

Dependencies in existing trace file generation in UnetStack 3

For simulations run in UnetStack, it produces the trace file with the default name `logs/trace.nam`. The trace file format used by UnetStack is similar to the NS-2 trace format.

The Figure-1 below shows the hierarchy of classes and interfaces extended by the trace file generation (`NamTrace`) class.

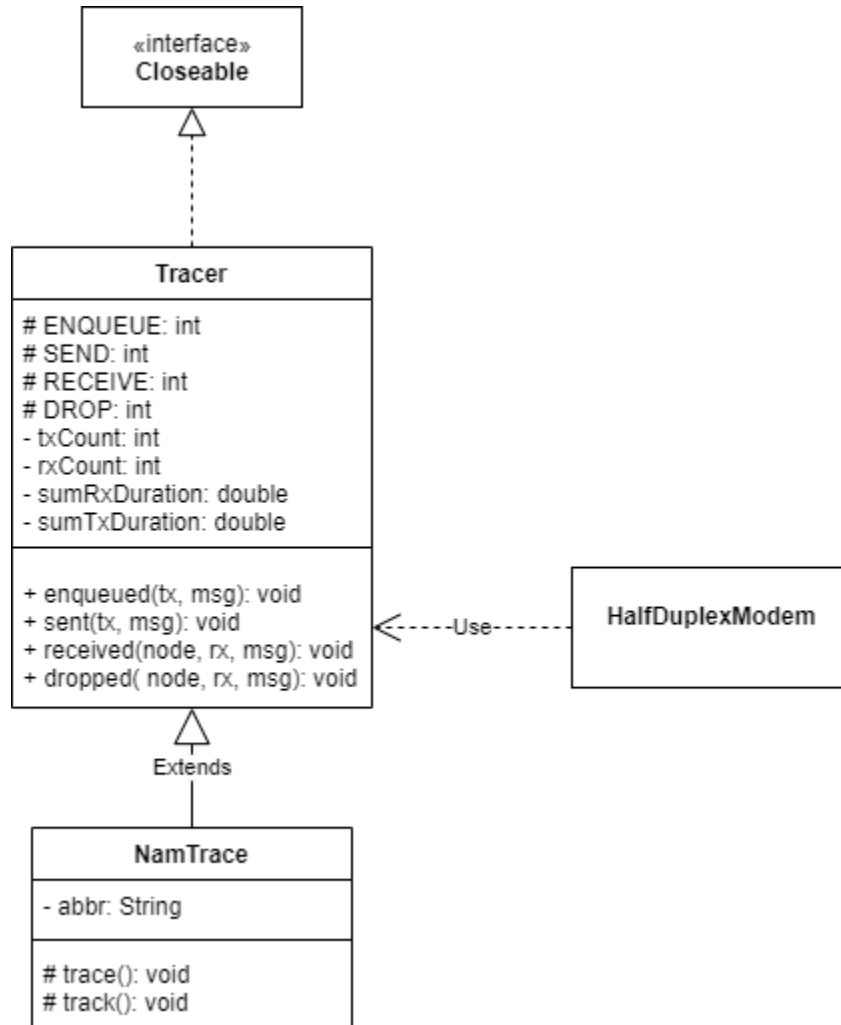


Figure-1 : Hierarchy of classes in Implementation of trace file generator.

The `Tracer` class implements methods for different types of events (enqueued, sent, received, and dropped) that occur during simulation, these methods are called by the underlying physical agent (`HalfDuplexModem` - the simulated modem implementation) upon capturing these events at the physical layer. The `Tracer` class, also provides declaration of three abstract methods, which are implemented by its subclass (`NamTracer`). These methods are responsible for printing the traces in the trace file that is generated.

Simulation parameters recorded in existing trace file:

1. Node location information (in the very beginning of simulation)
2. Event type (+ -> enqueued, --> dequeued/sent, r ->received, d-> dropped)
3. Timestamp
4. Source (source node id)
5. Destination (destination node id)
6. Packet ID
7. Protocol number
8. Message