VISUM Release Notes

Version 9.5

Version 9.52-18
Last modified: 2007-06-21

traffic mobility logistics.

Timetable Editor

▶ *Timetable editor, Regular service mode:* VISUM does not crash anymore if vehicle journeys are edited in this mode in such a way that the last two service trip patterns coincide, i.e. one column disappears. (**6034**)

Graphics

▶ Backgrounds of type ECW / JPEG2000 are localised correctly again when using the zoom. (**6077**)

I/O

▶ *Additive reading of network files:* Entries in table coupling section and table coupled time profile that do not match the network are now always discarded. An inconsistent network state cannot develop anymore. (**6091**)
▶ Instead of activating the demand data/skim matrix dialog box, VISUM now returns to the main network window after opening a matrix via File - Open. (**6088**)
▶ *Read network file:* When completing line routes with option "If no shortest path found.. create only, if link can be permitted for TSys", VISUM now also opens turns for the line TSys if required. So far, the import could fail in this situation because of turn blockings. (**5574**)
▶ *Read shapefiles:* VISUM no longer crashes due to a memory shortage when reading in shapefiles as screenlines. (**5888**)

Junction Editor

▶ When editing the number of lanes of a link, VISUM no longer creates legs with an incorrect number of lanes at adjacent node topologies. However, the error only occurred in case of split legs. (**6083**)

Network Editor

▶ *Edit connectors:* A crash no longer occurs if the user marks a connector, deletes its node and subsequently activates network object connectors again. (**6075**)
▶ *Shortest Path Search:* Calculating an interactive PuT Shortest path search with PuT additional path leg(s) and then calculating a timetable-based PuT assignment with search option "Shortest Path Search" no longer causes a crash. (**5749**)
▶ *Shortest Path Search:* Calculating an interactive PuT Shortest path search with PuT additional path leg(s) and then deleting a time profile or splitting a link no longer causes a crash. (**5748**)

Object Model

▶ *Delete vehicle journeys:* The program does not crash anymore when deleting vehicle journeys while filter conditions have been defined for them, which use attributes that reflect properties of other objects (like TSysCode of the line). (**6094**)

Discarded Program Crashes

▶ *PuT Passenger survey*: Reading in survey data does not cause a crash anymore if the network contains skim matrices saved on file. (**6026**)
▶ *Reading procedure parameters*: VISUM no longer crashes when reading in PAR files if a PrTSys is not contained in the network. (**6037**)
▶ *Splitting a zone:* Crashes no longer occur when editing connectors following the split a zone. (**6056**)
▶ *Headway-based assignment:* A crash no longer occurs if headway=0 is attributed to a time profile. However, such an entry does not make sense anyway. (**6071**)

Procedures

PrT assignment - stochastic: Instabilities in the sequence of transport systems/demand segments no longer lead to modified assignment results. (**6022**)

Other Procedures

▶ *Route import (old format)*: If, in the procedure parameters, decimal places > 0 are set for the PuT volume, the respective demand matrices are not projected by the specified factor anymore. (**6021**)
▶ *Connection import:* VISUM now also provides the zone and overall statistics of the PuT assignment during a

connection import. (**6055**)

Network Editor

▶ The program now suggests saving the current network if, after opening a network file, the user executes a MULTISELECT-DELETE operation and immediately opens a different network file. (**6017**)

▶ *Editing TSysSets:* TSysSets of links can now be edited much faster via MULTISELECT. (**6025**)

Attribute Interface

▶ *Read in attributes:* Generating UDAs for all unassigned origin attributes now also works if some UDAs have already been manually created for individual attributes. (**6064**)

▶ *Paste attributes from clipboard:* Open listings are no longer refreshed continually during the import. (**6050**)

COM Interface

ScriptMuuli: You can register the SCRIPTMUULI.DLL via regsvr32 under Windows Vista again. (**5695**)

Listings

Block items: The list used to be empty if it was filled with data, then closed and reopened again. The error has been fixed. (**6019**)

Export Interfaces

VISSIM: The new export option "Route Volumes With High Precision" is now on by default. (**6014**)

Add-Ons

PuT passenger survey: VISUM now also permits datasets with a departure time > 24:00 when reading in survey data. (**6031**)

Miscellaneous

Reading network files: VISUM can now read in network files that begin with a comment or with an empty row. (**6061**)

| 9.52-16 | Corrections, Bug Fixes and Extended Functionality (ID) | May 11, 2007 |

Discarded Program Crashes

▶ VISUM no longer crashes if, for a relation, no shortest path is found in a PuT assignment with MPA. (**6002**)

▶ *Deleting time profiles*: Crashes no longer occur following the deletion of time profiles with couplings. (**6000**)

▶ *Multi-user mode:* In networks with limited access rights, the deletion of a link no longer causes a crash if speed limits have been defined for the link yet the user has no access rights to speed limits. (**5325**)

Other Procedures

▶ *Connection import:* (error occurred as of 9.52-13/9.44-08) When importing connection files, paths with path legs that are located past the end of the analysis period (often: 24:00) are now evaluated correctly again. (**5994**)

▶ Menu CALCULATE - PROCEDURES - *PrT Functions - Blocking-back model:* (**6005**)

- The scaling factor is no longer limited to two decimal places.
- Filters are now updated immediately following the recalculation or initialization of the blocking-back model.

Network Editor

▶ *Coordination groups:* When exiting dialog box *PuT Coordination groups* with CANCEL, VISUM used to produce coordination group items without cross-references to a group. Saved network files that included such coordination groups could not be read in again afterwards. The error has been fixed. ()

Export Interfaces

▶ *VISSIM*: When exporting routes for dynamic assignment with option "Route volumes with high precision",
- the program now scales with 1 billion instead of with 1 million,
- the program now scales for all demand segments of each origin zone, so that route volumes for identical routes with different demand segments are calculated correctly,
- the calculated route volumes per evaluation interval are now correct. (**5989**)

Miscellaneous

▶ *Reading network files additively*:
- When reading links in mode "Overwrite object", all type-dependent attributes (*Cap, t0*) are now reset to default values. (**5987**)

9.52-16	Corrections, Bug Fixes and Extended Functionality (ID)	May 11, 2007

- Mode "Overwrite attributes" and mode "Overwrite object" now also function in case of specific transfer walk times and transfer wait times at stops. (**5997**)
- Reading leg templates additively now works correctly. (**6003**)

▶ *Search dialog box*: The dialog can now also be called with **F3** if a shortcut like **CTRL+S** was used beforehand. (**5995**)

9.52-15	Corrections, Bug Fixes and Extended Functionality (ID)	May 02, 2007

Discarded Program Crashes

Listings: Crashes no longer occur if the OD pair filter is initialized and reset while a list is open using selection *OD pair filter.* (**5962**)

Other Procedures

▶ *Progress window*: Several procedures (e.g. PuT Operating Indicators) respond faster now when a user cancels the calculation. (**5955**)

▶ *Line Blocking*: VISUM now only issues message *Block version is initialized* if the block version actually contains line blocks. (**5964**)

▶ *Assignment analysis:* Option *Only active network objects* now also has an effect on *R2* and *Correlation Coefficient*. (**5969**)

Network Editor

Dialog box Edit line route: On tag [PROFILES], the first journey of the current time profile is now preset as *Reference journey*. (**5963**)

Attribute Interface

▶ *User-defined attributes:* The *maximum string length* of attributes of *type* text is now checked directly in VISUM. Strings that are too long are not accepted. (**5960**)

▶ *Time format*: In addition to format hh:mm:ss, format hh:mm is now also available. This is useful when trying to save space, e.g. in the tabular timetable. (**5442**)

Export Interfaces

▶ *VISSIM*: A new option exists for exporting PrT routes to VISSIM: *Route volumes with high precision*. Relative VISSIM route volumes now result from scaling VISUM volumes (and not from rounding them). Thus, small VISUM route volumes are no longer rounded to zero. (**5944**)

▶ *EDF export:* Territories are now saved as "Regions". So far they could only be imported. (**5886**)

Import Interfaces

▶ *Personal Geo Database*: Even when connecting to a Personal Geo Database that contains polygons, VISUM now "normalizes" the polygons just like when reading shapefiles. Polygon errors are detected and corrected by means of normalization. This assures that all evaluations on polygons (e.g. *Intersect*) operate correctly. (**5583**)

▶ *Shapefile*: Polygons with just one face are now always considered as positive and inserted accordingly when reading shapefiles. Negative faces were discarded in the past even though this is rarely intended in the case of just one face. (**5917**)

Add-Ons

Multi-user mode: Various AGF attributes (e.g. *POI.Source*) can now be edited within VISUM. (**5952**)

Miscellaneous

▶ *Filters*: In the case of hierarchical filters, using INITIALIZE and subsequently CANCEL now also results in the restoration of the settings that were effective when opening the dialog. (**5936**)

▶ *Reading version files*: When reading a TSys-based assignment result calculated with a previous version of VISUM (before this service pack), the related paths are now always deleted as they may contain invalid references to network objects. The network volumes are preserved. A corresponding warning is displayed. You may have to recalculate the assignment. (**5975**)

9.52-14	Corrections, Bug Fixes and Extended Functionality (ID)	April 24, 2007

Discarded Program Crashes

▶ *Backgrounds*: VISUM no longer crashes when exiting the background dialog box if a user enters invalid combinations of upper left and lower right corner. (**5938**)

▶ The deletion of time profiles sometimes led to a crash. The error has been fixed. (**5959**)

Other Procedures

Abort procedure: If a user aborts procedure Line Blocking, PuT Operating Indicators or Territory Indicators, VISUM no longer runs any subsequent procedures (as is customary otherwise). When calling COM functionality *Procedures.Execure,* the abort is transmitted in the form of a COM Exception. (**5943**)

Network Graphics

▶ *Flow bundle:* VISUM now issues a warning if no paths are saved for any of the calculated assignments. Consequently flow bundles cannot be calculated. (**5948**)

▶ The graphic parameters for the print area can be read in individually again via selective GPA file import. (**5958**)

COM Interface

▶ *Shortest path search*: If the state of a route search COM object is reset with *Clear(),* the shortest path located beforehand is not displayed in the network any more either. (**5937**)

▶ The *GetMultiAttValues* functionality now also works correctly for valid days (*IValidDaysCont*). (**5584**)

Import Interfaces

▶ *Synchro*: The calculation of the storage for turning bays that are greater than half the distance between links has been updated. Furthermore, the offset reference value for signal timing has been adjusted based on the Synchro sign values. (**5941**)

Add-Ons

▶ *Multi-user mode:*

   - Network files can now also be read additively if they contain couplings and/or coordinations. (**5814**)

   - If a user checks out a network with write access, releases the lock and deletes attributes from the AGF model (which are regular user-defined attributes at that time) and then saves a version file, this file can now be read in again. (**5934**)

   - Much less memory is required when reading EDF files; storage overflow is thus more rare. The runtime has also been reduced. (**5935**)

F3 search boxes: If there is no AUTOZOOM button in the search dialog (e.g. in lists), **ENTER** now immediately closes the dialog irrespective of the focussed control. (**5933**)

Discarded Program Crashes

▶ *Deleting a mode:* The deletion of a mode no longer causes a crash if a path list is open for a DSeg of that mode. (**5910**)

▶ *Reading a DMD file:* Crashes sometimes occurred if a version file contained demand strata yet no demand procedures when reading a DMD file non-additively. The error has been fixed. (**5925**)

▶ *MPA:* VISUM no longer crashes following the evaluation of PuT paths if MPA has been activated and several PuT demand segments are assigned. (**5931**)

Procedures

▶ *PuT assignment:* When reading a connection file or restarting the calculation based on the paths of an assigned DSeg instead of running a new search, the program no longer aborts issuing message "Invalid PuTWalk link", if a single PuT path leg plus the transfer walk link is longer in terms of time than the total analysis period. (**5932**)

Other Procedures

▶ *PuT passenger survey:* In the context of procedure *Read survey data,* zones are now generated anew only if the origin or destination stop of a dataset has no connector at all. If an existing connector can be used by opening it for the PuT Walk TSys of the mode if required, VISUM makes use of it. (**5929**)

Network Editor

▶ *MultiSelect edit links - DUE attributes:* The text in the dialog box now reads: "Initializing SpacePerCarUnit and DUE v-wave with valid values. Capacity in veh/h, speed, length and NumLanes should be > 0". (**5924**)

▶ *Splitting a link:* When splitting polyline links (also in the context of the aggregation of nodes), the lengths of the two newly created links are now calculated correctly from the former total length of the link. Link stop points thus no longer "shift". (**5913**)

COM Interface

▶ *InitLegend:* This COM functionality works correctly again. (**5918**)

9.52-13	Corrections, Bug Fixes and Extended Functionality (ID)	April 16, 2007

Add-Ons
► *Line costing*: Attribute *NumberServiceTrips* is now only calculated for vehicle journey items if the line costing results are to be saved explicitly on the level of vehicle journeys. (**5928**)

Miscellaneous
► *Storage optimization*: The memory usage has been reduced when reading version files with detailed procedure results (like assignments or PuT Operational Indicators). (**5930**)

9.52-12	Corrections, Bug Fixes and Extended Functionality (ID)	April 5, 2007

Discarded Program Crashes
► *Matrix-Editor:* Editing zones in dialog box *Aggregate* no longer causes a crash if the loaded code file contains zones which are not contained in the matrix. (**5892**)
► *Reading networks:* VISUM no longer crashes when reading line route items if option *Create stop point* is active and a course item refers to an invalid stop point yet not to a node. (**5906**)
► *Turn volumes display:* The program no longer crashes when drawing turn volumes, if the turn volume layer is active yet a meanwhile invalid attribute is to be drawn. (**5899**)
► *Line route*: VISUM no longer crashes when editing the shape of line routes (error occurred as of 952011). (**5907**)
► *Plausibility*: During the calculation of the detour of incomplete paths, crashes no longer occur when writing the plausib. result file or when opening a path leg list for incomplete paths. (**5908**)

Other Procedures
► *LineCosting + Territory indicators:* The procedures "PuT Operating Indicators" and "Territory Indicators" can now be terminated faster by clicking CANCEL. (**5909**)

Network Editor
► *Line routes - Aggregate:* Line routes can now also be aggregated if the line routes to be aggregated have a length of zero. (**5901**)

Network Graphics
► *Reading text files*: Texts are now also read in correctly if they are positioned within the legend. (**5911**)

Timetable Editor
► Markings are no longer saved when closing the Timetable Editor window, i.e. no vehicle journey is marked when the window is opened again. Markings are always non-permanent characteristics of objects. (**5035**)

Listings
► Procedure "Calculate (PrT) skim matrix" no longer causes the deletion of entries in the assignment quality list. (**5903**)

Export Interfaces
► *VISSIM*: If a signal control is assigned to several nodes, the signal head numbers generated during the export no longer overlap. (**5905**)

Miscellaneous
► *Reading version files:* Following the deletion of a PuT TSys, in rare cases, subsequently saved versions were no longer readable. The error has been fixed. (**5895**)

9.52-11	Corrections, Bug Fixes and Extended Functionality (ID)	March 26, 2007

Discarded Program Crashes
► *Read version files*: When reading VISUM 9.3 version files, incorrect link orientations are now rejected immediately in any case. VISUM thus no longer crashes upon reading such version files. (**5874**)
► *Edit line route course*: VISUM no longer crashes upon editing a line route course when a section from A to B is rerouted first, thereby changing B's predecessor, and the section from B to C is then rerouted as well. (**5862**)

Procedures
► *Headway-based assignment*: If the assignment's TSys set does not include all PuT TSys of the network, the following issues could occur - and have now been fixed:
-   The assignment crashed in the preprocessing step if the network contains stop areas which are only served by lines of excluded TSys.

9.52-11	Corrections, Bug Fixes and Extended Functionality (ID)	March 26, 2007

- Headways of lines of excluded TSys were erroneously used in the computation of a wait time lower bound needed for path search. Restricting the calculation to the relevant lines can yield a different value, possibly producing a slightly different assignment result. (**5877**)

▶ *PrT assignments*: The memory required for PrT assignment results has been significantly reduced and now corresponds to the real amount of paths better than before. (**5872**)

Network Editor

▶ *Link orientations*: The calculation of link orientations at main nodes with split node legs no longer contains an error. (**5861**)

▶ *Coupling*: If a vehicle journey on an added time profile starts exactly at the end of the newly inserted coupling section, it is now ignored as expected when synchronising the vehicle journeys in the coupling section. (**5866**)

Network Graphics

▶ *Rounding:* When setting "Round = 0" in the graphic parameters, VISUM used to issue 0 for all attribute values. The error has been fixed. "Round = 0" is now interpreted as "do not round". (**5852**)

▶ *Bar display*: For an automatic scaling of

- *Standard* bars, VISUM now uses the *Network maximum* of the absolute values of the displayed attributes. The display thus changes in cases where the absolute value of the minimum is higher than the maximum. (**5865**)

- *Line* bars, the *Network maximum* is now always calculated on the basis of the set aggregation level (TSys, main lines, lines, line routes). Since the maximum of the individual line route values was mistakenly used so far, practically all bars were drawn with the maximum width in case of a less detailed aggregation. (**5853**)

Attribute Interface

Read attribute file: When reading an attribute file for links which contains orientations, VISUM now always checks if the read in orientations are valid. (**5850**)

Import Interfaces

Shapefile Import: Integer values in scientific notation (1.2345e+05) are now read correctly when importing shape files. (**5884**)

9.52-10	Corrections, Bug Fixes and Extended Functionality (ID)	March 16, 2007

The English VISUM User Manual and Online Help have been updated; you can now download version 9.5.

Discarded Program Crashes

DUE: VISUM no longer crashes when subsequently editing the analysis time intervals in a version that contains DUE assignment results. (**5858**)

Network Graphics

Graphic parameters dialog: When leaving the dialog with OK (and in some other situations), filters were evaluated anew unnecessarily if indirect attributes were used for the filter criteria. This evaluation no longer occurs and unnecessary waiting times are avoided. (**5851**)

9.52-09	Corrections, Bug Fixes and Extended Functionality (ID)	March 09, 2007

Discarded Program Crashes

▶ *Read network from file:* VISUM no longer crashes when reading in the table $STOPPOINT in case of missing stop area data. (**5827**)

▶ SINGLESELECT - *Edit line route* - [PROFILES]: VISUM no longer crashes in the line route dialog upon switching to another tab when all time profiles of the line route have been deleted. (**5780**)

▶ *PuT assignment - timetable-based:* VISUM no longer crashes when

- computing the number of operator changes (as an indicator or for the PJT),

- a circle line transfer occurs on a connection, and

- no weighting is specified for vehicle journey items. (**5825**)

Procedures

▶ *Calendar* settings for *Assignment* and *Line blocking*: Analysis period and time interval settings for assignment or line blocking are adjusted accordingly in case of changes to current calendar settings. Time intervals are cut if possible. If old and new calendar period do not overlap, it is set to 1:1. VISUM also tries to save time period settings when changing from *annual* to *weekly* calendar (former day 1 becomes Monday etc.). (**5765**)

9.52-09	Corrections, Bug Fixes and Extended Functionality (ID)	March 09, 2007

Other Procedures

▶ *Set run and dwell times*: The procedure *Set run and dwell times* no longer stops with warnings when deleting dependent data. The interactive use of this function remains unchanged. (**5330**)

Network Editor

▶ SINGLESELECT - *Edit node* - [LINK ORIENTATIONS]:

- Correct computation of orientations not only for 4-leg nodes, but also for nodes with 2, 3, 5, 6 or 7 legs, even if the leg being located most North is situated in the Western half. (**5817**)

- The calculation of orientations for links having exactly the same direction (or length = 0) is now stable. (**5818**)

▶ SINGLESELECT - *Edit line route* - [PROFILES] – SET TIMES: All parameter settings in the dialog *Set times for time profile …* are stored when closing with OK. (**5764**)

▶ *Find line route* dialog: The user-defined search criterion is now read as *LineName;LineRouteName* separated by a semicolon. Directions are not regarded. A line route can only be found for a correct line name (no blank entry like *;LineRoute* permitted for line name). (**5813**)

▶ Menu CALCULATE - CHECK NETWORK: In case of couplings consisting of just two consecutive stop events, the check network function *Inconsistent couplings* used to ignore vehicle journeys starting at the beginning of the coupling section. The error could be fixed. Longer coupling sections were not concerned. (**5652**)

Listings

▶ *PuT OD pairs*: The list now also contains the attribute *RideDist* (**5831**)

▶ *PuT Line blocks* and *Block items*: Now, both of the lists contain all of the objects initially. (**5770**)

Import Interfaces

▶ *TModel Import*: Default impedance functions are now defined when importing TModel data. Thus, version files that are saved subsequently can be read in again. (**5829**)

Miscellaneous

▶ *Volume-delay function Akcelik2*: The valid value range for the parameter d of the volume-delay function Akcelik2 now starts at 0.01. (**4824**)

9.52-08	Corrections, Bug Fixes and Extended Functionality (ID)	March 01, 2007

Discarded Program Crashes

▶ *Read network from file:* VISUM no longer crashes if the file contains temporary attributes. (**5802**)

▶ *Connect Personal Geodatabase*: When connecting to Personal Geo Databases, VISUM now supports different ARCGIS versions (9.0, 9.1, 9.2). As a result, VISUM no longer crashes upon connecting. (**5805**)

Network Editor

▶ *Editing the shape of screenlines:* has been accelerated. (**5785**)

▶ MULTISELECT - *Setting route points*: no longer causes rounding errors when distributing the line route item lengths. The total length of the line route remains constant with this operation. (**5807**)

▶ SINGLESELECT - *Edit line route* - [PROFILES]:

- VISUM will no longer automatically switch to the first of the time profiles after changes to current data settings. (**5809**)

- VISUM now always activates profile points correctly if a protocol file is active with a protocol level > 1. (**5816**)

▶ Menu NETWORK or DEMAND – TSYS/MODES/DSEGS: When closing the dialog window a warning with regard to *Undo* will only appear after changes to the given settings. (**1496**)

Network Graphics

▶ *Scaling of backgrounds:* VISUM now automatically adopts the internal scaling of backgrounds of type ECW and JPG2000 when inserting the backgrounds. (**5791**)

▶ *Line bar objects*: The distance between a line object and the outer line object bars is calculated correctly even if neither the mode *Draw 'classified'* is active for drawing the innermost bar nor option *Draw* is active on the corresponding fill style page. (**5806**)

Timetable Editor

▶ *Deleting vehicle journey sections*: VISUM now explicitly states the number of deleted vehicle journey sections and the number of vehicle journeys on which default vehicle journey sections are inserted so that no vehicle journey remains without a vehicle journey section. (**5781**)

▶ *Create vehicle journey*: The program now correctly saves the specified values for *ValidDay* and *Vehicle*

combination when creating new vehicle journeys. Modifications which are done directly in the table of vehicle journeys always used to be saved as expected. (**5769**)

COM Interface
► *POI category*: Attribute *ParentCatNo* can now be edited via COM. (**5714**)
► *CreateTimetableEditor*: The COM functionality no longer generates a second timetable editor if another one is already activated. Instead, the program refers to the activated timetable editor. (**5777**)

Export Interfaces
► *VISSIM Export*: In case of open links with length = 0, VISUM will display a warning and terminate the export. For those links, no topology can be created at the 2 nodes. (**5812**)

Add-Ons
► *LineCosting*:
  - During procedure *PuT Operating Indicators*, VISUM now also calculates block-dependent attributes (e.g. *NumBlocks*) from blocks which have more than one calendar day set as valid day. So far, it only took the first set day into account. Please note: Such blocks are not generated by VISUM itself but can be read in from a network file. (**5763**)
  - When calculating revenues by precise territory, links are now also taken into account if they are traversed >50%. (**5803**)
► *PuT passenger survey:* If there are several possible connections within one tolerance interval of the plausibilization, VISUM now selects the connection with the lowest total of waiting time and run time (so far: the one with the lowest run time). (**5794**)a

Miscellaneous
► *Read version file*: If invalid system route items are found when reading in a version file, VISUM automatically deletes those objects and logs the system routes to the trace file. A warning is displayed at the end of the reading process. (**5793**)

Discarded Program Crashes
► *Read network file additionally:* VISUM no longer crashes in case of existing coupling sections with invalid references at the end of the reading process which are then deleted internally. (**5757**)
► *LineCosting*: Crashes no longer occur when projecting user-defined attributes in the context of PuT operating indicators if these attributes take values which lie outside of the value range predefined for the attributes by aggregating them on higher levels of the line hierarchy. (**5696**)
► *Node topology*: When modifying the node topology, some of the signal controls were not adjusted automatically. This led to faulty references in the network and, as a result, to crashes, e.g. when saving version files. The error has been fixed. (**5767**)
► *PuT assignment:* The PuT Walk path legs required for PuT paths are now build up automatically while reading version files and not just at the first access to the paths. Due to this modification, VISUM no longer crashes when, right after reading in a version file with a PuT Aux TSys assignment, modifying the network in such a way that the assignment is discarded. (**5775**)

Procedures
► *PuT assignment:timetable-based:* The program no longer mixes up the two attributes (one for alighting, one for boarding) specified for the transfer penalty of the extended impedance, i.e. the attribute specified for boarding is no longer used for the evaluation of alighting. (**5768**)

Other Procedures
► *Standardized assessment:* (error occurred as of 9.50) Result matrices can be saved separately on file again. (**5771**)

Network Editor
► *Node topology*: When reading in VISUM 9.4 version files, signal controls cannot be adopted at nodes with more than eight legs as they are now allocated to lane turns. A node topology yet cannot exist in case of more than eight legs. Such invalid signal groups are now deleted as the version is read in so that crashes no longer occur due to corrupt references. VISUM issues a warning in this case. The trace file contains the details. (**5758**)
► Dialog box *Edit line route ...* - [PROFILES]:
  - The last modified time profile is now automatically selected again when activating the dialog box and opening the [PROFILES]. (**5766**)
  - The context-sensitive menu FIX DEPARTURE / ARRIVAL TIME is now also available right away when activating

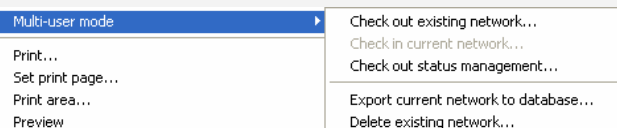the dialog box if the line route has several time profiles. (**5752**)

Matrix Editor

► *Muuli:* When splitting a zone in such a way that one of the two new zone's demand resulted in zero, VISUM sometimes used to produce invalid matrix values for this zone. The error has been fixed. (**5755**)

Import Interfaces

► When re-importing a connector list which had been exported to Excel, the program no longer issues error messages relating to non-identified direction codes. (**5774**)

Add-Ons

► *Subnetwork:* POI category-specific user-defined POI attributes are no longer dropped when generating a subnetwork. (**5751**)

► *LineCosting:* Indicators *Number VehicleJourneys* or *Number VehicleJourneysTSys* for a stop point/stop are now counted correctly in case of a stop event that exceeds midnight. In the past, multiple counts occurred. (**5712**)

► *Multi-user mode*: The menu entries have been modified. Entry READ RECENTLY USED NETWORK FROM SERVER... has been replaced by entry CHECK OUT STATUS MANAGEMENT. As before, the entry activates the client. (**5710**)

Multi-user mode	▶	Check out existing network…
Print…		Check in current network…
Set print page…		Check out status management…
Print area…		Export current network to database…
Preview		Delete existing network…

Miscellaneous

► *Reading version files*: Version files are now read in faster when a filter is active. This is particularly noticeable if the line filter or the stop filter is active. (**2287**)

► *F3 Search dialog boxes*:

- The program no longer falsely marks the row below the row which matches the search string entered by the user. (**5753**)

- When using the search box in a list, VISUM now immediately marks the matching list row when hitting **ENTER**. (**5754**)

Discarded Program Crashes

► NETWORK - NETWORK PARAMETERS - [CALENDAR]: Switching to another calendar option will no longer cause a program crash if so-called system valid days are available (from line blocking) and output of an activity protocol has been checked (cf. EXTRAS - OPTIONS - [PROTOCOL]). (**5686**)

► *PuT assignment:* The timetable-based assignment no longer crashes if option "Penalty for Boardings, Transfers, Alightings" is checked for the "extended impedance" on tab [IMPEDANCE] of the parameters dialog box. (**4934**)

Procedures

► *Matrix correction (TFlowFuzzy)*: The procedure has been accelerated by about 50%. (**5692**)

► *PuT assignment:*

- If PuT volumes of a demand segment A that result from an earlier assignment are saved at a different demand segment B, just the volumes of A, not the volumes of B, are now only deleted when editing this allocation (e.g. A -> C). (**5715**)

- *Headway-based*: VISUM now issues a warning at the beginning of the procedure if transport systems of type PuTAux are to be assigned. So far, this is only possible in the context of the timetable-based assignment. (**2280**)

Other Procedures

► GRAPHICS - ISOCHRONES: TSys-specific calculation and display of PrT isochrones along links, i.e. t0, tCur and Imp. (**5683**)

► *Line blocking*: The start time of the first empty trip of a block is now also issued correctly if this empty trip lies before the beginning of the analysis period. (**5593**)

9.52-06	Corrections, Bug Fixes and Extended Functionality (ID)	Feb. 09, 2007

Network Editor
- ► *Edit node*: Users no longer necessarily need to select a main node. No main node is selected when clicking DESELECT in the selection box. (**5707**)
- ► *Create stop point*: The same number is used now for numbering the new stop point and the automatically created stop area, as long as no stop area has this number yet. (**5691**)
- ► *Edit line route shape*: Shortening a line route at its beginning can successfully be performed even if the first and the second stop event occur at directed stop points on the same link and the second stop is fixed for dragging the band from the first to the second stop point. (**5419**)

Attribute Interface
- ► *Vehicle hours travelled*: Territory attribute *VehHourTravPrT* as well as the link attributes *VehHourTravt0* and *VehHourTravtCur* are now determined correctly on the basis of TSys-specific link run times. (**5685**)

COM Interface
- ► The COM interface for reading network files additionally (*IAddNetRead*) now offers functionalities used to specify the numerical offset or the alphanumeric prefix per table for the conflict avoidance. Other new functionalities permit switching the conflict avoidance on and off for each table. For more details, please refer to the COM documentation. (**5671**)
- ► *AnalysisTimes.SetCurrentTimeInterval:* The COM functionality now also works correctly when using a calendar with a span of several days. (**5750**)

Listings
- ► *Vehicle journey items lists and filter*: If two vehicle journey items lists are open at the same time in mode "only active service trips" while a filter is set, and if all vehicle journeys are then displayed at the same time, the lists no longer "flash". (**5627**)
- ► *Shortest path search PuT*: In this list, the program used to issue the wrong time for path legs of type PuTAux. The error has been fixed. (**5743**)

Import Interface
- ► *Emme/2 import*: The warning saying that a line route already exists can now be ignored by clicking "Next" or "No warning". In recent versions, the import procedure terminated in this case. (**5539**)
- ► *HAFAS import*: The procedure will no longer terminate in case of *Z rows with alphanumeric characters in columns 17-21. Due to the HAFAS raw data format specification, these columns are always empty. (**5711**)

Miscellaneous
- ► *Reading a network file additionally*: Since extra lanes are no longer ignored when reading network data from file, network objects referring to those lanes can be read from file additionally later. (**5697**)
- ► *Save data to text file*: For floating point numbers with more than 16 digits, a more compact scientific form is used now (e.g. in network files). (**5709**)
- ► *Special characters*: The characters ; and $ are now always rejected in entry strings like Names or Codes. Both characters are reserved for the syntax of the network file. (**5719**)
- ► Menu CALCULATE - CHECK NETWORK: The functionality "Network consistency PrT" no longer produces wrong results after editing the network topology. (**5747**)

9.52-05	Corrections, Bug Fixes and Extended Functionality (ID)	Jan. 26, 2007

Discarded Program Crashes
- ► *Edit shape of line route:* VISUM no longer crashes when re-routing the end of a line route course if vehicle journeys shortened at the start operate on a time profile of the line route. (**5659**)
- ► *Saving a matrix:* Matrices (e.g. skim matrices) can now be saved a lot faster. When saving matrices, VISUM sometimes used to crash due to memory shortage. (**5677**)

Procedures
- ► *PuT assignment - timetable-based:* Cardinalities of fare zones are now always correctly considered in the fare calculation. So far, too few fare zones were counted if cardinalities > 1 were assigned. (**5680**)
- ► *PrT assignment - TributEquilibrium_Lohse:* The calculation of the assignment is much faster now. (**5679**)

Other Procedures

▶ *Isochrones PuT*:

- If the connection with the minimum arrival time to the destination produced by the isochrone calculation lies completely outside of the specified interval, the isochrone time to this destination is now correctly determined as delta of the arrival of the connection and the end of the interval. So far, VISUM used to calculate the distance to the start of the interval. The situation only occurs if not a single departure lies within the specified time interval. (**5235**)

- After modifying parameters in the dialog, a click on EXECUTE now reliably initiates a recalculation. (**5664**)

▶ *Isochrones PrT*: are now recalculated automatically after editing the TSys or path choice criteria in the dialog. (**1770**)

▶ MULTISELECT - EDIT - INTERSECT: During the intersection, option *Round* now also applies to integer target attributes, as expected. So far, the values were cut after the comma in this mode. (**5673**)

Network Editor

▶ *Setting route points:* When setting several route points simultaneously (e.g. via MULTISELECT - EDIT), the line route item lengths are now always distributed to the resulting route points. Changes in the line route dialog box or in the list already took effect as expected. (**5244**)

Network Graphics

▶ Menu GRAPHIC - PARAMETERS - *Links* - [LINK BARS] - SET - dialog box *Automatic class definition*: The default for the minimum value and the maximum value of the value range of individual link values or undirected values depends on link bar option "Undirected values" again. (**5608**)

▶ Menu GRAPHIC - FLOW BUNDLE: The calculation of the flow bundle no longer produces an error if the PrT or PuT terms are mixed in the list or if they are linked with OR. (**5670**)

▶ *Count locations*: Tables at count locations are now also positioned correctly if the link is positioned at an angle of slightly more than 90 degrees relative to the horizontal. So far, the table frame and text were not adjusted correctly in this case. (**5682**)

Attribute Interface

▶ *Turns:* By means of the new relations *Turns -> Laneturns (plural/singular) -> Signal Groups,* signal group attributes can now be used again to define e.g. turn capacities. (**5660**)

COM Interface

▶ The COM functions *SetMultiAttValues, SetAllAttValues* and *SetMultipleAttributes* are now always executed for all concerned objects for which the new attribute value may be set. So far, VISUM used to cancel the operation without issuing an error message if it was not permitted for any of the objects. The current solution corresponds to the program behavior in the network editor in mode MULTISELECT - EDIT. (**5672**)

Listings

▶ *Print*: The statistics lists (*Network information, PuT assignment statistics*) can now also be printed directly from VISUM. (**5580**)

▶ *Column selection*: Column "Format" now displays the correct information when reading in a layout file (error occurred as of 9.52004). (**5678**)

Add-Ons

▶ *Line costing*: When determining the section empty time at objects of the line hierarchy, the dwell time at the end of a vehicle journey section is now correctly disregarded if the section does not lie completely within the time interval (or on the day of the AP) and if a continuing journey section belongs to the vehicle journey. (**5658**)

Miscellaneous

▶ *Reading a network file additionally*:

- now also works in mode *Overwrite attribute* in case of signal groups and dependent tables. (**5662**)

- with option *First off, determine tables in file:* POI tables are now identified correctly again and activated for the import. (**5581**)

▶ *Read DMD file:* If VISUM cannot restore the procedure parameters that were valid before the import of a DMD file, the program now issues a detailed warning message (or COM error). (**5669**)

Discarded Program Crashes

▶ *Deleting a mode*: VISUM no longer crashes when deleting a mode (occurred as of 952001). (**5651**)

Procedures

► Assignments are no longer discarded when inserting a new demand segment. (**5638**)

► *PuT assignment - timetable-based*: In the past, calculating the assignment with a Branch&Bound search caused a numerical instability which could only occur if connections existed that were optimal concerning the search impedance but that were yet excluded due to their *journey time* or *number of transfers*. In practise, this constellation hardly ever occurs.

   In general, a connection must never be excluded if it is optimal concerning one of the three dimensions *journey time*, *number of transfers,* or *SearchImp*. The first determined *SearchImp*-optimal connection was saved in any case. However, the decision for or against further *SearchImp*-optimal paths of the same type (i.e. of a different temporal position) used to be unstable. If the impedance calculated for these connections was slightly greater due to arithmetic inaccuracies, their optimality was not identified. Based on the exclusion rule for *journey time* or *number of transfers*, these connections were thus discarded.

   The error has now been fixed, i.e. multiple equivalent *SearchImp*-optimal connections are now saved. Since this situation is generally quite unusual, users scarcely need to expect any variations in the assignment results despite of the modification. (**5647**)

Network Graphics

► *Legend*: The interaction between Legend Wizard and preview mode now always operates correctly, even when exiting the Wizard with CANCEL. (**5633**)

Timetable Editor

► *Sequence of stops*: When calculating the sort station in the sequence of stops in display mode "Stops" (not "Stop points"), a stop which is traversed several times by a vehicle journey is now only counted once. (**5594**)

► *Graphical timetable*: VISUM no longer saves vehicle journeys as one polyline but as a sequence of single lines. The display on screen remains unchanged. (**3703**)

Listings

► *Shortest path search PuT:* The list now also issues the toll of the path. (**5629**)

► *Column selection:* VISUM now always correctly indicates flag display of *Units* on/off when opening the dialog box. (**5586**)

Add-Ons

► *Line costing*:

  - The section service time and section service kilometres now also equal the total of the time/km over all sections of the vehicle journey in the case of coupled time profiles. (**5641**)

  - PuT operation indicators like *ServiceKm* and *ServiceTime* by territory are now also correct if vehicle journeys traverse specific links more than once. The indicators were already correct at vehicle journey, time profile etc. (**886**)

  - In the AH projection of *ServiceKm* and *ServiceTime* by territory, the maximum occurring projection factor (like elsewhere) is now utilized in case of overlapping vehicle journey sections with deviating projection factors and no longer the average projection factor. (**5640**)

  - *SectionEmptyTime*: The dwell time at the end stop of a vehicle journey section is now correctly ignored during the calculation and allocation of the empty time. (**5644 + 5631**)

  - *Indicators at links and link cost:* Also for links that are used less than 50%, the *NumServiceTrips/-TSys/ServiceTime* are now determined correctly. Consequently, the link cost is now calculated correctly. (**5648**)

  - *NumBlocksTimeProp*: The indicator is now also determined correctly if vehicle journey sections end at stop events for which a dwell time > 0 has been defined. (**5649**)

► *PuT passenger survey*: In the list of PuT path, the *Number of transfers* is now also displayed correctly in case of paths based on survey data. (**5650**)

Miscellaneous

► *Calculating skim matrices:* File names of PrT and PuT skim matrices may now include further full stops before the file extension dot (.).(**5607**)

► *Project directories:* When reading an extension for a file type from a PFD file for which several extensions existed previously, VISUM now overrides the first entered file extension and no longer the second one. The previous behaviour caused confusion, especially in the case of file type "OD matrices". (**5642**)

9.52-03	Corrections, Bug Fixes and Extended Functionality (ID)	Jan. 08, 2007

Procedures

► *Timetable-based assignment:* The attribute interface of the impedance parameters now also offers the specific parameters of the extended origin wait time as well as flag *Consider connections with DeltaT>0, if connections with DeltaT = 0 exist*. This affects the XML interface and the COM interface. (**5630**)

Network Editor

► *Coupling*: VISUM no longer shortens or asynchronously inserts vehicle journeys on the coupled time profile. (error occurred as of 9.51001) (**5619**)

Network Graphics

► *Link bars*: When switching off the bar label in the link dialog box and exiting the dialog with OK, VISUM now immediately refreshes the graphics. (**5517**)

Timetable Editor

► *Navigation with arrow keys:* The navigation in the vehicle journey table no longer leads to asynchronous constellations between the upper and the lower grid. (**5592**)

COM Interface

► When trying to import an invalid filter file (e.g. one that is too new), VISUM now reports a COM error. (**5618**)

Add-Ons

► *LLE - Service time by territory:* The dwell time of a time profile item now only enters the service time and section service time if the vehicle journey exceeds the stop on the considered day. The dwell time at the end of the vehicle journey is thus ignored. The same applies if, on the considered day, a stop of the vehicle journey is followed by a "gap". (**5626**)

9.52-02	Corrections, Bug Fixes and Extended Functionality (ID)	Jan. 03, 2007

Procedures

► *PuT assignment - Headway-based:* The assignment has been drastically accelerated and is now nearly as performant as in VISUM 9.4 (with noticeably improved stability and accuracy, cf. #5490). (**5612**)

COM Interface

► Muuli (to be exact: ScriptMuuli.dll) can now be registered as COM server again. (**5614**)

Add-Ons

► *LLE*: The dwell time of a time profile item now only enters the service time and section service time if the vehicle journey exceeds the stop on the considered day. The dwell time at the end of the vehicle journey is thus ignored. The same applies if, on the considered day, a stop of the vehicle journey is followed by a "gap". (**5575**)