802.17
Fairness for Transparent LAN Service

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Requirements for Metro Transparent LAN Service

- **Weighted fairness (remote site / central site)**
- **Per-domain fairness (subscriber separation)**

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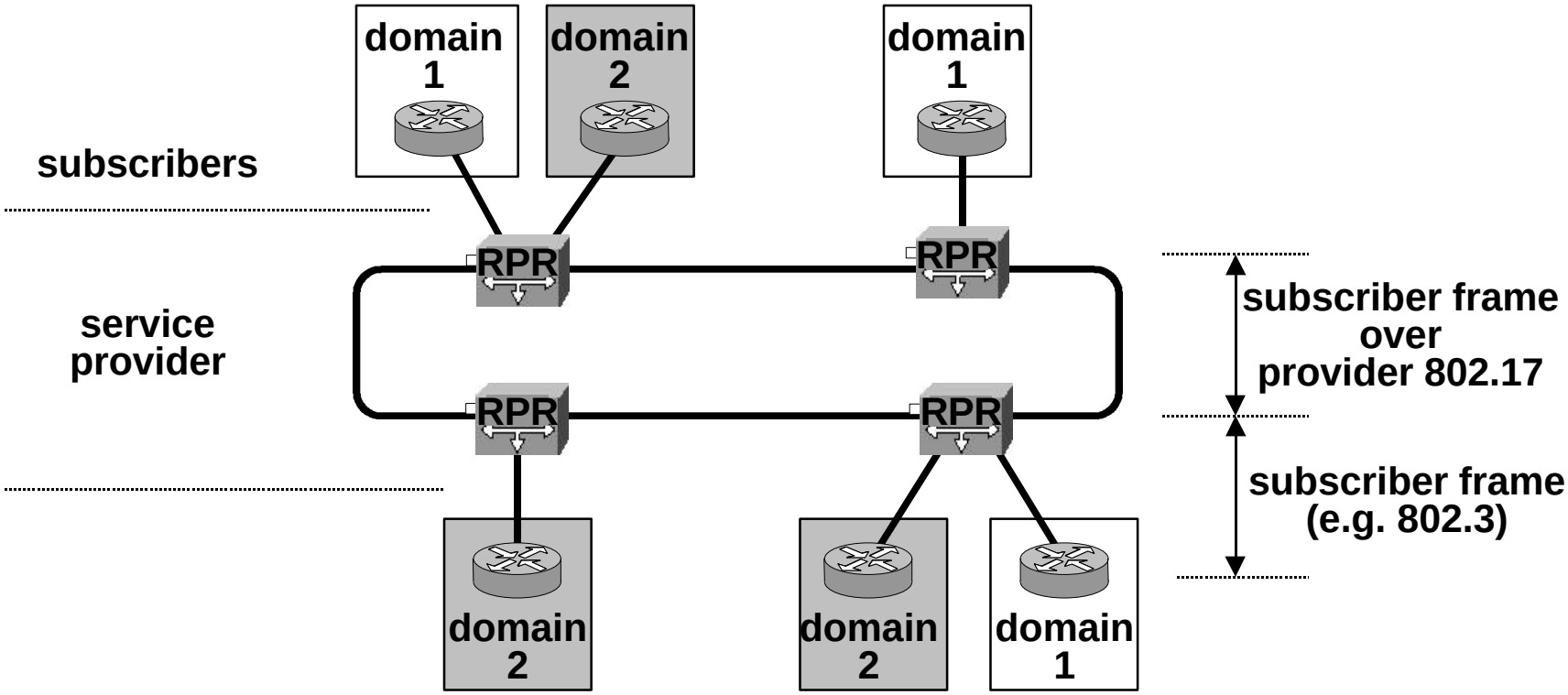
802.17-based Metro Transparent LAN Service



- **Subscriber frame encapsulated in 802.17**
- **Virtual Private MAN per subscriber domain**
- **Consistent with '*iPT Type 1 TLS Ring Local*' with *TDI***

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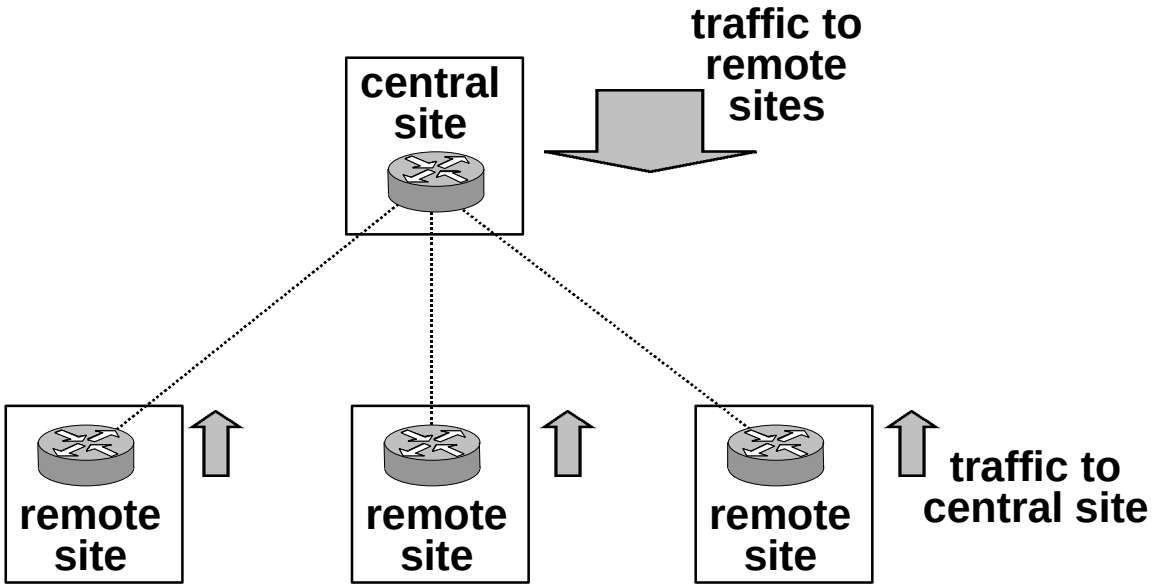
Hierarchical Enterprise WAN/MAN



- **Traffic typically between remote site and central sites**
- **Aggregate traffic rate significantly higher at central site**

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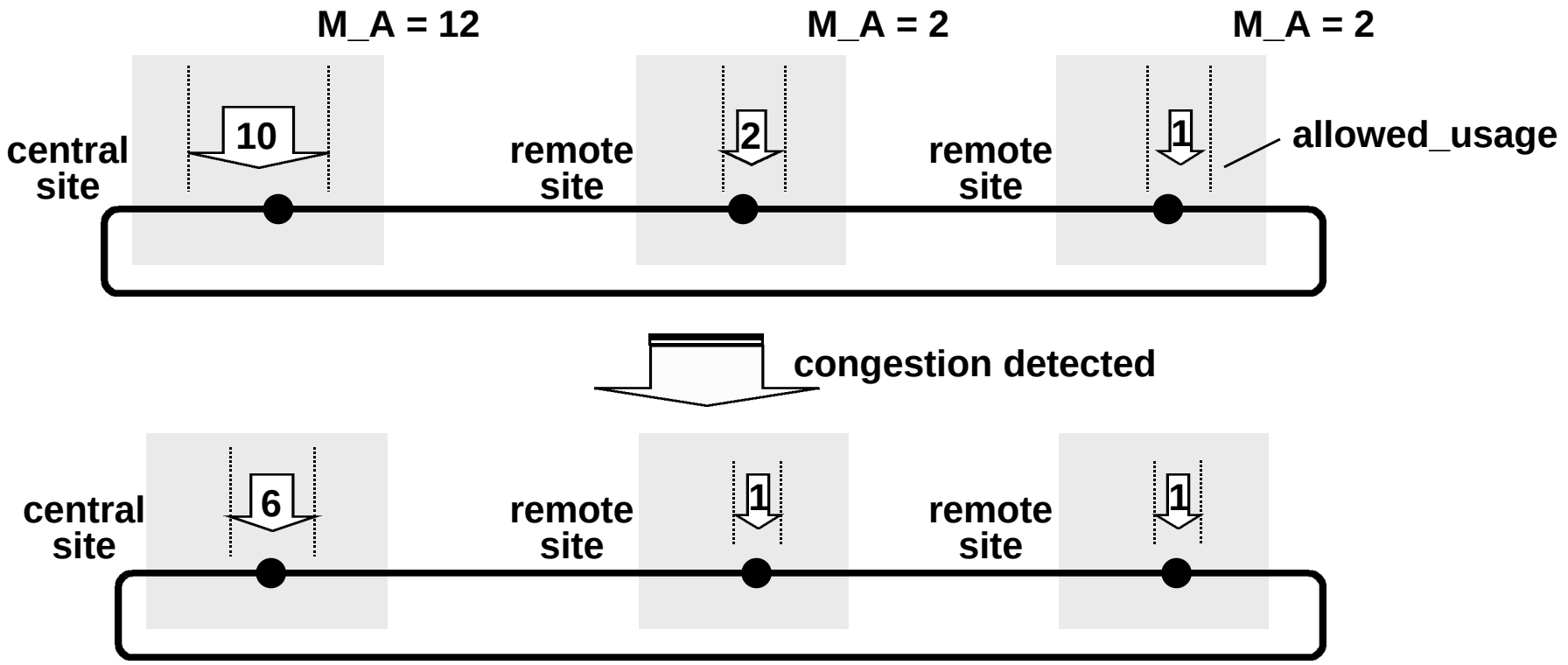
Reduce allowed_usage to Weighted Value



- **Weight allowed_usage consistent with data rate**
  - **e.g. scale proportional to MAXIMUM_ALLOWANCE**
- **Allow central site more ring bandwidth than remote site**

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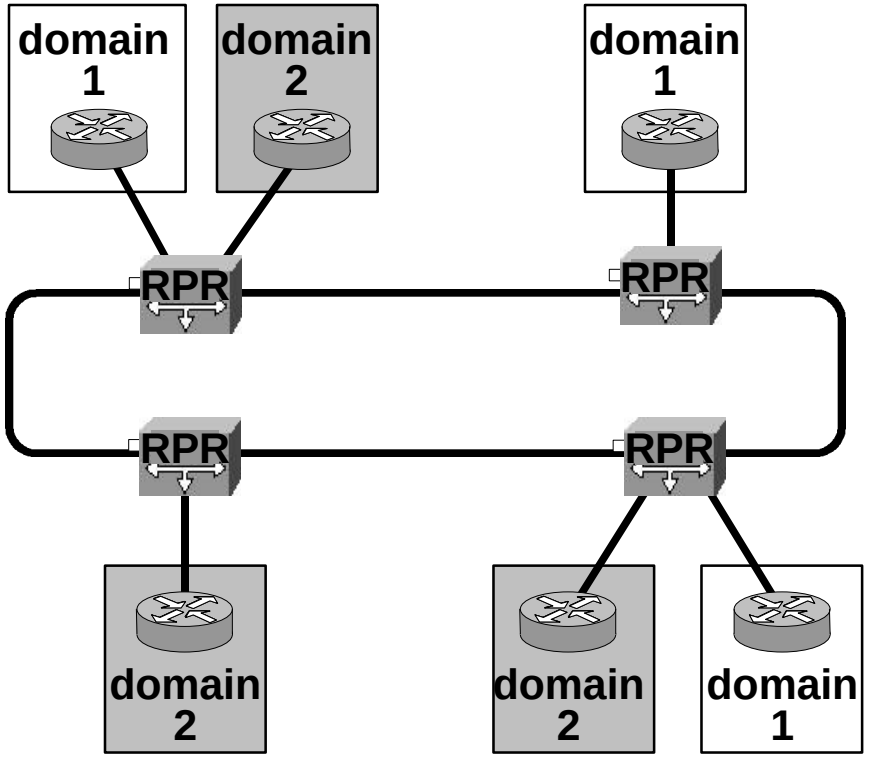
Customer Separation Implies Per-domain Fairness



- **Maintain independence of performance across domains**
- **Isolate congestion control to domain**

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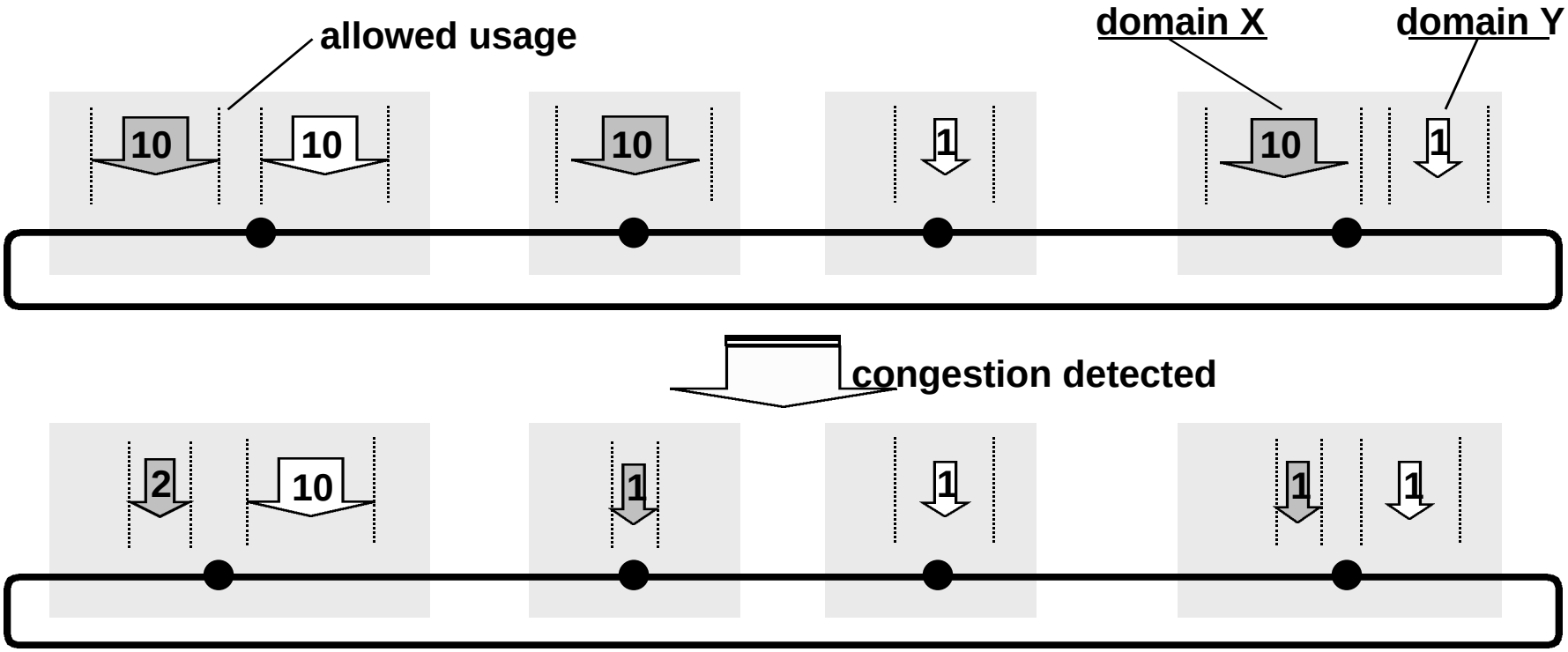
Reduce allowed usage for ‘Greedy’ Domain



- **Specify allowed_usage per-domain (at each node)**
- **Excess buffer occupancy due to domain X**
  - **e.g. 30 Mbps aggregate vs. 12 Mbps aggregate**
- **Reduce ‘greedy’ domain X allowed_usage**

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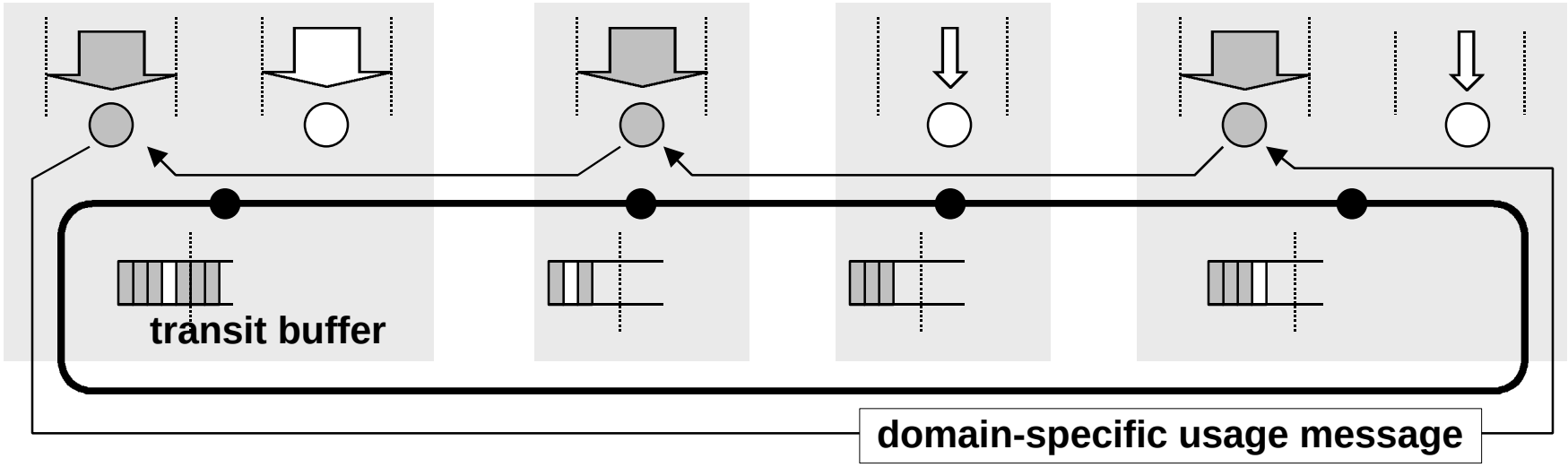
Per-Domain Fairness



- **Triggered by transit buffer threshold crossing**
  - **'greedy domain' has highest buffer occupancy**
- **usage maintained *per-domain***
- **Usage Message extended to include *domain identifier***
- **allowed_usage adjusted for specified domain only**

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Fairness Requirements for Metro TLS

- **Weighted fairness for hierarchical organization**
  - **fairness algorithm supports weighting of allowed_usage**
- **Per-domain fairness to insure customer separation**
  - **domain identifier included in Usage Message**