

ProDG for PlayStation®2

ProDG is SN Systems' suite of fully-featured tools that enable you to build and debug your PlayStation 2 game titles. The product consists of EE/IOP/VU assemblers, C/C++ compiler, ELF/DLL linkers, and source-level debugger. Both the build tools and debugger can be controlled either from your command-line or integrated with Microsoft Visual Studio (2005).

ProDG development tools give you these real advantages:

- Compiler tailored for the Emotion Engine® (EE) including up-to-date support for Sony Computer Entertainment hardware cautions
- SN Systems' linker allows maximum flexibility for object code management so you can build ELF's that run faster and create dynamic linked libraries
- EE code profiler is fully integrated with the debugger
- State-of-the-art DMA channel debugging allows full control over your DMA transfers
- Full source-level debugging for VU0/VU1 including sophisticated pipeline stall analysis
- Flexible debugging of multiple IOP modules including system and third-party modules, as well as those loaded by an EE application
- Thread state monitor support for EE and IOP. Allows you to switch the debugger context to a different thread with a simple double-click

Features

Optimized build tools for EE, IOP and Vector Units

The compiler can automatically allocate VU0's internal register set and support 128-bit data. The linker has function and data stripping capabilities, removing unused code from your ELF file and the tailor made SN assemblers for all processors with additional instructions for optimum performance.

Detailed EE and IOP Thread Support

The debugger kernel pane displays information about all threads running on the PlayStation 2. Kernel pane views are available for both the EE and IOP processors which can display thread and semaphore data. The IOP kernel pane can additionally display Events, Message Box, V Pool and F pool information. Context switching is supported to aid multi-thread debugging.

Full Vector Unit Debugging (VU0 and VU1)

The debugger provides full source level debugging support on the Vector Units, as well as providing non-linear pipeline and program flow analysis, which predicts stalls in VU code.

EE usage profiling

View which functions are taking the most EE time, to get a good overview of how your program is performing.

DMA Simulation Engine

An accurate simulation of the DMA engine on PlayStation 2, which can handle the most complex DMA chains. Display DMA channel registers, tags and VIF packets, with real-time DMA chain error checks and DMA hardware breakpoints. Can be used to examine VIF0, VIF1, GIF, IPU, SIF0, SIF1, SIF2 and SPR information.

Full IOP Debugging

Provides full source-level debugging for multiple IOP modules simultaneously, and automatically, regardless of how those modules are loaded. You are not restricted to the single module that you are currently debugging.

ProDG Build Tools for PlayStation 2

- Best-in-class generated code execution speed

- EE and IOP C/C++ compiler with support for Sony Computer Entertainment hardware cautions
- Linker strips redundant code and data and supports creation of Dynamic Linked Libraries/overlays
- EE, IOP and VU assemblers
- Optional integration with Microsoft Visual Studio (see below)

ProDG Debugger for PlayStation 2

Fully customizable color-coded multi-window debugger provides optimal use of screen real estate and organizes debug information logically by processor

- EE profiler
- Simultaneously debug EE, IOP, VU processors (VU0, VU1) and DMA engine
- Debug multiple IOP modules, including those loaded by your EE application
- Full source-level debugging for VU0/VU1 including sophisticated pipeline stall and program flow analysis
- VU debug extensions provide access to ACC registers and safe debugging
- Advanced DMA debugging features provide reliable DMA debugging - hits D-bit breakpoints 100% of the time
- DMA chain error checking with configurable error reporting
- Support for multiple target views including CPU registers, memory, disassembly, source, local variables, watch points
- Templated registers pane supports user defined layouts
- Thread state monitor support for EE and IOP, as well as context switching
- Source level debugging provides software and hardware breakpoints, single-step, step-over, run to cursor directly in your source code across all processors
- Supports STABS and DWARF debug formats
- Color-coded display of printf streams with optional auto wrapping and configurable scrollbar buffer sizes

Visual Studio Integration (2005)

Builds your project using SN's compiler driver and linker. Provides a seamless edit/build/debug cycle including:

- Access to all of the Visual Studio features for your project, including build dependencies and browse information
- Compiler output is fully compatible with Visual Studio error and warning format
- Import/export breakpoints between Visual Studio and debugger
- Full source dependency checking for C, C++ and assembler files during the build process
- 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

ProDG Target Manager

- Load and run ELF and IRX files
- Fileserving provides the target with access to the host file system
- Manages connections to multiple PlayStation 2 Development Tools on your network allowing simultaneous debug sessions or sharing of Development Tools
- Target Manager API provides complete target control for writing plug-ins and custom tools
- Color-coded display of printf streams

System requirements

- Windows XP Professional
- PlayStation 2 Development Tool DTL-T10000
- Network interface adapter

For more information visit: <http://www.snsys.com/playstation2/prodg.asp>
 To request trial versions of software e-mail: contact@snsys.com

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