NIAKWA NEWS
NEWS AND INFORMATION IN THE COMMUNITY
VOLUME III, ISSUE 8 FEBRUARY 1993

Release IV - Your Passport to Profit

February 18-20, 1993, marks the ninth annual Bluebird/Niakwa Reseller Conference - *Passport to Profit.*

Over the three days, attendees will be introduced to a world of technologies and valuable business relationships, including:

- NPL Release IV - find out why Release IV can dramatically improve programmer productivity
- imageABLE - see and understand Bluebird's new document management system
- The IR Affiliate program - discover how to partner with IBM for more successful reselling
- SuperDOS Release 5.3 - learn about Bluebird's continuing commitment to quality and service

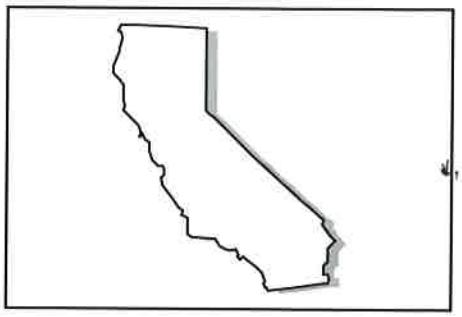
The conference begins on the morning of Thursday, February 18, 1993, with registration and a continental breakfast. Immediately following, the Niakwa Track of the conference starts with a welcome general session. This morning session serves to gather all the Niakwa Resellers together at the beginning to get reacquainted. It is an opportunity to make contact with fellow Niakwa Resellers you may not have seen for sometime.

Following the Niakwa Track general session is the conference's overall general session. This will be an chance to catch up on past business and get a glimpse of what the future holds.

After lunch Niakwa will hold another group session. During this session, Release IV will be introduced. In addition to a couple of product announcements and a guest speaker, Niakwa Resellers will take the podium to discuss their individual successes.

Ending the first day is Niakwa's first breakout session. Everyone is invited to this group discussion exploring software buying trends by resellers. Niakwa's senior management will conduct this breakout, which is intended to help provide valuable input as Niakwa explores additional markets.

Ending the evening is a Welcome Reception. Come and meet with other conference attendees. Enjoy a relaxed atmosphere, complete with food and drinks.



Friday morning begins with a continental breakfast at 7:00 am. Following this is another Niakwa general session. During this time, Niakwa will have even more product announcements. In between all the exciting announcements will be an informative presentation about Niakwa's Research and Development. This presentation will cover platforms, the language, and development tools. But that is not all. Friday's general session will include another guest speaker and reseller success stories.

After wrapping up the general session, Niakwa will have two consecutive breakout sessions focusing on the technical aspects of NPL, Release IV. For two hours, Harry Cohn, Niakwa's Director of Research and Development, will go over the features of Release IV in detail.

A buffet lunch will be the next conference stop. But don't waste too much time eating. A showcase of products will take place during lunch. Stop by Niakwa's room and you can see a half dozen products being displayed. Take the time to meet and discuss mutual interests with other conference attendees. Visit the Bluebird room and see a live demonstration of imageABLE. See all that document imaging has to offer.

Following the buffet/showcase of products are the conference breakout sessions. Niakwa has developed several breakouts for this conference in addition to having two guest speakers. Scheduled breakouts are:

- NDM and IQ
- Northwest Source Group
- AIMS
- NPL Libraries
- Panel Discussion / Question and Answer
- NPL for Microsoft Windows

Choosing which breakouts to attend will be difficult - they all have been prepared to give valuable information. But, no matter which you choose, you will come away with more than you started with.

Ending the day will be a World Class dinner. This dinner will have dishes from different parts of the world.

Saturday, a more casual day, will have a general closing session for all conference attendees. Wrapping up the conference is an optional San Diego attraction.

Niakwa would like to take this last paragraph to thank all who have come to our conferences. It is at meetings such as these that we can all get together to discuss ideas and act upon mutually beneficial opportunities.

INSIDE...

NIAKWA*NEWS*

VOLUME III, ISSUE 8 FEBRUARY 1993

STAFF

PUBLISHER Dick Drew

EDITOR Lesslee Dort

STAFF WRITERS Joseph Brekelmans, Paul Brown, Erik Coleman, Frank Ehrhardt, Brian Funke, Sheri Nemes, Cyndee Philyaw, Dana Schwartz, Jan Strickland, Kurt Skaronea, Andy Warzecha, Audrey Wehba, Mitch Wright

CONTRIBUTORS Jay DeYoung, Bill Knopf, Tim VeArd, Dennis Weaver, Karen Weaver

TECHNICAL ADVISOR Harry Cohn

PHOTOGRAPHER Lesslee Dort

NIAKWA*NEWS* (ISSN 1050-8872) is published on a periodic basis by Niakwa, Inc., 23600 North Milwaukee Avenue, Mundelein, IL 60060.
Telephone 708/634-8700, Facsimile 708/634-8718, BBS 708/634-6227.

NIAKWA*NEWS* invites Basic-2C users to submit articles for publication regarding commercial successes, technical successes, technical tips, new product releases, and/or other subjects of interest to the Basic-2C community. Niakwa reserves the right to edit or not print articles submitted. Articles contributed to NIAKWA*NEWS* may contain information on hardware or software products not necessarily tested or endorsed by Niakwa.

Comments, questions, and suggestions can be directed to the Editor, NIAKWA*NEWS*, Niakwa.

NIAKWA™
A Bluebird Company

In this Issue

NEWS

PLATFORMS

ANNOUNCEMENTS

TECH CORNER

THE BACK PAGE

PROFILE

Release IV SDK Ships

Mundelein, IL For the first time in Niakwa's history a product is being made widely available prior to general release.

Niakwa's Release IV Software Development Kit (SDK) is an advanced pre-release version of Release IV of the Niakwa Programming Language.

Harry Cohn, Director of Research and Development, had this to say about Niakwa's SDK, "It was not a casual decision to allow developers access to a pre-release product — at an extremely low price. This is the first time Niakwa has done this. If it is successful, it may not be the last time."

We, at Niakwa, know this is absolutely the right thing to do. By offering pre-release versions of NPL, Niakwa believes NPL Developers will realize revenue sooner. The logic is straightforward — the sooner developers can work with Release IV, the sooner they will be able to adapt their current applications. Once NPL applications are enhanced by the Release IV features, revenue can be acquired from upgrade sales, new sales of upgraded applications, or new sales of next generation applications.

NPL Release IV will financially aid developers in two other ways. First, business operation costs will decrease. The savings associated with increased programmer productivity will be recognized almost immediately.

Second, revenue can be gained through the packaging and selling of NPL Libraries. Many high quality NPL routines already exist within the Niakwa Community. These can be repackaged overnight as libraries and made available to other NPL Developers. Development of libraries begins with SDK I.

Libraries are a collection of standard programs, routines, and subroutines. By utilizing libraries, developers can easily integrate added functionality without spending time writing the routines (a technique widely used in other modern programming languages). This adds significantly to programmer productivity because it means less code has to be developed by the programmers.

"NPL Developers can realize revenue sooner."

Upon ordering SDK I you will receive more detailed information about the library program, including sample libraries, procedures, policies, packaging guidelines, and submittal forms.

The SDK Program, open to all licensed Niakwa Resellers, began shipping January 26, 1993.

Each participant in the SDK program will receive a free update to SDK II and a credit toward the purchase of NPL, Release IV, General Release. For more information, please contact Niakwa's Sales Department.

General Release of NPL Release IV Nears

NPL Release IV

Release IV is the most significant product Niakwa has developed since Release III in 1989. Currently, Niakwa Resellers are developing and maintaining applications written with Release III of the Niakwa Programming Language.

NPL Release III provides a very robust, productive development environment and results in applications that perform well and are extremely portable.

However, by today's standards, code produced using NPL Release III is not always well structured and, unless strong standards are used by the developer, may be difficult to maintain. In addition, it can be difficult to learn for programmers new to NPL who are trained in more structured languages. These issues can lead to inefficiencies in programmer productivity.

Release IV significantly improves programmer productivity.

The objective, which we have achieved, of Release IV is to significantly improve programmer productivity and to modernize NPL while maintaining the powerful development environment, portability, and application execution speed that NPL is known for.

Release IV does much more than keep pace with the industry. We are convinced that the features introduced in Release IV will make NPL one of the most productive and modern languages available to serious application developers.

Release IV improves programmer productivity in four primary functional areas:

- *Libraries* - Release IV supports the development of library products written in NPL that can be easily integrated into

Continued on page 7, see **Release IV**

POINTS of INTEREST

☞ **Brandon, FL** Telecare/DME has upgraded over 20% of their customer base to NDM. Customers using NDM have found increased performance and time savings based on the dynamic file allocation of NDM. Telecare plans on converting more customers to NDM throughout 1993.

☞ **Australia** Computerlink Pty is a developer of systems for manufacturing, wholesaling, distributing and for retail news-agents. They recently installed a 32-User SCO Unix system on a Wang 486 System with PCs as terminals to the accounting system. This system is running in excess of 10 times faster than the previous *WANG VS* system utilizing the same applications suite from Computerlink.

☞ **San Diego, CA** Shahpoor Inc., a division of Unique Business System has installed over 150 copies of its Automated Restaurant Management System (ARMS) application in Taco Bell restaurants across the U.S. The system has recently won the endorsement of the Taco Bell Franchise Owner's Association (Franmac). The system helps control the day-to-day operations of a Taco Bell. ARMS also is being sold to other fast food restaurants.

☞ **Germany** A new distributor has chosen NPL to renew some of his outdated applications. Although most of his applications are written in *PASCAL* and *C*, he was looking for a language which could be transferred from one O/S platform to another without expending valuable programming time. As a result of a referral from a former Wang employee, this new Reseller chose NPL.

Niakwa and Independent Computer Consultants Help Account For Your Hair

Louisville, KY Most of you are familiar with the well-known line, "I'm not only the Hair Club President, I'm also a client." This line, coined by Sy Sperling, President of Hair Club For Men (HCM), is used in their advertising and commercials.

Over the past 18 months one of Niakwa's Resellers, Independent Computer Consultants (ICC), of Louisville, Kentucky, has become quite familiar with this line and Sy.

Although you may be familiar with HCM's advertising you may not be familiar with their process. HCM uses a special *Strand-By-Strand* system to help simulate the way a client's own hair grows. They created this method after extensive research. They wanted a safe and non-surgical method of adding hair that would look like the client's original hair. The *Strand-By-Strand* method achieves these goals. And even on close examination, the hair system created by HCM appears to be growing right out of the client's scalp. HCM uses high-quality human hair as part of the hair system that is created. Using human hair helps the system blend more with the client's existing hair.

"The flexibility of NPL allowed us to meet application needs."

Working closely with HCM to meet their specialized needs, ICC created a sophisticated accounting system using both the Niakwa Programming Language (NPL) and Northwest Source Group's FourD. The application, which has already been installed on Novell networks in over 40 Hair Club For Men Centers, has several functions. Its main function is to serve as a central level accounting system for the salon. It also keeps a profile of each client and his hair systems. ICC's application lets HCM salons

Karen & Dennis Weaver of ICC.

track all work completed on the client and their hair systems, as well as the salon inventory. In the near future the system will also track appointment scheduling.

Karen and Dennis Weaver, co-owners of ICC, lead the team that installed and tested each system. Furthermore, they helped train and support HCM employees in the use of the new systems.

Karen says, "The HCM system we created meets all their needs and they are quite pleased with the system. HCM wanted a full blown accounting system. Our original application was written in Clipper, but the flexibility of NPL allowed us to meet all their application needs. By using NSG's FourD, application development time was cut in half."

ICC also maintains and analyzes HCM's new lead bank of over 1,000,000 prospective clients - as well as handle their direct mail fulfillment requirements.

In conclusion, the use of NPL has helped ICC create a powerful accounting system to meet the unique needs of the Hair Club For Men Centers. So remember that not only can NPL help you develop software, *it can also help you look better!*

If you would like more information about the HCM hair products and systems, feel free to call their toll free number 1-800-888-4236.

Niakwa and NSG Sign Distribution Pact - Major Vendors Unite

Mundelein, IL Niakwa and Northwest Source Group (NSG) recently signed a new marketing and distribution agreement.

The agreement expands and enhances a long standing relationship between two major vendors in the Basic-2x community. Dick Drew, General Manager of Niakwa, had this to say about the new agreement, "The ultimate measure of any company is the satisfaction of its customers. Niakwa, with NSG, has launched this new phase in cooperative marketing and distribution to better serve the Basic-2x Resellers."

Covering several areas of cooperation, the contract allows for the following:

- NSG can distribute the Niakwa Programming Language (NPL)
- Niakwa can distribute NSG's FourD and application software
- NSG continues to beta test versions of NPL
- The integration of Niakwa Data Manager (NDM) with FourD
- Joint marketing activities

NPL Distribution

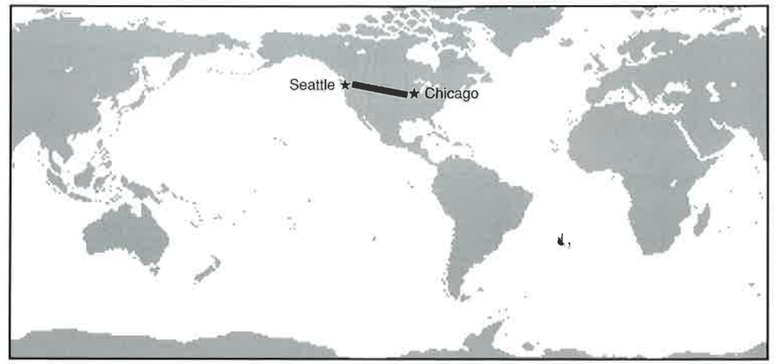
NSG now stocks DOS, Novell, and XENIX NPL RunTimes and distributes NPL, bundled with Speed or FourD, to NSG Resellers. All products in the Niakwa North American Product List are now available to licensed NSG Resellers through NSG. NSG can also provide their resellers with upgrades and security replacements or resets.

FourD Distribution

Niakwa now has the right to distribute NSG's FourD and application software products to Niakwa Resellers. FourD is a Fourth Generation Language, written in NPL, for the design and implementation of database applications.

Beta Testing

Continuing to work cooperatively to assure compatibility of future software products, NSG will participate in Niakwa's beta testing to insure that delivered products meet high quality standards.



Niakwa Data Manager Integration

Niakwa and NSG have also implemented a program to integrate Niakwa Data Manager (NDM) into FourD software.

Niakwa will provide technical assistance to the NSG staff to help in this integration. NDM will help provide a more "open system" approach to data storage by storing data in Btrieve format in the PC environment (or C-ISAM format on Unix and AIX systems). Data will no longer have to be stored in diskimages.

Joint Marketing Activities

In addition, there will now be joint marketing efforts between the two companies. Each company will take an active part in the other's marketing events.

The February Niakwa/Bluebird *Passport to Profit* Conference is the first of the marketing events. The annual Niakwa/Bluebird Systems' conference is a three day event for all Niakwa Resellers. NSG will address all Niakwa Resellers in the Niakwa General Session, and will provide a more in-depth presentation in one of the breakout sessions at the conference.

NSG will also be presenting at Niakwa's Release IV Roadshows scheduled in Chicago at the Quality Inn O'Hare (formerly Sheraton O'Hare) on March 9th, and at the Bluebird Eastern Regional Offices in Parsippany, NJ on March 12th. The focus of the roadshows is the introduction of NPL, Release IV. The roadshows provide an environment where more of a reseller's staff can see presentations of the new products.

NSG will demonstrate FourD at the roadshows, and discuss how it will take advantage of Release IV and Niakwa Data Manager features.

Benefits

The new marketing and distribution agreement between Niakwa and NSG will have many long term benefits to all parties involved - Resellers, NSG, and Niakwa.

- Niakwa and NSG will benefit through expanded distribution channels and joint marketing efforts.
- NSG Resellers benefit from this new agreement because they now have the choice of ordering through NSG or Niakwa. If they choose to maintain their license status with Niakwa, resellers can continue to take advantage of Niakwa's technical support team.
- A longer term benefit for our mutual resellers is that the foundation products (NPL and FourD/Speed) for their application software are being strengthened through the combined efforts of both Niakwa and NSG.

DeYoung and Associates Fuel the Wang 2200/CS Market

Springfield, VA DeYoung and Associates has carved out a vertical niche market in a very specialized line of distribution - Propane Gas Dealers. Jay DeYoung is the founder and President of DeYoung and Associates, located in Springfield, VA. Jay's company is a leading supplier to this market and has established a strong presence with a long list of successful installations nationwide since its start in 1980.

The DeYoung system, FuelPak, was originally written for the Wang 2200 system. As time passed on, DeYoung's customers wanted to run their companies on hardware platforms other than the Wang 2200. Jay then converted to Niakwa's NPL. When asked which operating system he chose, Jay said, "I like NPL, running under SuperDOS, because of the ease of conversion and the extremely good price performance." NPL gave Jay and his customers a choice of hardware platforms and operating systems. DeYoung currently has customers running on MS-DOS, SuperDOS, and Novell NetWare.

FuelPak manages all aspects of a propane gas company and meets the needs of small local companies as well as large national companies with branch offices throughout the country.

The FuelPak system automates all major functions of a retail liquid petroleum (LP) dealer's office. These functions include billing, A/R, delivery scheduling and forecasting, ticket printing, tank tracking, sales reporting, and driver and truck performance tracking. Other functions available include a report generator, vehicle maintenance and inventory functions.

Jay DeYoung

An example of a satisfied customer that has been able to grow with DeYoung's FuelPak is Star Gas, headquartered in New Jersey.

The relationship between DeYoung and Associates and Star Gas began in 1983. At that time Star Gas operated out of seven locations. All locations were running on the Wang 2200. The company was in an expansion mode and needed a computer system that could grow with the company. DeYoung provided a solution to the growth issue by installing SuperDOS systems running NPL. The conversion to NPL allowed all existing software to run and provided a tremendous increase in speed and performance over the Wang 2200. The SuperDOS system allowed Star Gas to operate with their existing Wang 2236 terminals, reducing the overall hardware expenditure.

Since 1983, Star Gas has been growing at leaps and bounds to over 100 locations nationwide. The company experienced its largest growth through an acquisition in the fall of 1988. At that time an action plan had to be developed to assimilate all of these new offices into an operational data processing environment.

By utilizing the FuelPak system, Star Gas has been able to expand their company without losing control. Control is maintained because while all daily operations are performed at the local offices, all end of month data is uploaded to the central office for consolidation.

The streamlining accomplished by implementing the DeYoung system was enough to cost justify the new systems. At each location the efficiencies gained have eliminated the need for one route truck. "The elimination of just the truck will save around $60,000," states Jay. In addition to these savings are the on-going savings in labor costs for a driver.

DeYoung and Associates plan to continue their expansion in the future. Software functionality is continually being enhanced and new customers are being added to the rosters through word of mouth advertising, trade journal ads, and trade seminar participation.

DeYoung and Associates will continue to be a strong competitor in the propane gas company vertical market. For more information about the DeYoung FuelPak package, contact Jay DeYoung at (703) 971-6334.

VCR Announces Expert+2 and API

Indialantic, FL VCR, Inc., who recently moved their headquarters from Austin, Texas, to Florida, announced that they will preview two new products at Niakwa's Roadshows and the February *Passport to Profit* Conference.

Expert+2 is an advanced application development tool that lets non-programmers create powerful solutions like scripting telemarketing calls, customer phone support (letting clerks replace technicians to answer questions), risk management and dozens of other "front office" systems.

The **AIMS Programming Interface System** lets programmers create sophisticated custom applications in a fraction of the time it would take to write programs from scratch. The API will take advantage of many new features found in NPL Release IV. It uses an AIMS-like designer tool that lets you pick up to 255 AIMS files and 9,999 fields. The resulting programs can also use many of AIMS' powerful features like Remember Processes (searches, sorts, batch updates, interfaces to UNIX/DOS, etc.), record highlight list windows (with updates and searches) and the report generator. Once your program is written, API automatically "rewrites" it whenever the design of any file or report that is involved is altered.

API can define relationships between all selected fields and perform basic actions like PUT, GET, CONVERT, and other "data formatting" verbs. API provides a rich library of subroutines that you can "call"" to LOAD, SAVE, DISPLAY, LIST, EDIT, ADD, B+TREES, and many, many other function. API precompiles the variables for all files involved and then loads them along with the subroutines that you have called whenever you custom program is executed. You can write a program with as few as 4 lines of code to load records from several files, update one of them and then save it back before loading another program.

VCR has scheduled several training courses at their new headquarters in Florida. Besides classes on AIMS products, VCR will also teach courses on the Basic-2x language and how to migrate to UNIX/DOS based computers. All classes will be taught by Tim VeArd, the author of AIMS and publisher of *The Basic-2 Report*. All classes end on a Friday and since Orlando is only 50 miles away, you can save a bundle on airfare by staying over the weekend to visit Disney World, the Kennedy Space Center or may other attractions. Space is limited, because all courses are "hands-on" that use terminals for everyone. Call (407) 722-0220 and ask for Lynda. She can give you more information on course schedules, hotels, local attraction, and discount travel options.

Release IV *Continued from page 3*

NPL applications - both new applications and existing applications. By use of the Release IV "module" feature and function interface, existing routines can easily be converted to libraries.

- *Project Management* - Release IV greatly simplifies development of large projects in NPL by eliminating the need to manage line number and variable usage.
- *Ease of Maintenance* - Release IV features, such as Long Identifier Names, Structured Constructs, and Modules will greatly simplify maintenance of complex applications.
- *Ease of Learning* - Release IV features such as Long Identifier Names, Function Interface, and Structured Constructs will make programmers trained in other modern structured languages such as C or Pascal feel right at home.

NPL Release IV - Schedule of Events

Over the last several months, many plans have been developed for Release IV. During that time, Niakwa identified six major marketing milestones uniquely associated with the introduction of NPL Release IV. Listed below is the schedule of events for Release IV.

- *European Conference* - October 1992 was the first public viewing of NPL Release IV. Detail specifications were handed out.
- *Announcement of Release IV* - During November 1992 Niakwa began distribution of a White Paper explaining Release IV of the Niakwa Programming Language.
- *SDK I / Library Program* - December 1992 Niakwa introduced our own version of the Software Development Kit. This program not only gets Release IV into the hands of our developers as soon as possible, it also launches our Library Program. Shipments of SDK begin in January 1993.
- *Conference / Roadshow* - Niakwa will showcase Release IV during our February 1993 Conference, held in San Diego, California. In March 1993 Release IV Roadshows will take place in Chicago, Illinois, and Parsippany, New Jersey.
- *SDK II* - SDK II will include all updates and modifications since SDK I.
- *General Release* - Upon completion of SDK II, Niakwa will focus on the General Release of NPL. This release brings with it improved programmer productivity, new revenue opportunities for Niakwa Resellers, new modernized documentation, a new structure to development software packaging, and much more.

For further information regarding NPL Release IV, or copies of any marketing material, please contact Niakwa's Marketing Department at (708) 634-8700.

Enhance Your Product Offerings with IQ (Part II)

by Kurt Skaronea

Last time I discussed the process of creating an IQ Data Dictionary using the "Export User Data Dictionary To IQ" utility included with the Niakwa Data Manager Utilities. To recap, this utility builds an IQ Data Dictionary, using the Data Description and Key Description files of your NDM data files. Each NDM data file exported to an IQ Data Dictionary is called a CATEGORY. Each CATEGORY can be referenced by IQ as a stand-alone file. Additionally, a CATEGORY can be linked to one or more categories, providing a relational view of your data files.

Once exported, the resultant IQ Data Dictionary consists of two files. For example, the files HISTORY.DAT and HISTORY.IDX would represent a Data Dictionary file called HISTORY.DAT. This Data Dictionary would contain detailed layouts of each CATEGORY that was exported into this Data Dictionary.

Once your IQ Data Dictionary has been created, you can begin creating reports.

The user interface is the strength of IQ. Users make simple menu selections using an inverse video bar to build their queries and reports. After startup, the screen displays a list of all categories defined in the Data Dictionary. To select a CATEGORY, the menu bar is positioned over it, and Enter is pressed (this is the same process for selecting all IQ functions.)

Once a CATEGORY has been selected, the "Main Function Menu" is displayed. The Main Function Menu screen is structured around a top down approach to building a report procedure and consists of eight functions. The first five are used to build a user's query, and the last three are used to perform a variety of options from executing the procedure to editing it. The IQ User's Guide provides an excellent two part tutorial to introduce users to these options. Both parts can be easily completed in under an hour by even a novice user. The following gives some of the broad brush strokes for each function of the IQ Main Function Menu.

Select Desired Data Records

What do I want? The first question that needs to be answered for any report. The selection function allows you to define the condition(s) that a record in your database must meet before it can be processed further. IQ allows you to build simple or complex conditions using a three step process. First, the screen displays all data fields in the database and the data field to be compared is selected. Second, a comparison menu is displayed and a comparison operator is selected. Third, a comparison field of one or more comparison constants are assigned. For example:

C-CUST-NUMBER = BL001

IQ would convert the above condition to:

SELECT WHEN C-CUST-NUMBER = 'BL001'.

After specifying your comparison fields, IQ then gives you the opportunity to define another set of conditions or to end the selection process.

Perform Arithmetic Functions

This function allows you to create derived numeric fields which can then be displayed in your report. This function uses the same 3 step process as the "Select" function except that an arithmetic operation is specified instead of a comparison operator, and a result field is defined. Also, IQ only displays numeric fields from your database for you to select. For example:

UNITS-PER-HOUR x .10 = UPH-INCREASE

IQ would convert the above condition to:

MULTIPLY UNITS-PER-HOUR TIMES .10 GIVING UPH-INCREASE.

NOTE: UPH-INCREASE is a derived data field that does not exist in the current database. However, IQ will now act upon it as if it did. This field could be used in performing other calculations, displayed as output, or even specified as a sort field. Remember, IQ is a read-only program and no actual information stored in derived fields is ever written to your data files.

Specify Type of Output

How do I want it to look? This function provides you with five options for displaying or manipulating your output.

Display – This is the simplest output option. You are prompted to select the data fields you wish to display in your report. The fields are displayed in a columnar fashion, with your data field names acting as headings. After selecting the data fields for display, you are prompted with the option to perform subtotaling on one or more of the numeric data fields selected. ALL output is routed to the DISPLAY.

Print – This is the same as DISPLAY but output is routed to a printer. Additionally, the user is given an opportunity to name the report.

Graph – This option allows you to display or print your output graphically to an XY-Graph or Histogram.

Report – This option is used when you require complete control over the format of your report. This option allows you to specify the size of your report, its HEADINGS, BODY, and SUBTOTAL information. Multi-level control break reports are easily defined in the REPORT facility.

NOTE: This function is a powerful report generator and should not be overlooked by the serious developer.

Transfer – This option allows you select data and export it to Lotus worksheet, dBASE DIF or ASCII format, making the

Continued on page 9, see **IQ**

IQ *Continued from page 8*

IQ output accessible by almost all other third-party applications. You may also use the TRANSFER option to create a new Data Dictionary using a subset of the data fields in your existing Data Dictionary.

Sort the Output

This function allows you to choose the data field(s) to be sorted. Data fields may be sorted in either ASCENDING (default) or DESCENDING order.

Compute Totals & Averages

Four summary functions are provided to allow for multiple views of your data over the entire range of your selected data records. These functions will calculate a TOTAL or AVERAGE, or report a HIGHEST or LOWEST value of a given field.

Execute the Procedure

This function does just what it says. Once all of your report definition is complete, this function is used to execute it. While a procedure is executing, IQ displays the number of records it has currently processed and the number of records it has selected that have met the selection criteria.

NOTE: All procedures can be saved for future reference using the SAVE option of the UTILITY function.

Next time, I'll discuss the Utility and Stored Procedure functions. As always, if you have any questions, drop me a line.

Editor's Note: For more information on IQ, or to place an order for IQ, please contact Niakwa's Sales Department.

Platform Update as of January 22, 1993

Shared Logic Systems

ALTOS 686, 886, 1086, 2086, 3086	XENIX 3
ALTOS SERIES 2000	XENIX V
ALTOS 400, 500, 600, 700, 1000, 2000, 5000	SYSTEM V
BLUEBIRD SL/DH/TW SERIES	SUPERDOS
BULL XPS 100	UNIX V
BULL DPX/2 200	BOS
BULL DPX/2 300	BOS
BULL MICRAL 600/ix	BOS 386
DEC MICROVAX II	VMS
DEC VAX SERIES	VMS
IBM AT & 100% COMPATIBLE* 286	SCO XENIX V 286
IBM PC, XT, AT	SUPERDOS
IBM PS/2 SERIES	SUPERDOS
IBM PS/2 SERIES	SCO XENIX V
IBM 100% COMPATIBLE* 386+	SCO UNIX V/386, 486
IBM 100% COMPATIBLE* 386+	INTERACTIVE 386/ix UNIX
IBM RISC SYSTEM/6000 SERIES	AIX
NCR SYSTEM 3000 SERIES	AT&T UNIX (NCR)
NCR TOWER 32	SCO UNIX V
NEC ASTRA-XL SERIES	ASTR-IX
WANG 280	SCO XENIX V 286
WANG 380	SCO XENIX V 386
WANG APC	XENIX 3.0
WANG APC	XENIX V
WANG DX 2000 (DYNAMIX)	SCO UNIX V/386
WANG PC 300/33C SERIES	SCO UNIX V/386
WANG PC 480/25C	SCO UNIX V/386
WYSE PC 286 SERIES	SUPERDOS
WYSE PC 386 SERIES	SUPERDOS
WYSE 5000	AT&T UNIX (WYSE)

Distributed Logic Systems - Client/Server (Networking)

IBM & 100% COMPATIBLE*	NOVELL NETWARE ELS I
IBM & 100% COMPATIBLE* with MS-WINDOWS	NOVELL NETWARE ELS II
IBM & 100% COMPATIBLE* with PHAR LAP 386	NOVELL NETWARE 386
	NOVELL ADVANCED NETWARE
	NOVELL E/TI NETWORKING
	SPERRY USERNET

Single User MS-DOS

IBM & 100% COMPATIBLE*	MS-DOS
IBM & 100% COMPATIBLE* with MS-WINODWS	PC-DOS
IBM & 100% COMPATIBLE* with PHAR LAP 386	

* 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.

Current Product Revisions

The following is a complete list of the current Niakwa Development Environment products and their respective revision numbers as of January 22, 1993. If your version is not current, contact the Niakwa Sales staff for an update.

NOTE: New releases since the last NIAKWA*NEWS* are shown in bold.

PRODUCT NUMBER	PRODUCT NAME	DEVELOPMENT PACKAGE REVISION NUMBER	RUN TIME PACKAGE REVISION NUMBER	REVISION DATE
1A	WANG MS-DOS	2.01.20	2.01.20	7/15/88
		3.00.02.00.W	3.00.02.05.W	5/15/89
1A-DEM	WANG MS-DOS Demo	NA	3.00.05.05.W	7/15/88
1A-SCD	WANG MS-DOS SCD	NA	2.00.00	7/15/88
2A+B	IBM MS-DOS	2.01.20	2.01.20	7/15/88
		3.20.02.00.I	3.20.02.00.I	10/1/92
2A+B-DEMO	IBM MS-DOS Demo	NA	3.20.02.00.I	10/1/92
2A+B-SCD	IBM MS-DOS SCD	NA	2.00.00	7/15/88
3A	WANG APC XENIX 3 or V	3.20.13.00.X	3.20.13.00.X (286 RTP)	12/6/91
3A-SCD	WANG APC SCD	NA	2.00.00	7/15/88
4A+B	Novell NetWare	2.01.20	2.01.20	7/15/88
		3.20.02.00.I	3.20.02.00.I	10/1/92
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
7A+B	SuperDOS	2.01.17	2.01.17	5/15/88
		3.20.02.00.S	3.20.02.00.S	9/9/91
8A	Bull XPS-100	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
14A	NEC ASTR-IX	2.01.09	2.01.09	8/9/88
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	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	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
24A+B	MS-Windows/ MS-DOS	3.20.02.00.I	3.20.11.00.N	10/14/91
24A+B-DEMO	MS-Windows/ MS-DOS Demo	NA	3.20.20.00.N	6/1/92
25A+B	MS-Windows/ Novell NetWare	3.20.02.00.I	3.20.11.00.N	10/14/91
26A+B	DOS/386/ MS-DOS	3.20.02.00.I	3.20.15.00.P	10/1/92
27A+B	DOS/386/ Novell NetWare	3.20.02.00.I	3.20.15.00.P	10/1/92
30B	IBM RS/6000	3.20.15.11.U	3.20.15.11.U	8/26/92
102A+B	**Replaced by 124A+B**			
103A+B	NDM for Intel UNIX	**1.00.12***	1.00.10	6/29/92
104A+B	**Replaced by 125A+B**			
124A+B	**NDM for MS-Windows/ MS-DOS**	**1.00.12**	**1.00.18** **1.00.04**	**12/21/92** **1/15/92**
125A+B	**NDM for MS-Windows/ Novell NetWare**	**1.00.12**	**1.00.18** **1.00.04**	**12/21/92** **1/15/92**
130B	NDM for the IBM RS/6000	**1.00.12***	1.00.15	10/30/92
202A+B	IQ for MS-DOS	1.00.00	1.00.00	10/1/92
204A+B	IQ for Novell NetWare	1.00.00	1.00.00	10/1/92

*NDM Utilities patch is now available on Niakwa's BBS.

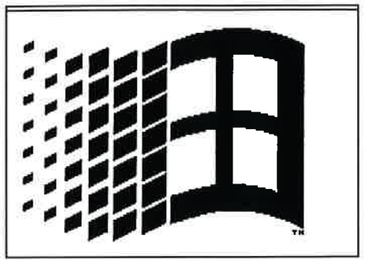
NPL for MS-Windows - A Year Later

by Brian Funke

At the end of 1991, Niakwa, Inc. released its MS-Windows version of the Niakwa Programming Language (NPL). Many of you were anxious for its release. The requests for a Windows product prior to its release were so overwhelming that our development schedule was completely rearranged to meet the demand.

Thanks to the pent up demand and a promotion, sales exploded in the first month with MS-Windows RunTime sales capturing a significant amount of our DOS-based market. Since then, the MS-Windows product has been a solid performer (some developers are now converting their entire customer base to this product).

What has made the Niakwa Programming Language for Windows such a desired product? A graphical user interface (GUI) creates a friendlier environment for the end user and with the declining prices of Intel-based computers, MS-Windows makes the GUI environment more affordable. The NPL RunTime for the MS-Windows GUI delivers full mouse support, scroll bars for extended window viewing, and button bars that bring the function keypad to the screen. The windows to view our RunTime can be fixed or sizeable. If you choose dynamic window sizing, the fonts can also dynamically adjust with the window size. These fonts are also modifiable to fine-tune and expand the range of character sizing.



In addition, you can take advantage of other Windows specific features. With the use of our external call function, you can use the MS-Windows Dynamic Link Library (DLL) to take advantage of MS-Windows tools such as dialog boxes, message boxes and the MS-Windows clipboard interface (examples are provided for each of these in the NPL Windows Development Package).

The robust nature of the MS-Windows environment has also enabled developers using the NPL for Windows to take advantage of extended memory support breaking the 640K barrier. MS-Windows multitasking allows the user to run concurrent tasks and allow for device sharing (devices can be locked with $OPEN and $CLOSE). In addition, the multi task capabilities generate unique terminal ID's but multiple tasks will not count against the user limit in the Novell NetWare version of the MS-Windows RunTime.

Since the release of Niakwa Programming Language for Windows, Niakwa has heard of many success stories such as Custom Business Systems Inc. (CBSI) of Reedsport, Oregon who have their software servicing over 1400 radio stations across the United States and are having great success with their new NPL MS-Windows version. The Niakwa Programming Language for MS-Windows has proven to be a winner.

The success and popularity of the Windows products are compelling us to consider additional enhancements and products such as supporting the NETBIOS networking of Windows for Workgroups and supporting the yet to be released Windows NT.

Niakwa is listening, aware, and ready to meet the challenges' MS-Windows will present to our developers now and in the future.

Niakwa Library Program Begins

Mundelein, IL With SDK I in the field, Niakwa's Library Program can now begin. It is with this prerelease version of NPL, Release IV that Niakwa Developers can take advantage of program modules and other features to produce, use, and distribute libraries.

Libraries, a collection of standard programs, routines, and subroutines, are now possible with NPL, Release IV. Release IV has been designed to take full advantage of libraries.

By utilizing libraries, developers can easily integrate added functionality without spending time writing the routines. This adds significantly to programmer productivity because it means less code has to be developed by the programmers. Once a library has been written, it can be referenced from any NPL Release IV program, without concern for line numbers or variable names.

The Niakwa Library Program is being initiated to take advantage of this new capability. Niakwa is introducing the Niakwa Library Program to encourage NPL Developer interaction and the use of libraries by Niakwa Resellers. Niakwa will act as a clearing house for libraries by offering a catalog of libraries to resellers. The catalog will include libraries that are developed by Niakwa, by Niakwa Resellers and possibly by other third parties.

The Niakwa Library Catalog will be available on the Niakwa Bulletin Board System (BBS). In addition, a hard copy version will be produced, published, and distributed periodically to all Niakwa Resellers. The catalog listing for each library will be in a two page format that includes information such as description, pricing, systems supported, and support and distribution policies.

Libraries will be submitted for inclusion in the catalog by filling out a Library Submittal Form. This form will help provide a clear description and categorization of the library.

In addition, the Niakwa BBS is being enhanced to include a library shareware section. Niakwa Resellers can use the bulletin board to directly exchange libraries on a shareware basis. Because the BBS will have an online Library Catalog, this is a means to search for a particular library.

All Niakwa Resellers are encouraged to participate in the Library Program to make it successful. The sharing of libraries between Niakwa Resellers will help other NPL Developers to improve their applications while increasing productivity, provide for more NPL Developer interaction, and help to build an even more powerful Niakwa network.

Welcome...

Sheri Nemes joined Niakwa at the beginning of February as Office Manager. Sheri has extensive experience in operations management, computer systems, accounting, and customer relations. She is particularly proficient at organization and office systems efficiency.

Sheri is a graduate of Ohio State University, mother of five children, and enjoys her 11 grandchildren. Originally from Ohio, she has really enjoyed the Chicagoland area these past 15 years. She and her husband, Art, reside in Mt. Prospect, Illinois.

Audrey Wehba, Senior Technical Writer, is currently on a one-year loan to Niakwa from Bluebird Systems, where she has worked for nearly three years on application and language product documentation. She is now working on the enormous task of rewriting and reorganizing the documentation set for NPL, Release IV.

Audrey has 10 years' experience as a technical and business writer, combining work in the financial service, medical device and computer software industries. She holds a bachelor's degree in Classics from Stanford University.

Audrey is located at Bluebird Systems' headquarters in Carlsbad, California.

Mitch Wright joined Niakwa in November as a Production Assistant. A long-time computer hobbyist, Mitch is a self-described "computer nut who spends most of his spare time and money fiddling with new products."

Mitch brings twelve years of customer relations experience to Niakwa, which complements his focus on quality - getting it right the first time. Mitch has said "I want every package I produce to be perfect." A goal that fits right into Niakwa's overall quality philosophy.

Mitch attended the University of Denver and is studying Microcomputer Programming at the College of Lake County.

Niakwa Promotes Within

Niakwa has seen a series of personnel changes over the last few months.

Niakwa is pleased to announce the promotion of **Andy J. Warzecha** to Manager of Technical Services. Andy has been with Niakwa since August of 1990 as the company's Product Manager. This promotion is an acknowledgement of the other technical responsibilities Andy has assumed during his tenure at Niakwa. Andy is looking forward to serving you in his new capacity and with great excitement to the pending rollout of Release IV later this year.

From left to right: Andy Warzecha, Jan Strickland, Erik Coleman, Lesslee Dort and Paul Brown.

Niakwa is pleased to announce the promotion of **Joseph P. Brekelmans** to the newly created position of Manager of Software Development. Joseph joined Niakwa in August of 1990 as a Systems Programmer. In addition to managing the programming staff in the Winnipeg office, Joseph will continue to do software development. Joseph looks forward to the exciting challenges that come with this new position.

With Niakwa since July of 1989, Niakwa is pleased to announce that **Lesslee Dort** has recently been promoted to the newly created position of Marketing Manager. In addition to the conferences, newsletters, and marketing bulletins Lesslee has had responsibility for, she will now participate in planning Niakwa's overall marketing strategy. She welcomes the new role with open arms. While heavily involved in the rollout of Release IV, Lesslee will soon be hiring additional marketing staff.

Paul Brown, who was Niakwa's North American Sales Representative, has decided to resume his former duties as Senior Product Analyst, effective February 1. The decision to switch back to the "technical" side of Niakwa was one that Paul made after much thought and consideration. In his role as Senior Product Analyst, Paul looks forward to once again using his technical expertise to provide support to Niakwa developers, and resuming the other responsibilities associated with the position. During his tenure as North American Sales Representative, Paul received valuable feedback from North American Developers from conversations and customer visits. This information is being used by Niakwa to develop new product ideas and strategies.

Until the replacement North American Sales Representative is trained, Frank Ehrhardt, Niakwa's Sales Manager will be responsible for Niakwa's North American Developers.

Niakwa is also pleased to announce the promotion of **Erik C. Coleman** to Senior Product Analyst. Erik joined the Niakwa team in November of 1991. This promotion is well-deserved, reflecting the contributions Erik has made to both Support and Production, as well as the increased responsibilities he will be undertaking in product testing.

In addition, Niakwa is pleased to announce the promotion of **Jan Strickland** to full-time Production Coordinator. Jan started with Niakwa in September 1989 as a part-time Production Assistant. With the increase of products and new releases, Jan has taken on more responsibilities overseeing Niakwa's production. Jan is looking forward to her new challenges at Niakwa.

Niakwa Holds Roadshows in March 1993

Mundelein, IL During the month of March, Niakwa's Sales and Technical Representatives will hit the road to conduct two shows highlighting Release IV of the Niakwa Programming Language (NPL). Each Roadshow will offer a high level overview of Release IV, as well as a detailed demonstration of Release IV features. The Roadshows serve to complement our conference (to be held in February), not compete with it. Unlike a full two-day conference, the roadshow will concentrate on one topic - Release IV.

The first show will take place on March 9, 1993 in the Chicago, Illinois area - specifically Rosemont, IL. The host hotel is the Quality Inn O'Hare (formerly Sheraton O'Hare). Shuttle service from the airport is available.

March 12, 1993, is the date of the second Roadshow. This one is being held in Parsippany, New Jersey, at the Bluebird Systems' Regional Office (30 minutes from the Newark Airport).

Each show is scheduled from 9:00 am to 5:00 pm. Other than Release IV, presentations include a Niakwa Library Program Overview, and presentations by Tim VeArd of VCR, *The Basic-2 Report*, AIMS, etc., and Charlie Knox of Northwest Source Group.

The Roadshows are **free** to all current Niakwa Resellers. Of course, attendees are responsible for their respective travel and any lodging expenses.

For more information, please contact Niakwa's Paul Brown or Frank Ehrhardt at (708) 634-8700.

Space is limited. Reserve your seat early!

Niakwa Language Renamed

Mundelein, IL Niakwa is proud to announce the new name of our language product - **Niakwa Programming Language or NPL**.

As we have all learned over the past eight years, Basic-2C had become an increasingly difficult "name" to sell, since it no longer properly represented the power of the Niakwa language. So, Niakwa began its search for a new name which would better represent the product as it flourishes today.

The new name must live up to the powerful language product it would represent. In addition, we knew the name must appeal to the distributors who resell it. It must also be a name easy to sell to customers.

Finding the right name took quite awhile. Actually we found seven names that any language company would be proud to call their product. And, as we found out during copywrtie check, were proud to call their product (four of the seven were in use by other companies).

Of the remaining three names, two included the word Basic - what we were trying to stay away from. That left us with the almost obvious choice of Niakwa Programming Language.

Niakwa (pronounced nī-'äk-wä), taken literally, means a strong, steady moving stream. We believe in this positive representation for both our company and our language.

Marketing Bulletin

NORTH AMERICAN

42 ***November 23, 1992***
Passport To Profit Conference

42 ***December 20, 1992***
Niakwa's SDK I Program

43 ***December 23, 1992***
Niakwa Language Renamed

44 ***January 7, 1993***
Niakwa Release IV Roadshows

45 ***January 22, 1993***
NDM Windows For MS-DOS and Novell NetWare

46 ***January 22, 1993***
Free Update To NDM Windows For MS-DOS and Novell NetWare

INTERNATIONAL

42 ***November 23, 1992***
Passport To Profit Conference

42 ***December 20, 1992***
Niakwa's SDK I Program

43 ***December 23, 1992***
Niakwa Language Renamed

44 ***January 22, 1993***
NDM Windows For MS-DOS and Novell NetWare

45 ***January 22, 1993***
Free Update To NDM Windows For MS-DOS and Novell NetWare

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.

A Picture Is Worth a Thousand Words - Snapshots From Niakwa's European Conference

Last October, Niakwa and our European Distributors gathered in Strasbourg, France, for our *Investigate the Possibilities* Conference.

This two day conference was packed with information:

- Release IV was publicly shown for the very first time.
- An exhibit area was set up for customers and vendors to display their products.
- Several breakout sessions took place. Topics ranged from Release IV to customer products to a focus group directed by Niakwa.

Below are just a few pictures that show the wonderful opportunities and memories Niakwa conferences promote. Please take a moment to browse this shortened version of our conference photo album.

common site in Strasbourg, France – the site of Niakwa's 1992 European Conference.

Dana Schwartz, a Senior Systems Analyst at Niakwa, delivers a technical presentation on NPL for Windows.

Bertille Duval, of SCIA, France, prepares to take her Niakwa Snoopy dolls home.

"Manning" the exhibit area's control booth is Niakwa's Marketing Manager, Lesslee Dort.

Many countries were represented at the Strasbourg conference. In this picture alone are Niakwa resellers from Spain, USA, Italy, and Germany.

John Varnau (center), General Manager of Bluebird Systems' Imaging Division, shows imageABLE to IBM representatives from Germany.

Monique Hindrikx, of SCIA Belgium, chats during a break with Niakwa's International Account Manager, Cyndee Philyaw and General Manager, Dick Drew.

ASK ANDY

Q: *In my program I have the statement:* ***70 SELECT #I<D$>*** *For certain values of I, the program crashes with* ***"P34: Illegal Value"*** *error. I examined the variables: I=23 & D$="D30". What's happening?*

A: When using file-numbers in the internal device table, file-numbers #0-#15 are always valid. File-numbers in the range of #16-#255 can be explicitly addressed with a constant. Once a file-number is specified in this way, a new maximum file-number is set. For example, observe the **Max #** value as the following program executes:

	Max #
10 DIM D$3	**15**
20 I=10:D$="D18"	**15**
30 SELECT #I<D$>	**15**
40 SELECT #20/D20	**20**
50 I=23:D$="D30"	**20**
60 SELECT #I<D$>	**20**

Line 60 will produce a P34: Illegal Value, because I is greater than the maximum file-number available. Only file-numbers 0 to 20 are available. The solution is to change line 40 to read **SELECT #24/D20**. This allocates file-numbers 0 to 24, making them available for use by a variable. For more information on the use of the **SELECT** statement, consult the Niakwa Statements Manual (page 2-466.)

Q: *Can the Windows RunTime work under Microsoft's Windows for Workgroups 3.1?*

Continued on page 18, see **Ask Andy**

It's Not Basic Anymore

Originally published in *The Basic-2 Report*

Mundelein, IL "It's not Basic anymore," was the comment from one of Niakwa's Resellers after reviewing the detailed specifications of NPL, Release IV. The following paragraphs *briefly* explain what he read.

Release IV contains four primary features, plus many additional enhancements too numerous to describe in this article. This article will focus on the four primary features - Modules, Function Interface, Long Identifier Names, and Structured Constructs.

Modules

The concept of modules represents a radical change from prior versions of NPL or prior versions of any Basic-2x based language. The best way to think of modules is to think of what we used to call the "user partition" as being subdivided into multiple "modules." The number of such modules and the size of each is controlled implicitly by the application. Modules have the following characteristics:

- Identifier names (variables, functions/procedures, and DEFFN's) are local to the module (unless defined as public). Thus, different modules can define the same identifier name without conflict with identifier names used by other modules.
- Line numbers are also local to the module, thus allowing different modules to use the same line number range without conflict.
- Each module may contain a series of PUBLIC and private FUNCTIONS, PROCEDURES, DEFFN's, and variables. A PUBLIC section can be used to define all PUBLIC entities.
- Control is transferred from one module to another by issuing a function, procedure, or DEFFN' call to a defined PUBLIC entity of the same type.
- Data is transferred from one module to another either by the use of PUBLIC variables or by the use of FUNCTION parameters. Large blocks of data can be passed by the use of POINTER parameters.
- Modules are loaded automatically by the RunTime as required by the application. Once loaded, the module remains resident as long as subsequent programs reference it. An overlay in one module does not require that other modules be resolved, thus substantially improving load and resolve time.
- Modules may be independently scramble-protected. The fact that one module is scramble-protected does not prevent debugging or development in other modules.
- Each module may contain procedures that are automatically executed when the module is first loaded or just prior to being unloaded.
- Immediate mode commands operate only on the "current" module. Other modules may be present but are invisible to immediate mode commands. The "current" module can easily be changed in immediate mode by use of the new MODULE command.

The module concept allows development of true "black box" routines. Once a group of functions is fully developed and debugged, it can be incorporated as a module and can be used by any application with no concern about identifier name conflicts or line number conflicts. All the calling application needs to know are the entry points and the calling conventions (parameter lists and return values). Thus, the ability to develop true application-independent libraries written entirely in NPL is now available.

FUNCTIONS/PROCEDURES

The FUNCTION interface introduced in Release IV provides a structured methodology for subroutine development and access. FUNCTIONS and PROCEDURES can be thought of as blocks of code designed to perform a

Continued on page 17, see **It's Not Basic Anymore**

It's Not Basic Anymore *Continued from page 16*

specific function. FUNCTIONS and PROCEDURES are very similar. The main difference is that FUNCTIONS can return values, procedures cannot. The following discussion refers to both FUNCTIONS and PROCEDURES, except where indicated. FUNCTIONS have the following characteristics:

- Each FUNCTION has a unique identifier name and a parameter list.
- Parameters may be passed to FUNCTIONS either by value or by reference using the new /POINTER variable type.
- FUNCTIONS are recursive. Recursive variables may be defined within the body of a FUNCTION.
- FUNCTIONS may be PUBLIC (accessible to all modules) or private (accessible only to the module where the function is defined).
- FUNCTION prototypes or declarations must precede any use of the function. Parameter counts and types of all function calls are checked before execution starts.
- The FUNCTION interface may be used to access external C routines.
- Indirect specification of FUNCTION names is supported.
- FUNCTIONS may return error codes.
- FUNCTIONS (not PROCEDURES) may have a numeric or alphanumeric return value.

Long Identifier Names

Long Identifier Names (LIN) can be used for variable names, FUNCTION/PROCEDURE names, DEFFN' names, and statement labels. LINs have the following characteristics:

- Maximum length is 255 characters.
- LINs may contain the following characters:
  - A-Z - upper and lower case (the first character of an LIN must be an alpha character)
  - 0-9
  - Underline character
- LINs are not case sensitive. However, the case used in defining the LIN is remembered by NPL and is automatically used for all future references.
- In immediate mode, the RECALL key may be used to recall an identifier name when only a portion of the identifier name has been entered. This portion must be sufficient to uniquely identify the identifier name.
- The use of LINs, in general, requires that spaces be used to delimit keywords. In Niakwa's implementation, intelligent compiler logic minimizes this requirement to the point that spaces are typically required only in cases where the statement is ambiguous as to whether a keyword or an LIN is being used.
- The use of LINs has no adverse effect on execution performance.
- NPL may be configured to require explicit dimensioning of variables. This is recommended when LINs are used.
- $OBJECT/$SOURCE are updated to support LINs.

Structured Constructs

Release IV introduces several block orientated constructs that can be used to manage program logic in a more structured fashion that is both easier to maintain and is more familiar to programmers trained in other structured languages such as "C" or Pascal. All Structured Constructs consist of a statement to define the start of the logical block and a statement to define the end of the logical block.

Three forms of structured loops are provided:

- WHILE/WEND is a top exit loop.
- REPEAT/UNTIL is a bottom exit loop.
- FOR/BEGIN/NEXT is a structured alternative to the existing FOR/NEXT construct.

All structured loop constructs support the use of LOOP and BREAK statements.

SWITCH/CASE constructs are provided. SWITCH/CASE can be used in place of ON/GOTO, ON/GOSUB, or complex nested IF statements.

A block form of IF/ELSE/ENDIF is provided. This is a much cleaner implementation of IF than in current implementations based on the Wang syntax.

It was not possible to explain all the features and capabilities of Release IV in this article. For further information, please call Niakwa's Technical Department at (708) 634-8700.

Disclaimer

Release IV is a product under development. Although the features of the final version of Release IV will be substantially in accordance with the specifications described here, Niakwa does reserve the right to modify these specifications prior to final release.

Technical Notes

QUARTERLY INDEX

50 **September 23, 1992**
Niakwa Revision 3.20 DOS Product Line Updated to Include Novell NetWare 3.11 Security Patch

51 **December 17, 1992**
Niakwa MS-Windows Revision 3.20 DOS Product Line Updated to Include Novell NetWare 3.11 Security Patch

52 **December 17, 1992**
Performance Considerations Under AIX

53 **December 17, 1992**
NPL DOS-Based Security Problems with New Local Bus VESA Systems

54 **December 17, 1992**
Revision 3.20 RESET Program Hanging

55 **December 17, 1992**
Btreive 6.00 and NDM

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.

Release IV Offers More

Modules, Function Interface, Long Identifier Names, and Structured Constructs are the four primary features of NPL, Release IV. However, there are many additonal features.

The following list of additional features will be included in Release IV. Not all features listed in this section will be available with SDK versions. Additional features not listed here will be present in the general release version of Release IV.

- Variables larger than 64k are supported on platforms where this is possible. Platforms where this is supported include 386/DOS (Phar Lap), Intel UNIX (not Xenix), IBM AIX/RS 6000, and DEC/VMS. Any future platforms based on RISC architecture will include this feature. Provisions for allowing applications to dynamically determine the availability of this feature are included. Extended versions of MAT MOVE, MAT SORT, and MAT MERGE that can work with variables larger than 64k are provided.

- New variable types are supported.

  RECORD/FIELD types allow fields within a defined record to be directly accessed. Each defined field may have a format specification associated with it. NPL automatically converts between the alpha format record and any numeric fields based on the format specification. Field format specifications may be in the form of mnemonic codes representing either standard $PACK formats or standard NDM data types. A variety of functions to allow manipulation of RECORD/FIELD types is included. Indirect reference to FIELD variables is supported. That is, the name of the field variable may itself be contained in a variable at execution time. This allows for a high degree of abstraction in data manipulation routines.

  User types provide a convenient method of grouping associated data together.

  Constants are now supported. Constants may be used to dimension other variables.

- Mouse support is introduced on the standard MS-DOS and 386/DOS versions.
- Enhancements are made to the HELP system.
- The external call interface is significantly enhanced. Full support for the new FUNCTION/PROCEDURE interface, support for access to named subroutines, and the ability to call-back an NPL function or procedure are included.
- DATE functions to handle century issues will be provided.

Technical Issues

Upward Compatibility - Applications developed using Release III (or earlier) versions of NPL will be fully upward compatible to Release IV and will execute with no changes or recompilation required.

Downward Compatibility - Applications developed or modified with Release IV will operate with Release III RunTimes as long as no Release IV specific syntax is utilized.

Execution Performance - Release IV will have no significant adverse effect on execution performance.

Load/Resolution Performance - Use of Release IV features can have both a positive and negative effect on load/resolution performance. Use of modules can significantly improve load/resolution performance since an overlay in one module does not require resolution of other modules. Use of Long Identifier Names can slow down load/resolution performance. The net effect will be highly application dependent.

RunTime Code Size - The NPL Release IV RunTime will be significantly larger than current versions. Our current estimate is that it will be about 64k larger. For most developers this will not cause a problem, but developers who make extensive use of external routines and who are coming close to the DOS 640k barrier may want to start considering use of NPL for MS-Windows or NPL for 386/DOS Extender (Phar Lap). Both of these options provide a solution to the DOS 640k limitation.

Application Code Size - Application that utilize Release IV features will, in general, require more code space than previous versions of the application. In particular, use of Long Identifier Names will increase code space requirements (the amount of increase is equal to the space required to store one copy of each Long Identifier referenced at execution time).

For further information, please call Niakwa's Technical Department at (708) 634-8700.

Disclaimer

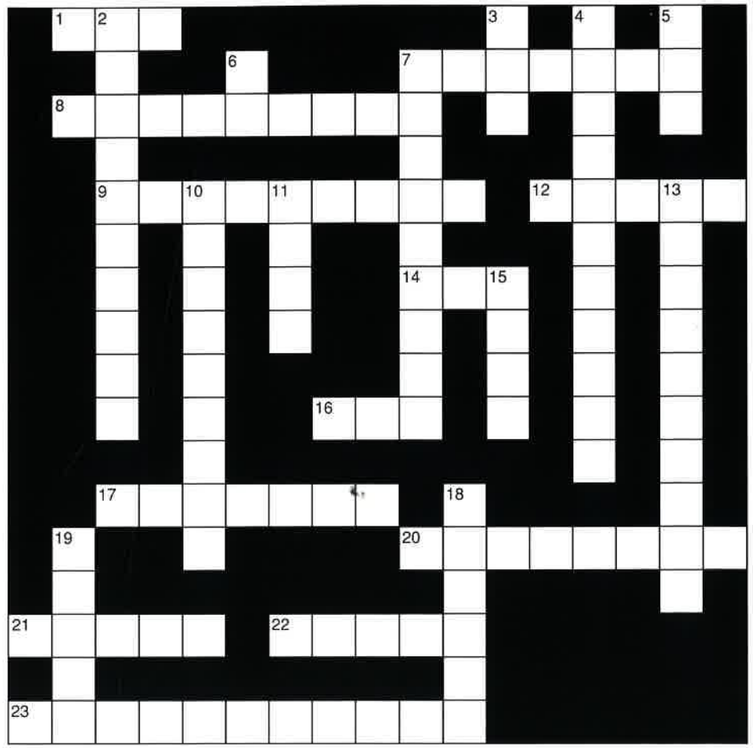
Release IV is a product under development. Although the features of the final version of Release IV will be substantially in accordance with the specifications described here, Niakwa does reserve the right to modify these specifications prior to final release.

Ask Andy *Continued from page 16*

A: Yes and No. A single-user Windows RunTime will function on a single workstation; however, a multi-user RunTime cannot function. Our multi-user RunTimes currently support only Novell Netware 286/386 networks, not the NetBIOS-based network that Windows for Workgroups is based upon. This means that no file-locking or unique network-wide partition or terminal numbers can be supported with the current version of the NPL RunTime.

Do You Have a kNack for NIAKWA*NEWS*?

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 NIAKWA*NEWS*. Simply fill in the correct answer to each question to complete the crossword puzzle. Good luck, and have fun. You can find the answers at the bottom of this page.



ACROSS

1. Basic-2C was changed to Niakwa Programming Language or _____.
7. Four features of Release IV are _____, function interface, long identifier names & structured constructs.
8. VCR will preview two products at Niakwa's _____.
9. The San Diego Passport to Profit Conference will highlight NPL, _____.
12. _____ has said that he wants every package he produces to be perfect.
14. Telecare/_____ has upgraded 20% of their customer base to NDM.
16. The Niakwa Library Catalog will be published in hard copy and will be listed on Niakwa's _____.
17. DeYoung and Associates' application is called _____.
20. _____ is one of Shahpoor Inc.'s newest ARMS customers.
21. _____ Nemes is Niakwa's Office Manager.
22. As fas as Release IV product rollout is concerned, after SDK I comes _____.
23. LEADS runs 45% faster with Niakwa's _____.

DOWN

2. Realese IV improves _____ productivity.
3. January 26, 1993, is the date _____ shipped.
4. Independent Computer Consultants said that the _____ of NPL allowed them to meet application needs.
5. Joint Marketing Activities are just one of the advantages of the _____/Niakwa Distribution agreement.
6. Computerlink Pty successfully replaced a Wang _____ with an SCO UNIX 32 user.
7. NPL for _____ has been a solid performer for Niakwa.
10. _____ are now made possible with NPL, Release IV.
11. One of the columns in the Tech Corner is Ask _____.
13. Release IV applications are fully upward and downward _____.
15. Release IV makes program maintenance _____.
18. Long Identifier Names are just one of the reasons Release IV is much _____ to learn.
19. One of Niakwa's newest technical writers is Audrey _____.

Leads Software Group

Bill Knopf of LEADS.

Introducing Leads Software Group

Leads Software Group (LSG), based in Salinas, California, was founded by the President of the company, Bill Knopf. LSG has developed powerful and sophisticated law enforcement software package for police departments, called LEADS.

Currently, LSG has an installed base of over 60 Police Departments throughout the western part of the U.S. LSG has been providing superior quality software for over 20 years.

In the Beginning

When LSG was initially developing and testing its law enforcement software it had not yet been named. The name LEADS was suggested to Bill by a police department detective who was participating in the pilot program that was set up to test the new application. The detective found that the reports and information produced by the system actually helped him get new leads - which helped him solve current open cases. The detective started to call the new software "leads" and the rest, as they say, is history.

LEADS was originally developed for the WANG 2200, but in 1985 LSG switched to Niakwa and NPL. Most of the installed LEADS systems are running on Novell NetWare systems. However, because of the portability of NPL, LEADS also is installed on several SCO XENIX systems and soon will be installed on a AIX system running on a RS/6000. Bill believes that the RS/6000 will be able to bring new business to LSG.

LEADS Software and Support

LSG not only provides excellent software, but also provides system support for its LEADS software. Installation and support services include pre-installation planning, installation of software, on-site training, on-line software support and 24 hour telephone support. The 24 hour support helps sell the software because police departments know that they can depend on LSG to be there if they have problems or questions.

The LEADS software has the ability to run either as a single user or multi-user system. Smaller police departments can start with the single user system and expand as their needs grow, while larger departments can start with a multi-user system.

LEADS performs several major functions such as:

- Records Management, including statistical reporting
- Investigative Support
- Computer Aided Dispatch

LEADS can tie into a Police Department's 911 emergency system to provide the dispatchers with information about the person calling in the emergency. For example, if a 911 emergency call comes in from a household where police have previously had problems with a family pet (such as a dangerous pit bull), the system notifies the dispatcher to warn the responding officers.

LSG is currently working on interfacing mobile data terminals (MDTs), to be used in police cars, to access the LEADS system at the police station. The mobile data terminals allow police to obtain information stored in the LEADS database while in the car. This saves valuable time and allows the officers to receive the most up-to-date information quickly.

NDM and Windows Implementation

One of the most important new features recently implemented into LEADS is the Niakwa Data Manager (NDM) and MS-Windows.

Currently, LSG is converting existing customers to the NDM and Windows version of NPL. The use of these Niakwa products has permitted LSG to have a modern and attractive looking application without having to completely modify or re-write its existing NPL application.

Tests have shown that LEADS runs 45% faster with NDM.

Bill feels that one of the important features gained through the use of NDM is the dynamic expansion of data files. LEADS keeps large amounts of data and the ability to expand data files automatically is critical. "NDM allows our application to be able to expand data files when needed without having the user run any special routines," says Bill.

Police Departments who have been converted to the NDM system have told Bill of the tremendous increase in speed that they have found using NDM. Tests have shown that LEADS using NDM runs up to 45% faster than without NDM.

LSG played an important role in helping Niakwa beta test NDM for MS-Windows. LSG also helped beta test NDM for MS-DOS and Novell. Some of the suggestions and comments received from LSG have been implemented into NDM or will be implemented in the future. Niakwa appreciates all developers who participate in the beta test programs. The extensive testing by Niakwa and its developers helps Niakwa consistently deliver high quality products.

In closing

Bill states that LSG's mission statement is to provide quality software, services and support to law enforcement departments. With the use of NPL and NDM, LSG is able to meet these goals.