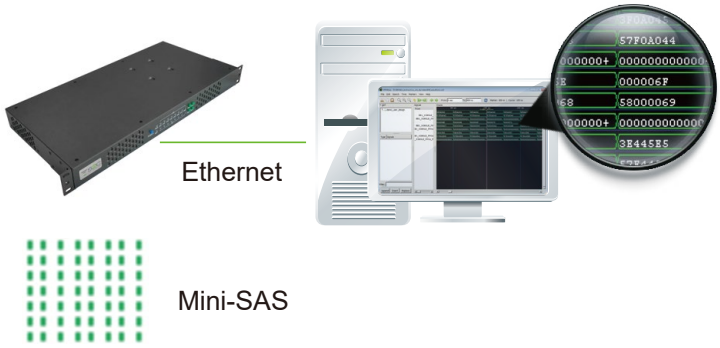
Prodigy Multi-Debug Module Pro

The Prodigy MDM Pro is an innovative deep trace debugging solution for prototyping and allows for the concurrent debugging of multiple FPGAs. The compilation function of Prodigy MDM Pro is embedded in Prodigy Player Pro - CompileTime for the insertion and compilation of design probes. The debugging software, Prodigy Player Pro - DebugTime, is mainly used for setting trigger conditions and completes board-level debugging by connecting to the independent Prodigy MDM Pro hardware module.

The MDM Pro hardware enables massive data acquisition and transferring through high speed giga transceivers, and deep tracing of the cause of bugs with the ability to store up to 64GB of waveforms. The MDM Pro captures and stores waveforms continuously removing the need to consume design FPGA memory for debug.

Highlights

- Debug across up to 8 FPGAs simultaneously using a single logic analyzer
- Sampling frequency at speeds up to 125MHz
- Trace up to 2K probes per FPGA
- Easy get the value of any internal DFF/BRAM
- Supports trigger state machine languages to ease the debugging
- Store up to 64GB of waveform data externally



System shown:
Dual VU440 + MDM Pro

- 11.08M System Logic Cells
- 177.2Mb FPGA memories
- 5,760 DSP Slices
- 64GB storage memory for debug

Note: Hardware sold separately

Features

The compilation function of Prodigy MDM Pro is embedded in Prodigy Player Pro - CompileTime for the insertion and compilation of design probes. The debug capabilities include:

RTL-level Probing

- The GUI allows you to mark and upload internal signals to the external MDM Pro hardware for easy setting of trigger conditions and signal tracing.
- Trace up to 2K probes per FPGA without FPGA re-compilation

Integrated In-Circuit Debug Setup

- Set up trigger and trace signals in multiple FPGAs from a single console
- Preserve internal FPGA probes before synthesis
- Probes are distributed to multiple FPGAs automatically based on partition results

Features

Trigger Condition Specification

General Trigger

Users can easily set trigger events and combinational events

- Trigger events support: ==, !=, rising edge, falling edge and double edge
- Combinational events support: &, |, () and counting
- Supports up to 8 event trigger blocks. Each block can run comparison, sequencing, occurrence and combination operations

Advanced Trigger

- Up to 8 trigger comparators
- State machines - support up to 8 states
- One, two- and three-way conditional branching
- Four built-in 16-bits counters used to events, implement timers, etc.
- Four built-in flags used for monitoring trigger state machine execution status

64GB Deep Trace

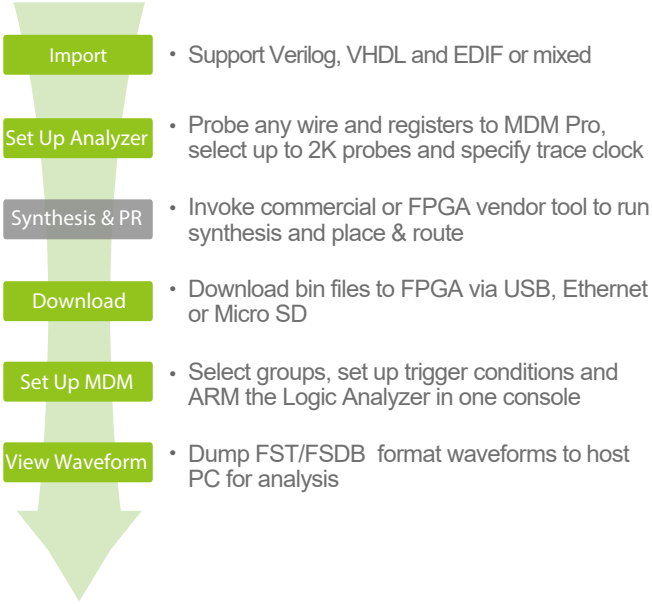
- Store 64GB of waveforms on external DDR4 memory, minimize the consumption of user FPGA resources
- Transfer captured waveforms to host computer through Gigabit Ethernet
- Capture and store waveforms continuously

Concurrent Debug of Multiple FPGAs

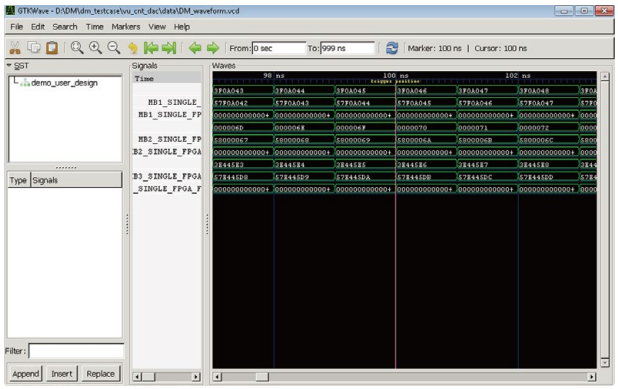
- Debug across multiple FPGAs simultaneously using a single Logic Analyzer
- Easily get the value of any internal DFF/BRAM
- Transmit trigger and trace data from multiple FPGAs to the MDM Pro hardware through high-speed transceivers
- Write the sample data in FST/FSDB format for analysis

Integrated with Prototyping Setup Flow

Prodigy MDM Pro works within the Prodigy Player Pro - CompileTime and Prodigy Player Pro - DebugTime to insert design probes and set trigger conditions, and to achieve board-level debugging.



- Support Verilog, VHDL and EDIF or mixed
- Probe any wire and registers to MDM Pro, select up to 2K probes and specify trace clock
- Invoke commercial or FPGA vendor tool to run synthesis and place & route
- Download bin files to FPGA via USB, Ethernet or Micro SD
- Select groups, set up trigger conditions and ARM the Logic Analyzer in one console
- Dump FST/FSDB format waveforms to host PC for analysis



Concurrent Debugging of Multiple FPGAs in one console