Verifying the Accuracy of sleep() and usleep()

Kevin Bloom

May 3, 2016

Using the ZYBO Private Timer & DSO:

Using the ZYBO Private Timer & DSO:

- Verify the accuracy of both functions
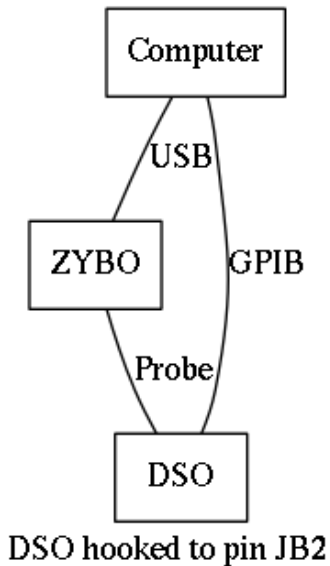
Using the ZYBO Private Timer & DSO:

- Verify the accuracy of both functions
- Compare accuracy of the private timer and DSO

Objectives

Using the ZYBO Private Timer & DSO:

- Verify the accuracy of both functions
- Compare accuracy of the private timer and DSO
- Determine delay to set a pin high/low

Functional Block Diagram

DSO hooked to pin JB2

Functionality

- User inputs value in C#
- C# sends value to the ZYBO

Functionality

- User inputs value in C#
- C# sends value to the ZYBO

- ZYBO uses this value to sleep
- ZYBO starts private timer, sets JB2 high, and sleeps
- DSO collects its data

Functionality

- User inputs value in C#
- C# sends value to the ZYBO

- ZYBO uses this value to sleep
- ZYBO starts private timer, sets JB2 high, and sleeps
- DSO collects its data

- Once finished, the ZYBO sends sleep value to C#
- C# reads all data off the DSO
- C# finds all data that is high

Tests

20 Total Tests

- 10 values per function
- Values per test range from low to high
- 10 data points per test