

MPLAB[®] SIM

MPLAB IDE Software Simulation Engine

Welcome to this web seminar on **MPLAB SIM**, the software simulator that comes with the free **MPLAB Integrated Development Environment**, or **IDE**.

My name is **Darrel Johansen** and I'm a manager for Development Systems at Microchip Technology.

This 20 minute seminar will focus on **MPLAB SIM**, and will demonstrate how this tool can be used to develop and debug code for Microchip microcontrollers.

MPLAB® SIM WebSeminar Agenda

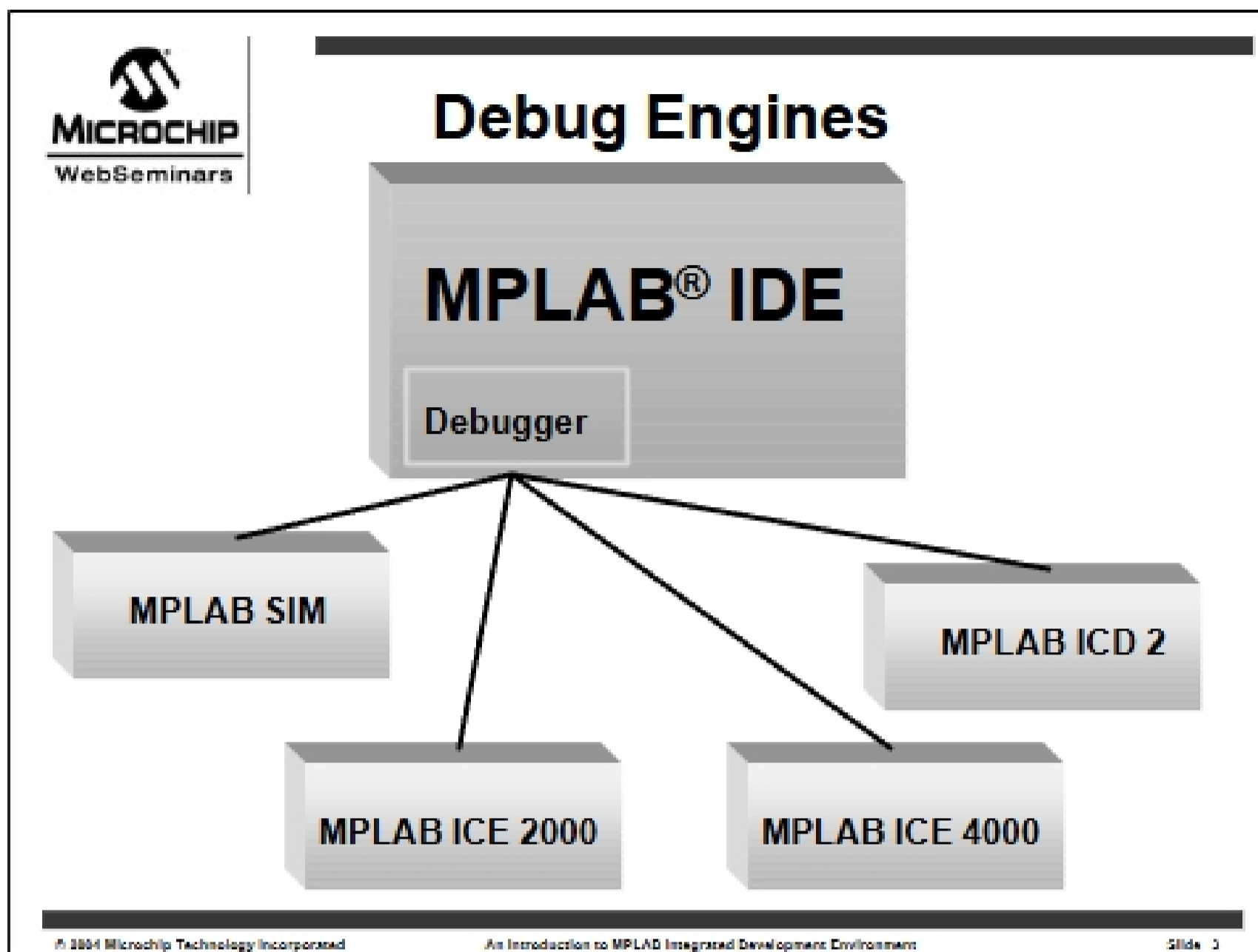
- MPLAB SIM is one “debug engine” used by MPLAB IDE
- MPLAB SIM has debug features similar to other debug engines
- MPLAB SIM has some unique debug features
- MPLAB SIM can have input stimulus signals and can log register outputs to files

This seminar will describe MPLAB SIM, one of the **debug engines** available for MPLAB IDE.

It has similar features to other debug engines, allowing the engineer to switch from one to another without encountering a new learning curve.

MPLAB SIM also has some unique debugging features that are not available in the hardware debuggers.

In order to debug the operation of code with simulated external signals, input stimulus events can be created. And in order to measure how an application performs, registers can be logged to files, graphed and be subjected to further analysis.



The other debug engines are **hardware** devices, while MPLAB SIM is a **software** program, running on your **PC**.

MPLAB SIM provides many of the same features as in-circuit emulators and in-circuit debuggers. The **difference** is that both in-circuit emulators and in-circuit debuggers allow the code to be run on actual **silicon**, and also allow a target application hardware to be functional while being debugged.

MPLAB SIM has features to simulate hardware interaction with other signals and devices, and since it is running as software on the PC, it has **complete information** about the internal **state** of the simulated chip at **each instruction**. This is a little different from the hardware debuggers because, while they are running code at full speed, they typically cannot monitor all registers and all memory in real time.

Both MPLAB SIM and the hardware debuggers can do the traditional functions of debuggers, but due to their differences, they can have unique features of their own. This presentation will identify the functions and features of MPLAB SIM.