Virtual vs Physical Node Numbers
&
SBP-2

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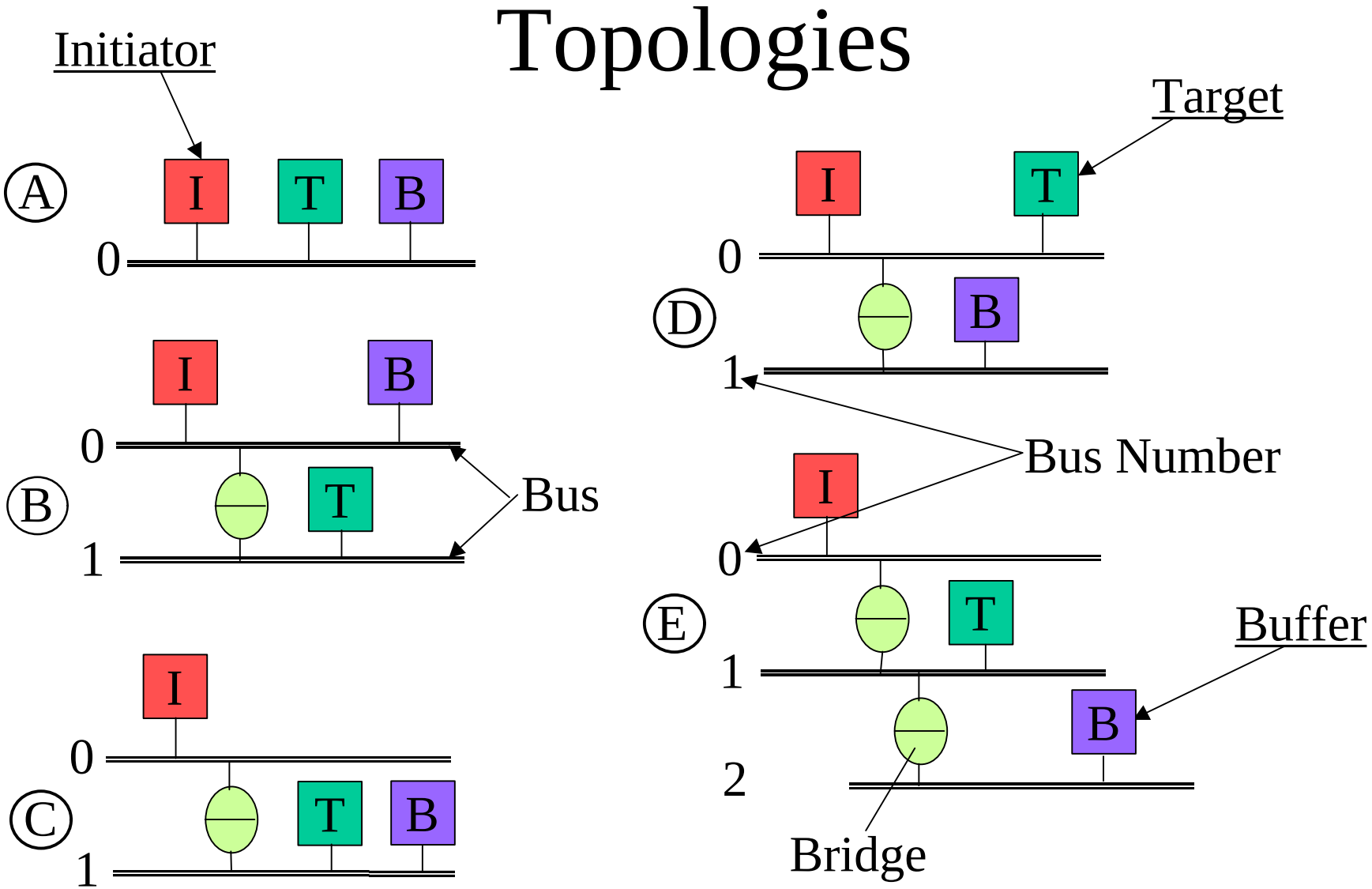
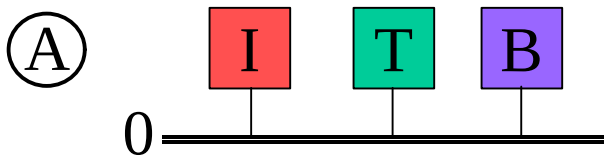
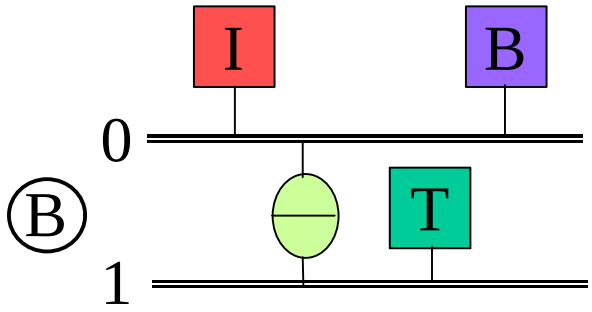
Topologies


Initiator
A
I
T
B
0
I
B
0
B
T
1
Bus
I
0
C
T
B
1
Target
I
T
0
D
B
1
Bus Number
I
0
E
T
1
Buffer
B
2
Bridge



- Nominal SBP-2 Configuration
- On bus reset, I must re-login to T
- I must also change node number for B in ORB

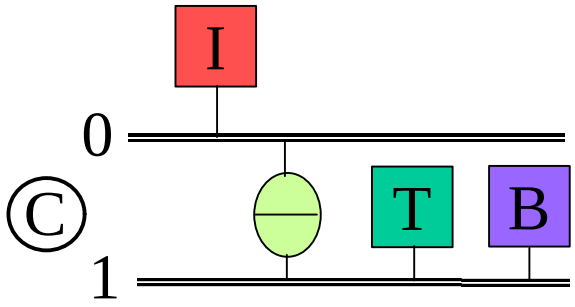


Physical Node Numbers

- Reset on *0* requires that *I* stop *T* so that *T* can re-fetch the ORB which has the new node number of . Also, requires that *T* accept re-login from *I* even though there was no reset on *1*. No sure how T will do status reporting when *I* can move.
- Reset on *1* requires that *I* re-login to *T* (need some notification of reset on *1*.)

Virtual Node Numbers

- Reset on *0* doesn't require any action by *I* or *B* or *T*.
- Reset on *1* doesn't require any action by *I* or *B* or *T* as long as *T* knows about 'remote login'
- Does require that *I* be able to find out the virtual address of *B* to put into ORB's that are fetched by *T*

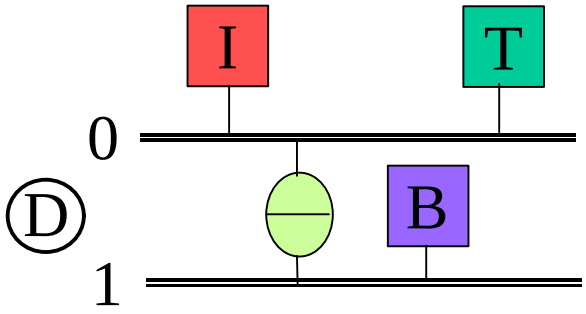


Physical Node Numbers

- Reset on *0* requires that *I* stop *T* because ORB address are not properly linked and status address in *I* has changed.
- Reset on *1* requires that *I* re-login to *T* and that address of *B* has changed (need some notification to *0/I* of reset on *1*.)

Virtual Node Numbers

- Reset on 0 doesn't require any action by I or B or T.
- If reset on 1 then the addresses that T uses for B are wrong (they are on the same bus so they don't use virtual addresses.) So, T needs to notify I that it needs help. This is possible because the address of I doesn't change at T and status block addresses remain valid
- Does require that I be able to find out the physical address of B to put into ORB's that are fetched by T

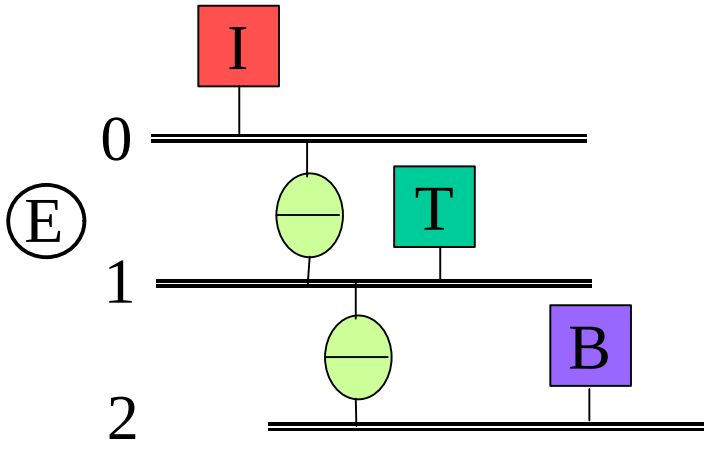


Physical Node Numbers

- Reset on *0* stops T because I is on same bus as T.
- Reset on *1* causes address that I and T are using for B to become invalid. This means that I and/or T have to be notified that the address they are using for B is no longer valid. Problem is figuring out how to know when it is safe to enable accesses from 0 to 1 (when does T stop using the old address of B?)

Virtual Node Numbers

- Reset on *0* stops T because I is on same bus as T.
- Reset on 1 requires no action by I, B or T



Physical Node Numbers

- Reset on *0* requires that *I* stop *T* because ORB address are not properly linked and status address in *I* has changed.
- Reset on 1 means that I must re-login to T. Also, I must know new address of T so that it can ring the doorbell
- Reset on 2 needs to propagate to I so that it can change the addresses in the ORB's

Virtual Node Numbers

- Reset on 0 requires no action by I, T or B
- Reset on 1 requires no action by I, B or T
- Reset on 2 requires no action by I, B or T