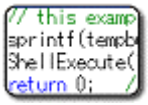
DSDEV with ProDG for NINTENDO DS™

Presenting SN Systems' ProDG for NINTENDO DS software and Hudson's DSDEV hardware in one development package. Consisting of SN Systems' proven advanced toolchain for building and debugging games coupled with Hudson's successful hardware experience, developers can now build their Nintendo DS games both efficiently and confidently.

ProDG for Nintendo DS Features



SNC C/C++ Compiler

SN Systems' new SNC C/C++ compiler has been developed for the needs of the game console developer. High performance, advanced optimizing controls and comprehensive language support help you make better games.

Based on an industry-standard C++ front end, the SNC C/C++ compiler offers extensive control over project building and code generation. Developed and maintained in-house by SN Systems, it forms the foundation of SN Systems' programming systems for the next-generation console architectures.

High quality code

Efficient code generation enables you to make better games. Powerful optimization features provide you with fine control.

Advanced optimization controls

- Precise user control of optimizations:
  - loop unrolling
  - function inlining
  - inlining of intrinsic functions
- Advanced instruction scheduling
- Interprocedural analysis
- Multi-compilation module code optimization features
- Common subexpression elimination
- Induction variable elimination
- Control flow improvements

Reduced development time

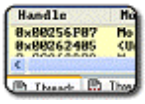
Write tight code quicker. Your productivity will be improved using pre-compiled headers and Visual Studio .NET integration.

Comprehensive standards support

Writing multi-platform code is easier with support for: ANSI/ISO C/C++; Microsoft C/C++; GCC C/C++.

Unparalleled technical support

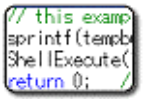
Continuous development based on customer feedback ensures we keep pace with your demands. Our industry leading reputation for responsiveness will get you through the crunch.



Debugger

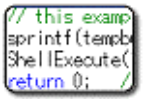
The debugger provides comprehensive support for examining source code, disassembly, memory, registers, variables, TTY and the call stack. Usability is enhanced through the debugger's split-pane system which allows unlimited configuration of pane layout. User control of single stepping is complemented by conditional breakpoints. Repetitive tasks can be automated using the debugger's scripting language.

- Workspace pane provides simplified project navigation through file and function views
- Support for conditional and counted breakpoints
- Mixed mode source/disassembly pane
- Support for regular expressions
- Pop-up expression evaluator
- Drag and drop between panes
- Load/Save binary data
- User configurable pane layout, accelerator keys, fonts and colors



Assembler

The assembler is invoked automatically by the compiler driver to generate object modules. Debug information for source level debugging of assembly programs is provided.



Linker

The linker provides accurate control over the position, allocation and alignment of code and data in memory. Unused function and data stripping controls enable the developer to minimize code size. Overlays are also fully supported.

Visual Studio integration

Integration of the above tools with Visual Studio .NET (2003) is achieved through Add-ins and AppWizards. The following features are supported:

- NINTENDO DS project AppWizards for executables and libraries.
- Toolchain command-line switches, command-line arguments for the Debugger and executables, and fileserving paths, can all be set via an executables-contained configuration dialog.
- Supports configuration-specific properties, e.g. different linker scripts could be used for debug and release builds.
- Full source dependency checking for C, C++ and assembler files during the build process.
- Outputs compiler and linker errors/warnings in Visual Studio format so that double-clicking on a build error in the output window opens the source file on the appropriate line in the Visual Studio editor.
- Use Intellisense features when editing C and C++ source.
- The ProDG Debugger can be called directly from Visual Studio via a toolbar button or the standard debugger start key (<F5> by default) to debug the current project.

Documentation

Comprehensive documentation is supplied in PDF and compiled HTML formats. Technical articles and FAQs are available in the developer technical support zone of the website.

Technical support

Technical support is provided via e-mail and telephone during normal UK business hours. We also provide support via the developer technical support zone of our website where the following services are available 24 / 7: technical articles; FAQs; downloads; product updates; documentation; example code.

Hudson DSDEV Features

DSDEV Hardware

- Video Output
  - Capture video output, from both the main and sub LCD screens on your PC via the fast USB2 interface in real time. You can also capture key-press input data alongside the video.
- Integrated Flash Writer
  - Program DS Flash cartridges directly using the DSDEV hardware.
- Wireless Networking Emulation
  - Daisy-chain multiple DSDEV units together to emulate wireless connectivity in a secure, reliable environment.
- Full ROM Memory emulation
  - DSDEV contains 256 MB of standard ROM emulation memory, 256 KB of backup memory and up to 8 MB of main memory, which can be switched to 4 MB to match the retail DS configuration.

System requirements

Supported hosts: Windows XP

(All features and functions are subject to change)

SN Systems - *the console tools specialist*

www.snsys.com