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Performance Report

Bit Serial Adder , Ripple Adder, Hybrid Adder

Ripple Carry Adder :

Hardware Used :

- 1X 1-bit full adder

Time Delay : 17.585ns

Hybrid Adder :

Hardware Used :

- 2X 4-Bit Carry Look Ahead Adder
- 1X 1-bit full adder

Macro Statistics

# Xors	:	16
1-bit xor2	:	8
1-bit xor3	:	8

Time Delay : 15.064ns

Bit Serial Adder :

Hardware Used :

- 2X 1-Bit Shift Register for 8 bit binary Number
- 1X 1-bit full adder
- 1X D-Flip flop
- 1X Serial Input Parallel output

Macro Statistics

# Registers	:	18
1-bit register	:	17
8-bit register	:	1
# Xors	:	2
1-bit xor2	:	2

Time Delay : 2.321ns

CONCLUSION : Ripple Carry Adder has some significant delay as expected as the carry gets propagated throughout the circuit then the hybrid adder has nearly same but better results in comparison of delays because it is calculating the carry rather than propogating it. And finally the serial bit adder which calculates the sub by bit addition at different cycles which makes the delay significantly lower than any other.