Part 13

The Open Source Concept and TRANSIMS Resources on the Web

Dr.-Ing. Hubert Ley
Transportation Research and Analysis Computing Center

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TRANSIMS History

- TRANSIMS was originally developed by Los Alamos National Laboratory for the US Department of Transportation.
- As part of a commercialization project, IBM acquired the rights to market TRANSIMS and develop a commercial grade product.
- In parallel, the US Department of Transportation developed a new improved version of TRANSIMS for commodity workstations:
  - This is the most up to date version (TRANSIMS 4).
  - It is being continuously improved and supported.
  - It is available for free (including source code) as an Open Source project under a NASA Open Source License Agreement.
  - The open source project is governed by a Community Charter.
  - Further development is undertaken collaboratively with funding and support from a number of different sources.
The TRANSIMS Web Site

The web site supported and maintained by USDOT can be found at:

http://www.transims-opensource.org/

This site provides access to a number of resources:

- TRANSIMS release packages
- TRANSIMS documentation
- TRANSIMS example cases
- Presentations and Archived Web Seminars
- The TRANSIMS Open Source Charter and other governance documents
- Access to the bug tracking system
- Access to the TRANSIMS forum
- Access to the TRANSIMS Wiki
**TRANSIMS Software Release Packages**

- Downloads / Software / Releases / Current
  - Windows:
    - *Executables for 32bit Windows*
  - Linux
    - *TarBall for direct compilation or package building*
  - License

  **TRANSIMS 4.0**
  **NASA OPEN SOURCE AGREEMENT VERSION 1.3**
  *(Language for Use in Distribution of TRANSIMS)*
  May 2005 Original
  July 2006 Revised

  THIS OPEN SOURCE AGREEMENT ("AGREEMENT") DEFINES THE RIGHTS OF USE, REPRODUCTION, DISTRIBUTION, MODIFICATION AND REDISTRIBUTION OF CERTAIN COMPUTER SOFTWARE ORIGINALLY RELEASED BY THE UNITED STATES GOVERNMENT REPRESENTED BY THE GOVERNMENT AGENCY LISTED BELOW ("GOVERNMENT AGENCY"). THE UNITED STATES GOVERNMENT, AS REPRESENTED BY GOVERNMENT AGENCY, IS AN INTENDED THIRD-PARTY BENEFICIARY OF ALL SUBSEQUENT DISTRIBUTIONS OR REDISTRIBUTIONS OF THE SUBJECT SOFTWARE. ANYONE WHO USES, REPRODUCES, DISTRIBUTES, MODIFIES OR REDISTRIBUTES THE SUBJECT SOFTWARE, AS DEFINED HEREIN, OR ANY PART THEREOF, IS, BY THAT ACTION, ACCEPTING IN FULL THE RESPONSIBILITIES AND OBLIGATIONS CONTAINED IN THIS AGREEMENT …

- Source code is available from SourceForge (see other slides), and special executables (e.g. 64 bit) can be made available by the developers
- “Nightly Built” is being developed to give regular users access to the latest bug fixes, features, and of course the newest bugs …
TRANSIMS Charter

- The TRANSIMS open source community serves to preserve and enhance TRANSIMS core assets and intellectual capital; and to facilitate the effective application of TRANSIMS core assets (in isolation or together) through the coordinated, collective action of community members.

- Individuals, not organizations, are TRANSIMS open source community members.

TRANSIMS Open Source Community Charter and By-Laws (Version 1.0)

June 2007

Karl Wunderlich

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Department: I300

noblis.
For the best of reasons
Falls Church, Virginia
TRANSIMS Documentation

- The documentation for TRANSIMS 4 is not thoroughly up to date and complete
  - TRANSIMS Fundamentals (Version 3)
    - 7 Chapters: Overview, Network Data Files, Population Synthesizer, Activity Generator, Route Planner, Micro Simulator, Feedback Process
  - Collection of How-To Documents (Version 4)
  - TRANSIMS Tool Documentation
    - Quick Reference Sheets (selected tools)
    - Detailed Tool Documentation (selected tools)

- Each tool (all 51 of them) will list the available options if invoked with the “-h” option
The TRANSIMS Forum

- 195 Users as of April 2008 (+22 since March)
- 626 articles posted so far (+75 since March)
- Provides a self-help facility to newcomers
- Subscription to daily digests by Email
- Posting of attachments is possible
- Provides areas for “first aid” as well as development discussions
- Yes, we monitor the questions and answer them if possible
TRANSIMS Wiki

- Start of operation in March 2008
- Is now being used extensively for TRANSIMS documentation
- Vision is to keep documentation current in between releases
- Provides posting of project descriptions so other developers can be aware of TRANSIMS projects in the community
- Allows rapid editing by contributors with peer review
### Lane Use Table

<table>
<thead>
<tr>
<th>VERSION 3</th>
<th>VERSION 4</th>
<th>Optional Names</th>
<th>Descriptions</th>
<th>Use</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>NODE</td>
<td>DIR (2)</td>
<td>Node ID or direction code toward which the use restriction is headed</td>
<td>Opt</td>
<td>Integer {1..2,147,483,647}</td>
<td></td>
</tr>
<tr>
<td>LINK</td>
<td>LINK</td>
<td>Link ID on which the use restriction is located</td>
<td>Req</td>
<td>Integer {1..1,073,741,823}</td>
<td></td>
</tr>
<tr>
<td>LANE</td>
<td>LANES</td>
<td>Lane number with use restriction. Zero implies all lanes</td>
<td>Req</td>
<td>Integer {0..99}</td>
<td></td>
</tr>
<tr>
<td>VEHICLE</td>
<td>USE</td>
<td>Vehicle types to which restriction applies</td>
<td>Req</td>
<td>255 characters of use codes separated by slashes (4)</td>
<td></td>
</tr>
</tbody>
</table>
| RESTRICT  | TYPE      | Type of lane restriction. Defaults to Only               | Opt | One character  
|           |           | O = only this vehicle type may use lane                  |     | R = lane required to be used by this vehicle type      |
|           |           | N = lane not allowed to be used by this vehicle type     |     |                                                        |
| STARTTIME | START     | START_TIME     | Start time for the restriction. Defaults to zero.      | Opt | 16 characters (5)                                      |
| ENDTIME   | END       | END_TIME       | End time for the restriction. Defaults to Midnight     | Opt | 16 characters (5)                                      |
| NOTES     | NOTES (1) | A character string for user annotations                  | Opt | 255 characters                                        |
| OFFSET    |           |                | Starting position of the use restriction in meters measured from the beginning of the link | Opt | Floating point (1 decimals)                           |
| LENGTH    |           |                | The length of the use restriction in meters measured from Offset. Zero implies the whole link | Opt | Floating point (1 decimals)                           |
TRANSIMS SourceForge SVN Archive

- The TRANSIMS source code is available through SourceForge
  (175,00+ registered open-source projects, 1.8 million subscribed users)

**http://www.sourceforge.net/**

- Access to the source files through SubVersion (SVN) and browsing
  - SVN client software connects securely to the archive
  - Checkout of up-to-date working copies
  - Frequent updates keep source files in sync
  - Branching and merging to support independent development
  - Branching and tagging of releases
  - Core developers decide collaboratively on which features should
    become part of the “trunk” (the core TRANSIMS software)
  - Provides instant access to the latest version to users who can
    compile TRANSIMS on their systems
  - Provides for a framework for automatic building and testing
  - Secure archival of all previous versions
Credits and Acknowledgements

- Screenshots were taken from the TRANSIMS web site operated for the US Department of Transportation
- USDOT provided the funding for the development of these training materials
- USDOT provided the funding for the TRACC computing center and the resources necessary to perform these training sessions