

File-based interaction between Cadyts and SUMO

Cadyts – Calibration of dynamic traffic simulations

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Calibration objective

- increase the realism of the simulation using
 - traffic counts (basic)
 - vehicle re-identification data (optional)
 - ... (future)
- calibrated demand dimensions
 - route choice distributions (basic)
 - OD matrices (optional)
 - route choice parameters (future)
- further future: calibration also on the supply side
- all of this here: <http://transp-or.epfl.ch/cadyts/>

DTA with SUMO

1. Initialization.
2. Repeat the following until stationary conditions are reached.
 - 2.1 Demand simulation. Run DUA-Router. → Route distributions.
 - 2.2 Supply simulation. Run SUMO → Travel times.

Application of Cadyts to SUMO

INIT step. Configure, read measurements.

CHOICE step. Adjust the choice distributions of the simulated travelers.

UPDATE step. Observe simulated network conditions and compare to measurements.

INIT step

- before the simulation is started:

```
java -jar Cadyts.jar INIT -measfile meas.xml [...]
```

- reads the measurements, configuration, and such
- [[example]]

CHOICE step

- at the beginning of each iteration:¹

```
java -jar Cadyts.jar CHOICE -choicesetfile  
routes.alt.xml -choicefile routes.cal.xml
```

- reads the routes.alt.xml file
- writes the selected routes in the routes.cal.xml file
- [[example]]

¹after the demand simulation

UPDATE step

- before the supply simulation:

```
java -jar Cadyts.jar UPDATE -netfile dump.xml
```

- reads the dump.xml file for internal update
- [[example]]