

ProDG for PSP® (PlayStation® Portable)

ProDG for PSP consists of an advanced toolchain for building and debugging console games. Continuous development based on customer feedback ensures we keep pace with your demands.

The following toolchain components are included:

- **SNC C/C++ Compiler**
- **Assembler**
- **Linker**
- **Debugger**
- **Tuner**
- **Microsoft Visual Studio integration**
- **Target Manager**

SNC C/C++ Compiler

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, SNC 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. The powerful optimization features provide you with fine control.

Advanced optimization controls - Precise user control of optimizations including loop unrolling, function inlining and inlining of intrinsic functions. Advanced instruction scheduling. Floating-point expression rearrangement. 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: the intuitive inline assembly syntax; pre-compiled headers; Visual Studio .NET integration.

Comprehensive standards support - Writing multi platform code is easier with support for: ANSI/ISO C/C++; Boost C++; GCC C/C++, Microsoft C/C++ and STLport C++.

VFPu assembler support - Support for VFPu assembler, including SN Systems' simplified syntax for the VFPu prefix feature.

Assembler

Supports CPU and VFPu instructions. 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. Better than GCC link times.

Debugger

The debugger allows you to view source code, disassembly, memory, registers, variables, display list, kernel (threads), TTY and the call stack. A split-pane system allows unlimited configuration of pane layout. User control of single stepping is complemented by conditional breakpoints. Our redesigned debugger UI has enhanced features such as splitting, docking, tabbing and floating of panes, full multi-monitor support, fully customizable menus, toolbars and keyboard shortcuts.

Tuner

Tuner lets you capture and visualize program behavior so that you can eliminate conflicts and bottlenecks in your code. High performance games can now be achieved with less guesswork.

- Capture data while playing your game in real-time.
- Captures function times per frame (including the Sync function), user markers and performance counters.
- Instrumenting functions on-the-fly so recompiling and redownloading is not required.
- Intuitive frame-based display of captured data highlights bottlenecks.
- Runs completely in software - no special hardware required.

Microsoft 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:

- PSP project AppWizards for ELF files, PRX modules and libraries.
- Toolchain command-line switches, command-line arguments for the debugger and executable, and fileserving paths, can all be set via a self-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.

Target Manager

- Load and run executable files
- Views for VRAM, module list and TTY
- Fileserving provides the target with access to the host file system
- Manages connections to multiple development hardware on your network allowing simultaneous debug sessions or sharing of development hardware
- Target Manager SDK provides complete target control for writing plug-ins and custom tools
- Color-coded display of printf streams

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.

System requirements

- Supported hosts: Windows XP Pro.
- PSP development tools are supported.

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 which is available 24 x 7.

For more information visit: <http://www.snsys.com/psp/prodg.asp>
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