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## STPP FORMAT

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Each file consists of basically two parts: a specification part and a data part. The specification part contains information on the file format and on its contents. The data part contains explicit data.

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The specification part

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All entries in this section consist of lines of the form

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<keyword> : <value>  
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where <keyword> denotes an alphanumerical keyword and <value> denotes alphanumerical or numerical data. The terms <string>, <integer> and <real> denote character string, integer or real data, respectively. Integer and real numbers are given in free format.

Below we give a list of all keywords:

-----  
NAME : <string>  
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Identifies the data file name. All the names are in the format CapEuclideo.N.K.S.l.r.stpp where

-N is the number of nodes  
-K is the number of products  
-S is the number of scenarios  
-l is the value of the parameter lambda  
-r is the repetition.

See the relative paper for details.

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TYPE : CTPP  
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Specifies the nature of the data. The CTPP label means that the problem is a Capacitated Traveling Purchaser Problem.

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CLASS : 4  
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Specifies the Class of the instance. Number 4 means that the instance has been created according to Class 4 rules proposed by Laporte et al. (2003) (see <http://jriera.webs.u11.es/TPP.htm>).

-----  
DIMENSION : <integer>  
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Identifies the number of nodes (i.e., the suppliers plus the depot). The depot is always identified by the node indexed as 1.  
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SCENARIOS : <integer>  
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Identifies the number of scenarios used to represent the uncertainty.  
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EDGE\_WEIGHT\_TYPE : EUC\_2D  
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The way in which distances are calculated. EUC\_2D means that the Euclidean distance has been used. In particular, given two nodes A and B with coordinates (xA,yA) and (xB,yB), respectively, the Euclidean distance is calculated through the following C-like code:

```
double xD = xA - xB;  
double yD = yA - yB;  
int dist = (int) (sqrt(xD*xD + yD*yD) + 0.5);  
return dist;
```

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DISPLAY\_DATA\_TYPE : COORD\_DISPLAY  
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The way in which nodes are represented in the file. COORD\_DISPLAY means that the nodes are identified by two coordinates.

=====  
The data part  
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NODE\_COORD\_SECTION :  
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There are as many lines as the number defined for DIMENSION. Each line is in the format

<integer> <integer> <integer>

where the first integer specifies the node id, the second is the x-coordinate, and the third is the y-coordinate.

NB: the node with id=1 is always the depot (and therefore it does not supply any product).

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DEMAND\_SECTION  
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Contains a first line

<integer>

that represents the number of products m.  
Then there are m lines in the format

<integer> <integer>

where the first integer specifies the product's id and the second its demand.

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OFFER\_SECTION:  
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There are as many lines as the number defined for DIMENSION.  
Each line is in the format

<integer> <integer> [<integer> <integer> <integer> ... ] ...

where the first integer gives the node's id, while the second integer represents the number df of different products offered by that supplier.

Then, there are as many sequences of integers as the number df.  
The first integer of a sequence represents the product's id, then, for each scenario, there is the product's cost and the product's availability.

#### EXAMPLE

```
NAME : CapEuclideo.3.2.4.50.1.stpp
TYPE : CTPP
CLASS : 4
DIMENSION : 3
SCENARIOS : 4
EDGE_WEIGHT_TYPE : EUC_2D
DISPLAY_DATA_TYPE : COORD_DISPLAY
NODE_COORD_SECTION :
1 2683 2164
2 1008 3797
3 579 2367
DEMAND_SECTION :
2
1 19
2 45
OFFER_SECTION :
1 0
2 2 2 250 70 267 68 238 72 254 66 1 45 15 46 11 51 9 42 18
3 1 1 55 25 56 22 51 22 59 28
EOF
```