Some issues and considerations for RE

Jae Hun Cho(jaehun.cho@samsung.com)
Chong Ho Yoon (yoonch@hau.ac.kr)
SAMSUNG ELECTRONICS

contents

- Timing master selection issue
- Coexistence with legacy Ethernet devices

Issues

- Timing master selection criteria
  - Device class
  - Topology

- Device classes
  - class 0 : Legacy Hub(looks like a splitter in the EPON)/Repeater/Switch/NIC
  - class 1 : Residential Ethernet DTE , a device without switching capability
  - class 1+ : a class 1 device with timing master capability
  - class 2 : a device with switching capability

- Who will be winner of Timing Master?
  - Class 2> class1+

What is a Timing Master in RE?

- *Timing Master*

✓ Source of sync for the Residential Ethernet network.

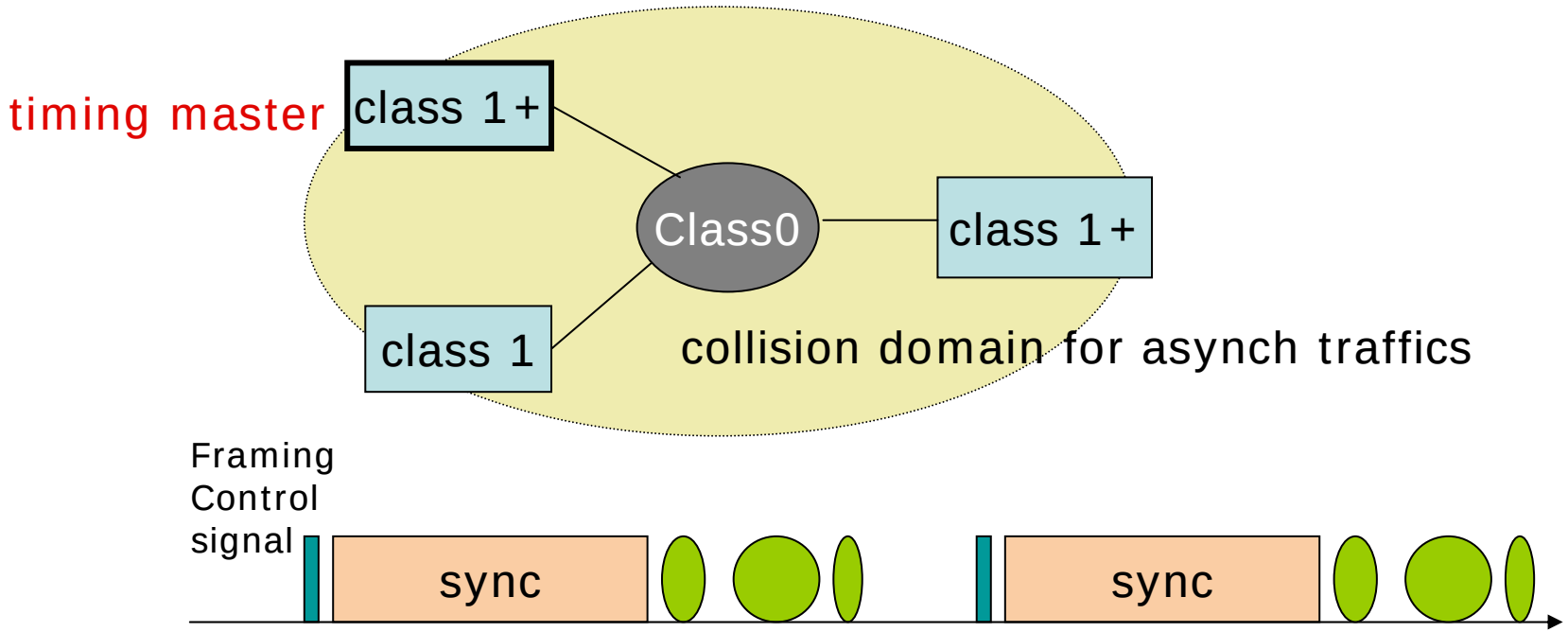
✓ Provide the sample CLK to other devices

✓ Selecting Timing Master is automatic and transparent to the end user

✓ Must establish one Timing Master using a set of defined rules.

What is going to be Timing master?

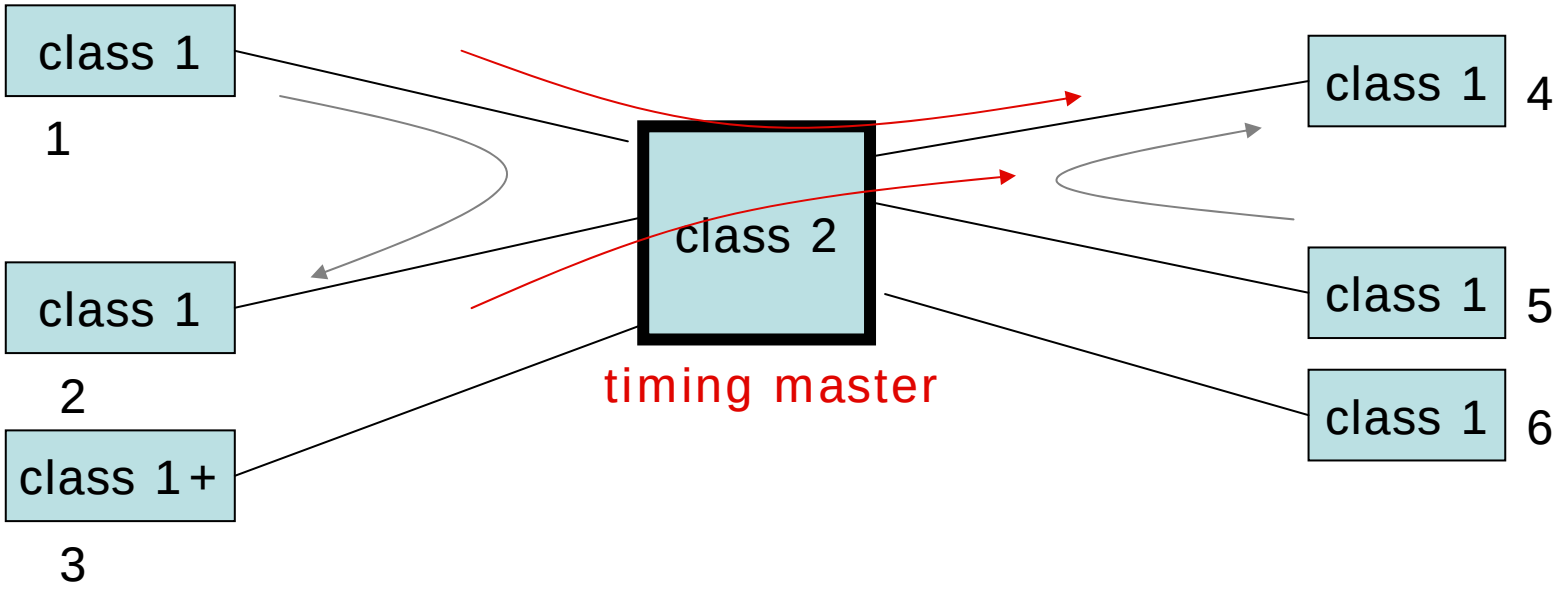
- Hub-based network



- If several class 1+ device in the network, we need to consider algorithm for timing master to be determined(e.g., contention based)

What is going to be Timing master?

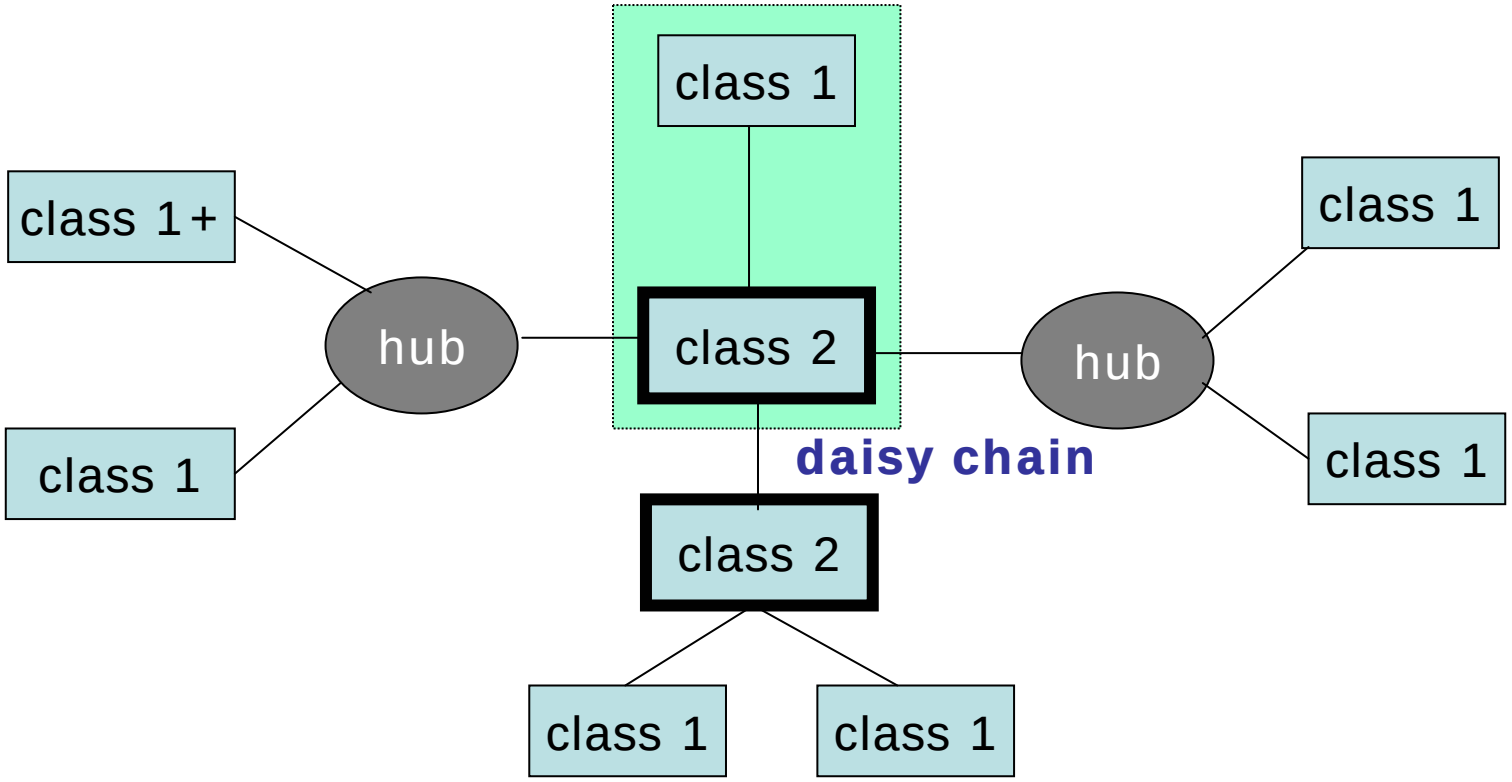
- **Star-Topology : Switched Network**



- Class 2 device will be Timing Master in the Switched Network

What is going to be Timing master?

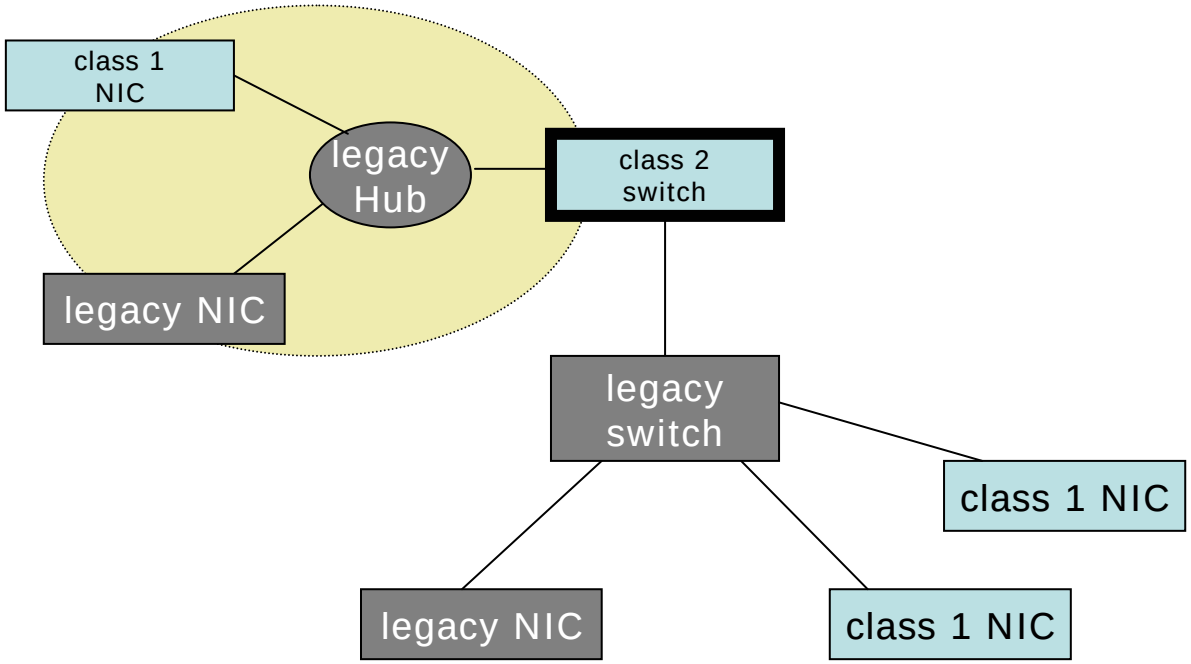
- **interconnected Network**



- If there are several daisy chained class 2 devices in the network, we need to consider algorithm for timing master to be determined(e.g., contention based)

Other Issues

- Do not specify a single line speed
- Coexistence with legacy ethernet devices



conclusions

- Classify device roles depending on topology
  - Do not specify a single topology
- Specify a mechanism to coexist with legacy Ethernet devices