

Slack: -3.711ns (requirement - (data path - clock path skew + uncertainty))
 Source: RAM 416/dp ram.waddr tmp[8] (FF)
 Destination: RAM 416/dp ram.adreq 0.DOUTB ret 13 (FF)
 Requirement: 5.400ns
 Data Path Delay: 9.111ns (Levels of Logic = 3)
 Clock Path Skew: 0.000ns
 Source Clock: clk_c rising at 0.000ns
 Destination Clock: clk_c falling at 5.400ns
 Clock Uncertainty: 0.000ns

单击会出现提示
改进方法

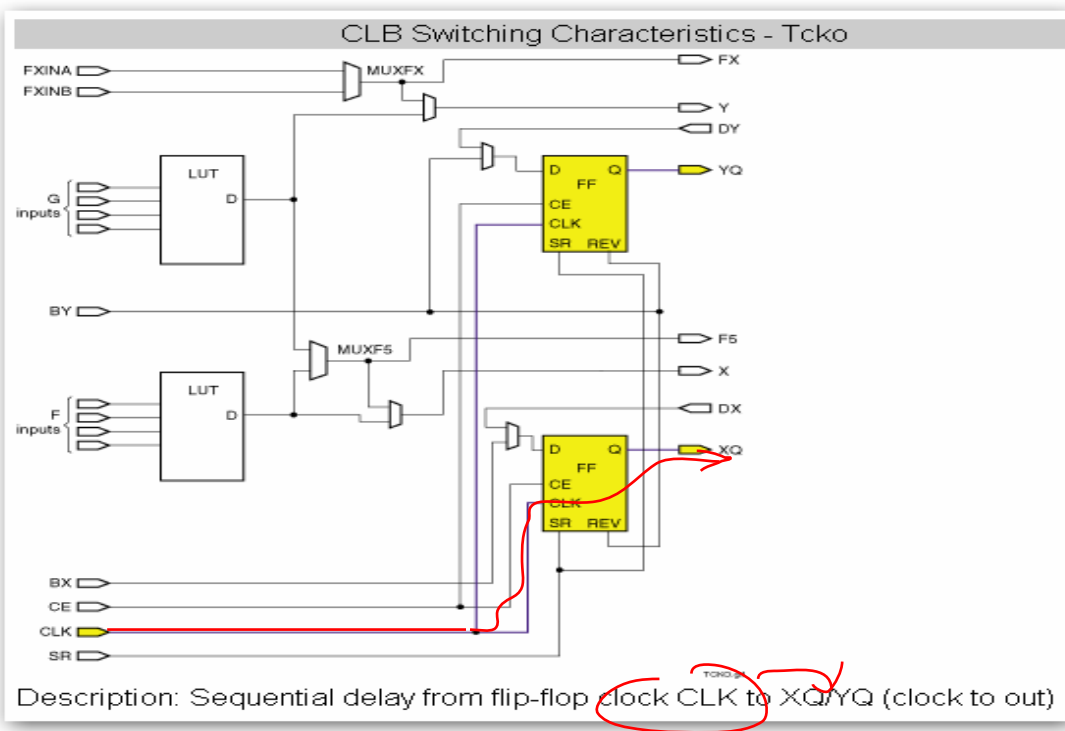
Timing Improvement Wizard
 Data Path: RAM 416/dp ram.waddr tmp[8] to RAM 416/dp ram.adreq 0.DOUTB ret 13

| Delay type | Delay(ns) | Physical Resource | Logical Resource(s) |
|-----------------|-----------|-------------------------|--|
| <u>Tcko</u> | ✓ 0.494 | RAM_416/waddr_tmp(8) | R RAM 416/dp ram.waddr tmp[8] L |
| net (Fanout=1) | 1.510 | RAM 416/waddr_tmp(8) | D |
| <u>Topxb</u> | ✓ 0.860 | RAM_416/N_1_ret_0i | R RAM 416/dp ram.adreq 0.N 7 i L RAM 416/dp ram.adreq 0.I 37 L |
| net (Fanout=36) | 2.817 | RAM 416/N 1_ret_0i | R |
| <u>Tilo</u> | ✓ 0.382 | RAM_416/DOUTB_ret_1 | R RAM 416/dp ram.N 1_ret_0i 17 L |
| net (Fanout=2) | 0.634 | RAM 416/N 1_ret_0i 17 | R |
| <u>Tilo</u> | ✓ 0.382 | RAM_416/DOUTB_ret_12 | R RAM 416/dp ram.N 1_ret_0i 17 0 L |
| net (Fanout=8) | 1.710 | RAM 416/N 1_ret_0i 17 0 | R |
| <u>Tidck</u> | ✓ 0.322 | RAM_416/DOUTB_ret_14 | D RAM 416/dp ram.adreq 0.DOUTB ret 13 |

Total 9.111ns (2.440ns Logic, 6.671ns route)
 (26.8% logic, 73.2% route)

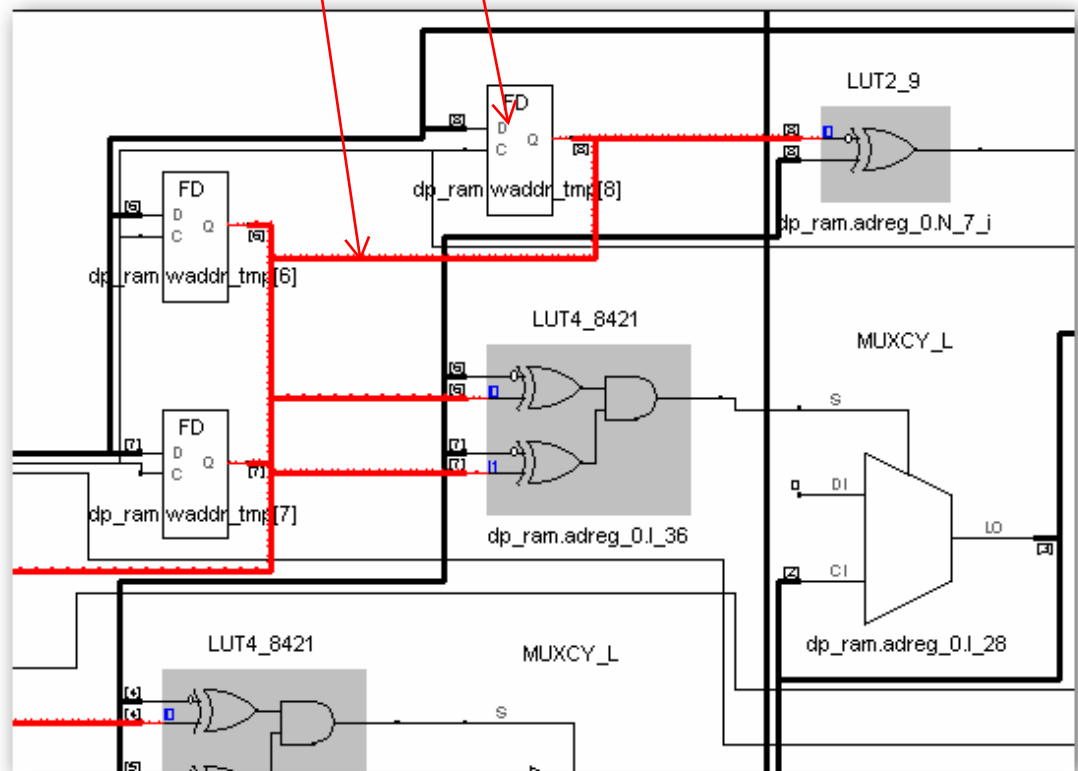
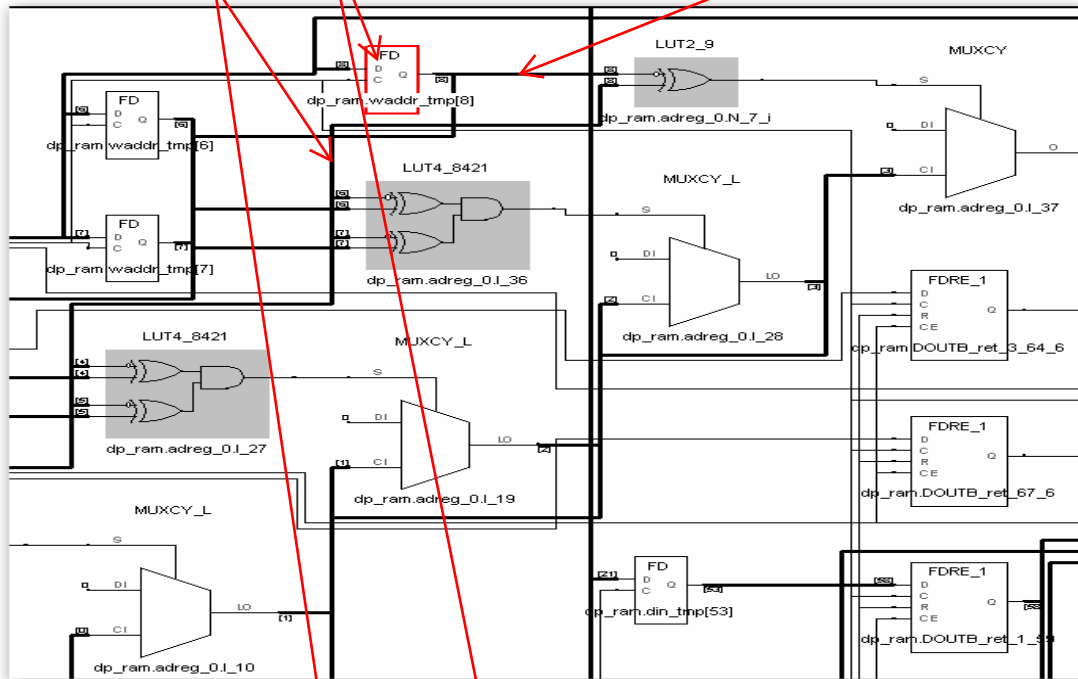
LOGIC为打钩的和

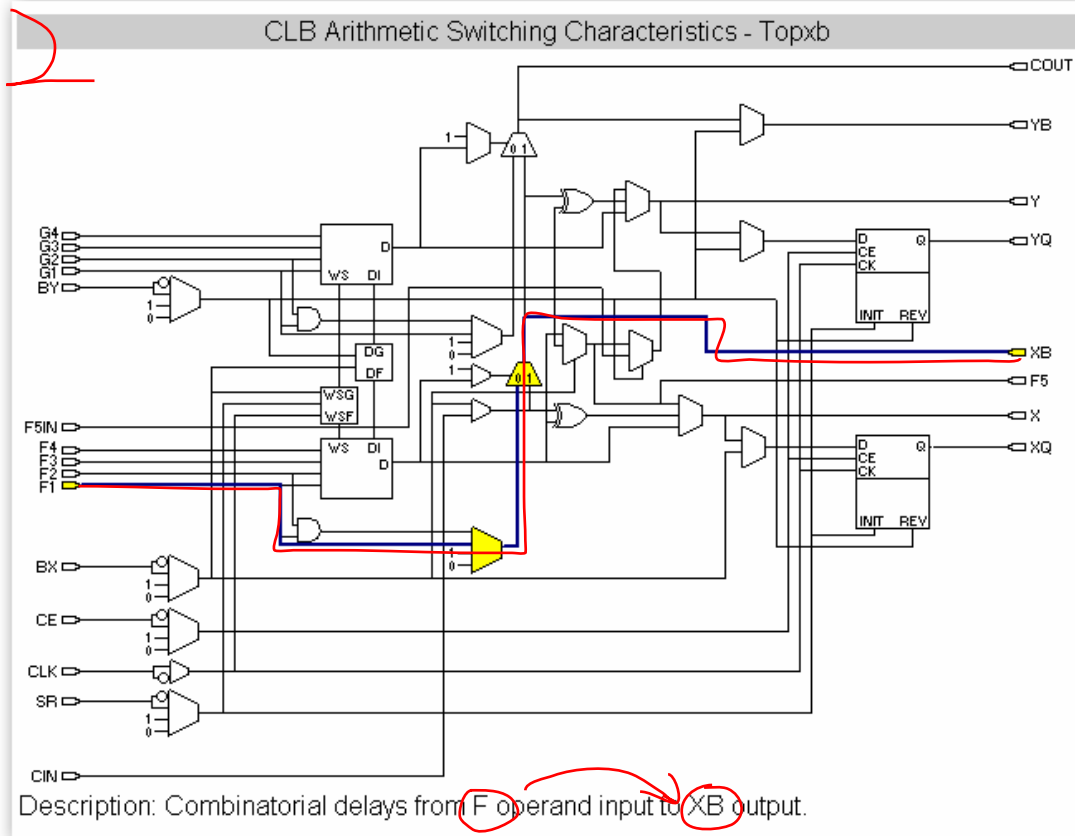
TCKO: 在 CLB 内部的情况



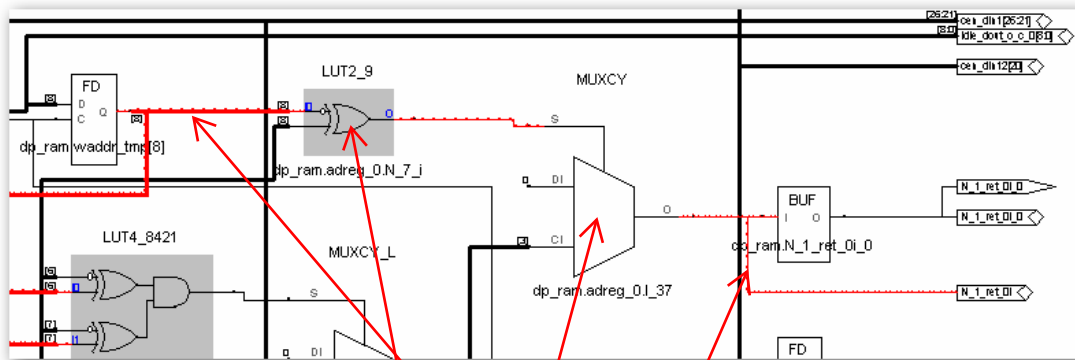
RAM 416/dp_ram.waddr_tmp[8] : 为原件, LOGIC延迟 **出发点**

RAM_416/waddr_tmp(8) : 走线 (NET), ROUTE 延迟





对应上图的实际中的 TOPXB 的延迟



Topxb

0.860

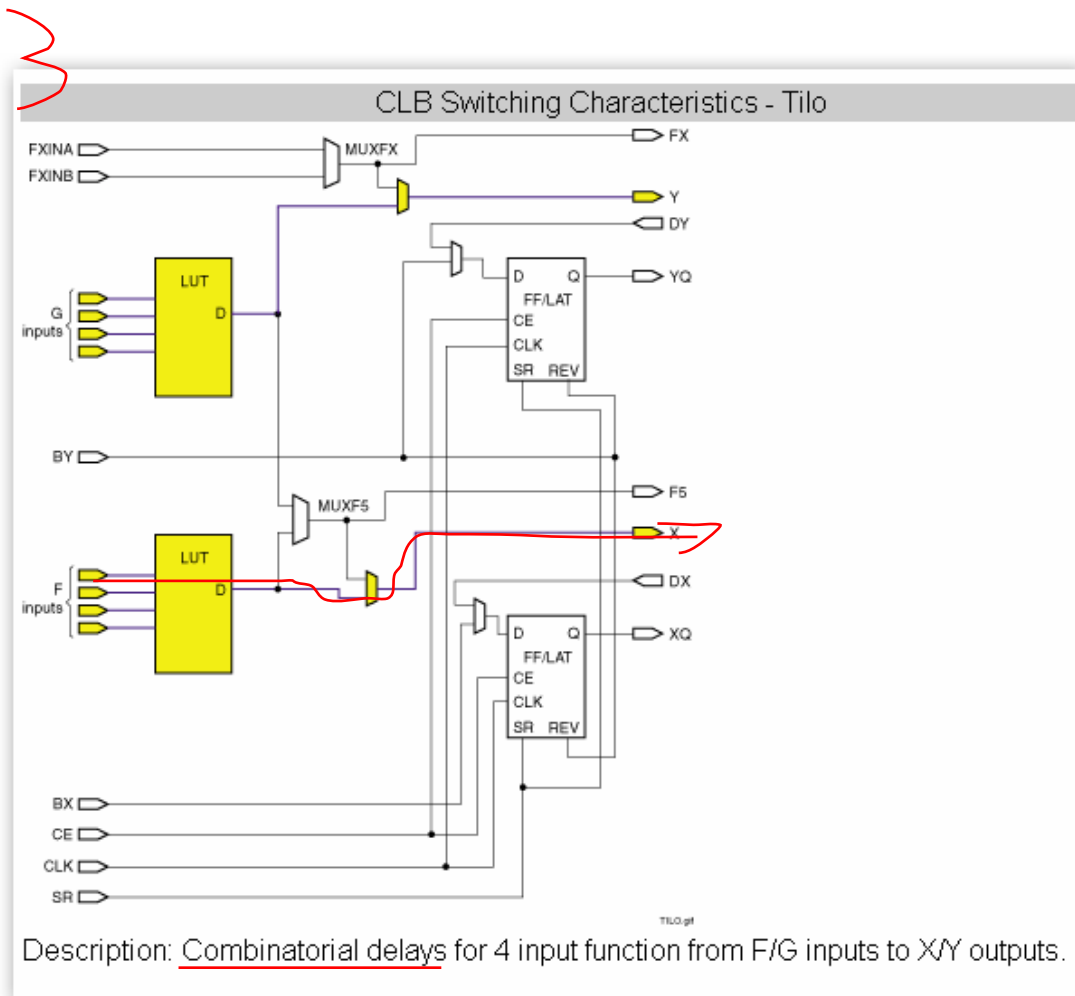
RAM_416/N_1_ret_0i

RAM_416/dp_ram.adreg_0.N_7_i (LOGIC延迟)

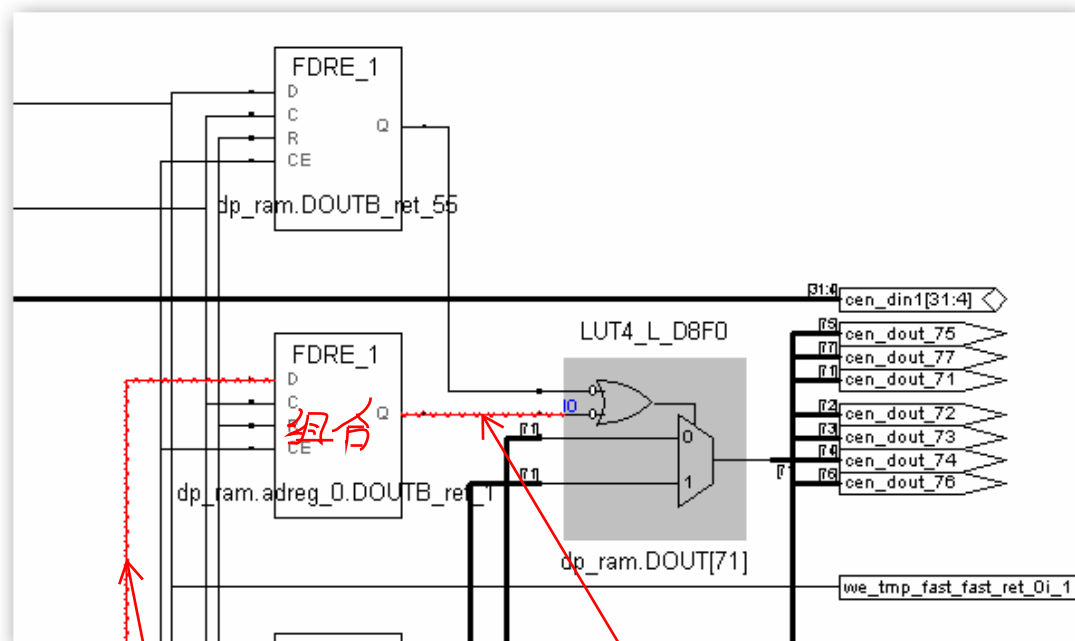
RAM_416/dp_ram.adreg_0.I_37 (LOGIC延迟)

net (fanout=36) 2.817

RAM_416/N_1_ret_0i (route延迟)

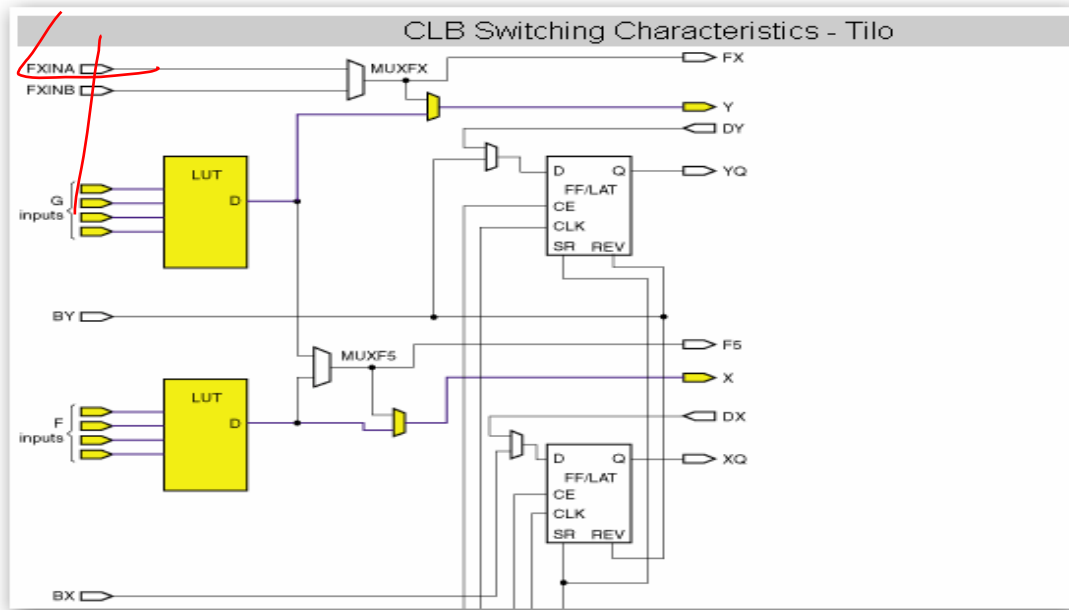


[RAM_416/N_1_ret_0i--> RAM_416/DOUTB_ret_1](#)

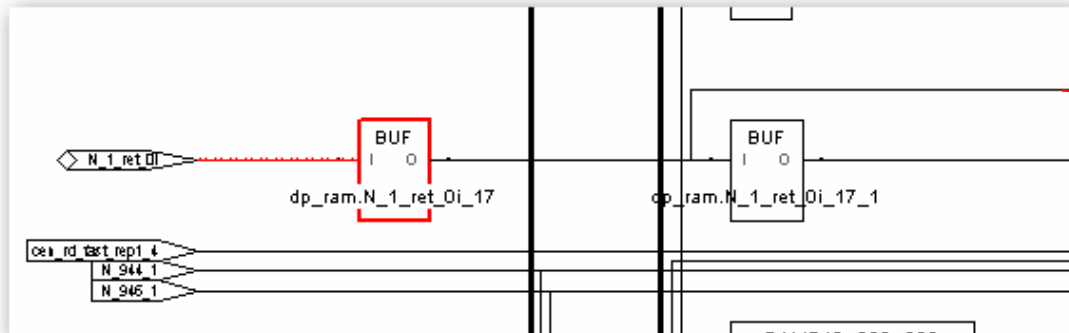


[RAM_416/dp_ram.N_1_ret_0i_17\(左边\) → RAM_416/DOUTB_ret_1\(右边\)](#)

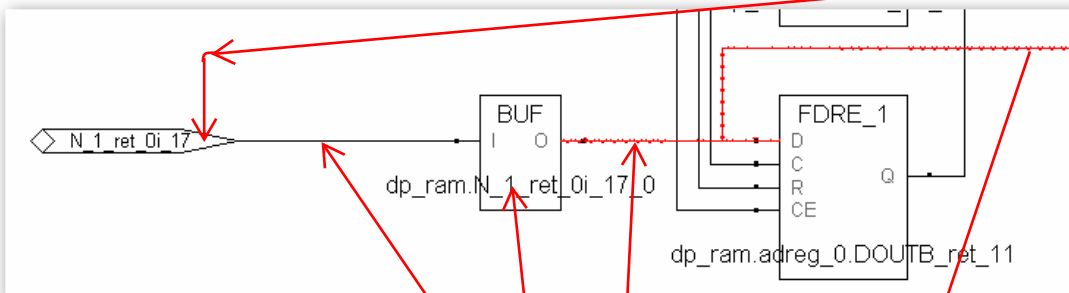
[RAM 416/dp_ram.N 1 ret Oi 17? ? ? ? ?](#)



RAM_416/DOUTB_ret_12 (下图buf的输入) → [RAM 416/dp_ram.N 1 ret Oi 17 0](#) (第二图中的第一个BUF)



(上面这个BUF的输出就是这个BUF的输入)



[RAM 416/N 1 ret Oi 17 0](#) (上图中的红线)

Tilo

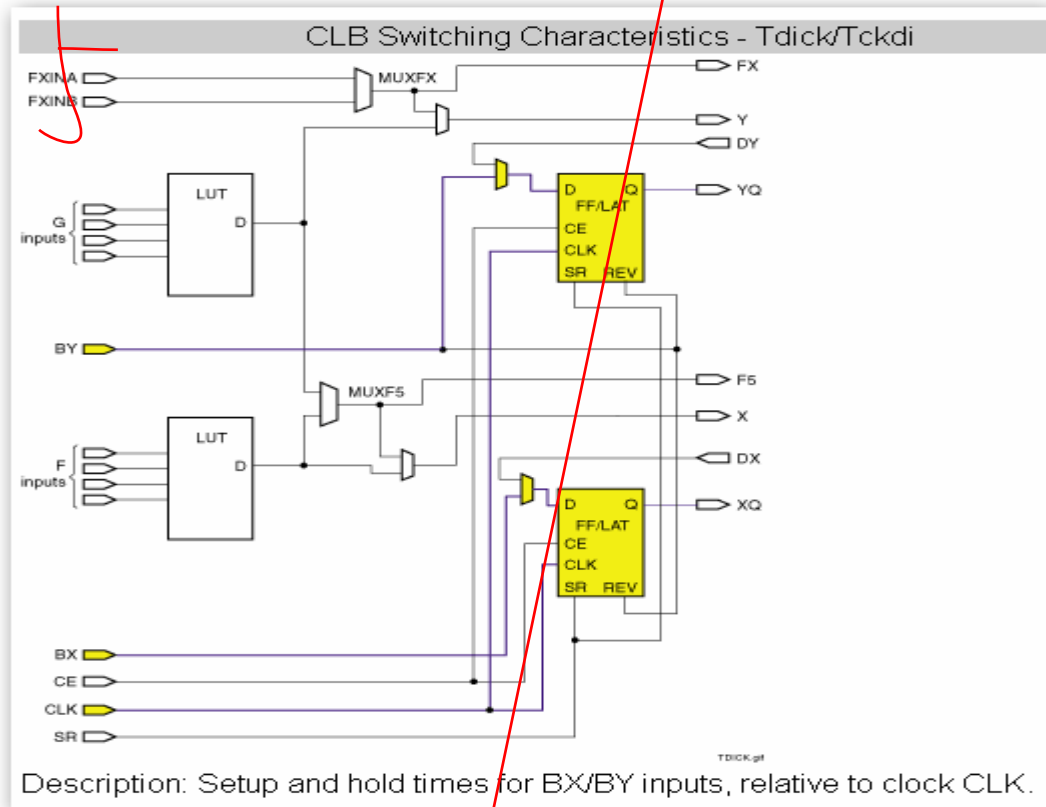
0.382 RAM_416/DOUTB_ret_12

[RAM 416/dp_ram.N 1 ret Oi 17 0](#)

net (fanout=8)

1.630

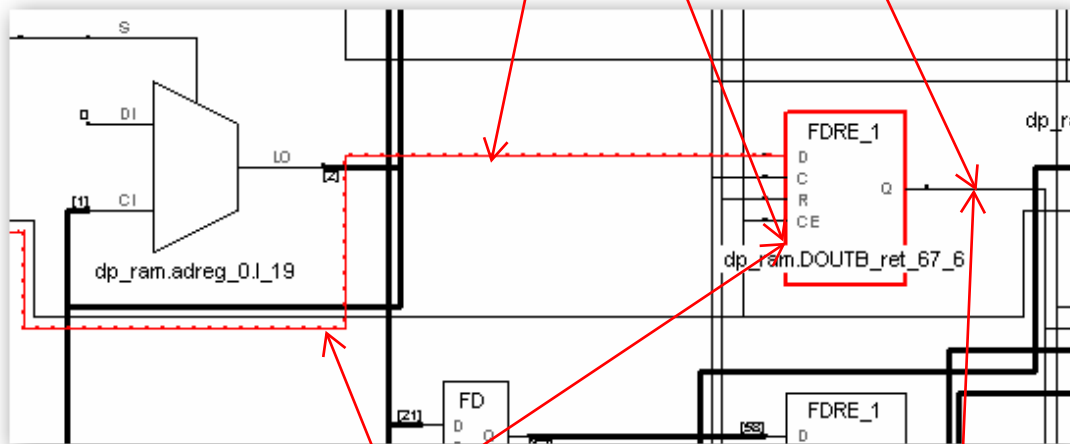
[RAM 416/N 1 ret Oi 17 0](#) route



Tdick

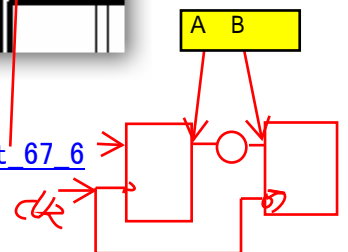
0.322 RAM_416/DOUTB_ret_67_6

RAM_416/dp_ram.DOUTB_ret_67_6 route



上图中左边的进入的是RAM_416/N_1_ret_0i_17_0 (红线)

→RAM_416/DOUTB_ret_67_6 (FDRE上图) → RAM_416/dp_ram.DOUTB_ret_67_6 (FDRE的输出)



clk1 (上升沿)

clk2 (下降沿)

