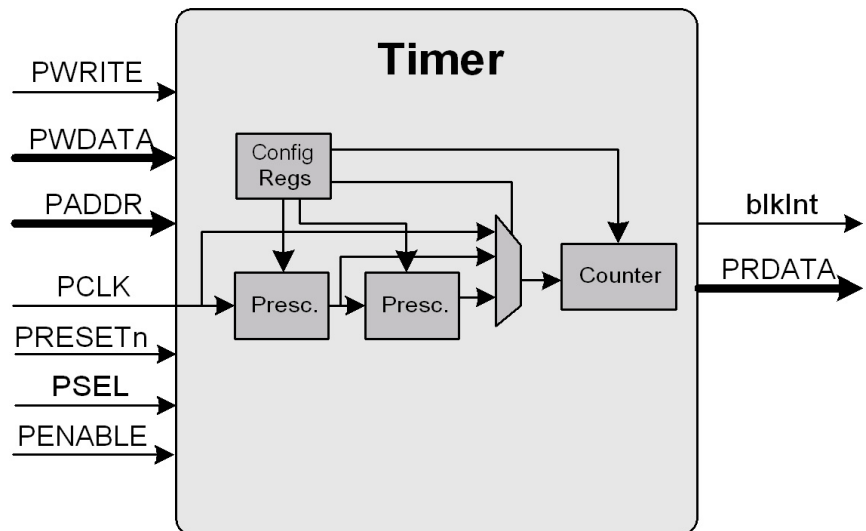


Features

- 16 bit counter/timer
- Two 4-bit pre-scalers
- Configurable
- Free running or periodic mode
- Interrupt output
- AMBA APB bus interface
- Testbench



General Description

The **IPC-Timer** is a programmable 16-bit counter/timer. The **IPC-Timer** was designed for a time-base generator for AMBA based SOC's and for applications requiring an interval timer. The timer function is necessary for any embedded microprocessor based SOC that is running a Real Time Operating System (RTOS).

The **IPC-Timer** Timer module is a sixteen bit down counter with a selectable prescaler. Prescale values of 1, 16 and 256 can be selected. The prescaler extends the timer's range at the expense of precision. The Timer provides two modes of operation that provide a free running value and also periodic interrupts.

The Timer contains several configuration registers that can be written and read by the processor. Two 4-bit prescalers precede a 16-bit counter. The counter can be clocked at either the input clock rate, or a choice of 2 prescaled rates. The counter can be loaded with a value from a preload register. The counter can optionally generate an interrupt.

IP Package

The **IPC-Timer** package includes fully tested and verified Verilog source and comprehensive Verilog testbench. The **IPC-Timer** can also be delivered as an FPGA Netlist for Xilinx, Altera and Actel FPGAs.