

Niakwa's Solution for the Wang 2200/CS Community

Introduction

If you have end users who are using Wang 2200 minicomputers, chances are they'd like to take advantage of the more economical and technologically advanced hardware systems flooding the industry today. They may, however, be concerned about losing their vast library of powerful and dependable Basic-2 applications. The fact that these applications were originally written for the WANG 2200 minicomputer doesn't mean they have to stay on that same proprietary environment or risk being lost.

Welcome to the age of open systems. With the Niakwa Programming Language (NPL), end users can continue to use these same applications while embracing the most modern, efficient, cost effective hardware/software technology available today.

NPL is nearly 100% upward compatible with Wang Laboratories' Basic-2. Therefore, end users converting to NPL are able to preserve their entire investment in software, data files, training, and documentation.

Now, you can move your end users onto a variety of systems that run not only their proven Basic-2 applications, but also all of the industry's most popular horizontal (database, word processing, screen management, report generation, etc.) software products.

Since the origin of NPL (previously known as Basic-2C) in 1984, thousands of applications and millions of lines of Basic-2 code have been converted to NPL. Currently, the Niakwa Development Community is comprised of more than 130,000 users in almost 50 countries who are either developing or using powerful NPL applications.

This is a testament to the fact that Niakwa and NPL are clearly industry leaders when it comes to quality, portability, support, and documentation in the Basic-2 community.

Niakwa has also established strong business relationships with prominent industry leaders (i.e., Wang, IBM, DEC, Novell, NCR, Bull, Microsoft, etc.). These established business relationships ensure that the Niakwa Programming Language will continually evolve to support the latest hardware/software technological advancements.

Your end users will be pleased to know that with NPL the spectrum of hardware and software options available to them is continually expanding. They will never have to worry about losing their software investment when opting for a new hardware solution.

The Basic-2 to NPL conversion is so simple and provides such substantial savings and opportunities that your end users will wonder why they didn't convert years ago.



NPL is a high-level programming language (third-generation with fourth-generation capabilities) based upon Wang's original Basic-2.

Over the past decade, many extensions beyond the original Basic-2 language have been instituted. The numerous features and enhancements added to the language make it much more powerful than its predecessors.

NPL provides the flexibility and portability coveted by the computer industry; but not available to Basic-2 users. In addition, NPL contains numerous operating system-like specifications not found in other programming languages. These features improve programmer efficiency and allow for the development of highly competitive applications.

Savings

Wang 2200 users will save a substantial amount of time and money by porting to NPL and industry standard hardware.



Time Savings

Compiled Basic-2 code executes an average of 9 to 10 times faster in NPL than on the Wang 2200.

NPL users not only save time due to the increased application speed, but also due to the fact that compiled Basic-2 applications require absolutely no retraining.

Basic-2 applications operate identically on whatever hardware system the user chooses. Therefore, absolutely no time is needed to retrain employees on the application. Simply port to NPL, set up your new hardware system, and continue working as normal - only much faster.



Capital Savings

Increased application speed leads to increased productivity and, thus, great savings for the company.

Wang 2200 users will also notice a substantial savings in the hardware arena. Choosing a new hardware platform could potentially save 2200 users thousands of dollars a year on hardware support contracts alone.

Compatibility

With NPL, your applications have access to unlimited hardware solutions and most major operating environments including:

- AIX
- Intel UNIX
- MS-DOS
- MS-Windows
- NetBIOS
- Novell NetWare
- OS/400
- SuperDOS
- VMS
- Xenix

Running on any one of these systems, your Basic-2 programs can be compiled in seconds and require little or no program recoding, employee retraining, and redocumentation. Some NPL platforms even support your Wang terminals and printers.

Porting to NPL

It couldn't be simpler to begin running your Basic-2 applications on a new system. Provide the NPL compiler your Basic-2 source code in one of two formats: the 2200 Basic-2 or MS-DOS ASCII format, and the NPL compiler does the rest for you. Regardless of your preferred development environment, compiler performance is available to you.

Portability

The portability and compatibility of NPL allows you to choose the hardware and operating system environment which best suits your ever changing and expanding needs.

Meanwhile, your data processing investment will always be protected because NPL code is fully object and source code compatible from one machine to the next. You will never have to rewrite programs, rekey data files, or retrain personnel again.

No other language offers this level of portability and compatibility to Wang 2200 users.

Niakwa's goal is to make NPL not only the most portable, but also the most powerful language available today. To that end, we have made numerous enhancements, such as:

More Terminals

You can operate up to 512 workstations concurrently on NPL supported hardware platforms.

More Disk Space

NPL gives you access to the larger, less expensive disk drives that are now readily available.

Larger Disk Files

Depending upon your application, your disk files can reach 4096 MB in size. You will never again have to split your files onto multiple platters.

Improved performance

When combined with today's high-performance processors and NPL, your applications will run much faster than you ever imagined. Your computer will be more productive and your operators more efficient.

2200 Peripheral Support

Existing Wang terminals and cabling can be connected to Intel UNIX*, IBM RS/6000*, SuperDOS-based, and Altos systems to dramatically reduce your upgrade costs.

Enhanced Debugging Capabilities

New statements such as LIST STACK, LIST STACK DIM, CONTINUE NEXT/RETURN/LOAD, and extensions to statements such as LIST, HALT/STEP, and TRACE make NPL an even better development language.

Larger Partitions

The user partition size is limited only by the physical or logical memory on the host operating system.

Native Environment Access

\$\$SHELL allows a temporary exit from the NPL environment allowing you to interface with the native operating system. You will always have access to the latest utilities.

Printer Translation

NPL fully supports non-English character sets.

Built-in Math Coprocessor Support

NPL supports extended number crunching power and transcendental functions (i.e., LOG, EXP, SIN, COS, TAN, ARCSIN, STN, LGT, A B).

Help Screens

Operator help screens can be added to any NPL program.

Expanded Color/Graphics Support

NPL applications have the ability to give your applications a true, professional "face lift" with full utilization of color control sequences to access up to 16 colors.

External Call Capability

The NPL programmer has the capability to access subroutines and modules written in languages other than NPL from within NPL.

By using external calls, popular languages such as C, Pascal, and MS-Windows DLLs may be used to streamline NPL applications. At the same time, powerful third-party utilities such as graphics packages and databases may be used to enhance NPL applications.

Program Modules

Modules allow for the creation of true "black box" routines (libraries) which can be applied to applications without creating line number or variable name conflicts. These libraries greatly reduce your development time by eliminating the need for recreation of existing routines.

FUNCTIONS/PROCEDURES

The NPL FUNCTION/PROCEDURE interface provides a structured methodology for subroutine development and access. Using the FUNCTION interface, you can access a variety of NPL and third-party libraries. You can use these libraries to enhance both your new and existing applications.

Long Identifier Names (LINs)

Containing a maximum of 255 characters, LINs are used for variable names, FUNCTION/PROCEDURE names, DEFFN' names, and statement labels. Using LINs, you can create very specific variable names to greatly simplify program maintenance.

Structured Constructs

All Structured Constructs consist of a statement to define the beginning and another to define the end of a logical block. These block oriented constructs (i.e., WHILE...WEND, REPEAT...UNTIL, FOR...BEGIN...NEXT, etc.) 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. Once you begin developing with structured constructs, the number of programmers who can work with your applications will increase dramatically.

RECORDS/FIELDS

Using the RECORDS/FIELDS feature, NPL programs have the ability to define logical record layouts. In addition, field names can be contained within variables. This, in conjunction with modules, permits a very high level of abstraction within data base applications.

*Requires third-party hardware and software.

Development Tools

To complement the language and complete the Development Environment, Niakwa has added a host of powerful Development Tools. These tools add fourth-generation language capabilities to NPL and, thus, significantly increase the robustness of the Development Environment. The Niakwa Development Tools product line consists of Intelligent Query (IQ) for structured queries and report generation; the Niakwa Data Manager (NDM) for data management; and the NPL Gateway to MS-Windows API for screen management.

Intelligent Query

Used in conjunction with NDM, IQ, by IQ Software, offers simple, English-like access to NPL data files - without the time and expense of special programming. IQ enables end users to present NPL application data in four ways:

- Preformatted reports, queries, and labels
- Custom reports, queries, and labels
- XY-graphs or histograms for visual interpretation
- Data export capabilities to other programs (i.e., Lotus 1-2-3 and dBase)

IQ also enables end users to merge NPL application data with other file types; such as, standard ASCII, Lotus 1-2-3, or Dbase files. In short, IQ enhances NPL applications by giving end users new and more effective ways of retrieving, viewing, and analyzing information.

Niakwa Data Manager

NDM is an application program interface (API) developed by Niakwa to provide a consistent, fully portable interface to commonly used ISAM products; such as, Informix's C-ISAM, Btrieve Technologies' Btrieve, and IBM's OS/400.

By providing data independence (files stored in a non-proprietary format), NPL applications can share files with and be enhanced by popular third-party products; such as, Informix, IQ, SQL, Xtrieve, etc.

NDM supports extended platform specific features and native field types which provide even greater programming power.

In addition, NDM provides Data Dictionary support which allows for the efficient cataloging and tracking of data files, formats, and file indices.

Most importantly, NDM improves performance and productivity by enabling developers to off-load ISAM maintenance and development to the Data Manager.

Niakwa Screen Manager

The Niakwa Screen Manager consists of the NPL Gateway to MS-Windows API. This product provides a variety of convenient screen management features, including: pull down menus, push buttons, dialog boxes, etc.

The Windows Gateway allows NPL applications to fully utilize all capabilities present under the MS-Windows API. In addition, NPL's implementation is nearly 100% compatible with the native C API.

Niakwa Library Program

The Niakwa Library Program is a collection of Niakwa and third-party library products. Included in the collection are a variety of NPL, C, and MS-Windows DLL routines.

These routines can be incorporated into your end users existing applications (once they've been converted to NPL) or new applications to provide added functionality and access to other third-party products.

Your end users will appreciate the results - an increase in the longevity and flexibility of their application software. They will now be able to access a world of software options and technology previously not available to them.

You'll definitely enjoy the simplicity of quickly enhancing your applications through library use.

Porting and Technical Support

Niakwa's Technical Support Staff has acquired extensive application conversion (Basic-2 to NPL) experience since 1984. You can benefit from this pool of knowledge when converting your Basic-2 applications to NPL.

Rest assured, when you call with a technical question, you'll receive prompt, high quality service. Our track record proves it. In 1993, 99% of all Niakwa support calls were responded to within one hour, with a resolution time of 15 minutes or less.