

# PTV xCluster Server

## Clustering orders / customer calls

*PTV xCluster Server handles a basic function of trip planning: grouping all the orders or customer calls into "clusters". A cluster typically contains all the customer calls for one day trip.*



### Functionality

Trip planning often begins by grouping all the orders or customer calls into clusters, especially for recurring orders or calls. This approach is particularly common when planning trips for sales forces. Take a two-week plan, for example. It consists of ten day trips (two weeks with five business days each). PTV xCluster Server will split up all the customer calls scheduled for these two weeks into ten clusters – one cluster per day trip.

PTV xCluster Server considers visiting patterns during the week (e.g. Monday and Thursday) and visiting frequencies across several weeks (e.g. every 14 days). The clusters are set up so that each call is assigned to one, and only one, cluster. That means if customers are visited twice a week, they will be assigned to four different clusters in our example. Once the clusters are generated, the ideal sequence of stop-off points can be determined (PTV xSequence Server).

### Goal: compact, balanced clusters

PTV xCluster Server creates clusters that fulfil two goals:

- Geographically compact clusters: orders or customer calls are grouped into the most geographically compact clusters possible, which produces shorter trips. That means that customers located near one another are assigned to the same cluster wherever possible. The calculations are based on road distances or travel times.
- Well-balanced clusters: the clusters should be roughly equivalent to one another in terms of pre-defined factors (e.g. number of calls, revenue potential, call duration).

**Integration**

PTV xRoute Server integrates with other systems over standardised web service interfaces (XML, SOAP). It is scalable and actively supports multi-processor systems.

**Hardware requirements**

- At least 1 GB RAM (1 GB RAM recommended for each CPU in use)
- Pentium 4 (1 GHz) or better

**Operating system**

PTV xTour Server runs on the following

Windows platforms:

- Windows 2000
- Windows XP
- Windows 2003

(Linux support under development)

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**PTV xCluster Server at a glance:**

- ▶ Cluster (regularly occurring) orders or customer calls
  - ▶ On the basis of distance or driving times
  - ▶ Compact clusters for short trips
  - ▶ Integrate the component easily using standardised interfaces (XML/SOAP)
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