is the file name to be opened,  
**M\$** is the type of access,  
**I** is current index,  
**F\$** is the file handle of the opened file and  
**R** is the return code.

```
Define a public function (accessible by all modules):
0000 DIM /PUBLIC _OK=0 : ;ACCESSIBLE BY ALL
                                MODULES
    ; ;
0010 ;FUNCTION:      Open_File
    ; ;
    ; ;PURPOSE:      OPEN AN NDM FILE
    ; ;
    ; ;INPUT PARAMETERS:
FILE_NAME$,MODE$,INDEX_NUMBER
    ; ;
    ; ;OUTPUT PARAMETER: HANDLE$
    ; ;
    ; ;RETURN VALUE: NUMERIC ERROR CODE
    ; ;
0020 FUNCTION 'Open_File (/POINTER _FILE_NAME$,
                                MODE$,
                                INDEX_NUMBER,
                                /POINTER HANDLE$)
                                /PUBLIC
    : DIM RETURN_CODE
    ; ;
    : GOSUB'31340(_FILE_NAME$,MODE$,
                                INDEX_NUMBER,HANDLE$,
                                RETURN_CODE)
    ; ERROR DO
    : RETURN ERROR(ERR) : ; external gosub' error
    ; END DO
    : RETURN (RETURN_CODE)
    ; END FUNCTION 'Open_File
```

The marked subroutine, 31340, can now be called by using the function 'Open\_File. The release III code above can be called like this:

```
0010 IF 'Open_File(FILE_NAME$,MODE$,
                                INDEX_NUMBER,HANDLE$) = _OK
    : ; PROCESS FILE
    : ELSE
    : ; PROCESS ERROR
    : ENDIF
```

The **Open\_File** function returns a numeric value indicating success or failure. By using a function in this way, the user saves having to test a return code variable. The test is handled when the call is made. With long identifier names, your **GOSUB'** can now be called with a more meaningful and readable name.

The return value of a numeric function can be assigned to a

**GOSUB'** Continued from page 20

variable. For the above example, if the return code is to be saved then the code would look like this:

```
0010 DIM RETURN_CODE : ;PRIVATE TO THIS
                                MODULE
0020 RETURN_CODE='Open_File(FILE_NAME$,MODE$,
                                INDEX_NUMBER,HANDLE$)
0030 IF RETURN_CODE = _OK
    : ; PROCESS FILE
    : ELSE
    : PRINT "ERROR #";RETURN_CODE
    : ENDIF
```

The string parameter **FILE\_NAME\$** is not going to be modified, therefore the best way to pass it is as a constant **/POINTER** parameter. This allows any parameter of any length to be passed. If you don't use the **/POINTER** option on a string parameter and the string will be passed by value, you must specify the maximum length of the value which can be handled (or you get the default which is 16 characters). If the caller passes a string bigger than this, it is truncated.

### Include Files

Public functions can be grouped together into one file and then referenced by using an **INCLUDE** statement. This statement loads a specified filename from the specified diskimage into a separate module. **NPL** treats variables, line numbers, and marked subroutine numbers defined in each module as 'private' to that module. Therefore, the user does not have to worry about conflicts between names, line numbers, and variables. The above program example could be shown like this;

```
The INCLUDE file "NDMFUNC";
0000 ;NDMFUNC
0010 DIM /PUBLIC _OK=0 : ; ACCESSIBLE BY ALL
                                MODULES
    : DIM RETURN_CODE : ; PRIVATE TO THIS
                                MODULE
0020 PUBLIC NDM_FUNCTIONS
    ; ;
0025 ;FUNCTION:      Open_File
    ; ;
    ; ;PURPOSE:      OPEN AN NDM FILE
    ; ;
    ; ;INPUT PARAMETERS: FILE_NAME$,MODE$,
                                INDEX_NUMBER
    ; ;
    ; ;OUTPUT PARAMETER: HANDLE$
    ; ;
    ; ;RETURN VALUE:  NUMERIC ERROR
                                CODE
    ; ;
```

```
31340 FUNCTION 'Open_File (/POINTER _FILE_NAME$,
                                MODE$,
                                INDEX_NUMBER,
                                /POINTER HANDLE$)
    : GOSUB'31340(_FILE_NAME$,MODE$,
                                INDEX_NUMBER,HANDLE$,
                                RETURN_CODE)
    : ERROR DO
    : RETURN ERROR(ERR)
    : END DO
    : RETURN (RETURN_CODE)
    : END FUNCTION 'Open_File
32000 END PUBLIC NDM_FUNCTIONS
```

A program, "MYSTART" that INCLUDEs "NDMFUNC";

```
0000 ; MYSTART
    : INCLUDE T"NDMFUNC"
    : USES NDM_FUNCTIONS
0010 RETURN_CODE='Open_File(FILE_NAME$,MODE$,
                                INDEX_NUMBER,HANDLE$)
    : IF RETURN_CODE = _OK
    : ; PROCESS FILE
    : ELSE
    : PRINT "ERROR #";RETURN_CODE
    : ENDIF
    : END
```

### Public Sections

The function **Open\_File** is defined inside a named **PUBLIC** section called **NDM\_FUNCTIONS**. After the module **NDMFUNC** has been **INCLUDEd** within **MYSTART**, the function **Open\_File** is made accessible by the **USES** **NDM\_FUNCTIONS** statement. The statement, **USES "name"**, must always be specified to use any function defined or declared within a named **PUBLIC** section. One may also set up multiple **PUBLIC** sections within an **INCLUDE** file to deal with different groups of specialized functions. Each **PUBLIC** section should be tagged with a meaningful name indicating its purpose.

To display the location and declarations of public functions in all currently loaded **PUBLIC** sections, use the "LIST PUBLIC FUNCTION" command. In our example above;

```
LIST PUBLIC FUNCTION * Open_File
LIST PUBLIC FUNCTION * - list ALL public functions.
```


An **INCLUDE** file of 51 Niakwa Data Manager public functions (version 1.20.00) is available through the Niakwa Library Program. You may find this "NDMFUNC" library on the **NIAKWA BBS** by dialing (708) 634-NBBS (6227). This is a no charge library available strictly "as is."

# ASK ANDY

**Q:** I am using a routine that dynamically allocates several arrays and adjusts the size of these arrays dynamically. Since MAT-REDIM only allows me to downsize my arrays, I've had to resort to some creative programming techniques to avoid P59 "Illegal Redimension" errors. Is there an easier way to deal with this problem?

**A:** Yes. On all revisions of NPL prior to Release IV, MAT REDIM only allowed an array to be downsized from its initial allocation. Therefore, a statically allocated array needed to be dimensioned to its maximum size upon initialization. The good news is, Release IV has eased this restriction and MAT REDIM has been enhanced to expand statically allocated arrays beyond their initial size. In addition, this enhancement applies to the implicit or explicit array redimensioning operations of all of the NPL matrix math statements.

**Q:** I have been running the MS-DOS RunTime under OS/2 2.0 as an MS-DOS task with no problems. After upgrading to OS/2 2.1, I am no longer able to run NPL. Is there a problem?

**A:** We have replicated this problem and are currently pursuing a solution. It should be noted that Niakwa has not thoroughly tested NPL for MS-DOS or MS-Windows running as an MS-DOS or MS-Windows task under OS/2 (this problem was also replicated using our MS-Windows Runtime as an MS-Windows task under OS/2 2.1). For the current status of this problem, please refer to the BBS or contact Niakwa Technical Support. 

## BBS Update

### Developers Conference

This conference is to generate information exchange between developers. Have a question or interesting tips you think another developer would be interested in? Drop a line to the developers forum!

### Bug Report Conference

NPL Bug Reports #8 (published) and #9 are on-line and contain bugs reported since the official distribution of NPL Bug Report #7.

NDM Bug Report #2 is on-line and contains bugs reported since the official distribution of NDM Bug Report #1.

### BBS Bug Listing Procedure

Niakwa publishes bug reports on a quarterly basis. New bugs are appended to the most current bug report until its official distribution. Example: Bug Report #8 has been published. New bugs will be added to Bug Report #9 on the BBS until its official distribution.

### General Conference

Additions since the previous NIAKWANEWS (June 1993):

Version 2.04 of PKUNZIP, now on-line, will be used for all new ZIP files placed on the Niakwa BBS and must be used to unzip them. This version of PKUNZIP will also unzip files zipped with previous versions on PKZIP. To obtain a copy of the new PKUNZIP program, download the following files from the General Conference: UNZIP.EXE (Version 2.04 of PKUNZIP) and UNZIP.TXT (Instructions for Version 2.04).

### Tech Notes Conference

Tech Notes 58-62 are now on-line. All Tech Notes may be downloaded individually. In addition, all Tech Notes are bundled in the file TECHNOTE.ZIP.

### SDK Conference/Niakwa Beta Conference

This conference, renamed "Niakwa Beta Conference," will be an area where developers can report problems on any current Niakwa beta software (i.e., NDM 1.2, etc.)


### Library Conference

The Library Conference helps promote the

distribution and acquisition of library programs. BBS libraries, easily incorporated into existing routines, provide quick application adaptations to changing market conditions. New libraries are often added to this Conference.

### Marketing Bulletin Conference

This conference provides an updated listing of all Niakwa Marketing Bulletins. You may obtain copies of Marketing Bulletins produced within the last six months by accessing the Niakwa BBS. Older Marketing Bulletins may be obtained by contacting your Authorized Niakwa Distributor or the Niakwa Sales Department by phone at (708) 634-8700 or fax at (708) 634-8718.

To access the BBS, call 1-708-634-NBBS (1-708-634-6227). Set your communications parameters to 8 bit, no parity and 1 stop bit. The BBS adjusts automatically to baud rates up to 9600 baud. First time users should login as GUEST and leave a message to the SYSOP requesting a personal login and password. Your personal login and password will be provided to you by fax or phone during normal business hours. 

## Technical Notes

- 58 May 21, 1993**  
Non-dedicated File Server Support Under NPL Revision 3.20
- 59 May 21, 1993**  
NetWare Lite and NPL Multi-Task Use Warning
- 60 September 27, 1993**  
DOS Compressed Drives Security Files Patch
- 61 September 27, 1993**  
Using Niakwa Bulletin Board System
- 62 September 27, 1993**  
NetWare Virtual Loadable Modules (VLMs)

Technical Notes are mailed to Resellers of NPL. If you are not a Reseller of NPL, but would like to receive a specific Technical Note, please contact an authorized Niakwa Reseller, or Niakwa directly. Tech Notes are available on Niakwa BBS (708) 634-NBBS.

## Do You Have a kNack for NIAKWANEWS?

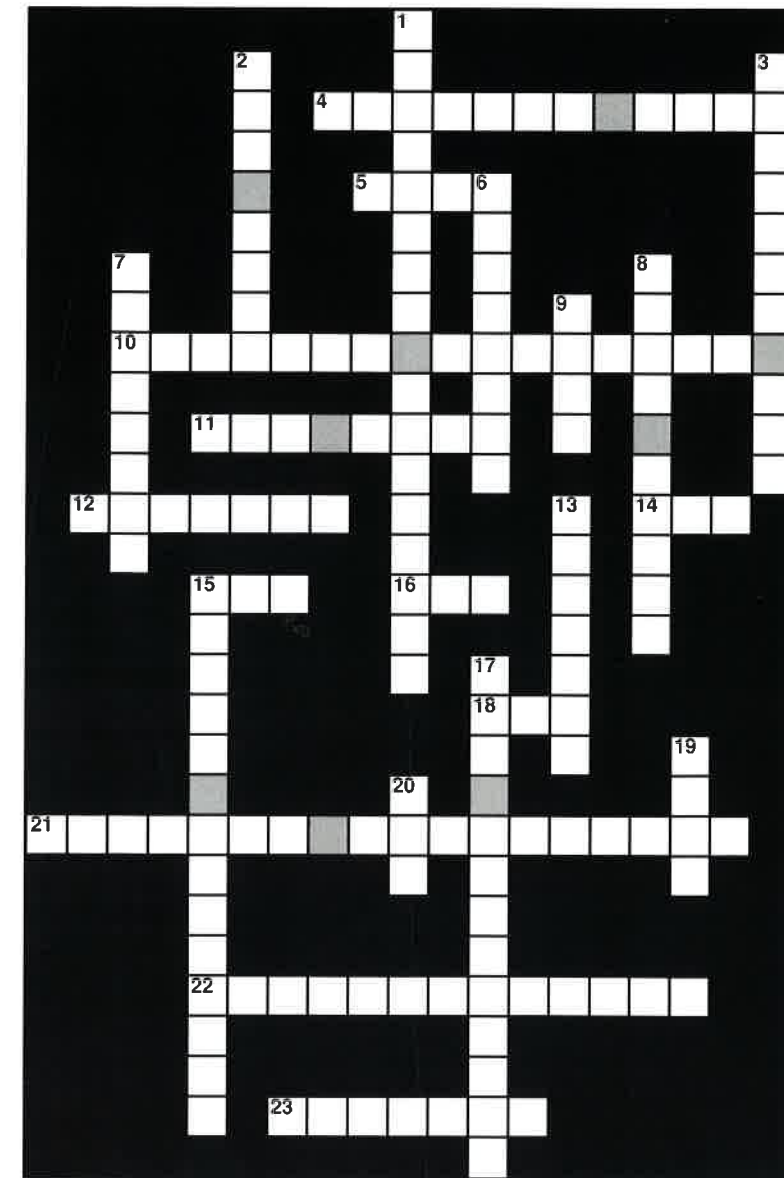
How well do you remember what you've read? Here is a chance to find out. Below are questions about different articles within this issue of NIAKWANEWS. Simply fill in the correct answers to each question to complete the crossword puzzle. Good luck, and have fun. You can find the answers on page 14.

### ACROSS

4. The two NetBIOS operating systems supported by Niakwa are: LANtastic and \_\_\_\_\_.
5. By holding seminar programs at IBM facilities, \_\_\_\_\_ can take advantage of IBM equipment and expertise to present a professional image to prospective customers.
10. Niakwa's current development plans are displayed in the \_\_\_\_\_ calendar.
11. Which software developer won the Scepter of the Dutch Export Award for the second time this year?
12. \_\_\_\_\_ discovered communication truly is the key to success.
14. Phar Lap's 386/DOS-Extender allows developers to overcome the 640K \_\_\_\_\_ barrier.
15. NPL applications running on the PC will access data stored on the AS/400 through an \_\_\_\_\_ external library.
16. Niakwa teamed up with \_\_\_\_\_ to present an interactive conference in Orlando, FL in October of 1993.
18. Strategic Planning Services' \_\_\_\_\_ Library gives developers access to a variety of MS-Windows-based applications.
21. Which new conference was added to the Niakwa BBS to help promote the Library Program?
22. Due to Niakwa's \_\_\_\_\_ appeal and the NPL Resellers' wide variety of vertical markets, Niakwa has maintained a stable flow of business.
23. The Library Availability list provides a \_\_\_\_\_ listing of available NPL libraries.

### DOWN

1. The Niakwa Data Manager \_\_\_\_\_ lend themselves well to the use of numeric functions.
2. What chart helps make NPL, Release IV upgrades easier?
3. In May of 1993, \_\_\_\_\_ became a new addition to the Dort family.
6. The most significant difference between the AS/400 and standard MS-DOS/Novell NetWare versions is in the area of \_\_\_\_\_.
7. As with all dynamic products, \_\_\_\_\_ continues to change in response to the needs of the users.
8. \_\_\_\_\_ joined Niakwa in June as a part-time Production Assistant.
9. Niakwa's 1993 European conference took place in \_\_\_\_\_, Germany.
13. \_\_\_\_\_, located in New Bedford, Massachusetts, is the world's largest producer of textile screens.
15. Jeff Morgan joined Niakwa in June as the \_\_\_\_\_ Account Manager.
17. When used in conjunction with NPL, Release IV, \_\_\_\_\_ can now be called



- by function name as well as the current function number method.
19. Which computer management system provides "a piece of the action... with peace of mind."
20. Who spoke the work of the Niakwa Release IV and made the network tremble?



## GIS in NPL... Condata Makes it Possible!

**Condata GmbH discovers communication truly is the key to success.**

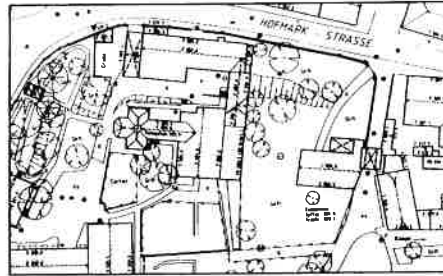
Formed in 1981 as a division of a survey engineering company, their objective was to sell hardware and software solutions utilizing their Geographic Information System (GIS) software package PROCART. They started selling Wang 2200 systems, and in 1986 made their first installations on the Niakwa hardware platforms. This opened up increased sales opportunities since they could then begin to offer their customers a wider selection of systems. "Portability is one of the most important features today," according to Rainer Gammel, a director of Research and Development at Condata.

Today Condata has a full array of sophisticated development packages, including:

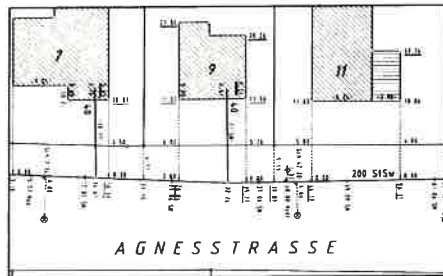
- PROCART - GIS
- PROGEO - Surveying Software
- PROFILE - Profile Drawings
- PROFACH - Database System for Procart

What has really been the key to success? According to Rainer, "Staying in touch with our customers' growing needs; staying in touch with technology; building strong software packages; and providing top quality service and support..."

Condata has found an effective way of staying in touch with their customers' needs by providing an in-depth user conference each year. For the past 10 years, Condata has gathered their customers together at an annual conference to obtain valuable customer feedback and set the coming year's development agenda. Prior to this three-day conference, each customer is awarded the opportunity to request new software enhancements. These requests are then discussed in detail at the conference, following which development plans are set and mailed to their customer base. Condata has found this approach to be quite effective, especially when working in a specific vertical market. The result has often



As built drawing



Utilities drawing

been an expanded customer base.

In addition, Condata stays in touch with technology by exhibiting in and attending many computer and software shows throughout Germany. They also make it a habit to attend the Niakwa Conferences in Europe to stay informed and offer their suggestions for Niakwa's development plans.

Condata has built a strong set of software packages to meet the growing needs of their customer base and, thus, lead the competition. With an estimated 600 PROCART system installations, Condata is now the leader in GIS system installations in Germany. Utilizing the Niakwa Programming Language (NPL), Condata has been able to concentrate on incorporating the latest technology into their already strong application. NPL features important to Condata include the fast development of new programs and the ability to interface with C or Assembly routines.

Providing top quality service and support is essential to the success of any business.

Condata can definitely attest to the success of this philosophy. They have formed partnerships with eight dealers to provide a variety of convenient software, support, and full product training locations for their widely dispersed customer base. Condata has found that in addition to training and support, strong, high quality software packages must also be provided. The combination of NPL and Condata applications provide this strength. "Good hotline support for an interpretive program is made possible with NPL," according to Rainer. "Small changes for clients can be done easily, even during installation in the client's office." For these and many other reasons Condata has continued to enhance older products and write new programs in NPL.

Where will the future reside? Condata's successes have been in the area of providing solutions to engineers, city planners and developers, and most recently to power supply companies. New markets are also being developed in Hungary, Poland and Russia. At this moment, Condata is porting their products to MS-Windows and UNIX. They have just finished the development of a new Database for graphic data called PROCART TURBO, written entirely in NPL, which allows for dynamic storage of data with an extremely fast access time. Condata is also implementing a new portable GUI to give their software a better design. PRORAST is the newest development by Condata which employs a unique combination of plotting both vector and raster data on a graphics terminal.

Further information regarding Condata's products may be obtained by contacting:

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