

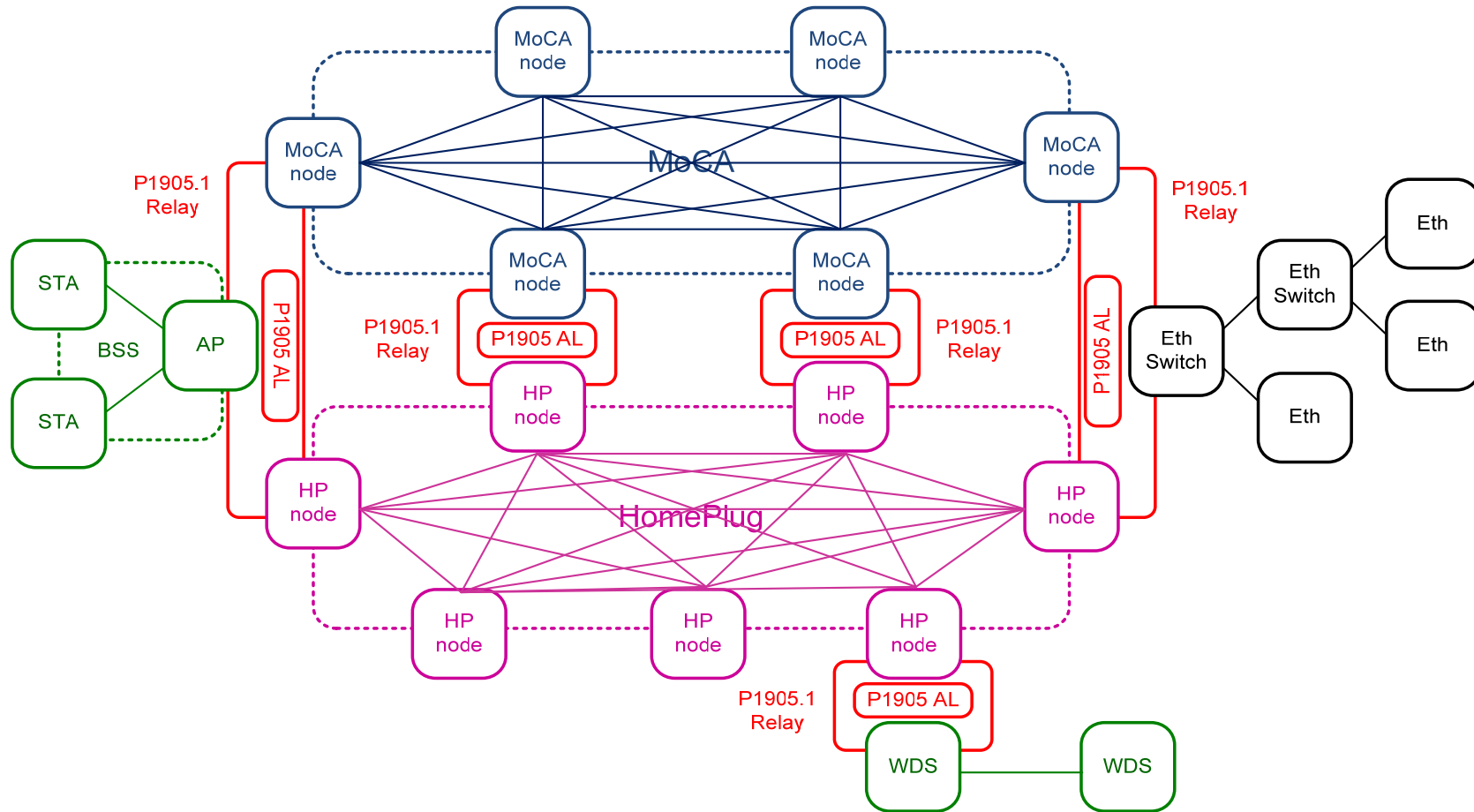


# SRP Stream Path Selection

IEEE 802.1 AVB WG  
Singapore, Mar 2011

Presented by: Philippe Klein, Broadcom

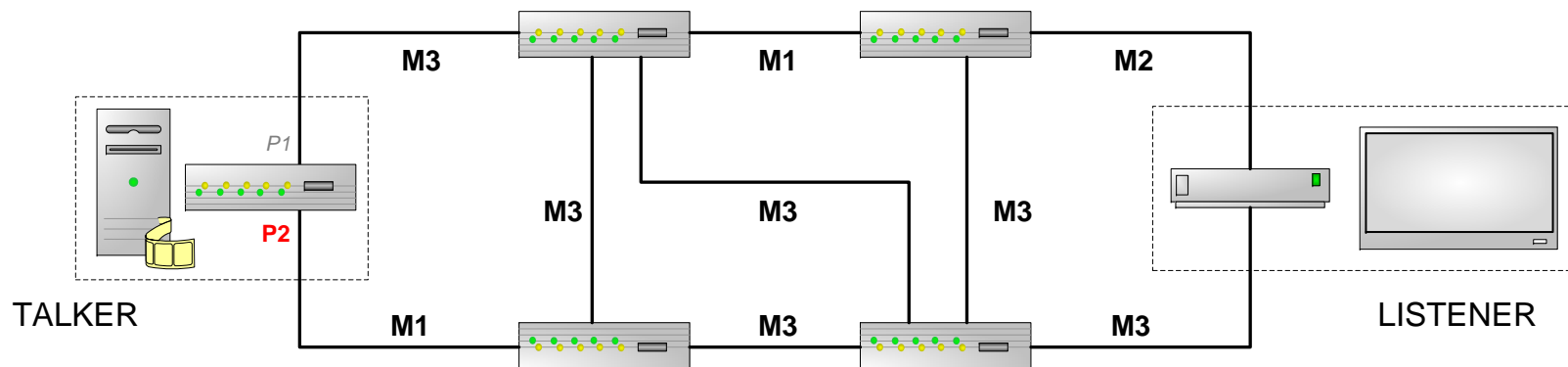
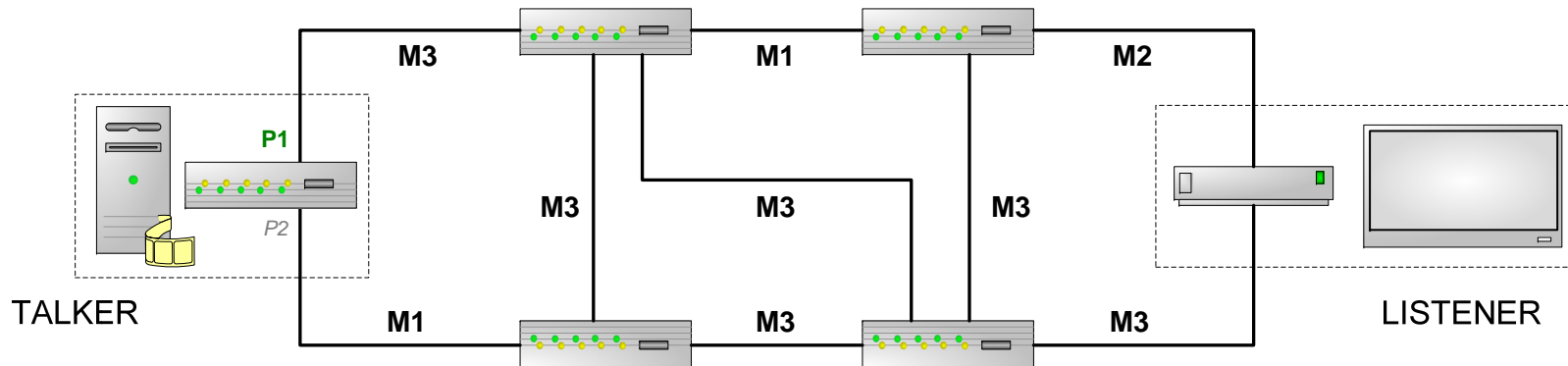
# Convergent Home Network



# SRP Stream Path Selection

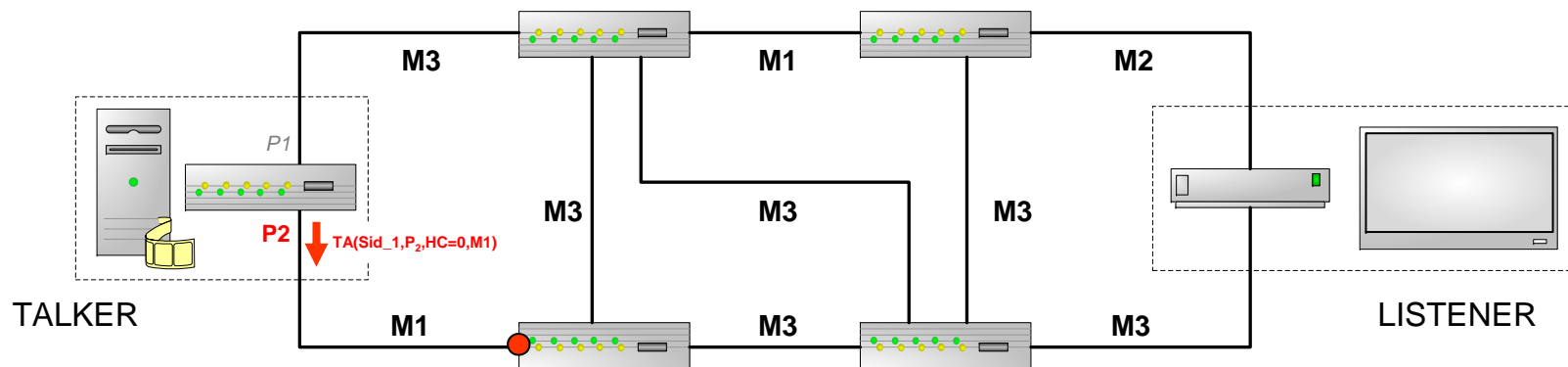
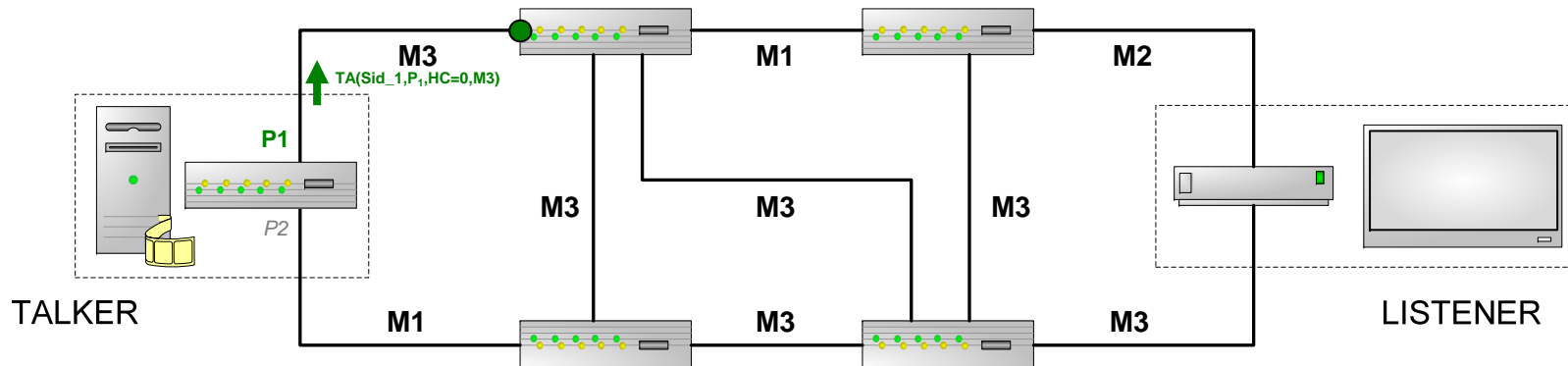
- **The goal:**
  - Taking advantage of all the paths available in given network topology to
  - Increase the overall bandwidth
  - Increase resilience (thru failover or redundancy)
  
- **The current limitations:**
  - Standard 802.1D Rapid Spanning Tree Protocols:
    - Block redundant links (and therefore covers only a partial topology)
    - uses one static link metric only (LineSpeed) to select the “best” path between adjacent nodes
  - Multiple STP (MSTP)
    - complexity to configure the network
  
- **Link State Routing protocols**
  - TRILL
  - 802.1aq Shortest Path Bridging
  
- **... could be potential solutions but not simple protocols...**

# SRP Talker Advertise



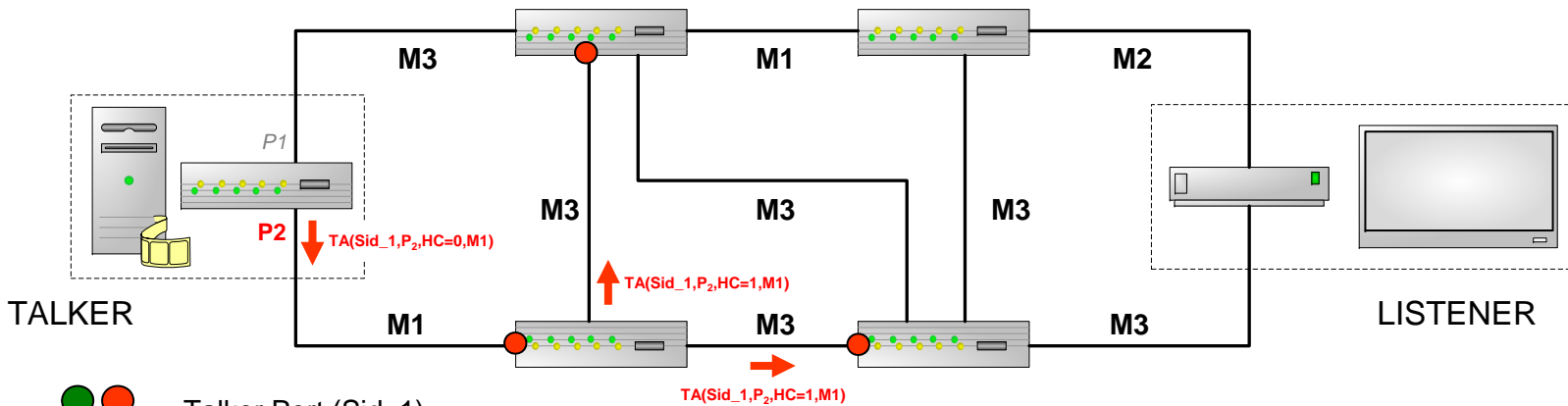
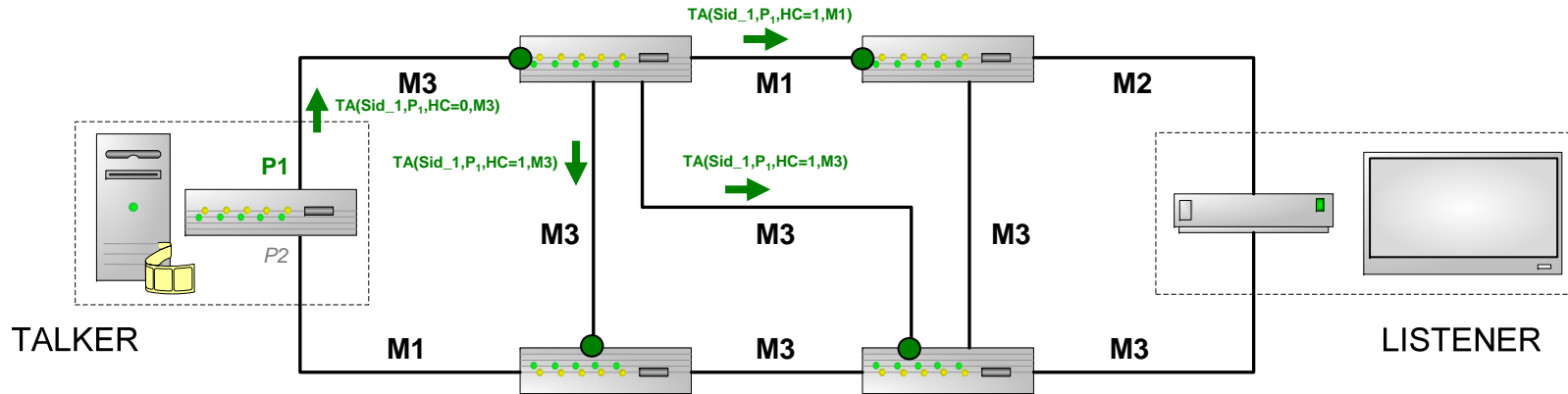
- ● = Talker Port (Sid\_1)
- X = Blocked TA Port (Sid\_1)
- M<sub>i</sub> = Link Metric (M<sub>3</sub> > M<sub>2</sub> > M<sub>1</sub>)

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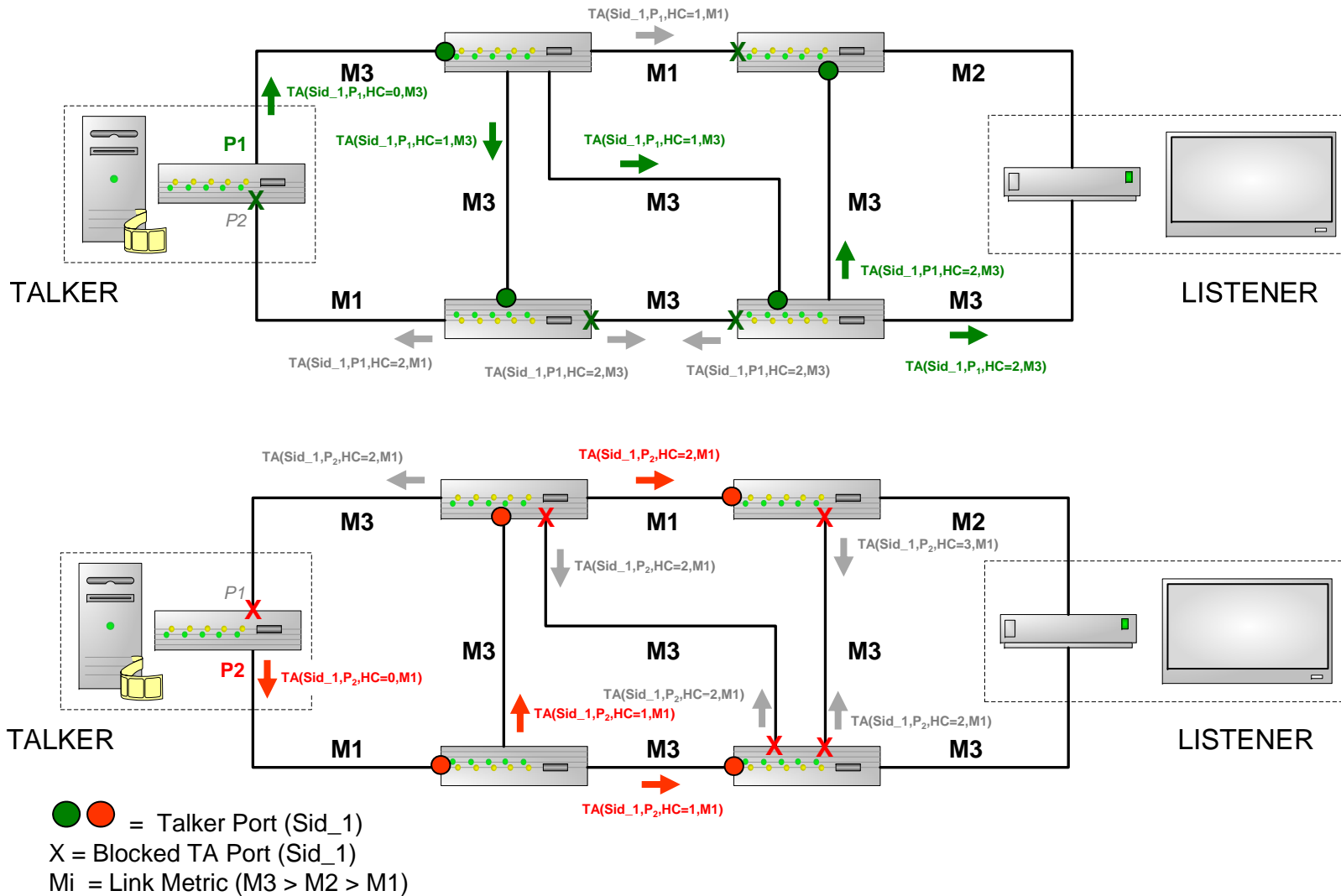
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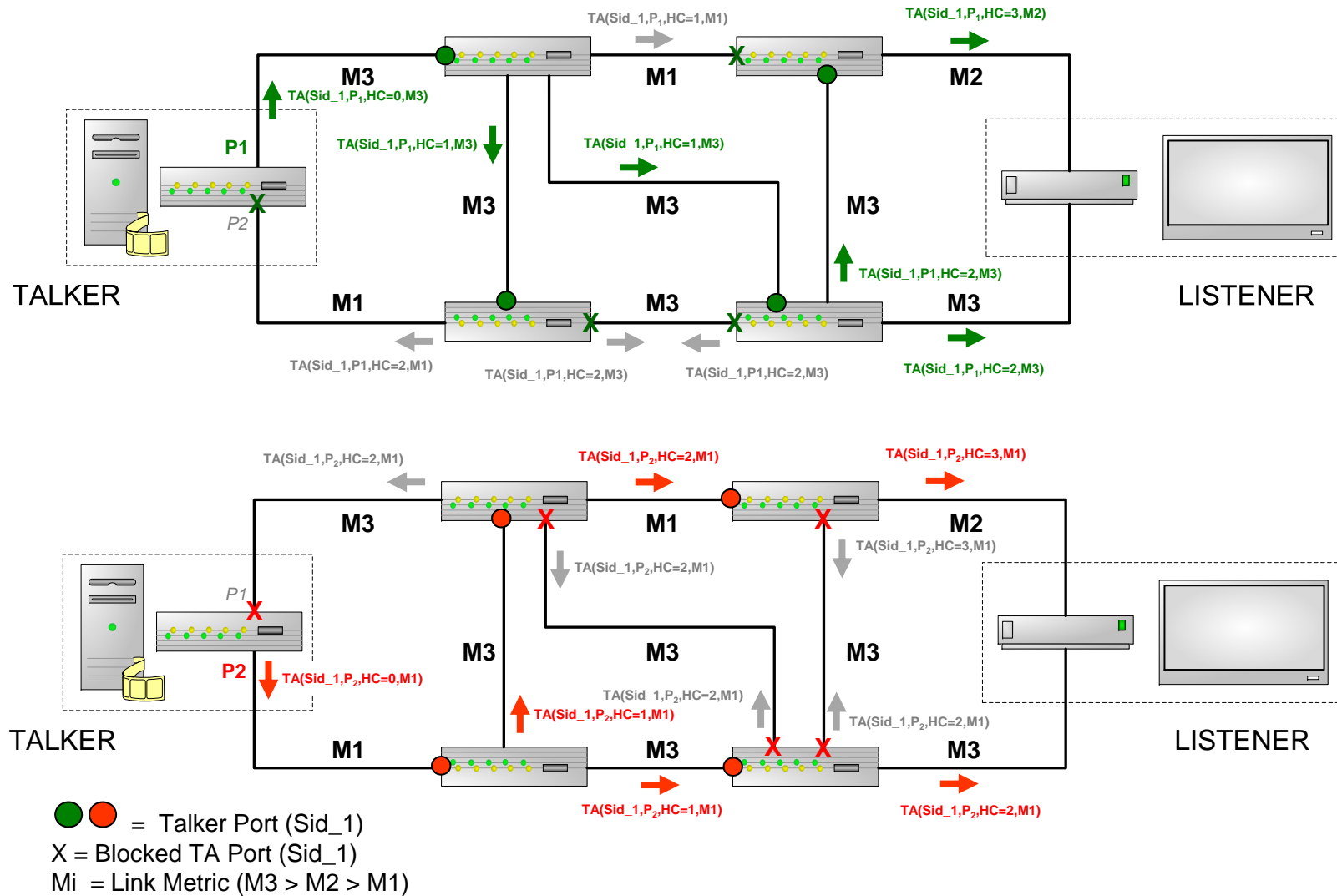


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# SRP Talker Advertise

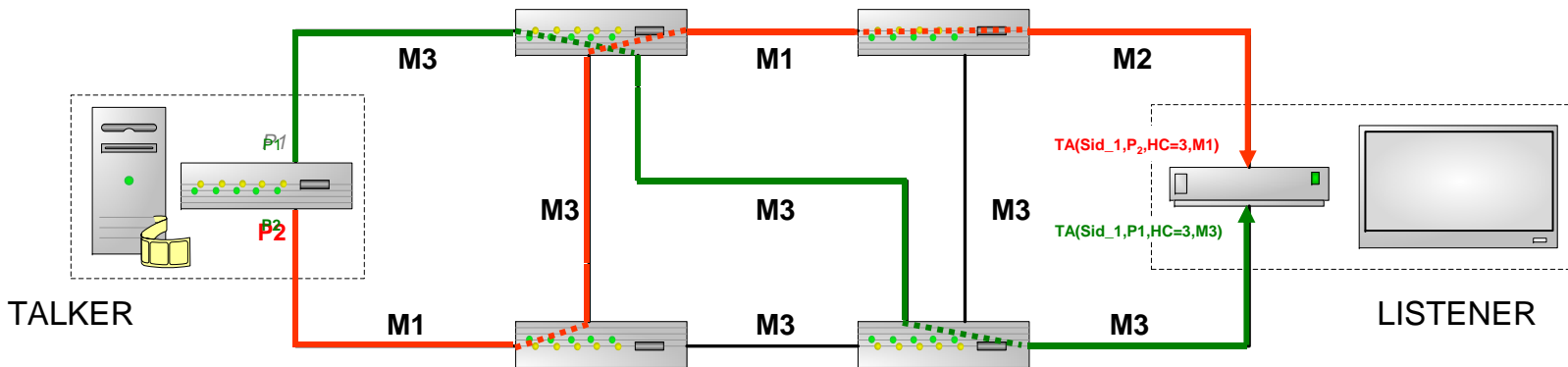
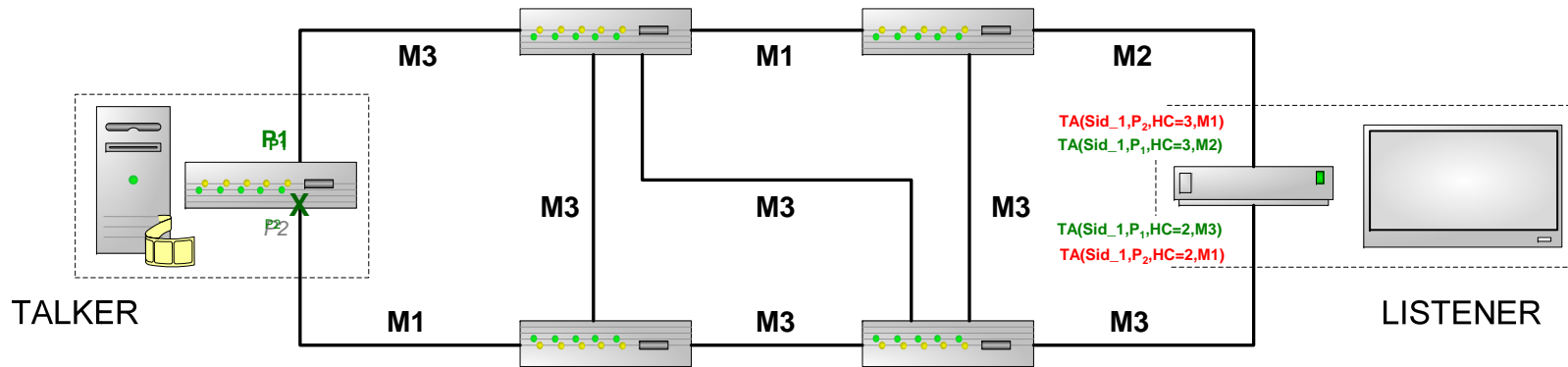


# SRP Talker Advertise





# Path(s) Selection



# MSRP to select a Stream Path



- Bridge could be configured to select “duplicated” TA on
  - HopCount (delay)
  - or Available BW
- Advantages:
  - Effective: Best available path at the time it is needed with no latency; “on-demand” selection.
  - Autonomous: provide all the current information (link loads and current topology) to make a selection
  - Simple: Zero configuration protocol
  - Compatible: Coexists with STP protocols

# Discussion



- What should be the link metrics added to TA ?
  - Available bandwidth
  - Delay
  - PER
  - Link Type
  - Link Speed
  - Max BW ?
  
- How long should a TA port be blocked ?
  - LeaveAll period ?
  
- How and how fast does an upstream bridge detect that the downstream bridge is “stalled” (link is up but stream is not forwarded anymore)?
  - if it is detected by not receiving LeaveAll , it is probably not fast enough...

# Discussion



- What is the worse case / avg recovery latency ?
  - between retransmitting a TA and the stream resuming at the Listener port....
- How does SRP handle locally configured unicast addresses ?