The **physical delay** of a route is the time taken by a message to travel the links of the route. It corresponds to the sum on all the weight of the arcs of the route. [1, 2]

In our study, when a datagram is sent, some **physical buffers** and **logical buffers** can increase the physical delay of the route. The **delay** of a datagram on a route is then equal to the sum of the physical delay of the route, and the physical and logical buffers.

As a reminder, a stream is a sequence of datagram. Each period, the same sequence of datagrams is sent on a route, in the same order. Let us call d a datagram of a stream sent during the first period, and d' the same datagram, sent in the next period. The **packet delay variation** is the variation of the delay between d and d'. In our study, since the logical delays are deterministic, computed on a period and then applied to all the next periods, the packet delay variation is equal to zero for each datagrams. Also, the **jitter**, which correspond to the difference between the minimal and maximal packet delay variation of a datagram is equal to zero.

References

[1] F. Guillemin, P. Boyer, A. Dupuis, and L. Romoeuf, "Peak rate enforcement in ATM networks," in *[Proceedings] IEEE INFOCOM '92: The Conference on Computer Communications*, (Florence, Italy), pp. 753–758 vol.2, IEEE, 1992.

[2] C. Demichelis and P. Chimento, "IP Packet Delay Variation Metric for IP Performance Metrics (IPPM)."