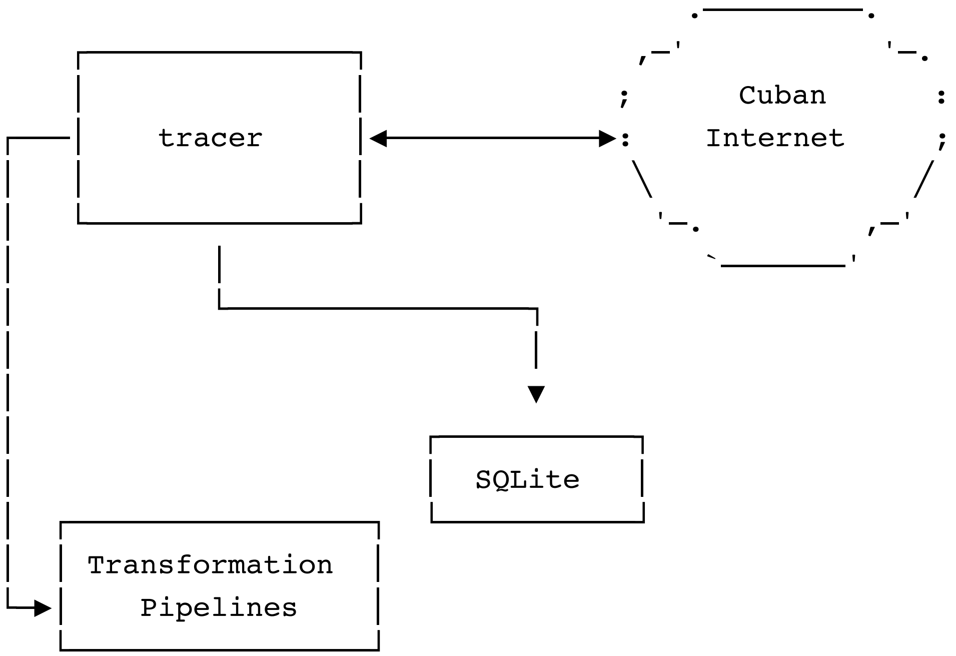
Cuban Traceroute

Phase One

The first phase will produce the `tracer` utility used to query routes to destinations and store the data in a local database. All data points generated by `tracer` can be modified by a series of discrete transformations.



The `tracer` utility will be a command-line utility and run on macOS and Linux. The goals and outputs of this utility are the following:

1. Proof that we can successfully map routes from a source to destinations in Cuba.
2. Insights into the performance characteristics of generating those maps.

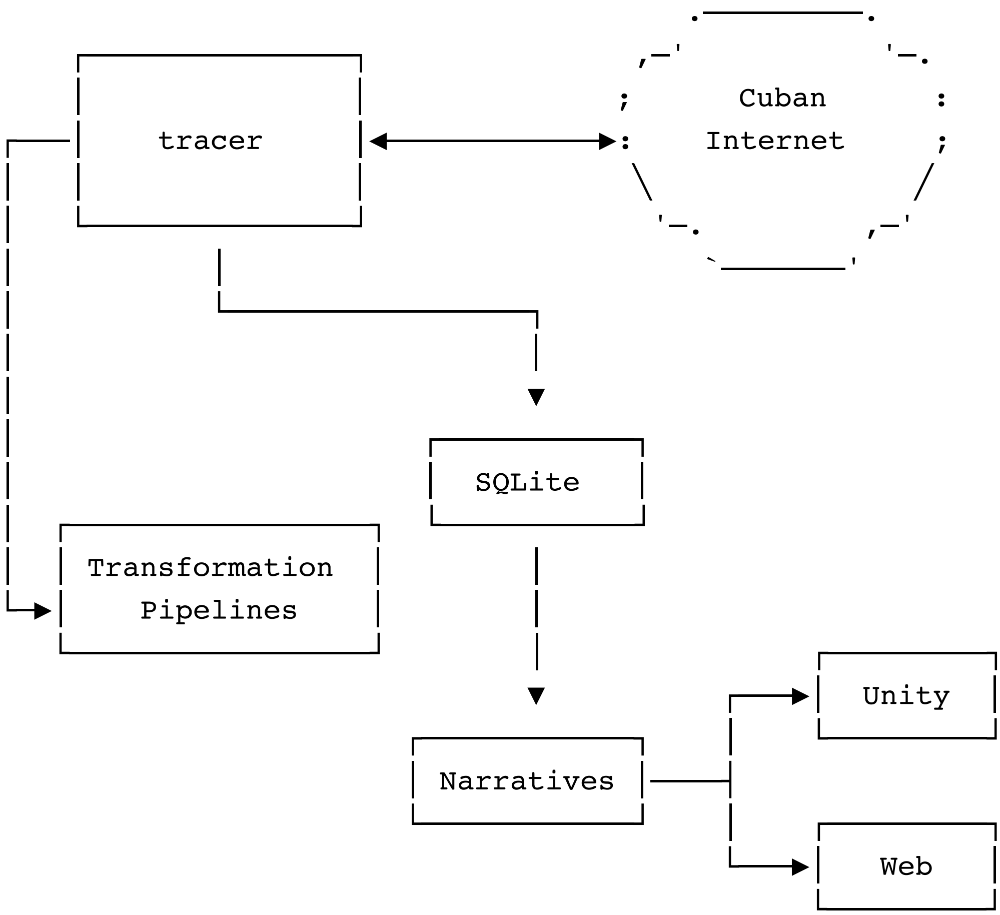
3. Produce data points representing three levels:
    - **Hops**: a single waypoint along the path to the destination.
    - **Paths**: the entire path from the sender to the destination. It is a path through the network and contains one or more hops. A path is the results of a single invocation of the `tracer` utility.
    - **Routes**: are the sum of all paths datagrams traverse through a network from a source to a destination. While most of the time, two consecutive IP datagrams from the same source address to the same destination follow the same route, there is no guarantee that they do.

For each data point generated by the `tracer` utility, we define a series of transformations to extract more data or insights. As part of phase one, we define each data point at least one transformation plugin.

- **hop** ⟶ *geoip*
- **probe** ⟶ *stats summary latency*
- **route** ⟶ *stats summary loss*

Phase Two

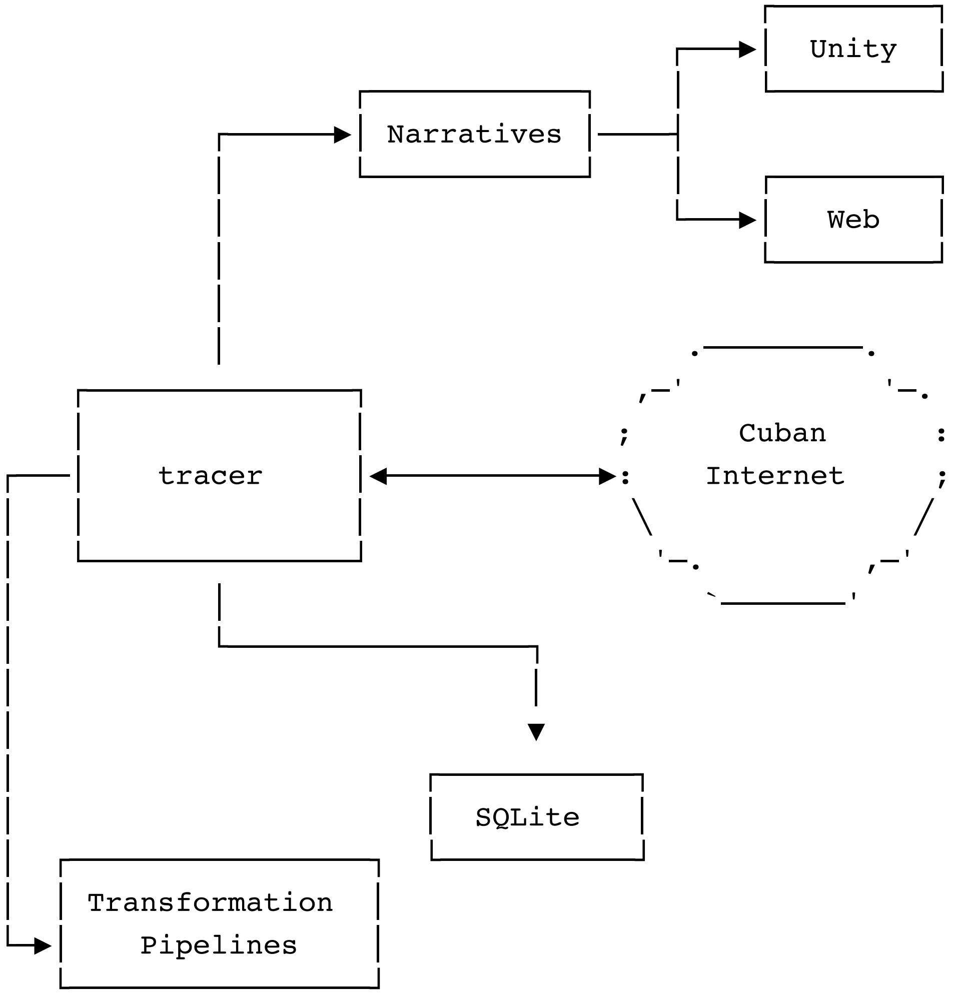
Once we know that we can reliably map the Cuban internet space and have example data available, we can move on to phase two. In this phase, we look at the visualisations and narratives we can extract from the data. As part of this phase, we update the `tracer` utility with any new transformation plugin that we think would be useful.



This phase should be collaboratively and iteratively, adopting the `tracer` utility to better serve our purposes.

Phase Three

The last phase prepares the performance itself. The `tracer` utility will be used as part of a live performance and data points are streamed as they are collected to the final output.


Unity
Narratives
Web
Cuban Internet
tracer
SQLite
Transformation Pipelines