Industrial Considerations for LLDP v2

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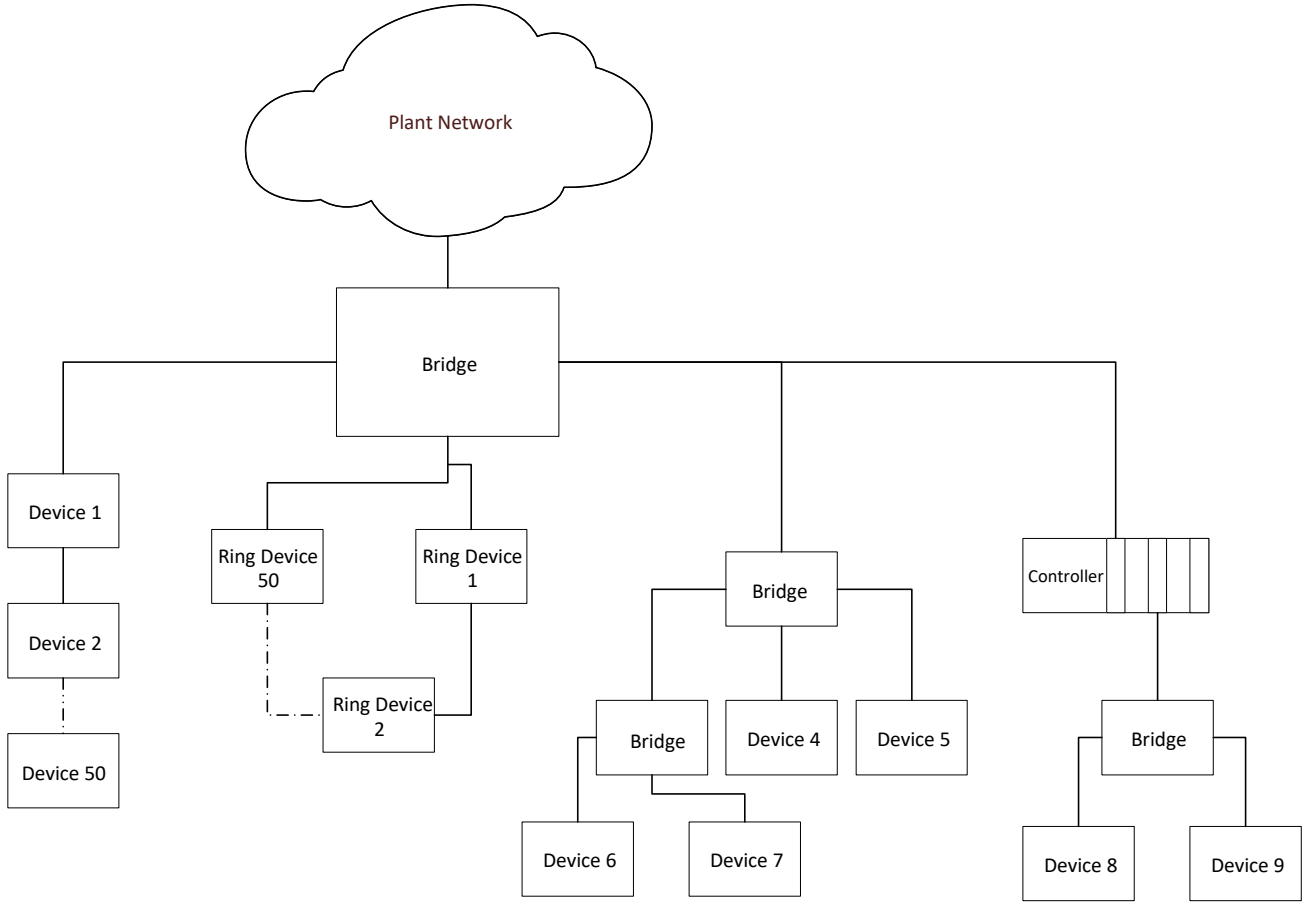
Topologies

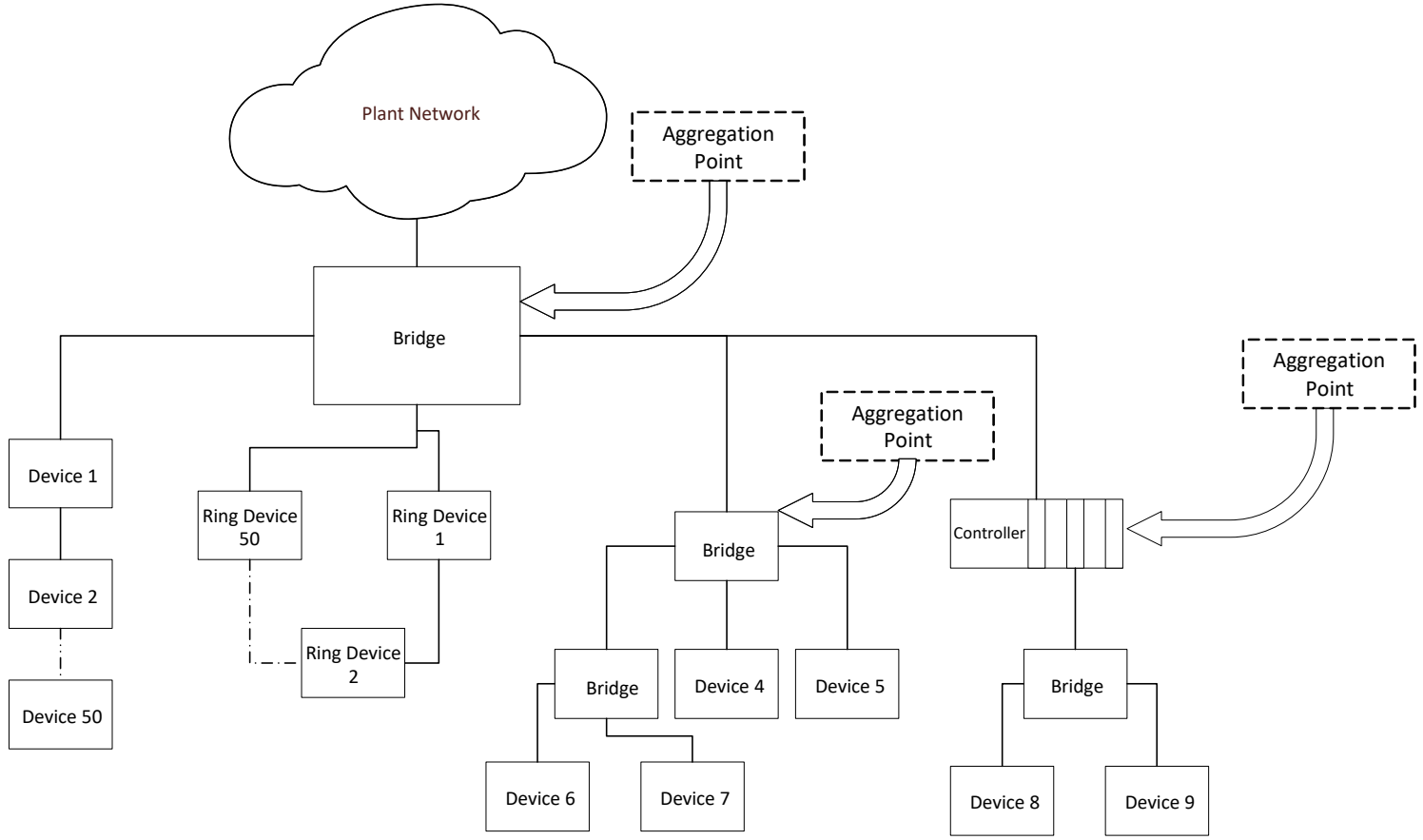
- Industrial network topologies tend to use linear topologies and ring topologies by deploying devices that embed 3 port bridges in them in addition to the traditional star and redundant star topologies.



Traffic Patterns

- Industrial automation customers are wary about introducing non-mission-critical traffic on their networks unless the traffic can be proven to not interfere with mission-critical traffic.
- As data rates increase to gigabit this is less of a concern. Over 10's to 100's of hops in a linear/ring network multiple frames being shared among neighbors could affect worse case latency.
- Worst case latency matters for high speed mission-critical applications. One update missing its deadline can negatively impact performance.
- Using LLDP Frame fragmentation to control frame size in conjunction with TSN mechanisms can be used to bound overall worst case latency.

Aggregation



- Since industrial topologies use large quantities of 3 port bridges, LLDP information from many devices needs to be aggregated to be useful for many purposes (Device discovery, topology discovery, device capability discovery)
- A method to aggregate LLDP information with some assurance the information is up-to-date would be helpful
- Is this a problem only for the industrial market, or do others see where it might have broad market applicability?

- Thank You!