

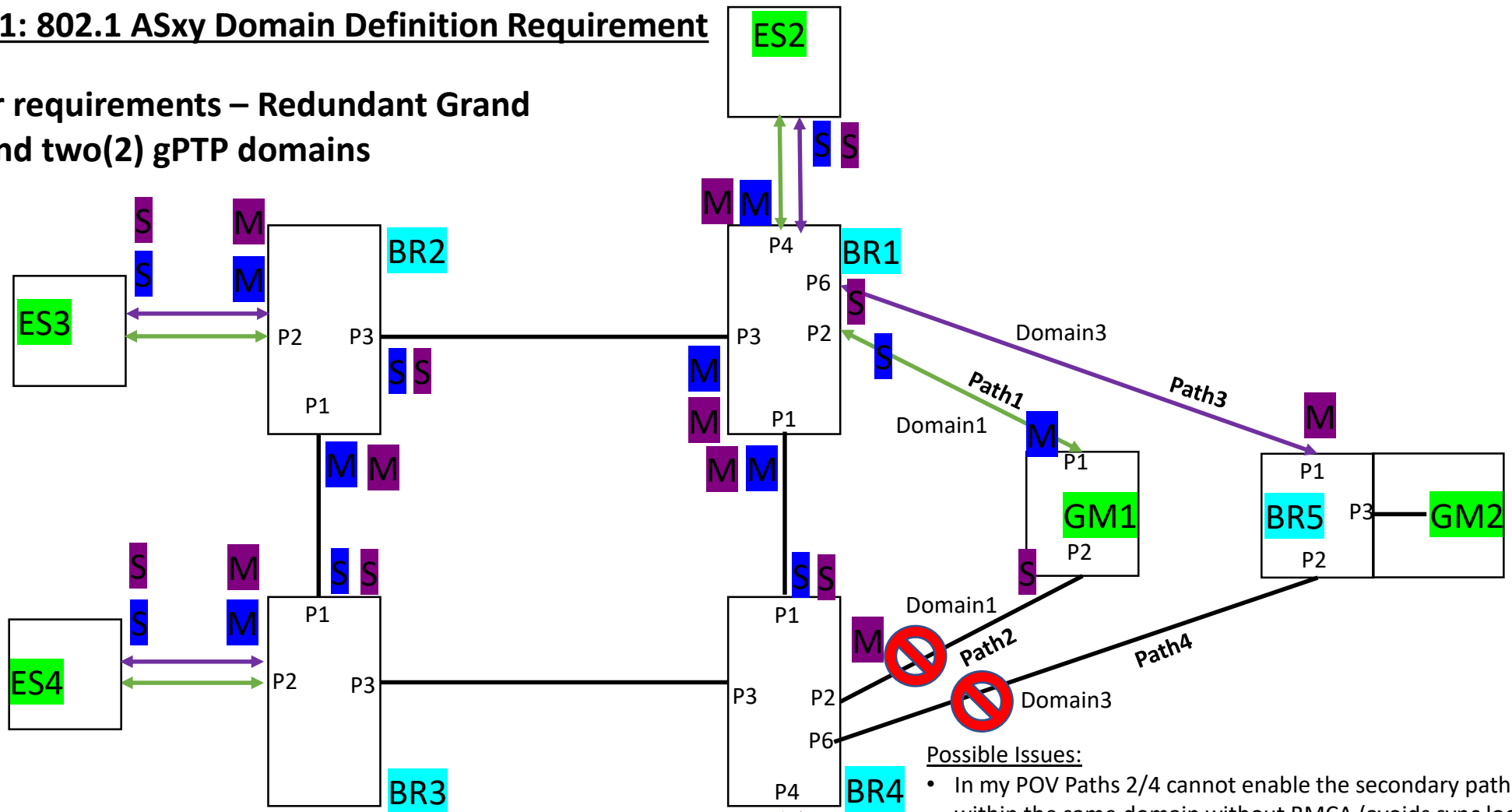
IEEE 802.1AS-2020 Addendum for “Hot-Standby” with multiple domain definition

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Network Architecture #1: 802.1 ASxy Domain Definition Requirement

Architecture/failover requirements – Redundant Grand Master w/o BMCA and two(2) gPTP domains



Possible Issues:

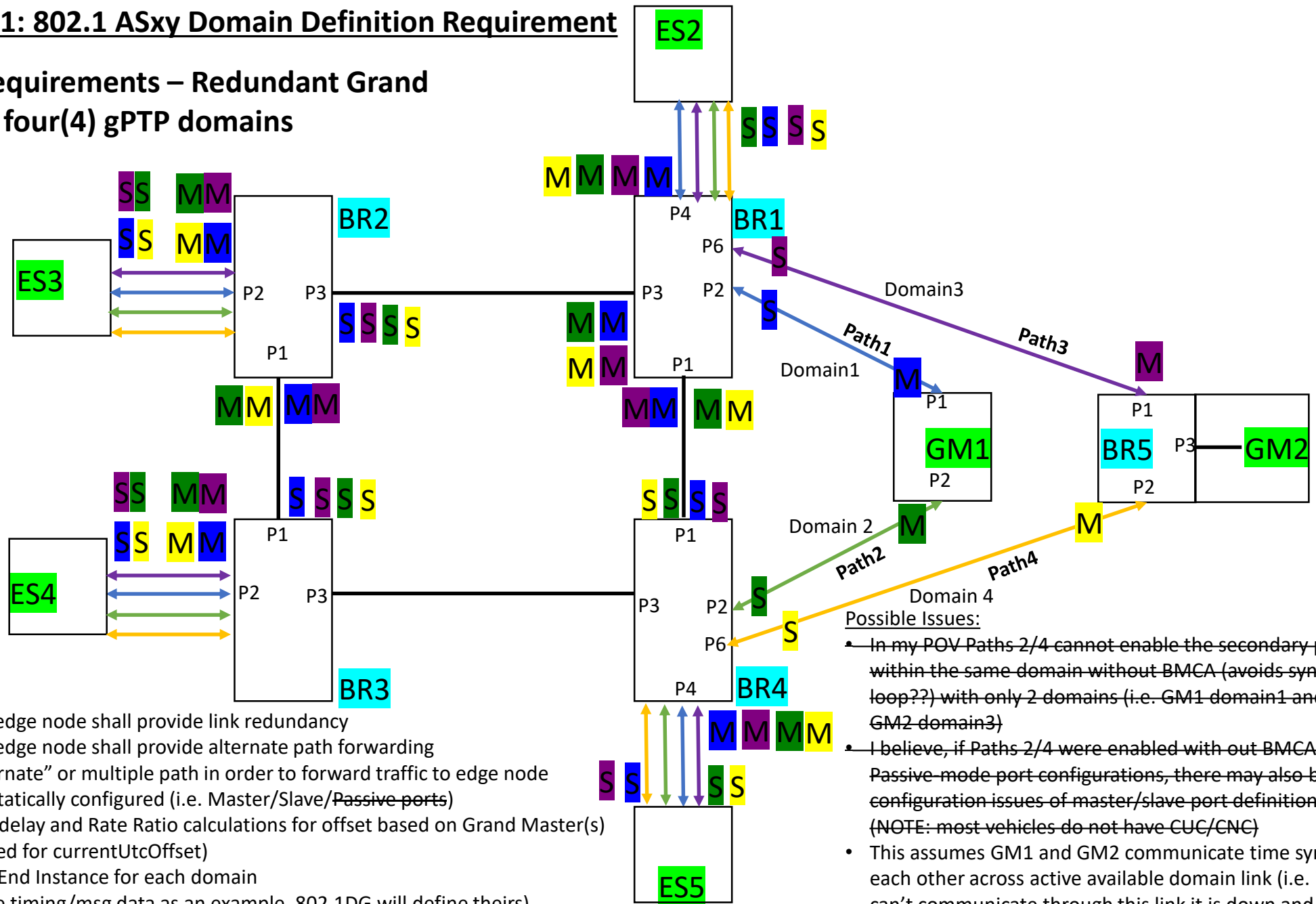
- In my POV Paths 2/4 cannot enable the secondary path within the same domain without BMCA (avoids sync loop??) with only 2 domains (i.e. GM1 domain1 and GM2 domain3)
- I believe, if Paths 2/4 were enabled with out BMCA using Passive-mode port configurations, there may also be configuration issues of master/slave port definition (NOTE: most vehicles do not have CUC/CNC)
- This assumes GM1 and GM2 communicate time sync to each other across active available link (i.e. through static or multicast communication)

Brief Requirements Summary:

- Dual Plausible failure awareness
- Mitigate risk - Each high-available edge node shall provide link redundancy
- Mitigate risk - Each high-available edge node shall provide alternate path forwarding
- Bridges/Backbone to provide "alternate" or multiple path in order to forward traffic to edge node
- Port based configuration shall be statically configured (i.e. Master/Slave/Passive ports)
- Time sync failover shall use Sync/Pdelay and Rate Ratio calculations for offset based on Grand Master(s)
- Announce msg mandatory (e.g. used for currentUtcOffset)
- Assume ES#'s will have to have an End Instance for each domain
- Hot-Standby (can use 60802 Profile timing/msg data as an example, 802.1DG will define theirs)

Network Architecture #1: 802.1 ASxy Domain Definition Requirement

Architecture/failover requirements – Redundant Grand Master w/o BMCA and four(4) gPTP domains



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- In my POV Paths 2/4 cannot enable the secondary path within the same domain without BMCA (avoids sync loop??) with only 2 domains (i.e. GM1 domain1 and GM2 domain3)
 - I believe, if Paths 2/4 were enabled with out BMCA using Passive mode port configurations, there may also be configuration issues of master/slave port definition (NOTE: most vehicles do not have CUC/CNC)
 - This assumes GM1 and GM2 communicate time sync to each other across active available domain link (i.e. if you can't communicate through this link it is down and unavailable)

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