

Ethernet – lab

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MAC addressing



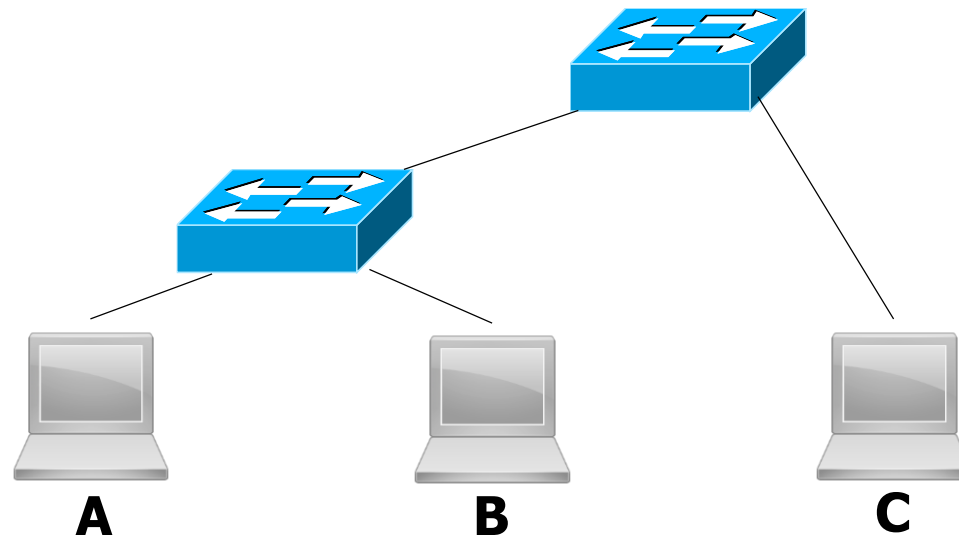
BME-TMIT

- MAC
 - MM:MM:MM:SS:SS:SS
 - MM-MM-MM-SS-SS-SS
- An OUI {Organizationally Unique Identifier}
 - 00:00:0A -- this is owned by Omron
 - 00-0D-4B -- this is owned by Roku, LLC
- <https://www.wireshark.org/tools/oui-lookup.html>
- Broadcast: FF:FF:FF:FF:FF:FF
- Multicast

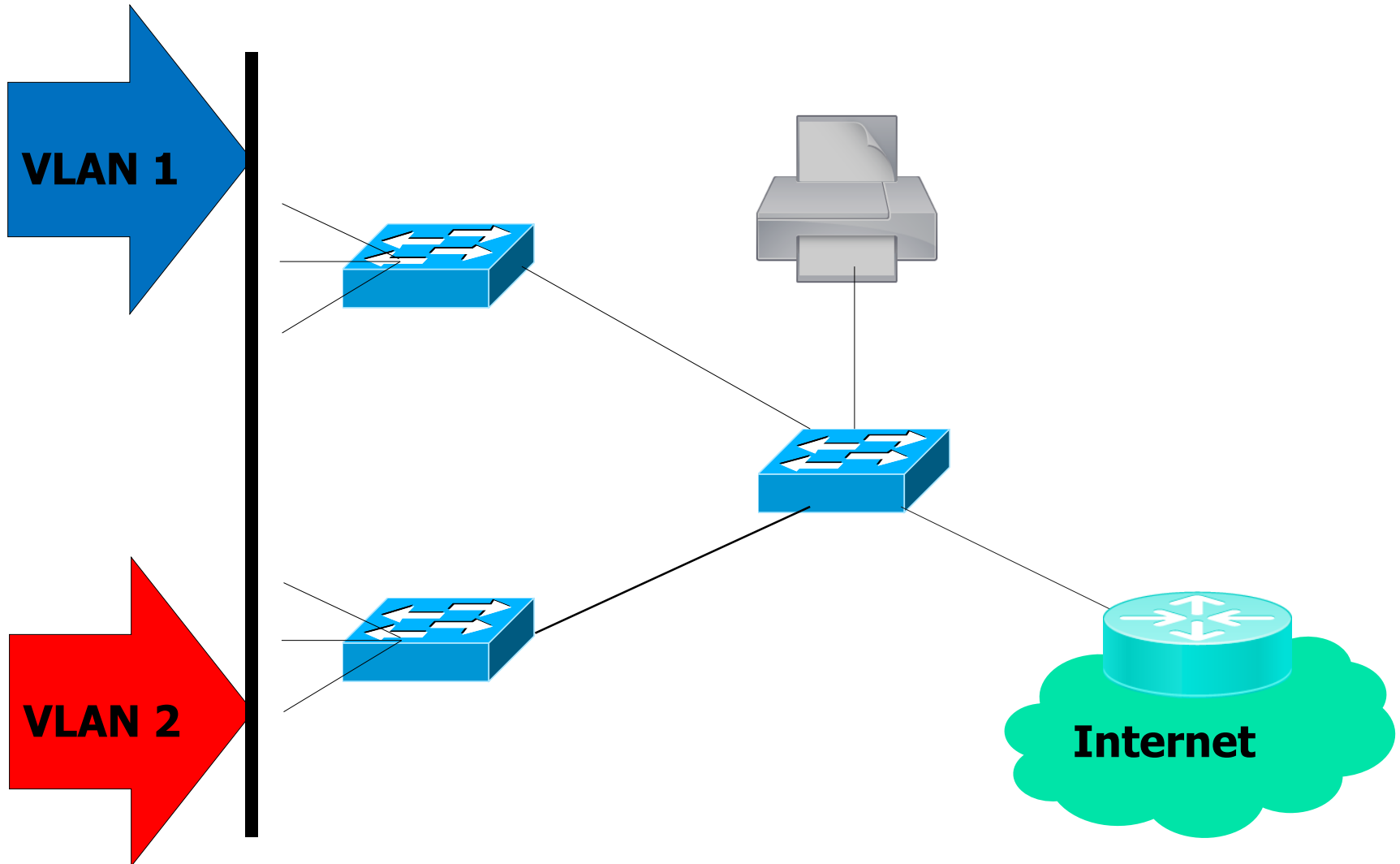
Ethernet frame



- Ethernet II vs 802.3 – when?
 - Type/length
 - packETH / wireshark
- Learning
 - Example



VLAN

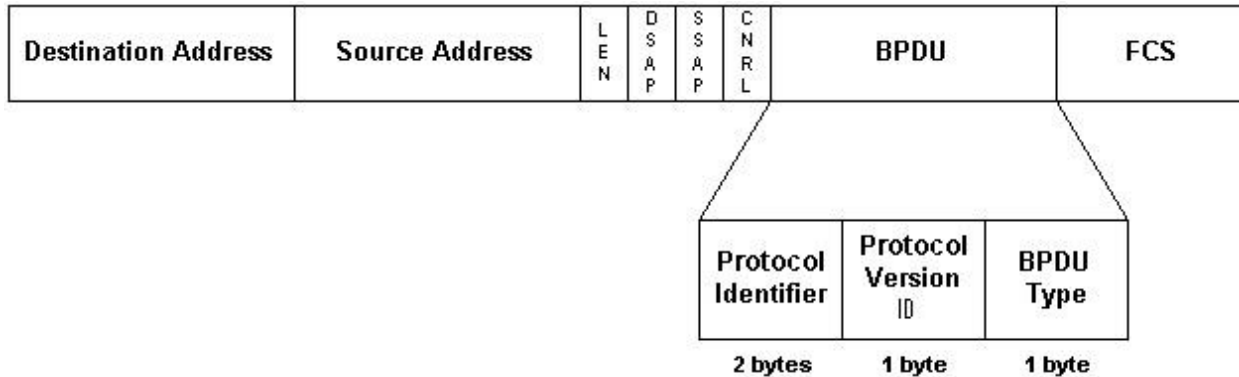
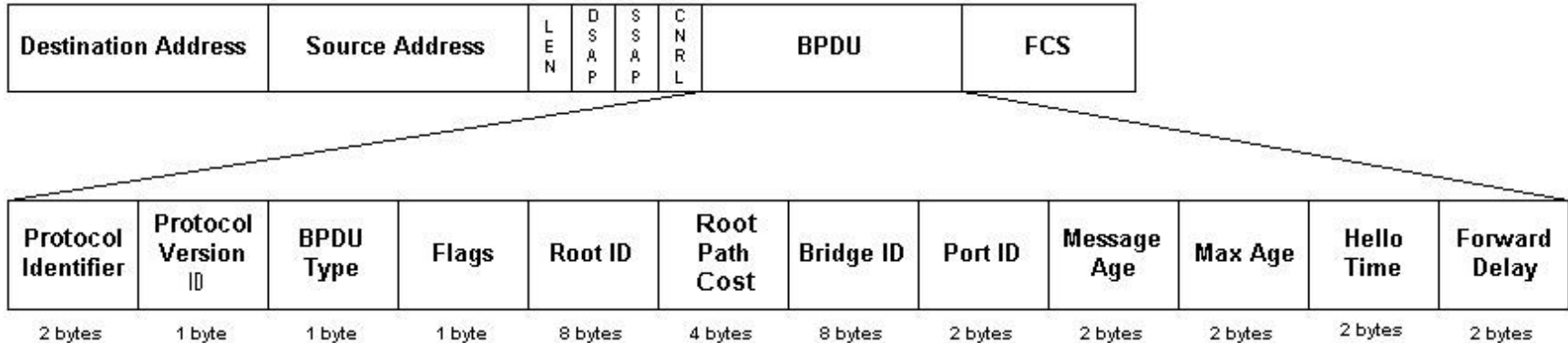


Spanning Tree

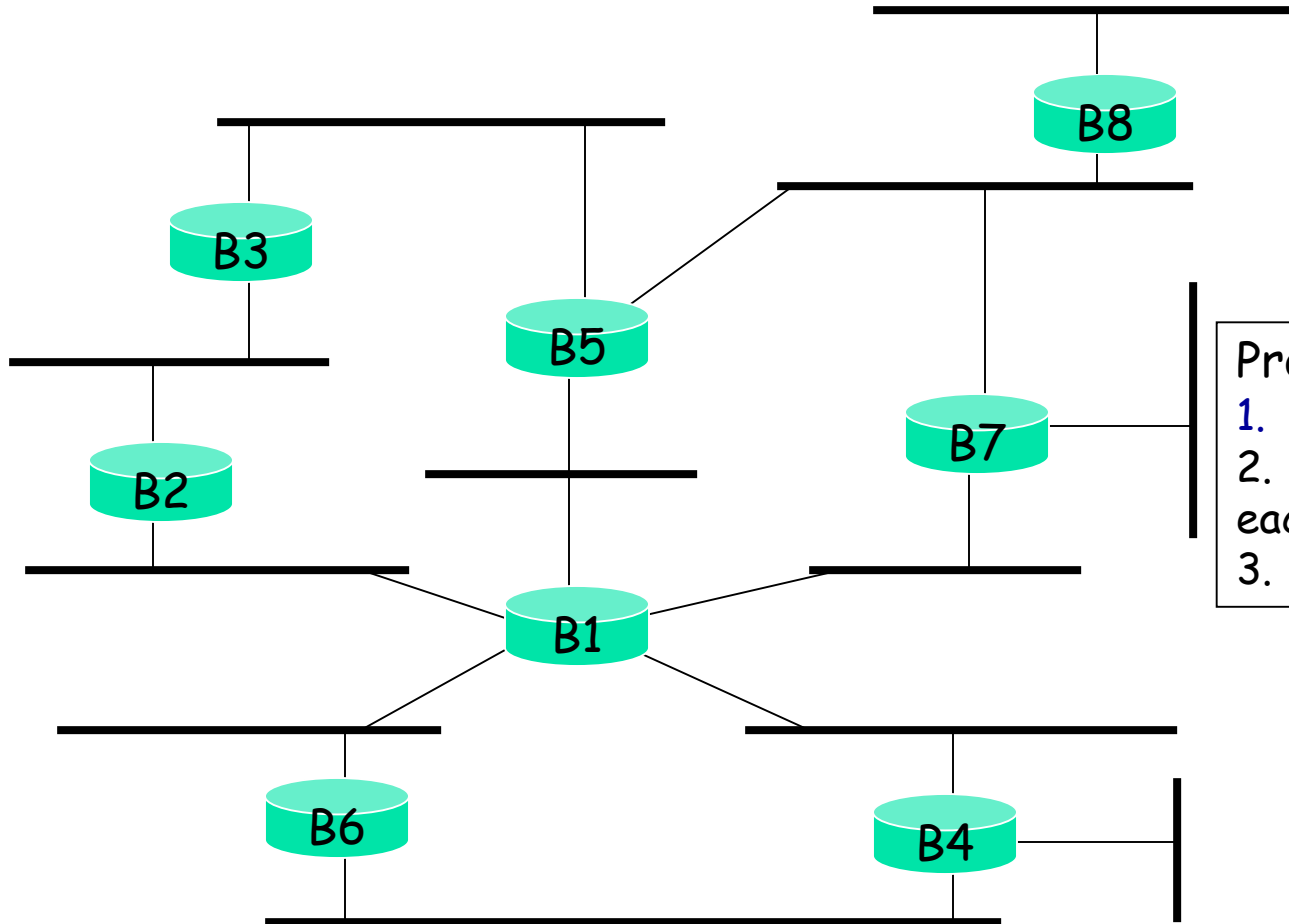


- RSTP tree
 - BPDU-s
- Params:
 - Link speed
 - Priorities
 - ID
- Bridge ID: Priority + MAC: 8 bytes

Bridge BPDUs



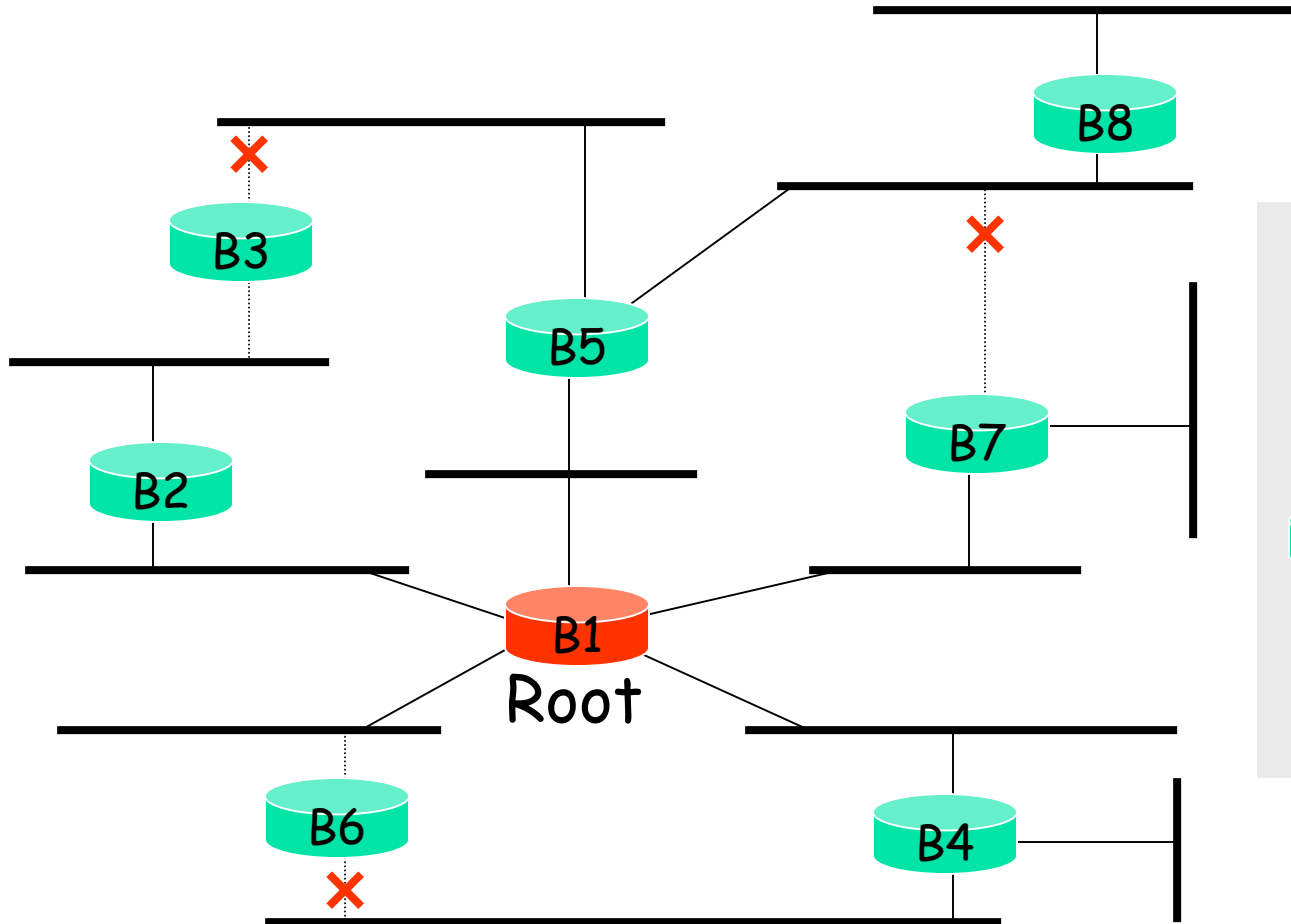
Example topology



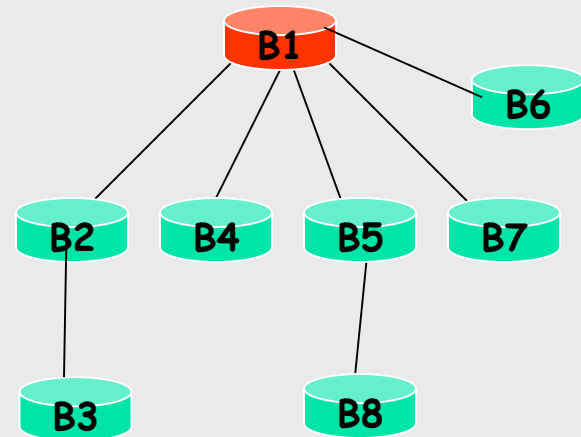
Protocol operation:

1. **Select Root**
2. Designated bridge for each segment.
3. Block others

RSTP



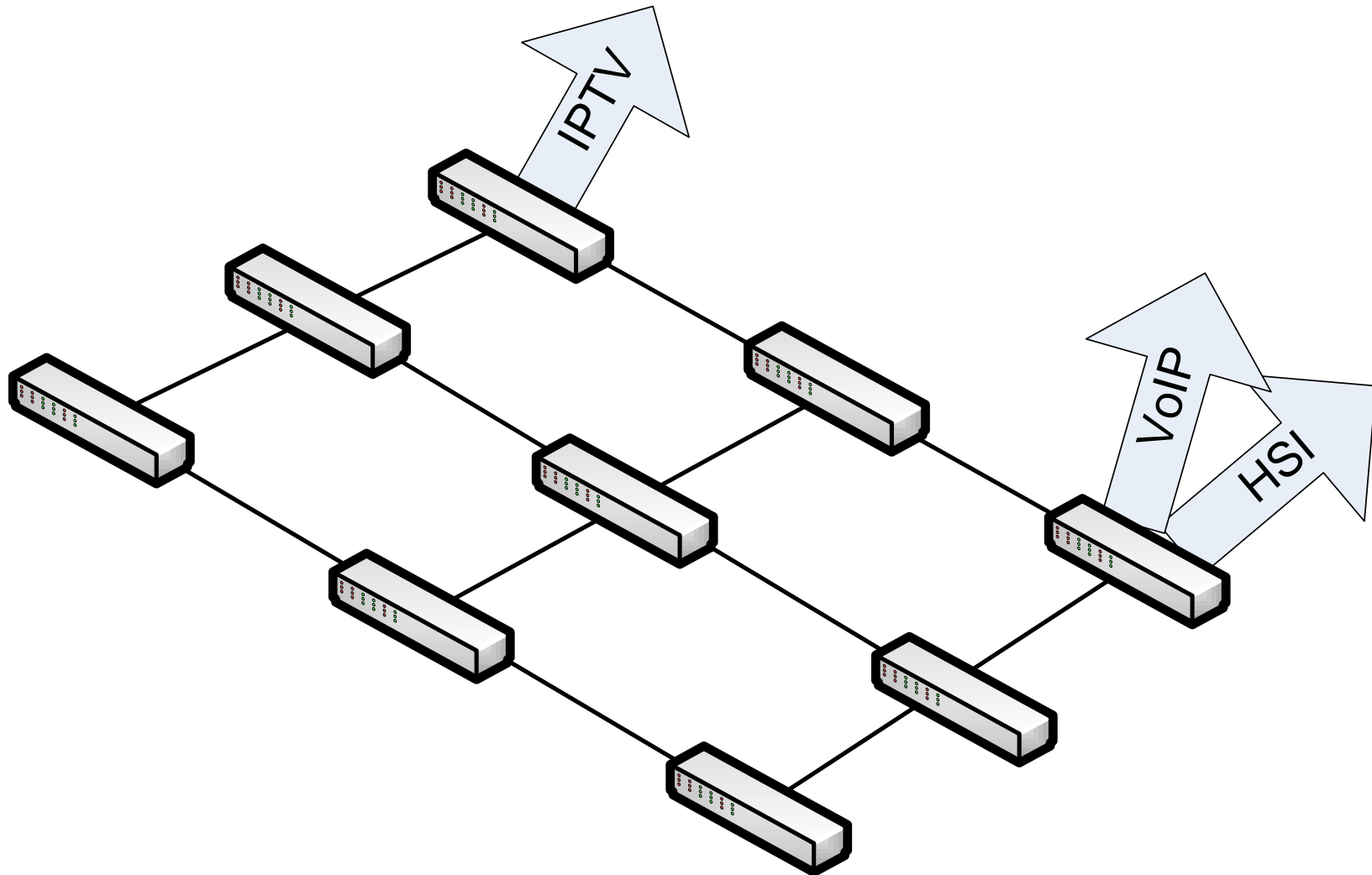
Spanning Tree:



RSTP Optimal setup



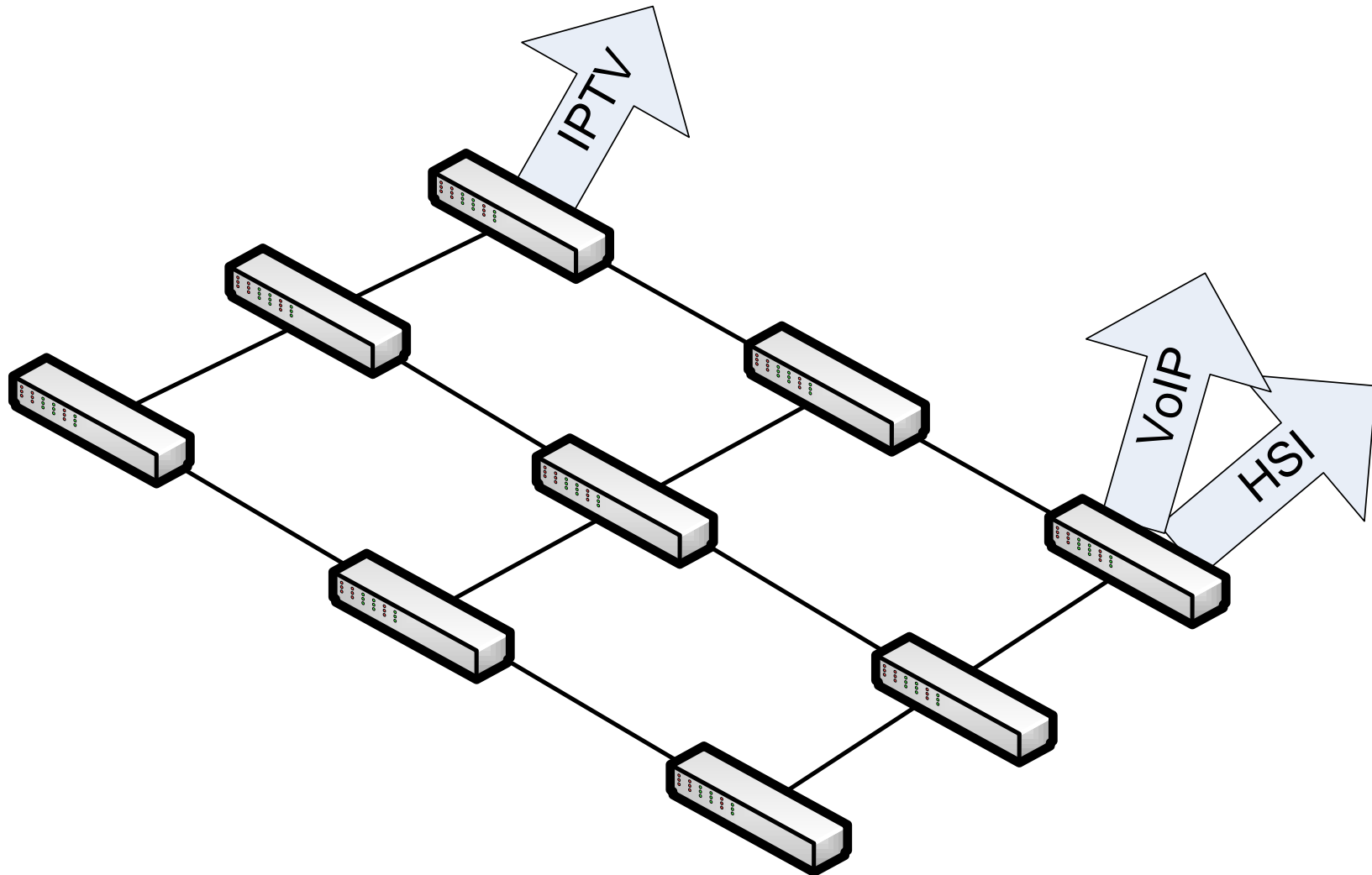
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MSTP optimal setup



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Questions?



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