



Natural Optimizer Compiler

LOWER CPU COSTS—FREE UP RESOURCES

TUNE YOUR PROGRAMS FOR TOP PERFORMANCE

About \$50,000/month—that's how much one company saves by decreasing CPU usage with Natural Optimizer Compiler. Nissan Motor Company, U.K., estimates a 30% improvement in runtime for certain data files. A U.S. university also projects a 30% improvement in CPU usage.

Natural Optimizer Compiler improves performance by up to 50% by compiling various Natural statements and sequences of statements to machine code—which is faster to process.

It allows you to optimize your Natural applications to run faster and reduce costs by turning simple program statements into machine codes that are processed more quickly.

Natural Optimizer Compiler is easy to implement—as simple as cataloging a program. Because Natural Optimizer Compiler doesn't have to be installed to execute an optimized program, there are no changes to the production environment.

Using Natural Optimizer Compiler, you will:

- Improve application response times by as much as 50%
- Reduce system and IT costs—especially helpful when you're charged for machine usage

- Avoid expensive machine upgrades—by using CPU time more efficiently

How it works

Natural generates machine-independent code to provide easy portability across operating systems and platforms. With Natural Optimizer Compiler you convert more of the Natural Objects to machine-specific code in advance to optimize performance and reduce CPU usage. This means at runtime, the application code executed leverages the machine-specific code to receive optimized execution time results.

This is particularly valuable for applications which have calculations, such as simple arithmetic, assignment and comparison statements that are repeated many times throughout the application. By compiling those specific functions into machine code in advance you eliminate the need for repetitive conversion to machine code at runtime.

NATURAL OPTIMIZER COMPILER ALLOWS YOU TO RESPOND TO END USER REQUESTS IN A TIMELY AND COST-EFFECTIVE WAY.

Key features

→ NOCSTAT evaluation utility

Helps you determine if you should optimize a particular program or a set of programs. You'll get statistical information on the number of certain types of statements contained in the specified program and the number of statements that Natural Optimizer Compiler compiled to machine code.

→ Debugging utility

Works for all programs compiled to improve performance.

→ PGEN facility

Helps with performance, tuning and maintenance. In conjunction with the NOCSHOW utility, PGEN lists the generated assembler code.

→ Platform independence

Enables you to use Natural Optimizer Compiler across mainframe environments including: z/OS, z/VSE, z/VM, MSP and BS2000/OSD.

Applications that will benefit

Natural Optimizer Compiler is ideal for improving "number-crunching" applications and any program containing considerable computation, transfer and logical condition processing. Here are some examples of the type of program code that can be optimized:

- Move statements—RESET, COMPUTE, MOVE/ MOVE ALL, MOVE UNTIL, MOVE INDEXED, MOVE (PM=I)
- Arithmetic and data movement statements— COMPUTE, ADD, SUBTRACT, MULTIPLY, DIVIDE, COMPRESS, SEPARATE, EXAMINE

→ Conditional statements—IF/IF SELECTION, DECIDE

→ Control statements—ESCAPE, PERFORM, FETCH, CALLNAT

Additionally, the OPTIONS statement operates as a position-sensitive compiler directive to allow precise control over individual Natural statements.

Operand types you can optimize include parameter arrays and SUBSTRING operands.

Also programs executed with the RUN system command are compiled to machine code if the Natural Optimizer Compiler is switched on.

Your benefits

→ Improved application performance

Respond to end user requests in a timely and cost-effective way.

→ Reduced costs

Use less CPU time, which can significantly reduce your operating costs. Avoid making an upgrade investment by using CPU time wisely.

→ Peace of mind

By using CPU time more efficiently, you can add on new applications without worry that you'll degrade performance or need to increase your batch processing window.

No changes to the production systems required

Once an application is optimized, it can be deployed to production.

Nissan Motor Company—on the road to more efficient operations

Challenge

Improve database performance and application efficiency to help Nissan in its quest to quickly respond to customized orders.

Solution

Enhance core systems with powerful tools that simplify programming and improve database performance using **Natural Optimizer Compiler**, Adabas Fastpath and Adabas Delta Save.

Highlight

Nissan is leveraging its Adabas and Natural technology, enabling the auto manufacturer to support increasing customer demand for customized cars.

Benefits

- Avoided costly changes to existing infrastructure
- Delivered on customer demands in a timely and cost-effective manner

Results

- 100% performance gain through elimination of database downtime experienced by users
- An estimated 30% improvement in run time for certain data files
- Facilitated Nissan's deployment of the "made-to-order" business model

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