

PTV xRoute Server

Route, distance and toll calculation

PTV xRoute Server calculates routes, determines road distances and travel times, and computes toll costs. Vehicle profiles and routing behaviours can be configured as needed. Truck routing takes truck attributes, driving times and rest periods into account.



Functions

- Calculate routes between two or more points
- Calculate road distances and travel times
- Calculate shortest or fastest route
- Customise vehicle profiles (speed, dimensions, vehicle class, weight, etc.)
- Calculate exact toll costs
- Configure settings to avoid tolls
- Truck routing: apply truck attributes (e.g. height or weight restrictions, truck or hazardous goods blocks), prefer motorways and trunk roads, avoid residential areas, etc.
- Take driving times and rest periods into account
- Avoid certain road classes, low-emission zones, toll roads on request
- Soft via routing: routes are modified by selecting a „soft via point“.

Example: the green alternative route in the image where Nuremberg was set as the “soft via point”. The soft via route passes through the Nuremberg motorway, not the city proper.

- Emissions calculations
- Pedestrian and bicycle routing
- Corridor search: search for next along a route (e.g.: “Which customers can a driver visit on a trip from Frankfurt to Munich if he detours up to 20 km from the direct route?”)
- Isochrone calculations: calculate availability zones based on driving distance or travel time (ex.: “What area can be reached from company headquarters within 30 minutes travel time / 20 km road distance?”)
- Take traffic information into consideration (requires additional data)

Technology and integration

PTV xRoute Server calculates a route defined by waypoints and routing parameters and shares it with other applications. It calculates road distances and determines travel times and costs based on the vehicle profile. The route is issued as a route list and visualised on a digital map. PTV xRoute Server integrates with other systems over standardised web service interfaces (XML, SOAP).

It is scalable and actively supports multi-processor systems.

Data basis

PTV xRoute Server comes with PTV's standard maps. PTV has many standard maps that are always kept updated. For decades, PTV has been working closely with NAVTEQ, Tele Atlas and AND – all leading suppliers of map data.

RoadEditor: block and release roads

RoadEditor lets you make changes directly to the road network by blocking or re-releasing individual segments of the road. These changes can also be restricted to individual vehicle classes such as trucks. PTV xRoute Server takes these blocks or releases into account when calculating routes.

Toll calculation

PTV xRoute Server needs current toll data in order to calculate the toll costs. It currently supports exact toll calculations for Germany, France, Liechtenstein, Austria, Portugal, Switzerland, Czech Republic, and many special toll-paying sections in Europe. Lump-sum toll calculations are available for Greece, Italy, Croatia, Macedonia, Slovenia, Spain, Turkey (see image).

Truck routing

PTV xRoute Server calculates truck routes using 'truck attributes:' information on height, weight, hazardous goods and other restrictions. Truck attributes are available for the following countries: BeNeLux, Denmark, Germany, Norway, Austria, Sweden, Switzerland (see image).

- Give preference to motorways and trunk roads; avoid most residential areas
- Take driving times and rest periods into account

Hardware requirements

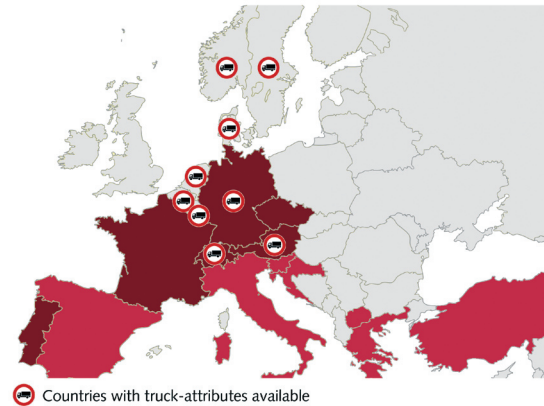
- At least 1 GB RAM (1 GB RAM recommended for each CPU in use)
- Pentium 4 (1 GHz) or better
- Hard drive space: depends on map in use. Example – Europe map: 10 GB

Operating system

PTV xRoute Server runs on the following platforms:

- Windows 2000, XP, 2003
- SuSE Linux 8.2, 9.x, 10.x, Red Hat Enterprise Linux 4

- Exact toll calculation
- Lump-sum toll calculation



PTV xRoute Server at a glance:

- ▶ Calculate routes between two or more points
 - ▶ Calculate toll costs
 - ▶ Calculate route length, travel time and costs
 - ▶ Truck routing is based on truck attributes, driving times and rest periods
 - ▶ Individually customisable vehicle profiles (speed, weight, vehicle class, etc.)
 - ▶ Integrate the component easily using standardised interfaces (XML/SOAP)
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