

TWAMP Services

KPIs Extension

[draft-spv-ippm-monitor-methodology-services-kpi](#)

[draft-spv-ippm-monitor-implementation-services-kpi](#)

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TWAMP Limitation

- TWAMP is used to calculate RTT between Network Elements/Routers in the IP network.
- Routers are no more just forwarding IP data packets
- Routers provide lot more L4-L7 features/services along with forwarding/switching. Some of them which include
 - DPI
 - CGNAT
 - Load balancing
- These services will add latency to the data path which Network Admin would be interested to know.
 - Transmission latency between Router and the Service
 - Service Processing Delay
- Network Admin would also be interested to know whether the service is running or not.

Solution

Why not extend TWAMP to calculate these Services KPIs like:

- Service Latency

([draft-spv-ippm-monitor-implementation-services-kpi](#))

- Liveliness of an Application/Service

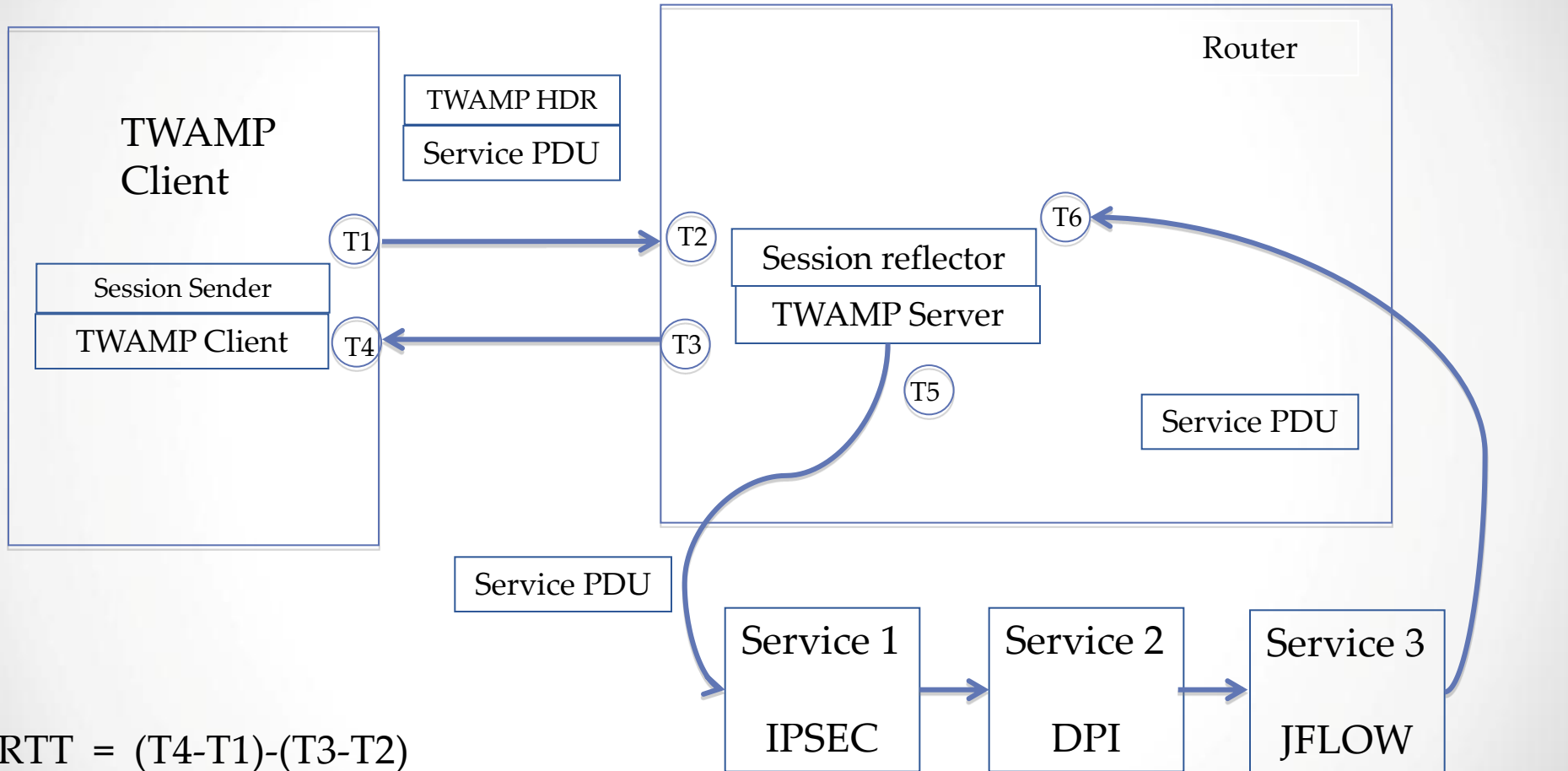
([draft-spv-ippm-monitor-implementation-services-kpi](#))

- Service load

- Service Throughput

- Packet statistics for a service

Service Latency



$$RTT = (T4 - T1) - (T3 - T2)$$

$$\text{Service Latency} = T6 - T5$$

Services can be running as a part of the Router or outside the Router

Message Sequence

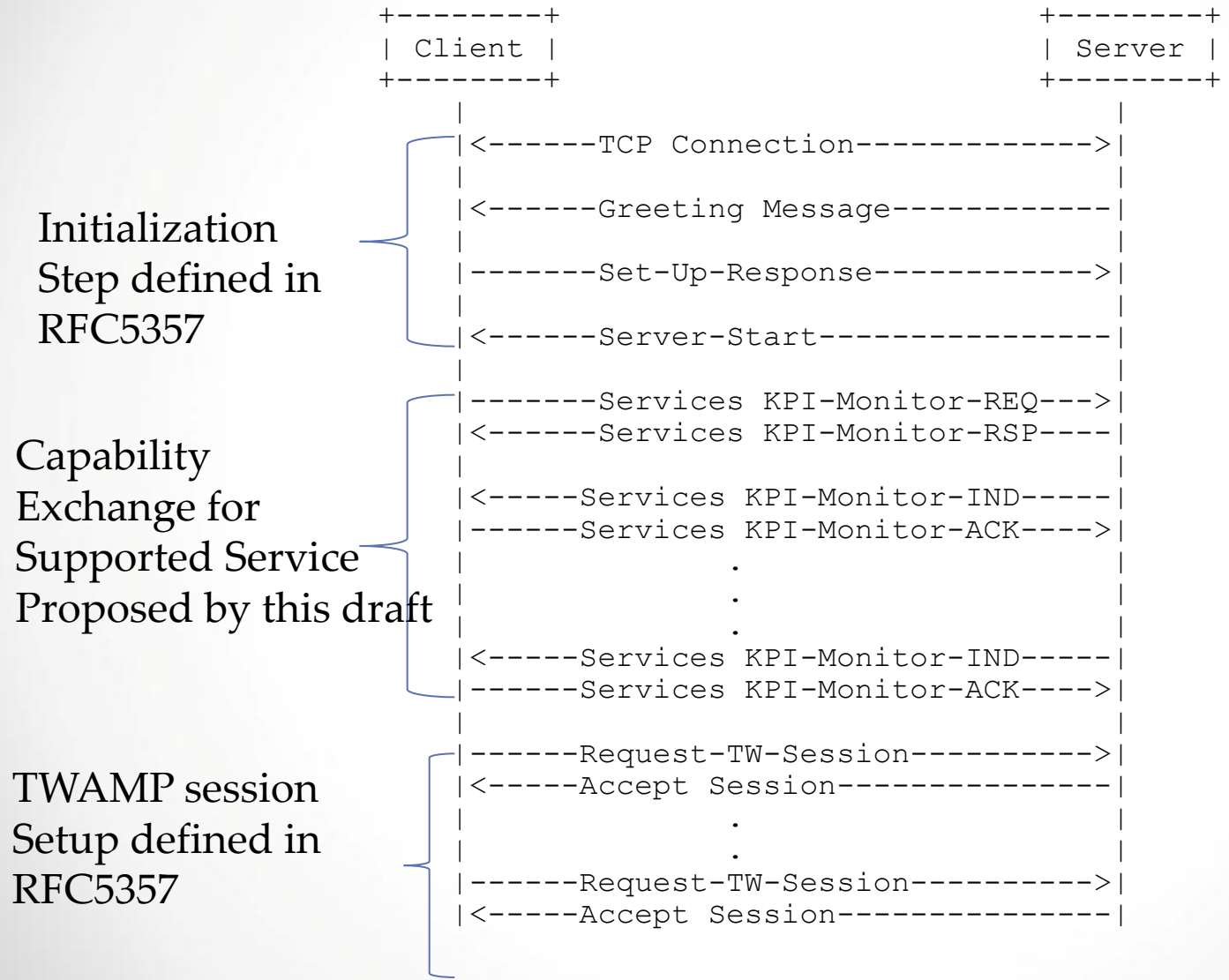
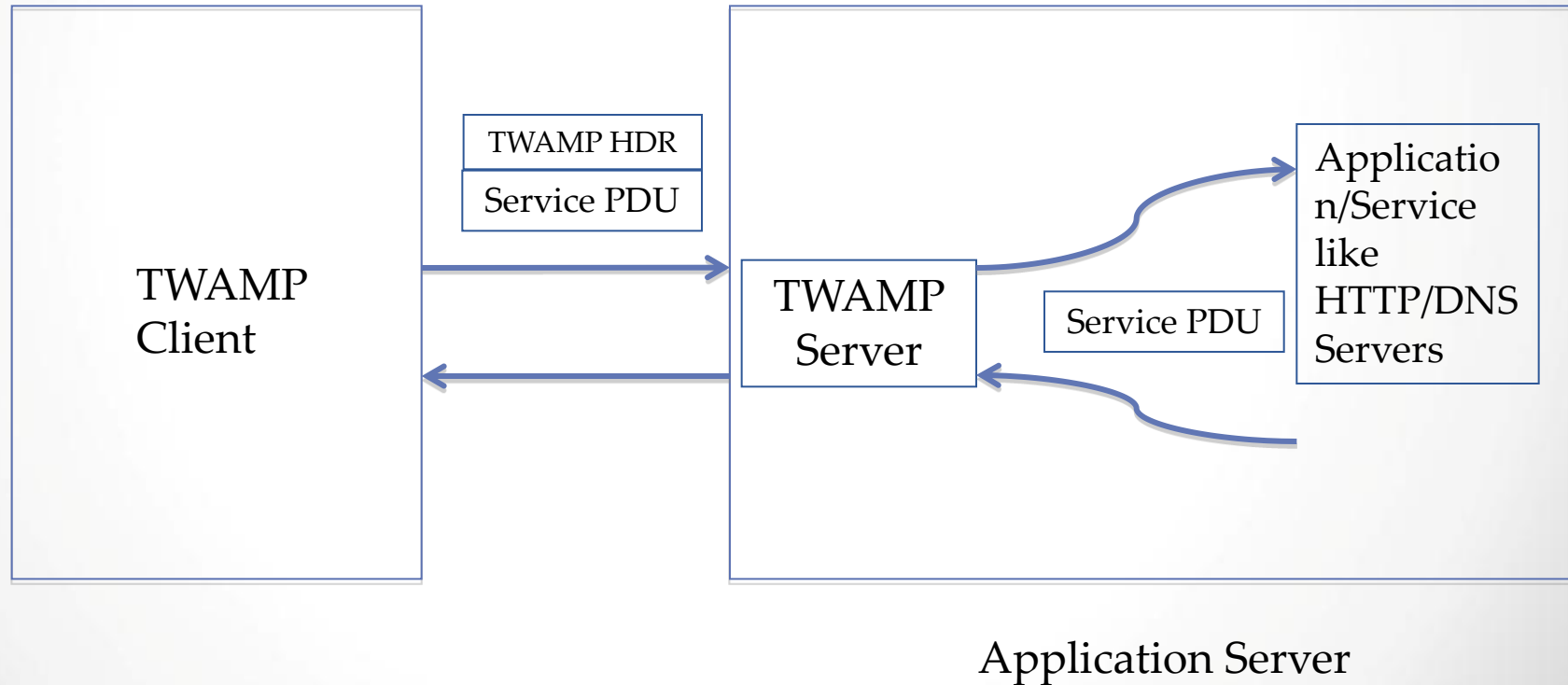


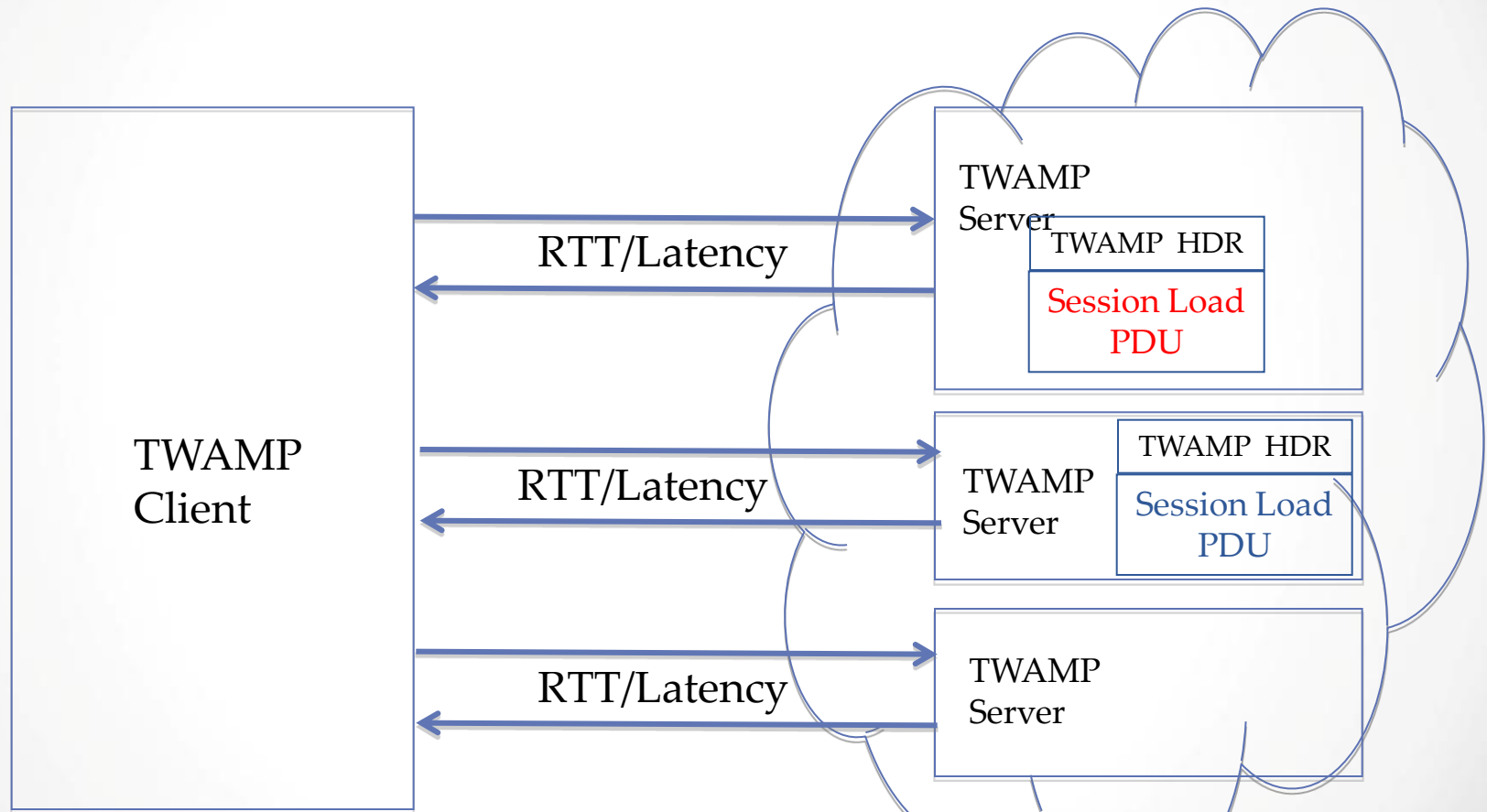
Figure 1

Liveliness of an Application/Service



Service load

Service can be measured with: Session/Subscriber/Tunnel/Bandwidth/Flows etc.



TLB(Traffic Load Balancer)/
SLB(Server Load Balancer)

Multiple RS(Real Server)
VNFs in Cloud

Next Steps

- Seek Reviewers from ippm community
- Comments are welcome
- Call for WG adoption