

Integrated Development Environment

The concept of SWEEP IDE was developed at SEDA Solutions® as a DSP Workbench to provide a man-to-machine interface that speeds code development by creating a uniform and easy to use environment for software or firmware engineers. Currently, processor vendors have multiple cores which all have different development environments. **SWEEP IDE enables the use of one development environment for multiple processor cores.**

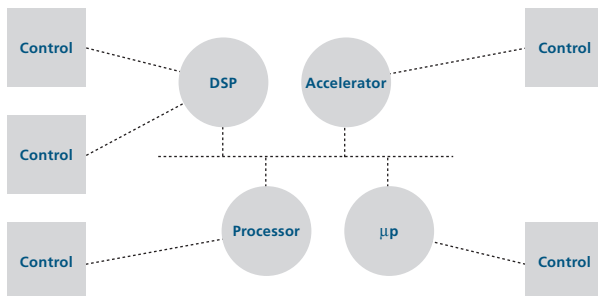
Having a single programming interface for a variety of DSPs provides several key advantages. Support and maintenance are reduced as heterogeneous programming interfaces are merged into a single interface. More importantly, a single programming environment for engineers and programmers means that development can be ramped far more quickly. The ultimate result of using SWEEP IDE is faster time to market through rapid development turns.

■ Overview

SEDA Solutions'® DSP Workbench defines the next generation development platform for DSP and microprocessor applications. By spanning the range from high-level conceptual design to real-world implementation and hardware-oriented verification, the DSP Workbench offers a one-stop solution for advancing pushing DSP system development.

The development approach enabled by the DSP Workbench incorporates the targeted hardware into the design cycle on a par with software design tools found in traditional development environments. A schematic composer is used to assemble hardware engines ranging from standalone DSPs to systems featuring DSPs, microprocessors and other hardware components such as application specific hardware accelerators. By addressing both hardware and software aspects of the design cycle the DSP Workbench serves as a common foundation and communication platform for software and hardware developers, enabling the rapid development of prototypes and applications through co-design.

In general, hardware components or devices are implemented as cycle accurate simulators or emulators attached to a development board. Exceptions are devices that allow the developer to execute high-level behavioral models such as C programs directly on the native machine.



Schematics

Using the schematics, the designer attaches so-called controls to hardware components in order to monitor and manipulate the system. Data memory controls connected to a certain memory bank of a DSP, for example, are used to display and modify memory contents, while others play audio/video data or visualize memory contents.

For more information on IDE related products and services please visit our web site at www.sedasolutions.com or contact us by email at info@sedasolutions.com.

IDE Tools



Integrated Development Environment (Continued)

The same usage model applies also to the actual software development cycle. By attaching a so-called developer control to the program memory of a DSP or microprocessor, the software designer invokes a modern software development environment with features including, but not limited to syntax aware editors, project management, and version control. During simulation, this control seamlessly visualizes the current state of the attached device by highlighting program lines and breakpoints. A less complex control, which also docks to the program memory of a device, serves as a disassembler enabling low-level inspection of programs, whenever necessary. Other controls covering and supporting a wide variety of design tasks are provided with the DSP Workbench.

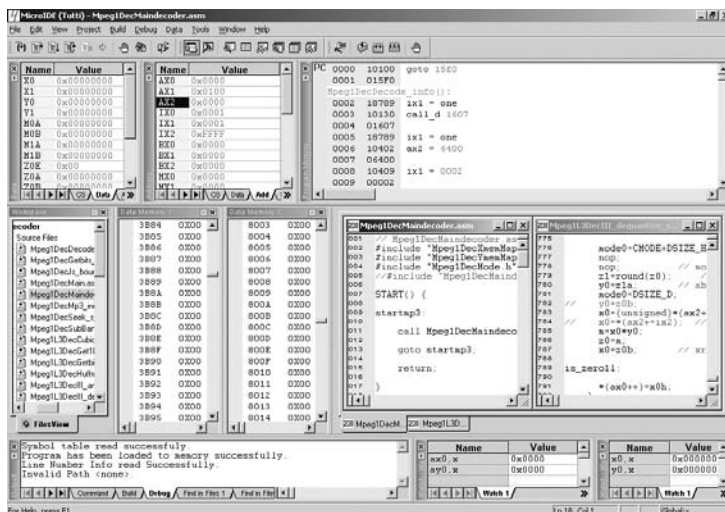
The easy-to-use concept of controls and devices enabling the seamless integration of new devices, combined with the diversity of available controls, are the unique properties of DSP Workbench. SEDA Solutions'® DSP Workbench brings complementary technologies together for the best competitive advantage.

■ DSP Workbench, Version 1.0

Version 1.0 of the DSP Workbench includes:

- A modern workspace environment with integrated project management and version control
- Cycle accurate simulation of an Audio/Telecom DSP Unit
- Verilog devices with customizable ports for communication with other devices
- Developer controls enabling state-of-the-art program development
- Program controls for low-level inspection of program memories
- Memory controls supporting multiple data formats like Q-, fixed or floating point formats as well as various display formats
- Register controls to monitor and edit the contents of registers or register files
- Run controls for starting and stopping devices and managing break conditions
- Schematics to form the underlying hardware and connect controls

Version 1.0 of DSP Workbench is now available on Linux, Mac OS X and Windows 2000 and XP.



Snapshot image of SEDA Solutions® IDE

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