



Trip Data Collection with Enif

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Index.



- Purpose.
 - Applications.
 - Manual operation with file input and output.
 - Manual operation with no file input.
 - Inside the configuration.
 - Configurable controls and file input.
 - Adjustable text in legend.
 - Network parameters.
 - Shortest path.
 - File output.
 - Batch operation.
 - SENC script.
 - BAT file.
 - Conclusions.
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Purpose.



- Collect data along the shortest path between a pair of nodes.
 - Up to 3 values (timau, length, generalized cost, count).
 - Shortest path along the first value.
 - Include values from nodes (ptimau).
- Read the samples from a text file.
- Save input data and results on a text file.
- Show the full view of the path.
- Show shortest path value.
- Save the screen to a PNG file (batch operation).

Applications.



- A sample of auto trips was compared before and after a proposed plan of a new road and presented to the residents of the area to promote the approval of the project. The project impact was measured in:
 - Time.
 - Distance.
 - Cost.
- Obtain time, distance and cost for a national highway study from an OD survey of trips. The values obtained were used in a preference analysis.
- Used for network review in manual operation.

Manual operation with file input and output.

- ❑ Load configuration TripData.e2p.
- ❑ Select file input.
 - Format below.

File input in FIFile

Select input file

```

FIXED FORMAT. 3 FIELDS. 10 CHARACTERS EACH
1...5...10...15...20...25...30
1      731      298
2      301      205
3      597      963
    
```

Format:
Sample ID
Initial node
Final node

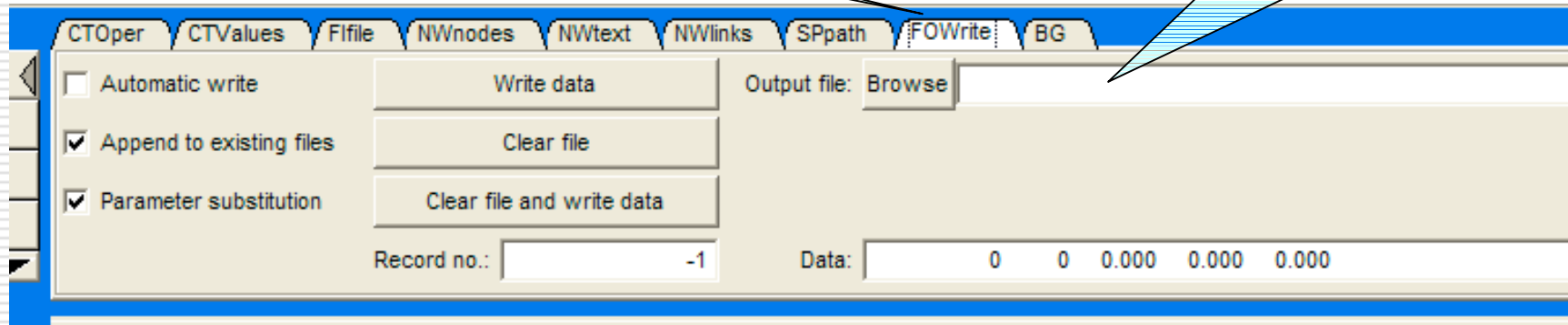
Manual operation with file input and output.



- ❑ Select file output. Use the browse button to navigate for directory and type file. If the file exists you are asked to overwrite.

File input in FOWrite

Select Output file. Format compatible with input file



Manual operation with file input and output.



- ❑ Chose link and turn values. Use CTValues mapper.
 - Three values link and turn values.
- ❑ Chose link selector. E.g.: isAuto or modes~"[cz]"
- ❑ Chose decimals and scale interval.

The screenshot shows a software interface with several tabs: CTUser, CTValues, Ffile, NWnodes, NWtext, NWlinks, SPpath, and FOWrite. The CTValues tab is active, showing the following fields:

- Link values: timau,length,1
- Turn values: ptimau,0,0
- Decimals: 1
- Link selector: isAuto
- Interval: 1
- File input name: (empty)
- File output name: (empty)

Callouts provide the following explanations:

- Links to consider for short path:** Points to the 'Link values' field.
- Interval for the legend:** Points to the 'Interval' field.
- Up to 3 turn attributes. Use zeros to ignore and attribute:** Points to the 'Turn values' field.
- Up to 3 link attributes:** Points to the 'Link values' field.
- Number of decimals shown in screen:** Points to the 'Decimals' field.

Manual operation with file input and output.

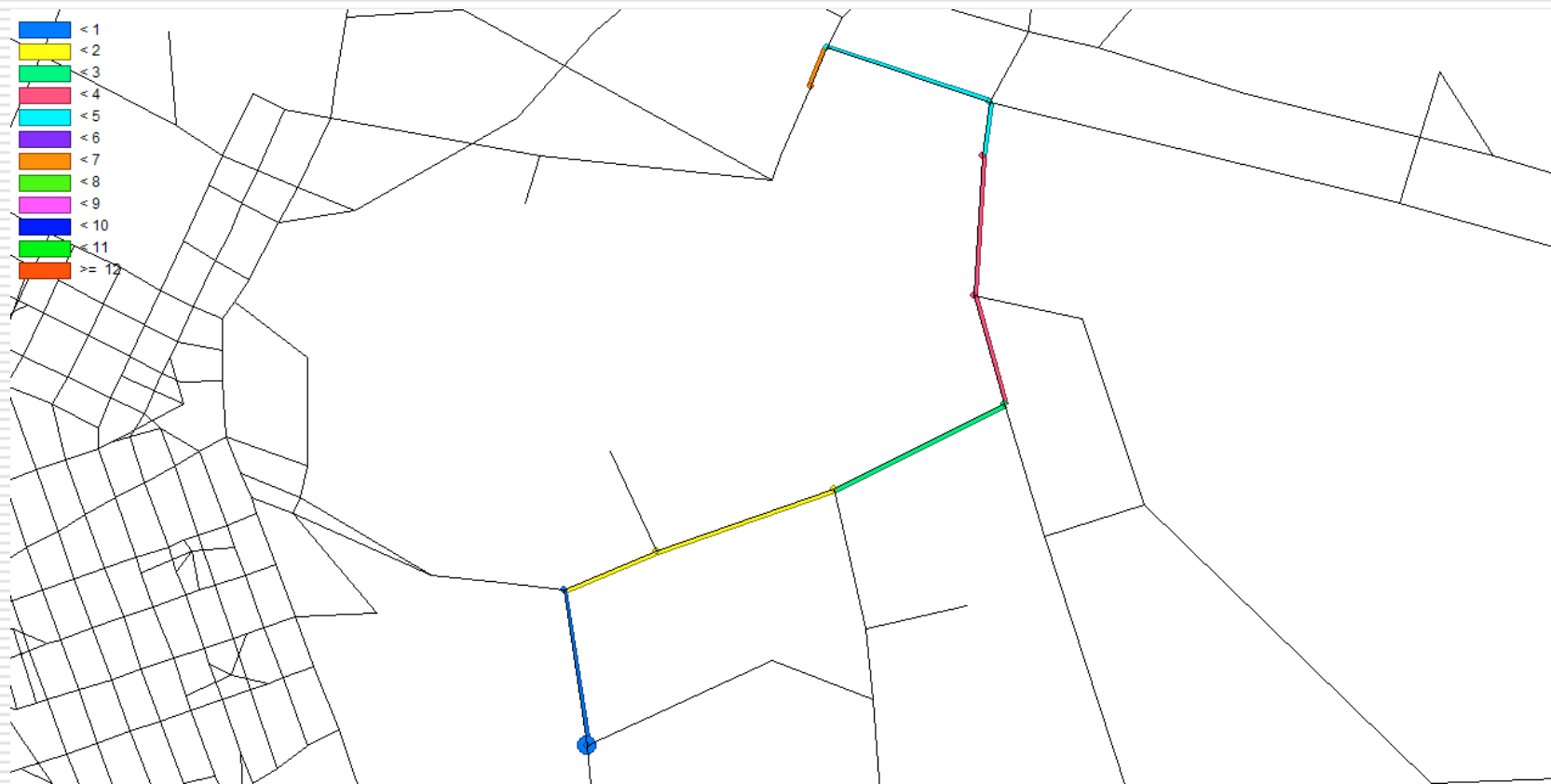


- ❑ Click Clear to erase output file, otherwise data will be appended.
- ❑ Repeat until end of file:
 - Click read.
 - Click write.

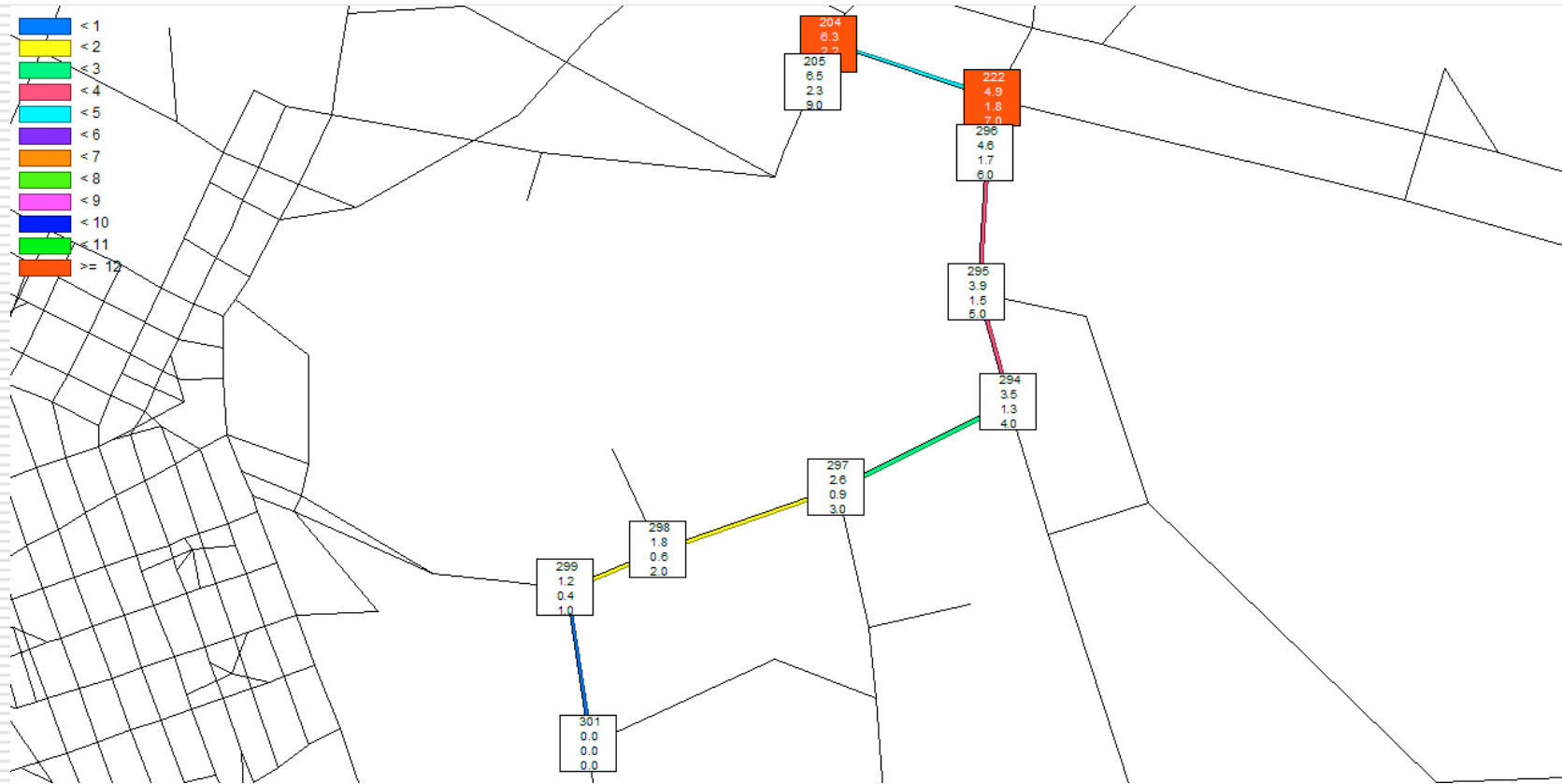
The screenshot shows a software interface with a menu bar (Network, View, Plots, Window, Help) and a toolbar with buttons for CTOper, CTValue, file, NWnodes, NWtext, NWlinks, sPath, FOWrite, and BG. Below the toolbar are several control panels:

- Read/Write Panel:** Contains 'Read' and 'Write' buttons. A callout points to the 'End of file' field (value 0) with the text 'At end of file shows "1"'. A callout points to the 'Result' field (values 0, 0, 0.000, 0.000, 0.000) with the text 'Output line'.
- Record Panel:** Contains 'Record' (value -1), 'ID', 'Start' (value 0), and 'End' (value 0) fields.
- Show nodes Panel:** Contains a dropdown menu (value [path]2) and a 'Link text' checkbox. A callout points to the dropdown with the text 'Show all, path or no node info.'. A callout points to the 'Link text' checkbox with the text 'Show text in links'.
- Clear/Close Panel:** Contains 'Clear' and 'Close' buttons. Callouts point to these buttons with the text 'Clear output file' and 'Close input file' respectively.
- Input Panel:** A callout points to the 'ID' field with the text 'Input'.

Manual operation with file input and output.



Manual operation with file input and output.

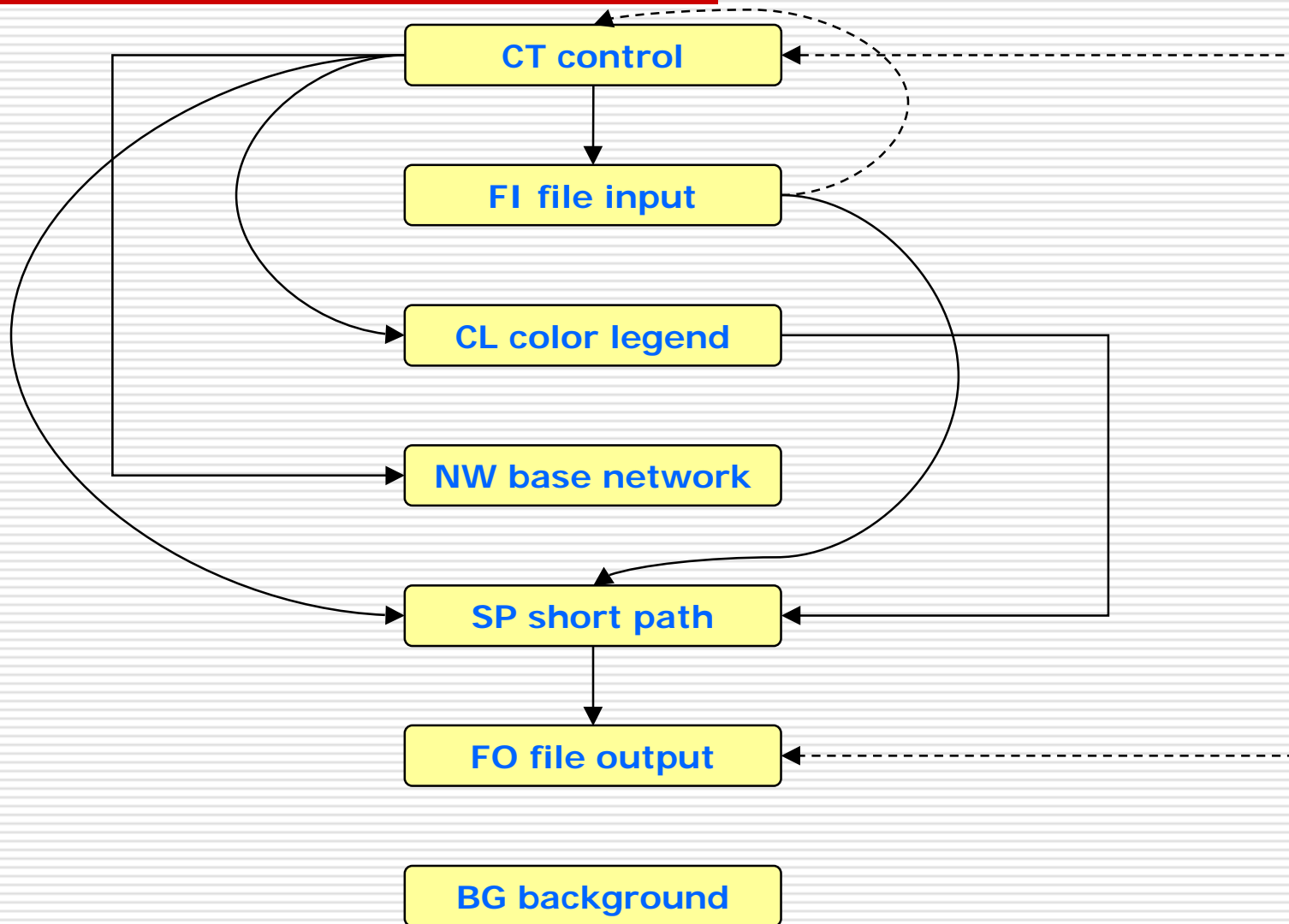


Manual operation with no file input.

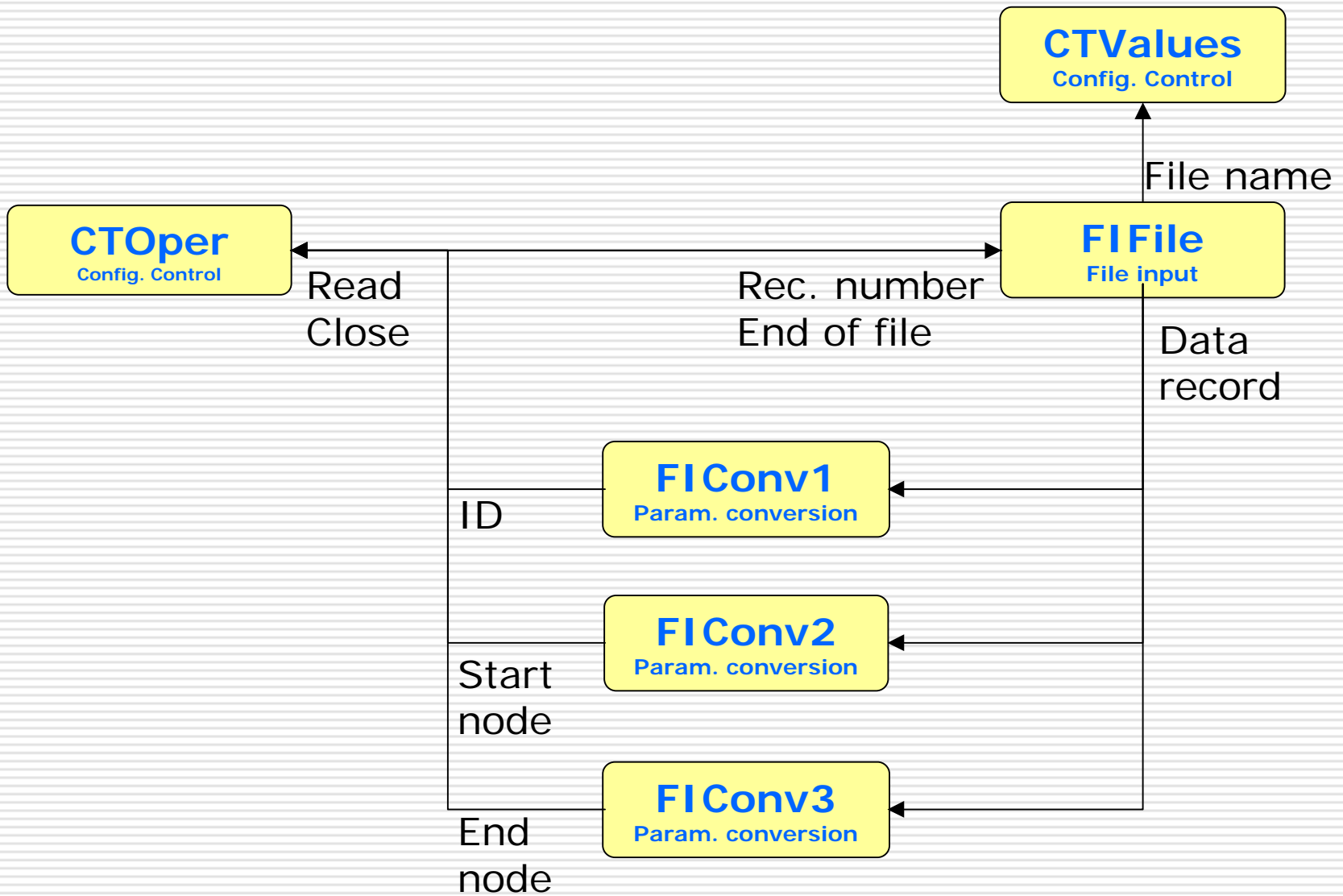


- This mode used to capture a file to process later.
- Load configuration TripData.e2p.
- Optionally, select file output.
- Chose link and turn values.
 - Three values link and turn values.
- Chose link selector.
- Chose decimals and scale interval.
- If output file selected, click Clear to erase output file, otherwise data will be appended.
- Repeat:
 - Search for nodes.
 - Type ID, first and last node for a sample.
 - Click write.

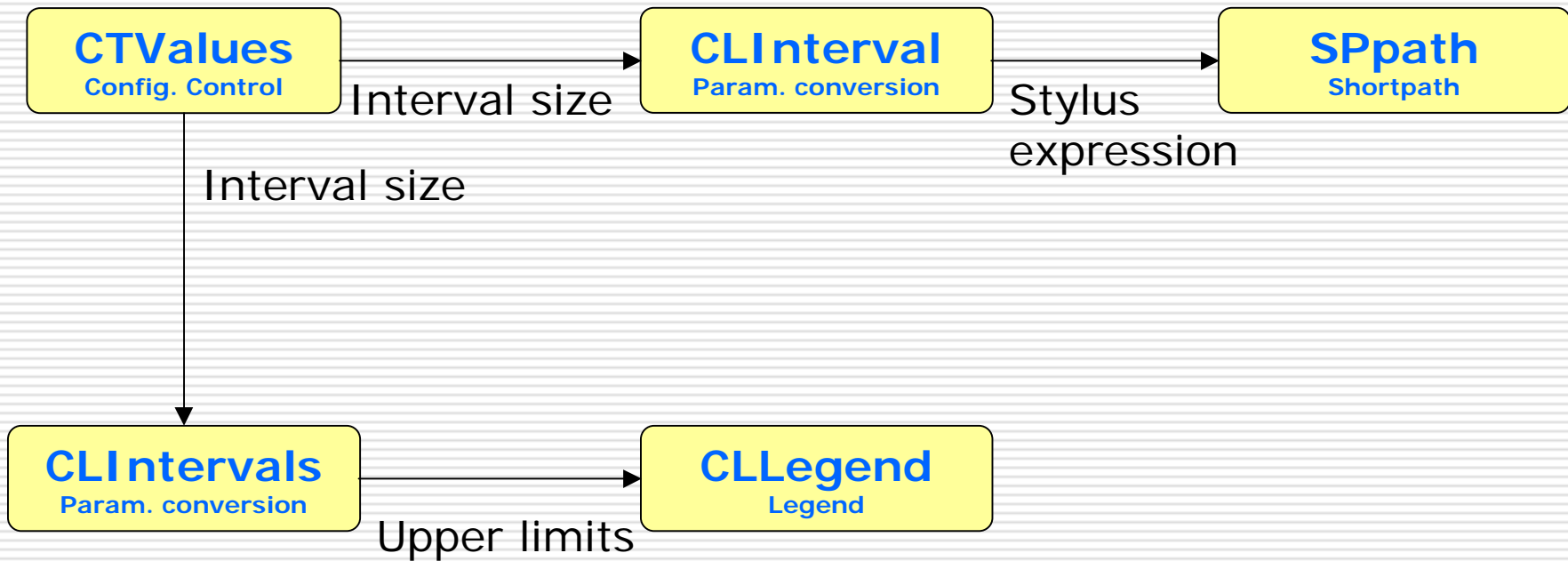
Inside the configuration.



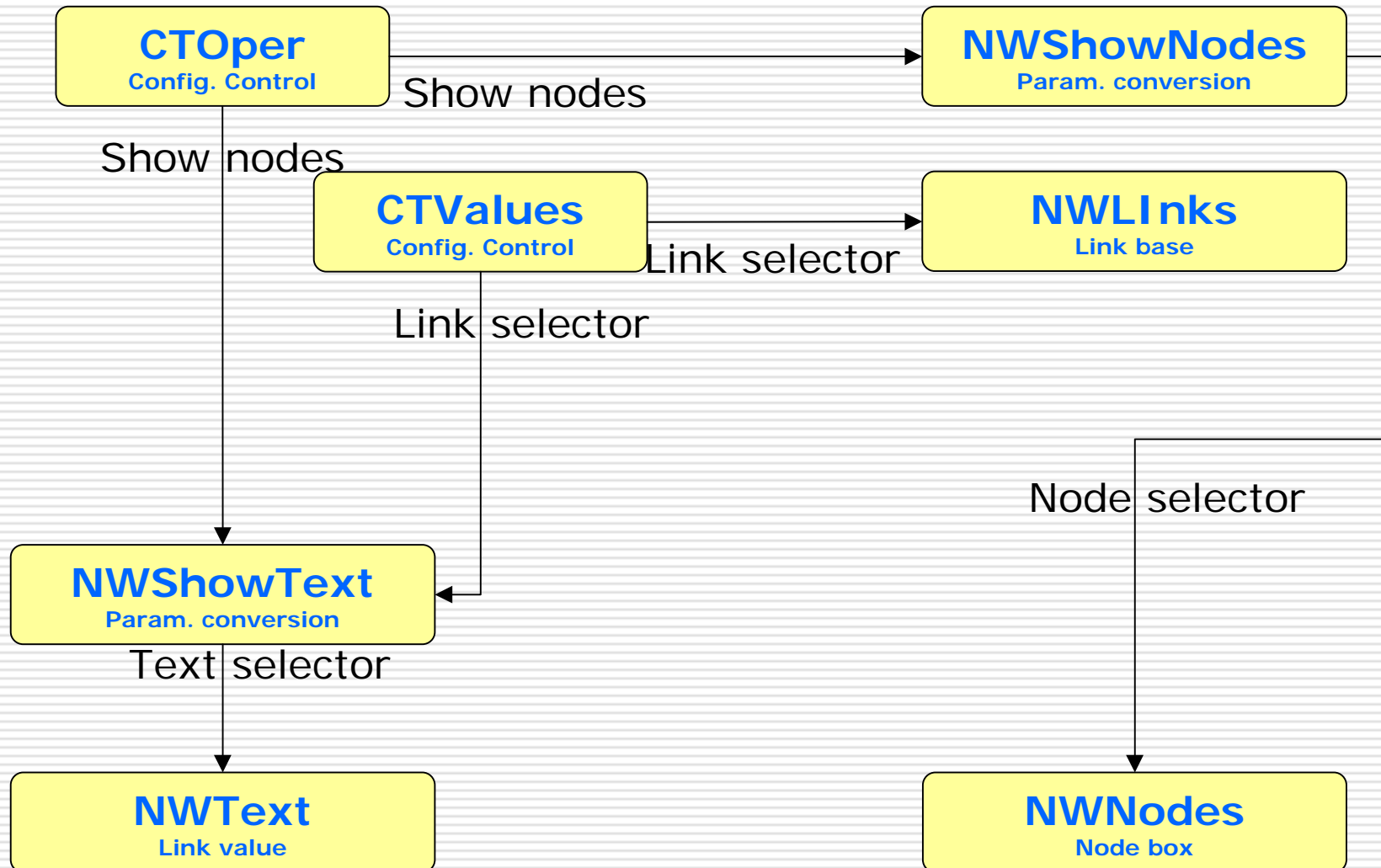
Inside the configuration.



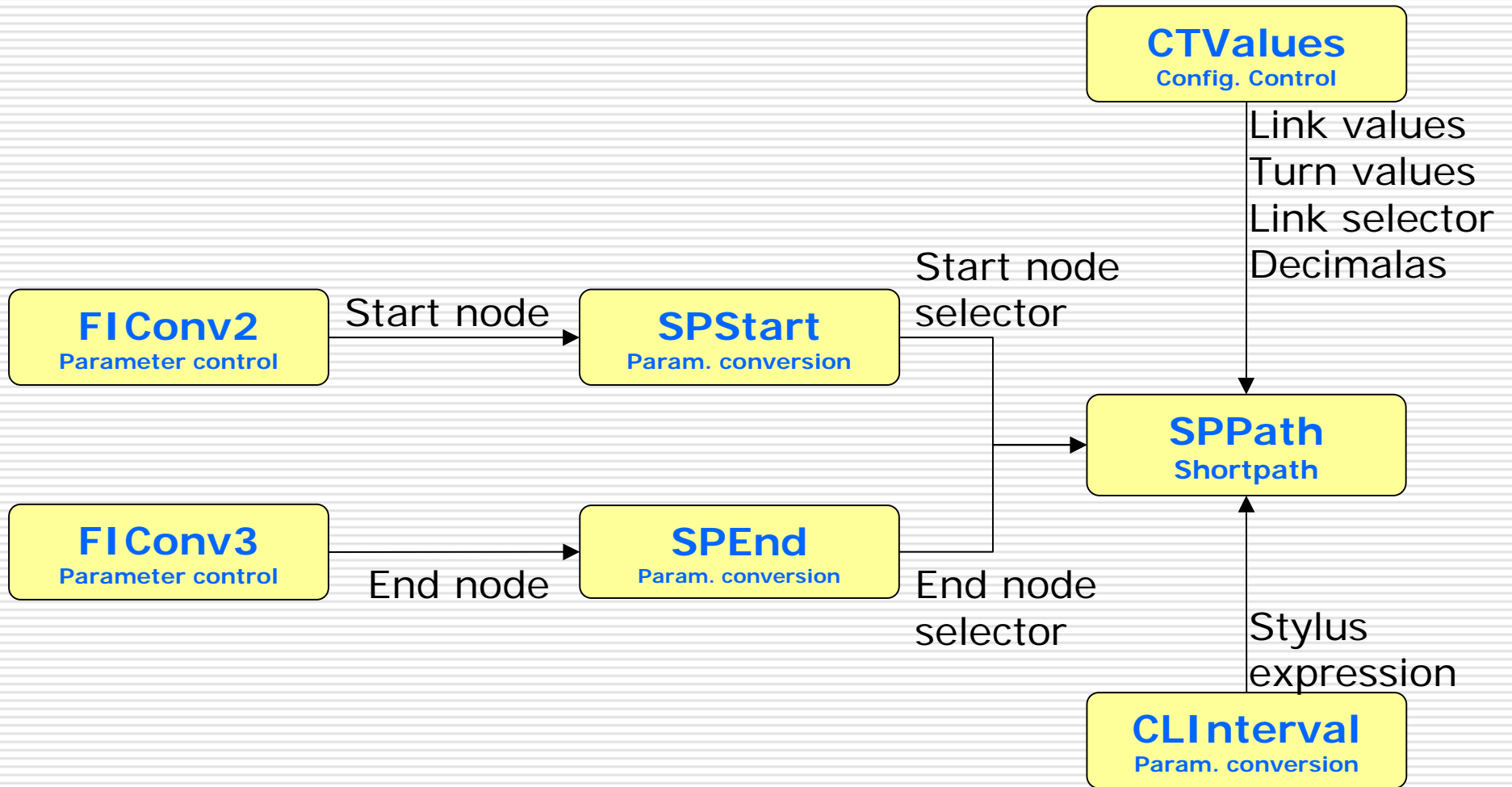
Inside the configuration.



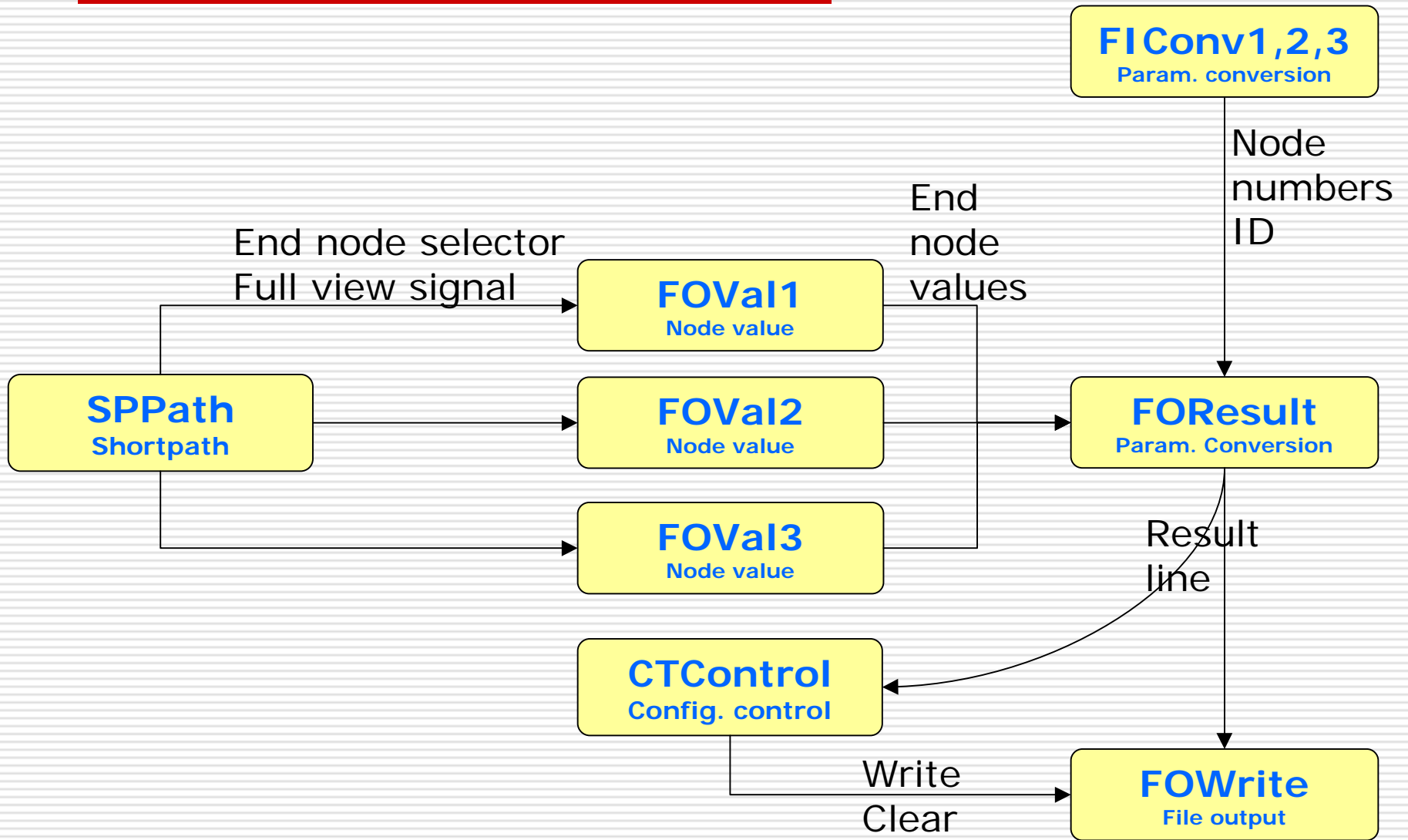
Inside the configuration.



Inside the configuration.



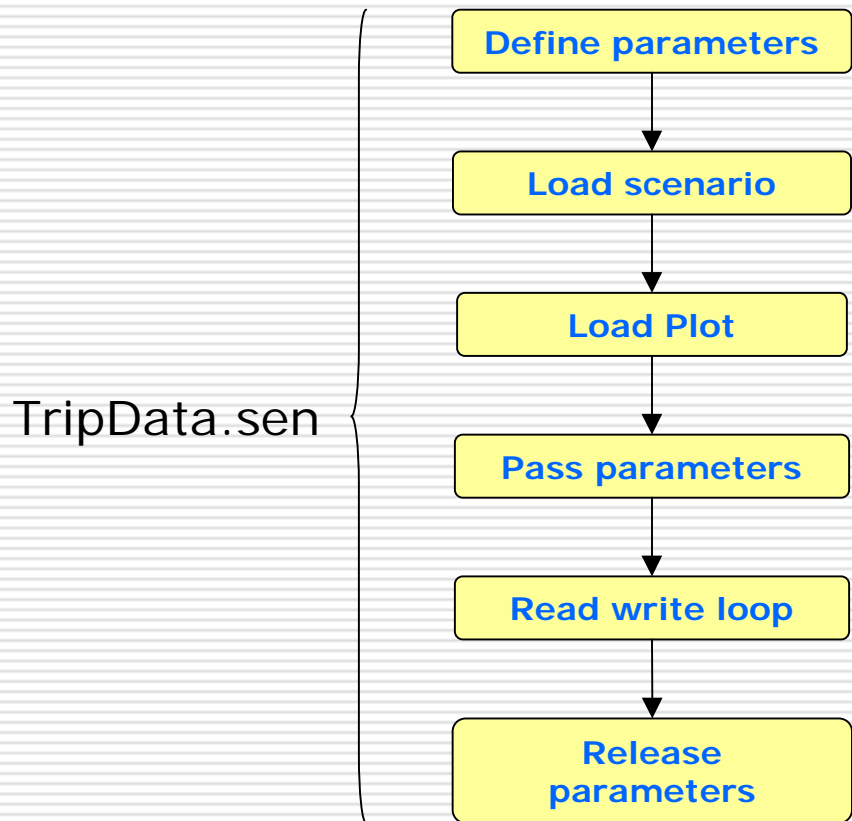
Inside the configuration.



Batch operation.



```
##### TripData SCENARIO FI          FO          LINKVAL          TURNVAL          DEC SELECT INTERV PLOT FOLDER
!call TripData 1000      Sample.in Sample.out timau,1,length ptimau,0,0 2  isAuto 2          1  C:\myfolder\
```



```
"%SENCPPATH%\SENC.EXE" -l -p 9090 -q TripData.sen  
pause
```

Conclusions.



- ❑ Enif is a powerful tool for trip analysis.
- ❑ The batch operation is recommended for large productions. The manual operation is recommended for creating the input file and trip analysis.
- ❑ Enif wish list.
 - Access to Screen and Printer buttons in Edit plot configurations. In this configuration could be used to hide the legend.
 - Grouping to XY coordinates of the legend. The legend could move by the user.
 - Browse button in configuration control.
 - Some way to control the size of a parameter after the third column which is always up to the right margin.
 - Histogram for $y=mx$ or $y=mx+b$.