VISUM Release Notes

Version 9.5

Version 9.52-15

Last modified: 2007-05-02

| 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**)

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

► 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**)

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

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**)

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.
  - 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**)

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

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**)

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**)

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

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**)

9.52-07	Corrections, Bug Fixes and Extended Functionality (ID)	Feb. 19, 2007

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**)

9.52-07	Corrections, Bug Fixes and Extended Functionality (ID)	Feb. 19, 2007

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**)
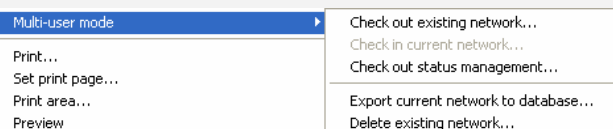
Import Interfaces

▶ 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**)

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**)

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

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**)

9.52-01	Corrections, Bug Fixes and Extended Functionality (ID)	Dec. 29, 2006

Discarded Program Crashes
- ► *Timetable editor*:
  - The program no longer crashes when deleting a time profile in the line route dialog box which is simultaneously displayed in the timetable. (**5551**)
  - VISUM no longer crashes when activating the list of vehicle journey sections right after the insertion of new vehicle journeys (error did not occur until VISUM 9.52-00). (**5570**)
- ► *Shortening a line route:* Crashes no longer occur when shortening a line route at the end while the last as well as the last but one item of the former course is a node stop point or a directed link stop point and not just a node. (**5547**)
- ► *COM*: VISUM no longer crashes when executing a script with limited access rights. Standard user and administrator rights did not cause any problems in the past either. (**5558**)
- ► *Detectors*: Crashes no longer occur when inserting detectors while the log file is activated. (**5573**)
- ► *Delete POI category*: VISUM no longer crashes when deleting a POI category. (**5602**)

Procedures

▶ *PuT assignment:* Dialog box *Procedures* - [FUNCTIONS] - *Volumes:* When editing setting *Save volumes/DemSegment* for PuT DSegs, VISUM only discards the assignment results for those DSegs that are allocated anew. All other results are obtained. Example: Save A at B, calculate A and B, then change storage of A to C -> the results of assignment A are discarded, the ones of B are obtained. (**5217**)

▶ *PuT assignment - Headway-based – Choice*: in the headway-based assignment, route choice decisions are now calculated precisely up to 50 alternatives (i.e. through integration of the density function). Previously, an accurate computation was only possible up to 10 alternatives due to numerical stability issues. A suitable transformation of the integrand now allows a considerably higher accuracy. Thus, minor deviations in the assignment result may occur. See also #5490. Work on the reduction of the computation time is in progress (**5610**)

Other Procedures

▶ *Choice model parameters for trip distribution/mode choice etc.*: after setting the value for c in the choice parameters, it is no longer displayed with a reverse sign on the [FUNCTION GRAPH] tag. (**5598**)

Network Editor

▶ *Node topology:* Lane turns are no longer discarded if the TSysSet of the concerned link is edited. The data at the node leg are discarded only if a link is fully blocked or activated anew. (**5527**)

▶ *Vehicle journey items*: When accessing relation *time profile item\vehicle journey items\...,* the vehicle journey items are now generated automatically, even if they did not exist previously. (**5516**)

▶ *Shortening a line route at the start*: If a time profile is adjusted in such a way that a new start profile point is generated in a position which is occupied by a route point already, the run time on the first section is now calculated correctly from the former value on a pro rata basis. (**5139**)

▶ *F3 Search dialog*: Pressing **ENTER** no longer results in closing the Search dialog opened with F3 but in autozooming on the currently selected object. (**5017**)

Network Graphics

▶ *Link bars*: *Like bar width* is now set as default filling of a newly inserted link bar instead of *TypNo* because it is the most frequently used setting. (**5355**)

▶ *Automatic class definition:* When classified parameters are set simultaneously, VISUM now also applies setting *color = fill color* to the individual classes. (**5543**)
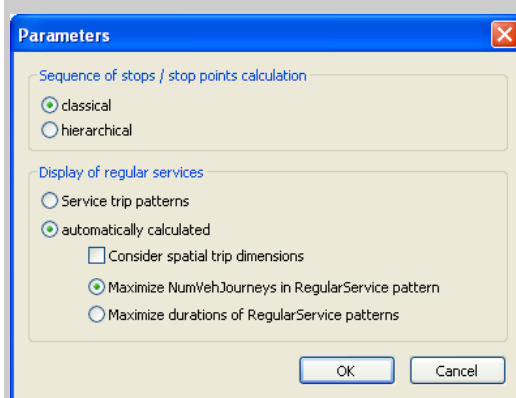
Attribute Interface

▶ Menu NETWORK - USER-DEFINED ATTRIBUTES: The check box for attributes of type *Bool* works correctly again. (**5585**)

Timetable Editor

▶ *Export to clipboard:* During the export of the tabular timetable VISUM now translates all attribute IDs, i.e. they do not all come up in English. (**5552**)

▶ *Automatic identification of regular services:* Via a new option in the *Parameters* dialog box, for the regular service display, users can maximize either the duration, as before, or regular services with several vehicle journeys. (**5556**)

Example: A cycle with vehicle journeys every hour from 5 am to 11 pm containing a cycle with vehicle journeys every 30 minutes between 8 am and 8 pm used to be displayed as one hourly cycle plus another (shifted) hourly cycle. When selecting option *Maximize NumVehJourneys in RegularService pattern*, the programm now displays an hourly cycle from 5 am to 7 am, then another cycle with vehicle journeys every 30 minutes and, finally, past 8 pm, an hourly cycle again.

| 9.52-01 | Corrections, Bug Fixes and Extended Functionality (ID) | Dec. 29, 2006 |

Matrix Editor
- ▶ *Path specifications of matrices:* From now on, the program saves a relative path if the path of a matrix matches the current project directory settings in order to facilitate the portability of networks. (**5509**)
- ▶ *Separator*: A comma is now accepted as decimal separator in all dialog boxes when entering numerical values. (**5530**)
- ▶ *Log display*: all columns are now initially visible in the log display of the matrix editor. (**5591**)
- ▶ *Read Muuli Logfiles*: Muuli Logfiles can be read in again. Older Muuli Logfiles saved with VISUM 9.5 are invalid and not supported. (**5601**)

Listings
- ▶ *Columns dialog*: An attribute can now be added with its subattribute values all at once. (**5535**)

Import Interfaces
- ▶ *EMME/2:* User-defined EMME/2 attributes at line route items ("us1", "us2") are now saved exactly at the corresponding items. So far, the value for the first item was saved at the second item and the one for the second item at the third item and so on. (**5528**)
- ▶ *GIS objects*: are no longer read in incorrectly if the first imported surface is negative. (**5548**)
- ▶ *Shapefile import*: when reading in Shapefiles, attributes following fields of type *Date* are now read in correctly. (**5605**)

Export Interfaces
- ▶ *XML export of the distribution parameters:* The gravitational options are now saved correctly. (**5560**)
- ▶ *VISSIM:* The VISSIM connector attribute *Desired direction* generated on export changed to "all" (instead of "right"). (**5510**)

Add-Ons
- ▶ *Traffix*: Result files can now also be activated if the file name of the VISUM network or version file contains more than one '.'. (**5549**)
- ▶ *TFlowFuzzy*: The specified tolerance range may now deviate from the counted value by 100% or more. (**5550**)
- ▶ *PuT passenger survey:* PuT flow bundles now also yield flow bundle volumes for some network objects (links, stop points, etc.) if the DSeg under consideration stems from a passenger survey and has been assigned "directly". (**5579**)
- ▶ *LineCosting*:
    - If the same TSys is boarded several times within the course of a PuT path, each boarding now adds to the attribute *PTripsTSys*. (**5559**)
    - Territory-based demand indicators are now only deleted when dismissing PuT assignments, and no longer if just PrT assignments are concerned. (**5567**)

Miscellaneous
- ▶ *Reading networks:*
    - Files can now even be read additionally if the loaded network contains POIs, stops, or backgrounds only. (**5531**)
    - *VISUM8* network files can be read in directly again. (**5536**)
- ▶ *Co-ordinates systems*: co-ordinates systems of type "Double_Stereographic" and "Oblique_Stereographic" are now supported. (**5597**)
- ▶ *Use file name as document name*: Even when a version file is opened with a double-click in the Windows Explorer, VISUM now automatically suggests the present path when saving a version file later on. (**5561**)

| 9.52-00 | Corrections, Bug Fixes and Extended Functionality (ID) | Dec. 01, 2006 |

Discarded Program Crashes
- ▶ *EMME/2 import:* VISUM no longer crashes if an attribute is selected on tag [TTF] which does not exist in the imported network. (**5503a**)

Procedures

► *PuT assignment:*

- The globally set maximum time for path legs of type PuTAux now also affects the PuT shortest path search. So far, this bound used to take effect in the *Branch&Bound* search only. (**5478**)

- The *Mode (VISEM)* setting on tag [SKIM MATRICES] of the assignment parameters is no longer disregarded when saving a version file. (**5458**)

- Considerably less storage is needed to calculate assignments with TSys PuTAux. (**5491**)

- *Timetable-based:* A "preselection" of the connections is now also possible if the paths are not generated through a connection search but via a file import or by reusing the paths of a different DSeg. This is of special importance if the assignment period to be used differs from the one used during the original connection export. (**5364**)

- *Headway-based*: In some of the applications it became apparent, that headway-based assignment showed a highly sensitive response to network modifications. In too many cases, adding another option (e.g. a new PuT line or even just an additional walking link) took an effect on route choice even for relations which were not directly concerned by these changes to the network. This instability could be discarded by fundamental re-engineering of the computation cernel. Caused by these changes, assignment results differ necessarily now. Especially in small-meshed networks, significant deviations may occur. But then, today's results are much more precise and robust compared to VISUM 9.4. (**5490**)

  The higher level of accuracy leads to an increased calculation time. Yet this will be improved in the near future.

  The following option has been added on tag [SEARCH] of the *Procedures* dialog box*:*

  The new parameter regulates the accuracy of the approximate shares calculation. The more simulations calculated, the more accurate the result. An approximate calculation is inevitable whenever there are too many suitable options at a decision point (e.g. a boarding stop) so that an accurate calculation is no longer arithmetically reliable. This is the case from option ten approximately and the polynomial to be integrated then has level ten and very high coefficients as a rule. Here, only one approximation has been used so far, which varied tremendously from the actual result thus affecting the stability of the assignment procedure (see above). VISUM will use a more reliable simulation method in the future.

Network Editor

► MULTISELECT TURNS - DELETE: Passive turns that are blocked for all TSys are now also excluded. The blocking of TSys in general does not influence the active/passive status of network objects. (**5501**)

Attribute Interface

► *Vehicle journeys and vehicle journey sections:* The start and end of these attributes can now be edited directly via the attribute interface (e.g. via COM, MULTISELECT - EDIT or in listings). (**5464**)

► *Indirect attributes:* All listings now offer the statistics lines *Min, Max, Sum* and *Avg* for attributes with aggregate function "count". (**5499**)

► *Node attributes:*

- *New attribute "coordinated":* Traffix attribute *coordinated* used to be available for NEMA only, yet is also needed for non-NEMA-SCJs. Therefore, the attribute is now available on tag [TRAFFIX] of the node dialog box via option *LSA is coordinated* instead of at the SCJ. (**5482**)

- *LossTime*: At signalized nodes with signal group-based SCJs for Traffix, node attribute *Loss time* is now used. So far, the attribute used to be available to ICU procedures only when *Own cycle and loss time* had been activated.

   Now, the *Loss time* can be set in a group box called *Only, if either based on signal groups or not allocated to any SCJ.* The use of this attribute is thus no longer linked to option *Own cycle and loss time* and is now called *Own block time.*

  This may lead to changed results in the very unlikely case that both an ICU procedure as well as a NEMA or stage-based SCJ have been allocated and the loss times differ. (**5483**)

COM Interface

► *Visum.LoadVersion*: VISUM now always refreshes the network after the use of this command. (**5500**)

► *SaveToArray*: The export of a PuT path leg list via *SaveToArray* is much faster now. (**5496**)

Import Interfaces

► *HAFAS import*: Several format extensions in the HAFAS-METABF file are now read in correctly. Transition times can now be imported to the split second. The remaining extensions take no effect in VISUM. (**5486**)

► *EMME/2-Import:* On tag [TTF], a new option *PrT time* is available. It is used to select the standard PrT link run time as the data source for the run times of the lines which is only known after the import of the links. (**5503b**)
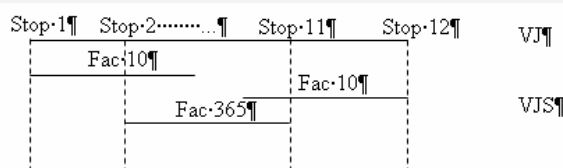
Add-Ons

LLE: In some instances, errors occurred when calculating PuT Operating Indicators (see attribute list below). The errors have now been fixed. (**5494**)

Below, a detailed description of the situation that led to the error:

In the course of the procedure, each vehicle journey is divided into sections on which the maximum of the projection factors of all vehicle journey items that run on that section is constant. Here is a list of the conditions that led to an error when determining these sections:

► A vehicle journey has more than two vehicle journey sections.

► Vehicle journey sections use valid days with varying projection factors.

► If two sections have been defined already and a third vehicle section is found which has a boarding stop that lies within the last section already found, the resulting third section is then ignored by mistake.

Example	Errors:
	In this example, the section ranging from stop 11 to stop 12 (with projection factor 10) is ignored. The calculations of attributes depending on it were faulty.

The affected indicators were:

Indicator	Affected tables
ServiceKm/time	Operator, TSys, Main line, Line, Line route, Time profile, Vehicle journey
OperatingKm/time	Operator, TSys, Main line, Line, Line route, Time profile, Vehicle journey
NumServiceTrips	Vehicle journey item, TPItem, LRItem
NumServiceTripsProp	TPItem, LRItem
Cost	TSys, Operator, Territory, Main line, Line, Line route, Time profile, Vehicle journey
StopCost	TSys, Operator, Territory, Main line, Line, Line route, Time profile, Vehicle journey
OperatorCost	TSys, Main line, Line, Line route, Time profile, Vehicle journey
NumDep/Arr	SP, Stop
NumDep/Arr-TSys	SP, Stop
NumServiceTrips	SP, Stop, Zone
NumServiceTrips-TSys	SP, Stop, Zone
MServiceTripLength	TSys, Main line, Line, Line route, Time profile
MServiceTripRunT	TSys, Main line, Line, Line route, Time profile
TransportMode	Main line, Line, Line route, Time profile, Vehicle journey
CostCovTot/Perc	TSys, Operator, Territory, Main line, Line, Line route, Time profile, Vehicle journey

Further LLE modifications:

► *PersKm_DSeg* and *PersH_DSeg* are calculated correctly again when picking *...x VehicleCombination*. (**5475**)

► *PTripsUnlinked:* If passengers board the same line several times within one path, each boarding is now considered a *PTripUnlinked*. (**5511**)

► *PersKm time interval-based by territory*: The calculation of territory-based demand indicators has been modified. This was necessary as the time interval-based calculation of *PersKm/PersH/PersKm-NSeg/PersH-*

DSeg used to contain errors under certain circumstances.

So far, these indicators were determined from the volumes at time profile items. However, an error used to occur if a time interval began at a node which was neither stop point nor route point so that no time profile item was available for that node. The current time profile item produced a volume of 0 for the interval though. For that time interval no volume could thus be determined in an assignment and the corresponding indicator was set to 0 for the link starting at the node. (**5440**)

Therefore, the indicators are now calculated by iterating all paths and by distributing the path volume to the traversed links which are then calculated by territory, as before. Please note, however, that in order to execute the calculation, the paths need to be stored as connections. Adjust under CALCULATE - PROCEDURES - FUNCTIONS - PUT-FUNCTIONS - [VOLUME]: *Save path as connections.* If the paths are not saved as connections, the indicators for time intervals are not calculated correctly.

The following applies when calculating the time intervals:

- The results are always summed up in the time interval that is start at the start of the path.
- The revised calculation of the indicators only requires longer computing times if time intervals have been defined.

Miscellaneous

▶ *Column selection dialog box*: The number of decimal places is now displayed correctly from the start. (**5446**)

▶ *Writing network files:* When using mode *Save only active network objects* for the export, stop-based data like transfer walk times are now saved for active stops only. This way, warnings no longer interrupt the import of such files. (**5497**)

▶ *Reading a network:* Just like other attributes, the link type now remains unchanged when reading in mode *Overwrite attribute* if it is not listed in the table of links. (**5498**)

▶ *New volume-delay function*: A new function, *Akcelik2,* has been added. The usual *Akcelik* function requires many different volume-delay functions, as the parameter d equals the lane capacity. The denominator of the new function references directly to the capacity which can reduce the number of different volume-delay functions. Unlike *Akcelik*, the new function is no waiting time function at a node but represents the speed reduction on a link and should thus be used in connection with links only.

The new function looks like this:

$$t_{cur} = 3600 \cdot length \cdot \left[\frac{1}{v_0} + \frac{a}{4} \cdot \left((sat - 1) + \sqrt{(sat - 1)^2 + \frac{8 \cdot b \cdot sat}{d \cdot a \cdot q_{max}}} \right) \right]$$

where a = duration in hours

b = family parameter

d = capacity of a lane per hour

q_{max} = capacity of the network object (link). (**5481**)

▶ *Volume-delay function Schiller:* Due to methodical problems, this function type is not available for the time being. (**5480**)

Discarded Program Crashes

▶ *Normalizing surfaces:* VISUM no longer crashes when reading in complex zone or territory polygons with directly recurring consecutive points. (**5427**)

▶ *Filter on vehicle journey items:* Users can now also specify filters on the level of vehicle journey items if no vehicle journeys exist at that time. They are generated automatically in the background. (**5422**)

▶ *COM*:

- VISUM no longer crashes using *GetMultipleAttributes* or *SetMultipleAttributes* if one of the transferred attribute IDs is invalid. (**5448**)
- Writing access to non-editable attributes via *AttValue* now lead to a COM error. So far, VISUM used to freeze in this kind of situation. (**5467**)

▶ NETWORK - LINK TYPES: VISUM no longer crashes when clicking option *Types* if it is activated already. (**5452**)

▶ MULTISELECT ZONES - GENERATE: Crashes no longer occur if a user aborts the operation via button CANCEL. (**5459**)

▶ *TFlowFuzzy*: The program no longer crashes during the execution if no (separate) paths have been saved for the DSeg under consideration. (**5470**)

▶ *Deleting a link:* When deleting a link at a node which is signalized, references to deleted leg turns might remain in the network. This leads to crashes, e.g. when writing version files. (**5485**)

Procedures

▶ *PuT assignment:*

- *Fares*: The calculation of fares of fare zone based ticket types has been accelerated. (**1427**)

- *Timetable-based assignment with Branch&Bound:* Now, also transfers between path legs travelled in the same PuT-Aux-TSys are permitted, if a combined path leg is not possible. This applies if the connecting turn cannot be used by the PuT-Aux-TSys. (**5477**)

▶ *PrT assignment:*

- *Dynamic*: VISUM now issues an error message if no demand time series has been allocated to the DSeg to be assigned. (**5340**)

- *Blocking-back model*: Queue lengths and waiting times produced by the model are now also saved when calculating a PrT skim matrix after the assignment. (**5472**)

- *Dynamic Stochastic:* Minor deviations can now occur in the assignment due to the elimination of a numerical instability. (**5474**)

Other Procedures

▶ *Shortest Path Search - PrT:* VISUM now issues a warning message once if no path can be found and no longer every time the network is refreshed. (**5428**)

▶ *Trip generation - Parameters*: A row can be removed from the grid via button DELETE ROW again even it is not selected via cell "+" but any other cell. (**5423**)

Network Editor

▶ *Editing shapes:* When shifting an intermediate point of a boundary to the position of an intermediate point of a different boundary, the next intermediate point of the boundary is no longer left out. (**5460**)

Attribute Interface

▶ *UDAs at service trip items* can now also be manipulated via MULTISELECT - EDIT or via procedure "Edit attribute" if the objects had not been generated yet. They are now generated by default in this situation. (**5230**)

COM Interface

▶ Menu LISTINGS - PASSENGER TRANSFERS - TIME PROFILES: The list can now be restricted to a specific time profile via *SetObjects.* So far, it just contained data on the first time profile. (**5453**)

Listings

▶ *PuT path legs - Fares: Fares* can now also be selected per path leg if the list display is restricted to PuT path legs. (**5435**)

▶ *Transforming co-ordinates*: Any lists that are open during the transformation are now refreshed automatically. (**5449**)

Add-Ons

▶ *EWS*: The output window issues EWS results again. (**5447**)

▶ *Timetable Network Graph:* The handling has been improved. VISUM now issues detailed status messages at the beginning of the procedure; the procedure can be cancelled interactively in the first stage. The run time of the initialization stage has also been reduced and the former menu item INITIALIZE which had been used to activate the recalculation of the graph, is now called RECALCULATE. (**5451**)

▶ *Reading EDF files*: VISUM no longer blocks U-turns if table TURN is missing. (**5434**)

▶ *Subnetwork generator*: Demand matrices are now created faster during the generation of a subnetwork. (**5454**)

▶ *LineCosting*: When links are only partly traversed, this is now always taken into account when calculating time or distance-based indicators (like *ServiceKm* or *EmptyTime*) by precise territory. This modification is only relevant in the occurrence of link stop points in the network. (**5380**)

9.51-02	Corrections, Bug Fixes and Extended Functionality (ID)	Nov. 22, 2006

Miscellaneous
- ► *Reading network files:*
  - VISUM no longer dismisses line routes with missing stop point references at individual items when reading in line route courses if at least one correct node is specified. (**5432**)
  - When completing line routes, VISUM now also finds a permitted line route if the start or end stop is located on an undirected link stop point and if the link is blocked in one direction for the TSys of the line. (**5445**)
- ► *Reading version files*: When reading VISUM 8 version files, the name of a line is correctly divided into the constituents line - direction - line route again if the total length equals the maximum value of 20. (**5441**)
- ► *Detailed trace files*: Trace files of timetable-based assignments are now saved to the project directory folder specified for version files and no longer to the EXE directory of the VISUM installation. (**5461**)

9.51-01	Corrections, Bug Fixes and Extended Functionality (ID)	Oct. 31, 2006

Discarded Program Crashes
- ► *Create link:* Crashes no longer occur when repeatedly creating links with intermediate polygon points. (**5383**)

Procedures
- ► *PuT assignment - Headway-based:* In case of overlapping coupling groups, VISUM not only issues a general warning but also records all conflicts in the trace file. (**5387**)
- ► *PrT assignment - Dynamic:* When setting option "Save dynamic route volumes - only total" under [FUNCTIONS] - *PrT-Functions - Volume*, the program now considers the total of all time intervals and not just the volume of the first interval. (**5410**)

Other Procedures
- ► *Line Blocking*: Vehicle journey sections can now also follow one another if the total of the distance of time and the supplements exceeds the length of the analysis period. (**5414**)

Network Editor
- ► *Aggregating line routes:* During the aggregation, permitted boarding and alighting stops on time profiles are no longer lost. Thus, the following situation no longer leads to the procedure being cancelled: Two time profiles - A and B - are aggregated, a shortened vehicle journey runs on time profile B and on time profile A boarding/alighting is not permitted at the first and the last stop of the vehicle journey. (**5420**)
- ► *Coupling of time profiles*: During the process, vehicle journeys that start exactly at the end of the coupled section are no longer deleted. (**5417**)

Timetable Editor
- ► *Cell selection*: In the timetable tableau, users can now select individual cells (not entire rows) again. (**5389**)

COM Interface
- ► *Running a Python script:* A detailed warning is now issued when terminating VISUM whilst running a Python script. (**5409**)

Miscellaneous
- ► *Column charts*: The graphic parameters of the column charts are now also saved to the graphic parameter and version files if no chart is open at the time. (**5385**)
- ► *ANSI*: Error and trace files are now also saved without UTF-8 Byte order markers when selecting character code=ANSI. (**5403**)
- ► *Difference network*:
  - When generating a difference network, line routes and time profiles of the two networks are now also identified as identical (and thus inserted as **one** object in the overall network) if the order differs according to the sorting by *ID* or by *name*. (**5413**)
  - The 2D-display can now also be used in difference networks. (**3433**)

Discarded Program Crashes

▶ *User-defined attributes:* VISUM no longer crashes when clicking the column header of an attribute of type *File* on tag [USER] in order to activate dialog box *Open file*. (**5357**)

▶ *Active protocol:* VISUM no longer crashes
  - if a mode that is referred to by a demand segment is deleted. (**5373**)
  - when copying a line route with a time profile that has a reference item which ceases to exist when shortening the course in the process. (**5367**)

▶ *Create opposite direction*: In rare cases, creating the opposite direction of line route courses traversing directed stop points on links caused a program crash. This bug could be fixed. (**5363**)

▶ *Shortest path search*: VISUM no longer crashes when deleting network objects located on the current course of a shortest path. (**5379**)

▶ *Timetable Editor*: VISUM no longer crashes when increasing the widths of columns after editing the overall window sectioning. Nor do asynchronous rows emerge in the upper left and right window sections. (**5388**)

▶ *COM*: The COM methods *Turns.ItemByKey* and *Turns.ExistsTurnByKey* now cause a regular COM error if one of the transferred nodes does not exist in the network. The situation led to a crash in the past. (**5399**)

▶ *Legend Wizard*: The program no longer crashes
  - when switching from the legend wizard to the execution of a python script within VISUM. (**5400**)
  - on tab 4 of the Legend Wizard in case of an empty network and empty legend parameters (**5408**)

Procedures

▶ *Blocking-back model*:
  - *Remaining capacity*: If all downtream turns of a link are blocked, the outgoing capacity of the link equals 0, i.e. the traffic cannot exit the link. However, if at least one open destination connector starts at the ToNode of the link, the outgoing capacity is now set to infinite, so that traffic can flow freely to the destination connector. (**5374**)
  - *Turn volumes*: In cases where the volume of a turn had been reduced by the blocking-back calculation, the amount deducted from the turn volume used to be too large. Values at links and connectors were yet accurate. The error has been fixed. (**5377**)
  - *Node capacity*: is now also regarded in phase 2 of the computation (applies only if Cap from "Link and Node capacity" or from "Turn and Node capacity" is active) (**5407**)

Network Editor

▶ *Line routes dialog*: The reference journey dropdown box on tag [TIME PROFILES] is now visible right away in any case. (**5323**)

▶ *Refresh*: The network is now automatically refreshed when exiting the *Multiselect edit* dialog box so that any modified attributes are displayed correctly right away. (**5382**)

▶ *Link length and link run time of line routes and system routes*: These attributes are now also issued accurately if certain links are only partly traversed (because the route starts or ends at a link stop point). (**5354**)

▶ MULTISELECT - EDIT: The *Formula* dialog box can now be closed correctly though no object was edited. (5384)

Network Graphics

▶ *Network scale*: In the graphic parameters, the network scale 1:2500000 can now also be used for a zoom level-dependent display. (**5376**)

▶ *Reading graphic parameters:* When reading selected parameters, the parameters of the legend are now only read in if "Legend" is actually selected in the list. (**5371**)

▶ *Scaling images*: Image size (bmp, jpg) is now computed correctly for Printing and Preview. (5404)

Matrix Editor

▶ *Code files:*
  - can be imported again. (**5406**)
  - For the gravitiy calculation, code files may now contain blank lines or comments at the end. (**5405**)

9.51-00	Corrections, Bug Fixes and Extended Functionality (ID)	Oct. 20, 2006

COM Interface

▶ *AttValue*: A detailed error message is now issued if the Save command fails (e.g. due to the fact that an attribute is not editable). (**5366**)

▶ *Alternative Iterator:* VISUM now offers a new iterator method to run network object containers via COM which delivers high performance in calculating time and does without an explicit array of all network objects as required for *GetAll*. For a detailed description and examples, please refer to the COM documentation. (**5337**)

▶ *Running a script:* VISUM now also displays tooltips and status bar information in the network window when simultaneously running a python script. (**5397**)

▶ *NetPara.AttValue:* The writing access to *NetPara.AttValue*("SCALE") now also correctly considers the current system of units. (**5396**)

Export Interfaces

▶ *VISSIM-/Synchro-Export:* The attribute interface (VISSIM/Synchro parameter files) was updated (**5316**)

Add-Ons

▶ *LineCosting*: When links are only partly traversed, this is now always taken into account when calculating time or distance-based indicators (like ServiceKm or EmptyTime) by precise territory. This modification is only relevant in the occurrence of link stop points in the network. (**5380**)

Miscellaneous

▶ *Reading incomplete line routes*: A sequence like node A - undirected stop point on link B - node A is now routed correctly; a line route of that type will no longer be discarded after reading. (**5362**)

▶ *POI/GIS filters:* Filter criteria of POI and GIS categories are now permanently saved for each category. (**4829**)

9.50-08	Corrections, Bug Fixes and Extended Functionality (ID)	Oct. 05, 2006

Discarded Program Crashes

▶ *PuT assignment - timetable-based*: The program no longer freezes when opening the parameter dialog of the assignment after altering the analysis time period in such a way that the assignment period of a procedure becomes invalid. (**5344**)

▶ *Generating system routes*: VISUM no longer crashes if there are line route items between two stops either with or without zigzag routing before the end stop. (**5346**)

▶ *COM*: Crashes no longer occur when calling VISUM via option *-reg*. (**5356**)

Network Editor

▶ *Shifting a stop point on a link:* The line route lengths are now also adjusted correctly if the shifted stop point is the start stop point of the line route. (**5345**)

Network Graphics

▶ *Polygons:* The drawing of polygons with a broken line has been accelerated. (**5324**)

Attribute Interface

▶ *Queue length:* References to link attribute *Queue length (...)* contained in a graphic parameters file are no longer reset to *Queue length (AP)* when reloading the file. (**5349**)

Miscellaneous

▶ *Saving versions:* The additional memory requirements have been reduced drastically. (**5338**)

▶ *Reading versions:* Invalid min./max. limits of user-defined attributes are now automatically adjusted. (**5343**)

▶ *Difference network*: Zones with identical numbers are now always identified in a difference network. So far, the program identified zones of the same type only. The type, however, should be irrelevant in this instance, just as it is the case for all other network objects. (**5350**)

▶ *Column chart:* When opening a second column chart, VISUM now uses the same size and layout of the existing window. (**5351**)

▶ *Windows 2000*: VISUM now also supports Windows 2000 if *CodeMeter* has not been started as a service beforehand. (**5294**)

▶ *Reading line blocks additionally:* The additive reading of block items in combination with option *Overwrite object* works properly again. (**5348**)

Discarded Program Crashes

► *Drawing flow bundles:* VISUM no longer crashes while drawing flow bundle bars if the section contains polygons with over 2048 points. (**5317**)

► *Difference network*: If a difference network cannot be opened (e.g. due to mismatching PuT directions), VISUM no longer crashes upon display of the respective message. (**5313**)

Network Editor

► SINGLESELECT NODES - [LINK ORIENTATIONS]: Following alterations of orientations, the program now always discards any resulting faulty topology. (**5315**)

► *TSys selection:* When editing TSysSets via MULTISELECT EDIT - CONSTANT or when filtering for TSysSets, users can now select only those TSys which actually make sense regarding the respective network object, e.g. just PuT line TSys at stop points or any TSys but Walk at turns. (**5064**)

► *Copying a line*: VISUM now also includes the main line reference when copying a line. (**5322**)

► *Coupling sections without coupled time profiles:* are now deleted at the end of all read operations (version & network files). (**5318**)

► *Zones*: The use of connector shares now also works correctly if the total of weights over all connectors exceeds 2^31 = 32768 at a zone. (**5335**)

Network Graphics

► *Printing*: Background items on "old" legends are printed correctly again. (**5309**)

COM Interface

► *Go to*: In a Go To loop, the current counter can now also be accessed via COM. The attribute is called *CurrentCounter.* It is part of the attribute interface of procedure "Go to the operation". (**5310**)

Add-Ons

► *LineCosting - Defining a territory*: In the past, links with a ToNode that exactly coincided with the position of the FromNode and that were located in the enclave of a territory, used to be considered as part of the territory. This led to falsified results in the calculation of territory indicators. The error has been fixed. The specified situation has yet occurred very rarely in practice. (**5319**)

Miscellaneous

► *Save version:* Query "Save version?" is only issued if changes have occurred since saving the version last. (**5314**)

► *Read XML file*: Attribute *PrTVolumesPara.NumDecPlaces* is always imported correctly when reading XML files. The faulty performance so far sometimes led to the unnecessary rejection of assignment results when reading in XML files. (**5321**)

► *Difference networks:* Problems caused by a memory shortage no longer occur when repeatedly opening difference networks. Even before loading a difference network, the current network is now entirely deleted. (**5334**)