VISUM Release Notes

Version 9.4

Version 9.44-14
Last modified: 2008-09-30

Foreign Formats

▶ *Writing shape files:* VISUM now allocates the correct orientation to each face when exporting multi-face surfaces. (**7103**)

Graphics

▶ *DXF export:* The DXF export now provides an option allowing the user to save all lines "as hairlines". This is particularly useful when users want to convert old HGR files without scaling the lines in VISUM 10.0 when zooming in the network. (**6712**)

PuT Operating Indicators

▶ *Revenue calculation:* VISUM used to ignore the paths of all origin zones of zone type "Ignore" during revenue calculations, if the OD pair filter was on. This hardwiring has been removed as it had not been documented and moreover does not comply with the concept of the filter. (**4072**)

Subnetwork Generator

▶ You can now execute the subnetwork generator without add-on "PrT" and in networks which contain no assignment. (**7305**)
▶ Copying POIs to the subnetwork has been significantly accelerated. (**7272**)

PrT Assignment

▶ *MPA:* The number of path trees is now not limited any more. When aggregating the path trees at the end of the assignment, no incorrect assignment result can occur any more. (**7316**)

PuT Assignment

▶ *PuT assignment statistics:* So far the mean ride distance (mRDPuT) was mistakenly identical to the mean journey distance (mJDPuT), yet also contained the walk distance, the access distance, and the egress distance. The error has been fixed. (**6835**)
▶ *PassengerHoursTravelled per time interval:* So far the dwell time at the alighting stop of a PuT path leg mistakenly used to enter the result when calculating the Passenger Hours Travelled by time interval. The error has been fixed. This did not affect the value for the analysis period. (**6636**)

VISUM Files

▶ *Saving flow bundle volumes in a matrix:* This feature is now available for TSys-based demand segments. (**7173**)

Dialogs

▶ *Vehicles dialog box:* The program will no longer crash, if the dialog window is opened again after closing it by clicking the Close button x in the top right corner of the dialog title bar. (**6472**)

Junction Editor

▶ *SCJ optimization:* During green-time optimization of stage-based signal controllers, lane volumes are in all cases determined precisely for the decisive saturation per stage now. (**6482**)

Other Operations

▶ *Standardized assessment:* Now, the induced transport demand is calculated correctly, even in case of rising PuT impedance. (**6484**)
▶ Modal Split (Standardized assessment): Procedure parameters (e.g. G1 and G2) are correctly saved to protocol file now. (**6483**)

PuT Assignment

▶ *Skim matrix calculation:* If the demand segment selected for skims is deleted from the network, the assignment parameters are adapted such that the first remaining demand segment takes its place. Thus it can no longer happen that skim matrices with an empty demand segment reference are created. (**6487**)
▶ *Headway-based assignment:* If the headways are calculated from the timetable, vehicle journeys with a departure time beyond 24:00 used to be ignored. This error has been fixed. (**6486**)

9.44-12	Corrections, Bug Fixes and New Features (ID)	2007-09-03

COM Interface

▶ *Shortest path search:* VISUM no longer displays the marked shortest path twice if the autozoom is called after searching a shortest path via COM. The original marking is now deleted correctly. (**6098**)

▶ Accessing LineRouteItem.NodeNo and SysRouteItem.NodeNo no longer leads to a crash if the respective objects do not refer to a node. (**6133**)

Dialogs

▶ *Dialog box Print area:* VISUM now checks the value ranges of all input data. As a result, the program no longer issues numerous warning messages in a row which prevent the user from cancelling the action. (**6175**)

▶ *Dialog box Edit graphic parameters:* When accessing a tab with classified drawing mode on, the first class is now marked in the grid on the left. It is thus a lot more obvious that the parameters displayed on the right are set for this class. (**5540**)

Network Editor

▶ *Link symmetry:* By mistake, this feature used to regard all links as symmetrically attributed if the first considered link pair was symmetrical. The error has been fixed. (**6197**)

▶ *Delete link:* References to speed limits are now also deleted on the opposite direction of the deleted link. Corrupt version files (that cannot be read in again) may thus no longer result. (**6101**)

Other Operations

▶ *Intersect:* The operation no longer terminates if a link polygon contains two identical points. (**6120**)

▶ *NCHRP255:* The occurrence of active, isolated nodes in the network no longer causes a crash in the procedure. (**6195**)

▶ *Flow bundle:* Trips from one main zone to another main zone can now be filtered via flow bundles. (**2286**)

PrT Assignment

▶ *Calculate skim matrices:* The global min/max settings now also apply to matrices that are kept in RAM. (**6125**)

▶ *Dynamic PrT assignment:* The program no longer crashes when opening listing *Path* if a dynamic assignment has been run and paths were saved as connections, yet without analysis time intervals. (**6108**)

PuT Assignment

▶ *PuT connection import / Use file for search:* If the read in connection file contains a PuTWalk link which is no longer possible in the current network (e.g. due to deleted connectors), a detailed warning is issued and the import is cancelled. (**6211**)

▶ *PuT assignment statistics:* VISUM used to allocate unrealistic, way too low values to factor "PTripsUnlinked" which is issued in the zone and total statistics. (**2038**)

9.44-11	Corrections, Bug Fixes and Extended Functionality (ID)	June 21, 2007

Discarded Program Crashes

▶ *Reading procedure parameters*: VISUM no longer crashes when reading in PAR files if a PrTSys is not contained in the network. (**6037**)

▶ *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 (**5748**) or
- calculating a timetable-based PuT assignment with search option "Shortest Path Search" (**5749**)

no longer causes a crash.

Procedures

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

▶ *Connection import:* VISUM now also provides the zone and overall statistics of the PuT assignment during a connection import. (**6055**)

| 9.44-11 | Corrections, Bug Fixes and Extended Functionality (ID) | June 21, 2007 |

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**)

Network Editor

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 Graphics

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

COM Interface

Shortest path search: VISUM no longer displays the marked shortest path twice if the autozoom is called after searching a shortest path via COM. The original marking is now deleted correctly. (**6098**)

| 9.44-10 | 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**)

Other Procedures
- ► *Assignment analysis:* Option *Only active network objects* now also has an effect on *R2* and *Correlation Coefficient*. (**5969**)
- ► *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. (**5974**)

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

| 9.44-09 | Corrections, Bug Fixes and Extended Functionality (ID) | April 24, 2007 |

Discarded Program Crashes
- ► VISUM no longer crashes when editing the shape of line routes. Crashes only occurred in special cases. (**5954**)
- ► The deletion of time profiles sometimes led to a crash. The error has been fixed. (**5959**)

Network Graphics

| 9.44-09 | 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
► 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**)

| 9.44-08 | Corrections, Bug Fixes and Extended Functionality (ID) | April 16, 2007 |

Discarded Program Crashes
► *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**)

Network Editor
► *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*: Less memory is used when reading version files with detailed procedure results (like assignments or PuT Operational Indicators). (**5930**)

| 9.44-07 | Corrections, Bug Fixes and Extended Functionality (ID) | Apr. 05, 2007 |

Discarded Program Crashes
► *Read network from file:* VISUM no longer crashes when reading in the table $STOPPOINT in case of empty cells for stop areas. (**5827**)
► *Read in version files*: When reading in VISUM 9.3 version files, incorrect link orientations are now rejected immediately at any rate. 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**)
► *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**)

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 line route* - [PROFILES] – SET TIMES: All parameter settings in the dialog *Set times for time profile …* are stored when closing with OK. (**5764**)
► Menu CALCULATE - CHECK NETWORK: In case of couplings consisting of just two consecutive stop events, the

9.44-07	Corrections, Bug Fixes and Extended Functionality (ID)	Apr. 05, 2007

check network function *Inconsistent couplings* ignored vehicle journeys starting at the beginning of the coupling section. The error has been fixed. Longer coupling sections are not regarded. (**5652**)

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

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**)

Listings
► *PuT OD pairs list*: the PuT OD pairs list now also contains the attribute *RideDist* (**5831**)
► 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**)

9.44-06	Corrections, Bug Fixes and Extended Functionality (ID)	Mar. 01, 2007

Discarded Program Crashes
► VISUM no longer crashes when drawing if attributes with a time reference are to be displayed, yet the corresponding time intervals were deleted in the meantime. (**5689**)
► 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**)
► *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**)
► *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**)
► *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**)

Procedures
► *PrT assignment - TributEquilibrium_Lohse:* The calculation of the assignment is much faster now. (**5679**)
► *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**)
  - *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**)
► *Matrix correction (TFlowFuzzy)*: The procedure has been accelerated by about 50%. (**5692**)

Other Procedures
► *Isochrones PrT*: are now recalculated automatically after editing the TSys or path choice criteria in the dialog. (**1770**)
► *Isochrones PuT*: After modifying parameters in the dialog, a click on EXECUTE now reliably initiates a recalculation. (**5664**)
► 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
► MULTISELECT - *deletion of stops*: When answering NO to the question whether related vehicle journeys should be deleted as well, the entire operation is now cancelled and no longer produces an inconsistent network status. (**5796**)

9.44-06	Corrections, Bug Fixes and Extended Functionality (ID)	Mar. 01, 2007

▶ *Setting route points*: Setting route points in the MULTISELECT mode 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**)

Network Graphics

▶ *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**)

▶ *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 mode *Draw 'classified'* is active for the innermost bar nor option *Draw* is active on the corresponding fill style page. (**5806**)

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**)

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 Interfaces

▶ *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 the columns 17-21. Due to the HAFAS raw data format specification, these columns are always empty. (**5711**)

Add-Ons

▶ *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**)

Miscellaneous

▶ *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**)

▶ *Read a network file additionally*: Since extra lanes are no longer ignored when reading network data from file, network objects refering to those lanes can be read from file additionally later. (**5697**)

▶ *Read version file*:

  - 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**)

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

▶ Menu CALCULATE - CHECK NETWORK: The functionality "Network consistency PrT" no longer produces wrong results after editing the network topology. (**5747**)

9.44-05	Corrections, Bug Fixes and Extended Functionality (ID)	Jan. 19, 2007

Discarded Program Crashes

▶ *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**)

▶ *PAR files:* Reading empty files or files which are too new via button OPEN in the *Procedures* dialog box no longer leads to a crash. (**5611**)

Procedures

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

Other Procedures

► *PuT Isochrones*: 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, the distance to the start of the interval was calculated. The situation only occurs if not a single departure lies within the specified time interval. (**5235**)

Network Graphics

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

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

Timetable Editor

► *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**)

► *Editing a time profile:* The time profile of a vehicle journey can now also be subsequently edited in dialog box *Edit vehicle journey* which was previously possible in the table of vehicle journeys only. (**5589**)

Matrix Editor

► *Log display*: All columns are now initially visible in the log display of the matrix editor. (**5591**)

COM Interface

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

Listings

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

Import Interfaces

► *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

► *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**)

Line costing:

► *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.* Furthermore, the calculation of *PTripsUnlinked* by territory used to be incorrect if passengers left and re-entered a territory. The error no longer occurs. (**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

▶ *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**)

▶ *Read network file additionally*:

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

- When opening a file with option *First off, determine tables in file,* VISUM now identifies POI tables correctly again and initiates their import. (**5581**)

Discarded Program Crashes

▶ *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 (**5452**)

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

▶ *COM*: 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**)

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

▶ *Line route:* The occurrence of specific link stop combinations no longer leads to a crash when inserting the opposite direction of a line route. (**5504**)

▶ *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

▶ *PrT assignment - 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**)

▶ *PuT assignment*

- *Timetable-based 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**)

- *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**)

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**)

▶ *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**)

▶ *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**)

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). (**5487**)

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

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**)

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

Listings

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

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**)

- 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**)

Add-Ons

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

► *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 indicators affected 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 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

► *Reading network files:*

- 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**)
- Like other attributes, the link type now remains unchanged when reading attributes additionally in mode *Overwrite attribute* if it is not listed in the table of links. (**5498**)
- Files can now even be read additionally if the loaded network contains POIs, stops, or backgrounds only. (**5531**)

Discarded Program Crashes

► *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**)

► *Edit polygon shape*: VISUM no longer crashes when selecting a polygon which has more than 4096 polygon points. (**5398**)

► *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**)

Procedures

► *Blocking-back model*:

- *Remaining capacity*: If all downstream 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 capacity from "Link and Node capacity" or from "Turn and Node capacity" is active) (**5407**)
► *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**)
- *Fares*: The calculation of fares for fare zone-based tickets has been accelerated. **1427**)

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
► *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**)
► *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 boarding/alighting is not permitted at the first and the last stop of the vehicle journey on time profile A. (**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**)

Network Graphics
► *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:* For the gravity calculation, code files may now contain blank lines or comments at the end. (**5405**)

COM Interface
► *NetPara.AttValue:* The writing access to *NetPara.AttValue*("SCALE") now also correctly considers the current system of units. (**5396**)
► *Running a script:* VISUM now also displays tooltips and status bar information in the network window when simultaneously running a python script. (**5397**)

Miscellaneous
► *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**)
► *Reading networks:* VISUM no longer dismisses a line route with missing stop point references at individual items when reading in line route courses if at least one correct node is specified. (**5432**)

Discarded Program Crashes
► *Generate subnetwork*: VISUM no longer crashes when generating a subnetwork if one of the selected demand segments is not allocated to an OD matrix. (**5272**)
► *COM:* Crashes no longer occur when accessing coupled vehicle journey items if inconsistent couplings exist within the network. (**5297**)
► *Drawing flow bundles:* VISUM no longer crashes when drawing flow bundle bars if the section contains polygons with more than 2048 points. (**5317**)
► *Create opposite direction:* In rare cases, creating the opposite direction of a line route traversing directed stop points on links caused a program crash. This bug could be fixed. (**5363**)

Network Editor
► *Autozoom*: The autozoom of the network editor no longer worked in the special case of isolated nodes with no connectors. The error has been fixed. (**5274**)
► Menu CALCULATE - CHECK NETWORK: If a user dismisses the deletion of some of the nodes within the context of functionality "isolated nodes", VISUM now indicates the remaining number of nodes. The program used to issue a message stating the absence of any isolated nodes. (**5302**)
► *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**)

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**)

COM Interface

► *AttValue:* A detailed error message will appear, if *AttValue* fails when saving data to file, e.g. due to read-only attribute. (**5366**)

Export Interfaces

► *VISSIM*: Time data (FromTime, ToTime) in the matrix files written during the export are now also correct if the demand time period and the export time period differ. (**5248**)

Add-Ons

► Menu CALCULATE - PROCEDURES - *PuT Operating Indicators*: The cost coverage is now also issued if just ONE of the two procedure parts *PuT operating performance* and *InfrastructureCost* is executed. (**5237**)

► *LineCosting - Defining a territory*: In the past, links with a ToNode that exactly coincided with the position of the FromNode and which 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

► *Saving XML files:* VISUM no longer issues a warning when exporting (XML) procedure parameters if operation *Territory indicators* (which has no parameters) is included in the procedures. (**5277**)

► *Reading networks*:
  - VISUM now reads line route items correctly if option *Create stop point* is checked. (**5275**)
  - *Reading incomplete line routes*: Also a sequence like node A - undirected stop point on link B - node A is routed correctly now; a line route of that type will no longer be discarded after reading. (**5362**)

► *Reading versions*: Invalid min./max. limits of user-defined attributes are now automatically adjusted when reading version files. (**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**)

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

Discarded Program Crashes

► *EMME/2 data:* EMME/2 demand matrices read into VISUM can now subsequently be saved in a different (VISUM) format. So far crashes occurred in the process. (**5207**)

► *Read network or database additionally:* VISUM will no longer crash if invalid attribute values of TSysSet type are read additionally from network file or database. "Invalid" means: TSysCodes not being defined in the network. (**5264**)

► *Procedures - PuT assignment*: VISUM will no longer crash if headway calculation grid cells are edited in the *Headway-based Assignment Parameters* window. (**5263**)

► *Graphics*: VISUM no longer crashes when using particular line styles in the network or timetable window. (**4392**)

► *Coupled Vehicle Journey Items:* Crashes no longer occur when using this relation of vehicle journey items if a vehicle journey ends at the start of a coupling section. (**5095**)

Procedures

► *PrT Assignment:* If a zone's connectors are all of a weight = 0, paths to and from this zone are no longer found in MPA assignments. (**5211**)

Other Procedures

► Menu CALCULATE - PROCEDURES - *Demand model structure:* Deleting demand strata from one of the procedures of the 4-stage-model and then altering the procedure parameters by inserting or deleting rows no longer leads to a faulty internal status which results in corrupt .VER or .PAR files. The error has been fixed. (**5206**)

Network Graphics

► *Link bar labels:* The bar labels of the outermost link bars used not to be drawn along links whose innermost bar was not visible due to classification settings. This bug could be fixed. (**5231**)

Attribute Interface

► *Read attribute file:* Flow bundles are only recalculated if this is required by an active *OD Pair* filter. (**5074**)

► *Undirected values of indirect link attributes:* Now, the directed values are summed up for display; previously, only the value of the link direction *FromNodeNo. < ToNodeNo.* was displayed by mistake. (**3646**)

Matrix Editor

► The filter and log areas of the matrix editor can now also be opened if the matrix window is maximized. (**5247**)

Listings

► *Allocating stop areas:* A stop area with no access node can now be allocated to a different stop by editing column "StopNo" of the list which used to fail if a stop area had no access node. Internally, it led to corrupt data producing corrupt version files. (**5210**)

► *Importing attributes:* Reading attributes from a file/the clip board is now much faster when simultaneously displaying the corresponding dialog in the network window. (**5240**)

Export Interfaces

► *VISSIM export*:

- In particular cases, parking lots were not generated at nodes with one link owing to a faulty error correction for VISUM 9.42003. (**5203**)

- Z coordinates of links are now always entirely exported. The first polygon point used to be omitted in particular situations. (**5246**)

Miscellaneous

► *Difference network*: Users may now filter for "difference" values of enums, e.g. *Line.OperatorNo(Difference)* again. (**5228**)

► *Reading graphic parameters additionally:* Reading background texts additionally that in part already exist in the network no longer leads to a corrupt internal status (which results in corrupt GPA files). (**5234**)

► *Reading networks:* When opening network files of version 9.3 that contain complex polygons, VISUM no longer "normalizes" polygons incorrectly. "Open" polygons in particular are not used for zones, territories etc. any more. (**5245**)

Discarded Program Crashes

► *Editing the shape of line routes*: VISUM used to crash when extending the course of a line route given a certain constellation of link stop points. The error has been fixed. (**5114**)

► *Timetable-based assignment*: The program no longer crashes during the assignment in the occurrence of a transition from the final section of a PuT ring line to a TSys of PuTAux. (**5172**)

► *Connection import*: VISUM no longer cancels the import if the connection file contains paths that possess a ring line transition with a duration that is shorter than the minimum transfer walk time defined at the respective stop. This walk time is of no importance to the ring line transitions and is thus no longer validated at this point. (**5178**)

► *Difference network*: The program no longer crashes during the construction if a network contains links with polygons that have nontrivial Z-coordinates. (**5185**)

► *Reading networks*: Blank values ("") for enums are now interpreted as the respective default value of the enum and no longer assigned as invalid blank values. Subsequent access sometimes caused a crash. (**5156**)

► *COM scripts:* Working with method *StopDrawing* no longer leads to a crash. (**5197**)

Procedures

► *PrT Assignment - Shortest path search:* When searching for *t0* or *tCur*, VISUM now rounds and no longer cuts time values in specific situations. The calculation is thus more accurate. In individual cases, this might alter the results of PrT assignments, PrT isochrones and A-B shortest path searches. (**5149**)

► *PuT Assignment:*

- Some of the "independence" parameters of the timetable-based assignment can now be edited in the dialog and via the COM or XML interface. (**130**)

- The preselection of the timetable-based assignment contains a new option which is used to exclude connections that depart *past* the end of the assignment interval and thus lie entirely within the succeeding part. This variant is e.g. useful if a skim matrix like the service frequency should exclusively refer to the

actual assignment interval. (**5195**)

► Menu CALCULATE - PROCEDURES - *Demand model - Trip generation:* In the grid of the parameters dialog box, coefficients can now be edited with Copy & Paste again. (**5109**)

Network Editor

► MULTISELECT - LINE ROUTES: Option *only active* in dialog box *Multiselect edit: Line routes* is now checked by default and thus corresponds to the other *Multiselect edit* dialog boxes. (**5146**)

Network Graphics

► *Legend title*: The legend title no longer exceeds the margin of the legend if it is right aligned. (**5136**)

► *Column chart*: When double-clicking a chart, the attributes of the lower part of the dialog are now also automatically listed - not just the attributes of chart 1. (**5112**)

Matrix Editor

► *Saving a matrix in format $F:* The option is not available any more. (**5110**)

► Menu DEMAND - OD DEMAND DATA: When activating a matrix in dialog box *OD demand data,* VISUM now returns to the dialog even if the matrix was just displayed and not altered. (**3117**)

COM Interface

► *Saving filters:* Filter files can now also be saved via COM using *Visum.SaveFilterFile.* (**1065**)

Listings

► If a list cannot be exported to a database, the respective icon in the toolbar is now disabled. This applies to list PrT paths by link and list PuT path legs. (**5190**)

Add-Ons

► Menu CALCULATE - PROCEDURES - *OD matrices - Matrix correction (TFlowFuzzy)* - [INPUT]: The setting of the tolerance parameter of the *Dest. traffic* is now saved when exiting the dialog box. (**4946**)

► *Timetable-Network-Graph*: The arrival and departure times are now also issued if several stop points are traversed within a stop. (**5159**)

Miscellaneous

► *Reading in VISUM8 version files:* When reading in a file, VISUM now saves all subline AddValues to the resulting line routes. (**5140**)

► *Reading in XML files:* If a mandatory attribute is missing when reading in a file, VISUM now issues a detailed warning message. So far, the reading process was cancelled without notification. (**5134**)

► *GIS categories:* Editing GIS object categories within VISUM does not make sense since all categories are imported from the Geo database. Therefore, the respective entry has been removed from menu NETWORK. (**5145**)

► *Filter dialog boxes*: The adjustable min/max values of attributes of type *number with decimal places* can now be specified with an accuracy of at least three decimal places. (**5161**)

► *Printing*:
- VISUM now saves all parameter settings and refreshes the preview when clicking button PRINT in dialog box *Set print page*. (**5133**)
- Printing process *Print to graphics file* can now also be cancelled. (**5132**)

| 9.43-10 | Corrections, Bug Fixes and Extended Functionality (ID) | July 27, 2006 |

Discarded Program Crashes

► VISUM no longer crashes when trying to assign invalid strings to an attribute of type *TSysSet* via MULITSELECT - EDIT. (**5108**)

► *Subnetwork generator:* Crashes no longer occur if there are zones located within the reduced network that refer to surfaces that only include blank polygon faces. (**5126**)

Procedures

► *PuT Assignment - Quantile-Skim matrices:* Quantile skim matrices for the journey time and ride time are now calculated correctly. So far, the program issued the sums of the quantiles of the individual components (run time, walk time, ...) instead of the quantile of the distribution of the sum. (**5105**)

Other Procedures

► *Assignment analysis*: Editing the parameters of one instance of this procedure no longer has side effects on other instances. (**5111**)

Network Graphics

9.44-00	Corrections, Bug Fixes and Extended Functionality (ID)	Aug. 17, 2006

► *System routes*: If several system routes are selected by clicking on a stop point, VISUM now always draws the complete course of all routes. (**5100**)
► *Connector bars:* Just like link bars, connector bars are now drawn at active objects only. (**5088**)

Listings

► *Importing from the clipboard:* The import into a list now also works correctly if data had previously been edited in Excel. (**5107**)

Import Interfaces

► *Personal Geo Database:* When connecting to a PGD, all errors indicating a wrong configuration are now intercepted and a corresponding warning is issued. (**5123**)

9.40-09	Corrections, Bug Fixes and Extended Functionality (ID)	July 21, 2006

Discarded Program Crashes

► *POI List:* VISUM no longer crashes when selecting a row in the *Find POI* window called via button ? in a list of POIs which is reduced to *active objects only*. (**5085**)

Procedures

► *PrT Assignment - Traffix*: Sometimes, attribute *TraffixFinalSat* had a negative value. This bug was fixed, also for *Reading a version file* containing this attribute. (**5065**))

Network Editor

► *Line run times:* The link run time is now set correctly if a time profile at a link stop point on a link ends before the middle of the link. A rounding error which used to occur when distributing the line run time to the links has been fixed. Therefore, different results might now be produced during line costing calculations with proportional time shares. (**5034**)
► MULTISELECT - EDIT - FORMULA: The value entered in the last entry field of the *Formula* window was sometimes scaled by 1.609 by mistake for target attributes of *Length* or *Speed* type. This bug could be fixed. (**5069**)
► MULTISELECT - LINE ROUTES: Multi-Setting/Deleting of route points could be accelerated. (**5067**)

Timetable Editor

► *Sequence of stops*: When option STOP-related is active, the borders of the range being traversed by most of the vehicle journeys (middle) are no longer calculated according to option STOP POINT-related. Now, all of the required data are taken into consideration. (**5048**)

COM Interface

► *Selection*: The selection did not work properly since the wrong item was accessed. The error has been fixed. (**5044**)

Listings

► *Evaluation of columns:* Now, the Sum, Minimum and Maximum values are always calculated correctly regarding the entire column, even if the column contains empty cells. In previous versions, calculation was cancelled as soon as the first empty cell was reached. (**5055**)

Import Interfaces

► *HAFAS Import:* VISUM now rejects string-type attributes containing one of the 3 special characters ; $ or ". Those characters are reserved for network file formatting and may not be entered in VISUM GUI. (**5078**)

Export Interfaces

► *VISSIM Export*: A negative time gap will no longer occur when priority rules are exported. (**5038**)

Add-Ons

► *Timetable Network Graph:* Even if a time profile of a stop with several stop points does not stop at the first and last traversed stop point, VISUM now displays the correct times. (**4744**)
► *Backgrounds*: Now the background shape is displayed in correct dimensions if it is shifted while the layer is unchecked. (**4438**)

9.40-09	Corrections, Bug Fixes and Extended Functionality (ID)	July 21, 2006

Miscellaneous

- ▶ EXTRAS - PROGRAM STATUS: Now, the correct number is displayed for POI and GIS objects "*selected*". In previous versions, it was always = *Total* number of objects, even in case of existing unselected objects. (**5084**)
- ▶ *Read network from file*:
  - ‐ A POI may be allocated to only **one** object per network object type. If the allocation data set occurs multiple times only the first data block is accepted, others will be rejected. Of course, a POI can be allocated to any number of network objects of different network object type. (**5081**)
  - ‐ No errors will occur, if a TSys code serving as sub-attribute contains special characters. (**5082**)
  - ‐ *Read network additionally:* An invalid network state was produced by reading additionally a network file containing table "LEG" with activated option "Overwrite attribute". Afterwards, VISUM could not save this version file and used to crash when a network file was saved. This bug could be fixed. (**5076**)
- ▶ *Graphics Parameters:*
  - ‐ *Read from file*: The *text alignment* of table columns is now always read correctly. (**5042**)
  - ‐ *Read selected parameters*: Now, the list of origins of isochrones is also initialized when 2D graphics parameters are read via selective reading. (**5066**)

9.43-08	Corrections, Bug Fixes and Extended Functionality (ID)	July 06, 2006

Discarded Program Crashes

- ▶ *Drawing links*: The use of complex line styles sometimes caused a crash. The error has been fixed. (**4935**)

Other Procedures

- ▶ *Line Blocking*: For trips that depart past midnight, VISUM now inserts a dwell time of the correct length. The length used to be 24 hours too long. (**4982**)

Network Editor

- ▶ SINGLESELECT - NODES: The SCJ selection under *Control* now also shows the last set value when activating the dialog box anew or when switching tags. (**5007**)

Network Graphics

- ▶ *Printout*: VISUM prints all links displayed on screen. (**5000**)
- ▶ *Turns*: Turns which are blocked for all transport systems are now also marked thinly if the opposite direction is not blocked. (**4990**)
- ▶ *Refresh*: The graphical display is now consistently refreshed when drawn. (**5027**)
- ▶ SINGLESELECT - LINKS - EDIT SHAPE: A rubber band is now always drawn when editing the shape of links. (**5026**)

Export Interfaces

- ▶ *Export to database*: All STAGEITEM keys are now set correctly (including SIGNALGROUPNUMBER) and accurate error messages are issued. (**5028**)

Miscellaneous

- ▶ *Coordinates of count locations & detectors:* Count location coordinates are no longer mandatory when reading in network files or databases since their location is automatically determined by the position on the link. However, coordinates of detectors are now mandatory during an import. Since detectors are positioned individually in the network, a coordinate default would not make sense. (**5015**)
- ▶ *Difference network:* Attribute *TypeNo* is now treated as a numerical attribute. (**5013**)
- ▶ *Error & trace files:* VISUM no longer generates empty error and trace files during the start-up. (**5010**)

Discarded Program Crashes

► *Profile points*: VISUM no longer crashes when setting or deleting profile points of a time profile if vehicle journeys exist on this time profile which do not traverse the specific point yet possess vehicle journey items at that time. (**4991**)

► Menu CALCULATE - PROCEDURES - *Trip generation*: Deleting or inserting a row in dialog box *Trip generation parameters* sometimes caused a crash. The error has been fixed since version 9.43-06. (**4964**)

Network Editor

► *Speed limits*: The program now issues a warning when creating a speed limit with a description that is already used for another object. (**3531**)

► *Difference network*: The *current time interval* used to switch the display of time interval-dependent data now also works in the difference network mode. (**5004**)

Network Graphics

► *Flow bundle*:

- After the subsequent modification of a demand segment of an individual row of the dialog, VISUM now always stores the new setting for the correct row. (**4995**)

- If the flow bundle volume of a link is so low that the flow bundle link bar would result in a width of zero in consideration of the current scale, VISUM now still draws/prints a bar in the minimum width that can be shown. (**5003**)

Attribute Interface

► Menu NETWORK - TEMPORARY ATTRIBUTES: A time limit can now also be set for link attribute *Toll*. (**5005**)

Import Interfaces

► *EMME/2:* During the import, VISUM now creates default link TSys times based on the TSys speed and link lengths. Users no longer need to manually allocate them after the import. (**4988**)

Miscellaneous

► *Filters*: Rows that contain an empty selection for an Enum attribute are no longer instantly deleted when opening the dialog box. However, such rows are pointless anyway since they define a criterion that cannot be fulfilled. (**4996**)

► The VISUM User Manual has been updated; version 9.4 is now available for download.

► The *Documents* folder contains an essay on multi-face surfaces (*Multi-face surfaces.pfd*). For details, please see ID (**4918**) below.

Discarded Program Crashes

► VISUM no longer crashes when marking a new object (like a node or a line route) while refreshing or reading in a network. (**4980**)

Procedures

► Menu CALCULATE - PROCEDURES: Reading in a .PAR file no longer leads to the deletion of filter file names in the currently selected row. (**4975**)

► *PrT assignment:*

- Even after the cancellation of an MPA assignment which results in the deletion of the assignment, all internally effected zone splits are now undone so that a valid network status is available. (**4976**)

- *VolCapRatio:* The calculation of the link attribute is now based on the OD pair filter (like all volume attributes). (**4977**)

Network Editor

► Menu EXTRAS - OPTIONS: Users can now initialize the positions of all dialog boxes along with the positions of the symbol bars. This is useful if, due to the use of different screen sizes, particular dialog boxes have been shifted in such a way that they are no longer visible in the current (minimized) display. (**2694**)

COM Interface

► COM methods *ISelection::Count* and *ISelection::ObjectType* now also produce correct values if the selection is modified interactively in the meantime. (**4848**)

9.43-06	Corrections, Bug Fixes and Extended Functionality (ID)	June 19, 2006

Listings

► *Separator*: Open lists are now automatically filled when changing the setting of the global decimal point (full stop or comma), so that the modification takes immediate effect. (**4517**)

Add-Ons

► *Python*: A new installer for the VisumPy Python library is available. It contains new functions for reading and writing CSV files and for balancing three-dimensional matrices using the Furness / IPF method.

► *LineCosting*: Creating user-defined result attributes for "extended projections" in the context of PuT Operating Indicators no longer fails if the specified origin attribute is indirect. In this case, VISUM uses the name (not the path) of the attribute as target attribute name. (**4967**)

Miscellaneous

► VISUM now initializes the window header when activating NETWORK - NEW in the difference network mode. (**4972**)

► When exiting the program, VISUM now also prompts the user to save the version file if a script has been run during the session (which might have changed data). (**4983**)

9.43-05	Corrections, Bug Fixes and Extended Functionality (ID)	June 2, 2006

Discarded Program Crashes

• *TModel*: VISUM no longer crashes during the import if the input file contains nodes with invalid type numbers. (**4955**)

Procedures

• *PrT assignment:* When optimizing green times of stage-based SCJs, VISUM no longer produces ambiguous results due to numerical instabilities. (**4948**)

Network Editor

• MULTISELECT - LINE ROUTES - "Set lengths": The calculation is now much faster. (**4952**)

• *Creating a main zone:* When inserting a main zone, all zones included in the polygon now automatically become partial zones of the main zone. (**4954**)

• NETWORK - PUT VALID DAYS - "Edit":
  • When editing a valid day, the use of a template (vacation day or valid day) now also works correctly if the validity of the time period of the day is restricted in the right section of the dialog box. (**4938**)
  • Applying and deleting days via the respective button in the right section of the dialog box now also works properly for Sundays. In cases like that VISUM mistakenly manipulated just weekday Monday to Saturday so far. (**4950**)

Network Graphics

• *Enum labels*: If objects in the network display are labeled with Enums (e.g. FromNode/ToNode orientation at links), VISUM now no longer shows the internal numerical value but the more significant short name. (**4894**)

• *Saving the network display*: If a different window than the network is displayed in full in the foreground, VISUM now saves the correct section of the network. (**4419**)

COM Interface

• COM functionality *Visum.SaveNet* can again be called up as second parameter even without a layout file. By mistake, this parameter used to be mandatory as of version 9.43-00. (**4551**)

Add-Ons

• *TModel*: Invalid node type entries are now immediately intercepted on tag "Node Type Definition" of the import parameters dialog box. (**4958**)

• *PuT line costing - Stop event/Start stop events:* If a vehicle journey starts at the end stop of a coupled section, the stop event at this stop is now counted fully (and not proportionately). The same applies to vehicle journeys which end at the start of a coupling section. (**4951**)

Miscellaneous

- *Filters*: If several filters interdepend (e.g. directly by using attributes like "OnActiveLink" or indirectly by using relations with "MaxActive"), all filters are now evaluated in the right order. If a cyclical dependence exists, VISUM issues a warning. (**4909**)

9.43-04	Corrections, Bug Fixes and Extended Functionality (ID)	May 29, 2006

Discarded Program Crashes

- *Reading networks*: When reading table *Time profile items*, VISUM now ensures that attribute "LRItemIndex" is strictly ascending. The violation of this condition sometimes led to the generation of invalid time profiles which triggered subsequent crashes. (**4930**)

Procedures

- *PuT assignment:* The calculation of the impedance of PuT paths with PuTAux yet missing any PuT line TSys used to contain errors: DeltaT always equals 0 for such paths since they are available at all times. For the impedance calculation so far, DeltaT used to be determined as if such paths were located at the start of the assignment interval. (**4942**)

Network Editor

- SINGLESELECT - *Line route - Create opposite direction:* VISUM now only inserts missing link stop points if explicitly specified by the user. (**4891**)

Timetable Editor

- *Edit stop point sequence:* After shifting a stop in the stop sequence dialog box, the same stop can now be shifted further by repeatedly clicking up/down. The row does not have to be selected anew. (**4940**)

Listings

- *PuT OD pairs:* The list is now updated as soon as a new assignment is calculated or the DSeg selection is modified. (**4937**)

Miscellaneous

- *Reading networks additionally*: Table *POI* can now only be selected in mode "First off, determine tables in file" if it actually exists in the network file. (**4370**)
- *Saving networks:* The time-consuming check for attributes with constant default values is only relevant in connection with option "Only attributes with att. values different from default values" and is thus only performed if the option is selected. This way, the *Save network* dialog box can be displayed a lot faster. (**4757**)
- *Normalizing surfaces:* When reading in network files or older version files, polygons are now "normalized" correctly in any case, i.e. transformed into a shape that is consistent with the data model of VISUM 9.4. For one thing this means that all faces of a surface possess boundaries that are not intersected, for another thing that faces of the same orientation do not overlap. (**4918**)

9.43-03	Corrections, Bug Fixes and Extended Functionality (ID)	May 19, 2006

Discarded Program Crashes

- *POI listing*: VISUM no longer crashes after accessing EDIT POI in the context-sensitive menu of the list. (**4910**)
- *Reading in Procedure parameter files:*
  - VISUM no longer crashes if the file contains procedure "Nested mode choice" yet the network does not contain all modes it refers to. (**4923**)
  - Crashes no longer occur if some of the transport systems referred to by the PrT impedance functions do not exist in the target network. (**4924**)

Network Editor

- MULTISELECT-EDIT-*Formula:* In case of attributes of type *Time period*, VISUM now also correctly interprets the value of the last input field if the global time format is "Minutes". (**4915**)
- *Intersect*: Polygons with boundaries that do not intersect but touch in one spot can also now be intersected. (**4927**)
- *Error message*: The program sometimes displayed message "One of the resources required is not available" after lengthy editing in the network. The error has been fixed. (**4880**)

Timetable Editor

- *Graphical Timetable*: The display of vehicle journeys is now also possible if all involved line route items have a length of zero. (**4913**)
- *Broken lines between doubled stops*: The program no longer displays solid instead of broken vertical or horizontal lines between doubled stops. (**4746**)
- *Stop point sequence:* The calculation of the stop point sequence has been improved in such a way that it does not produce redundant doublings any more. Please note, however, that in order to obtain well defined broken lines between doubled stops, the stops that mark the boundaries need to be route points and possess profile points. (**4767**/**4555**)

COM Interface

- *Skim matrices*: Skim matrices that are already kept in storage are now automatically loaded/unloaded in the event of a COM access. (**4925**)

Miscellaneous

- *Reading networks*: The completion of line paths now also functions correctly in the particular case that several undirected link stop points are located on the same link. (**4914**)

9.43-02	Corrections, Bug Fixes and Extended Functionality (ID)	May 12, 2006

Discarded Program Crashes

- VISUM no longer crashes when activating the *Parameters* dialog box of the headway-based assignment under Windows XP with Service Pack 2. (**4902**)
- Crashes no longer occur when drawing lane allocations if invalid link orientations exist in the network. (**4901**)

Procedures

- *PrT assignment:* In the Stochastic assignment, the default value of the scaling factor has been changed from 1 to 60 (tag "Choice"). (**4792**)
- *Line Blocking*: The time slot which can be set since VISUM 9.4 is now defined by a start day and an end day and no longer by specific times. This is essential in order to allocate vehicle journeys with a departure time of 24 to 48 o'clock clearly to a particular day. (**4618**)

Network Editor

- *Zones*: Making subsequent changes to the number of a zone no longer leads to unintended alterations of the destination traffic of the first zone in the network. (**4554**)
- *Signalized junctions*: Standard intergreen is now considered correctly when using templates, i.e. the stages do not succeed one another directly anymore. (**4609**)
- Menu EDIT - CONNECTORS: VISUM now always correctly hides/shows characteristic *Share PrT* for each respective zone. (**4906**)

Network Graphics

- Menu GRAPHIC - PARAMETERS - *Links - Link bars - Display*: Deactivated line bars are no longer displayed in the legend. (**4826**)
- *Shortest Path Search PuT*: PuT shortest paths in the network now display arrow heads at the end of each PuT path leg which indicate transfer stops. (**4799**)
- Catchment areas of stops are now only drawn at active stops. (**4636**)

Timetable Editor

- The selection controls for stop points in the timetable tableau now also show the name of the stop point besides the number if the code is not allocated. (**4770**)

Import Interfaces

- *Synchro Import:* Link orientations are now allocated automatically on the basis of Synchro data. (**4895**)

Add-Ons

- VISUM now always allocates stop attribute *NumServiceTrips* (AP, AH) during "PuT operational indicators" calculations and not just when calculating infrastructure costs of stops as well. (**4911**)

Miscellaneous

- Menu ? - INFO: A click on "Contact" activates a form which already contains all necessary system information. It facilitates the information exchange between users and the VISUM hotline and speeds up the processing of the request. (**4903**)

9.43-01	Corrections, Bug Fixes and Extended Functionality (ID)	May 05, 2006

Discarded Program Crashes

- VISUM no longer crashes if the number of lanes of a link is reduced in such a way that a detector refers to one of the deleted lanes. (**4886**)
- Crashes no longer occur when activating tab *Link orientations* in dialog box *Edit node.* (**4887**)

Network Editor

- *Find...* dialog boxes: When entering a number, the automatic selection of the corresponding row now also works correctly in case of a number greater than 10^9. (**3145**)
- When navigating within the turn/connector dialog boxes, the marking in the network is now also set correctly if a list is open at the same time. (**4652**)

Network Graphics

- If a file of type DXF, DWG or SVG is inserted as a new background, the display now always matches the specified rectangle. (**4529**)
- Node markings are visible again in the display of the path resulting a PuT-Sys Shortest Path Search. (**4678**)
- Bars of a "minimal width" are now also displayed if the bar polygon contains points with partly identical coordinates, e.g. in case of a vertical link. (**4890**)
- Marked line routes are now all displayed in color *Marking1* - independent of the graphic parameters set for marked links. (**4761**)

COM Interface

- When calling up method *WriteVSFFlowMatrix,* the saving process of the flow matrix is not cancelled anymore if one of the active links has an assigned volume of 0. (**4883**)

Add-Ons

- A new installer for the VisumPy Python library is available. It fixes a bug in *excelplot* which could abort the display of an Excel chart., and a bug in module *Tk* affecting *messageBox* and *askForFile*.

9.43-00	Corrections, Bug Fixes and Extended Functionality (ID)	Apr. 28, 2006

Discarded Program Crashes

- Option "Set objects in territory to active state" no longer causes a crash, if a territory possesses more than 4096 digitalisation points. Even in combination with multipart surfaces, "Set objects in territory to active state" is now carried out correctly. (**4581**)

Procedures

- *PuT Assignment*:
  - The storage usage is no longer unnecessarily high when calculating a PuT assignment or skim matrices with search option "Shortest Path Search - Find connection with minimum Search impedance" and an NT factor greater than zero. (**4876**)
  - When cancelling an assignment, missing matrix rows are now completed by zeros in any case. (**4875**)
  - The definition of the service frequency in the timetable-based assignment has been modified in such a way that it is consistent with other PuT skim matrices. Connections which depart in the "succeeding" time period past the end of the assignment interval yet previous to a possible second occurrence of the start of the assignment interval are now also included in the service frequency. This modification takes no effect, if no calendar and a time interval from 0 to midnight is used for the assignment. (**4879**)

Network Editor

- VISUM no longer rejects adjoining points with identical X or Y coordinates after reshaping a face. (**4870**)
- VISUM now calculates correctly when intersecting links and polygons, if a link exits and reenters the polygon. (**4585**)

Network Graphics

- *Turn Volumes*: The line width of turn volumes has been reduced to 0.3 mm. (**4874**)
- When scrolling or zooming causes a refresh of the display while VISUM has not completed a prior drawing process, the display is now refreshed correctly anyway. (**4877**)

Attribute Interface

When annulling a MULTISELECT EDIT command for an attribute of type *TSysSet* or *DSegSet* via UNDO, all objects and not just the first one now keep their original values. (**4857**)

Timetable Editor

- *Graphical timetable*: In the classified display, the "Draw" flags of the arrival and departure minutes now function correctly. So far, the program displayed all values. (**4864**)
- *Timetable tableau*: Bringing forward the start of a vehicle journey does not lead to a negative arrival time any more. (**4804**)

COM Interface

- Two new COM functionalities have been added which permit exiting the timetable editor and saving a timetable editor layout file. For further details, please refer to the COM documentation. (**4553**)
- *SaveNet:* A warning is issued if an indicated layout file does not exist. (**4559**)

Listings

Opening the column selection dialog box in lists now also works correctly if several time intervals and demand segments exist in the network allowing a great many subattribute combinations. (**4865**)

Import Interfaces

During a shapefile import, the enclave characteristic of a face is now always set correctly. Importing multipart polygons sometimes caused errors in the past. (**4866**)

Miscellaneous

- The contents of listings *Coupling sections* and *Coupling time profiles* is no longer altered when reading in a demand file or an attribute file. (**4773**)
- Offsets (*conflict avoidance*) for screenlines now operate as expected when reading table *Screenlinepoly* additionally. (**4759**)

9.42-04	Corrections, Bug fixes and Extended Functionality (ID)	Apr. 21, 2006

Discarded Program Crashes

- VISUM no longer crashes when generating new analysis time intervals, if the network contains PuT detail objects that are territory-based at that point. (**4557**)
- Crashes no longer occur during the calculation of PrT assignments, when assigning several DSegs with identical TSys simultaneously which are later on assigned once again in the context of a feedback loop. (**4558**)
- The program no longer crashes when closing the dialog box which is used to search for stops. The error only occurred since the last ServicePack. (**4837**)
- The program no longer crashes when deleting stop areas in the MULTISELECT mode. (**4571**)

Procedures

- *PuT assignment:* The calculation of an indicator matrix in the context of a headway-based assignment now also renders a correct resulting matrix when specifying a relative path for the indicator matrix. (**4827**)

Attribute Interface

- VISUM now also generates vehicle journey items automatically in case of an access via indirect attributes (via vehicle journeys or time profile items). (**4772**)

Timetable Editor

- The right lower quadrant of the timetable editor is now also displayed correctly for vehicle journeys with more than one vehicle journey section and when showing several attributes (*Arrival, Departure* etc.). (**4769**)

COM Interface

- Assigning double values to an integer attribute via *SetMultiAttValues* no longer causes a COM error. (**4828**)
- Clearly less run time is required for COM method *Visum.LoadNet* now, if a large number of line route items is read in additionally and no parameter block is delivered for the completion of line routes when calling up the command. (**4572**)
- The VisumPy library of useful Python functions for VISUM automation is available in a new release 1.2. Numerous functions for matrix manipulation, simplified data access, and GUI construction were added. The functionality of the library is now documented in Appendix C of the COM documentation. Download the new installer separately from our web site using the login ID for VISUM add-ons.

Listings

- VISUM now also correctly preallocates attributes with units in column *Units* of the column selection dialog box. (**4781**)

Import Interfaces

- Database and network imports are now also done accurately in any language other than English, if they contain attributes that have been renamed in VISUM in the meantime. (**4854**)

Export Interfaces

- *Shapefiles*: In the occurrence of an attribute name with more than ten characters, the resulting abbreviation now contains its initial letters, e.g. NumConne~01. (**4756**)

Add-Ons

- *Timetable Network Graph:* For departure and arrival time labels at vertical segments, VISUM used to mix up symbols **<** and **>**. The error has been fixed. (**4844**)
- *TFlowFuzzy*: The calculation of flow matrices and result matrices has been accelerated. (**4665**)

Miscellaneous

- *Print/Preview:* The print frame now always indicates the right network scale. (**4820**)
- *Reading GPA files:* After the selective reading of a graphic parameter file, VISUM now only recalculates the 2D display if new 2D parameters were added. (**1866**)
- On Japanese operating systems, dialog boxes *VISSIM Export, Edit graphic parameters, Multiselect edit* are now also large enough to show all controls. (**4798**)
- *Reading networks*: When reading in undirected link stop points from a network file, distances too short are now rejected (as in the network editor). Distance means the discrepancy of the RelPos values. Distances up to one one-thousandth are always accepted. (**4579**)

9.42-03	Corrections, Bug fixes and Extended Functionality (ID)	Apr. 07, 2006

Discarded Program Crashes

- *Timetable Editor*: VISUM no longer crashes when activating the graphical timetable after editing the start of a vehicle journey section. (**4786**)
- *Reading networks*: When reading a network, clicking *Cancel* just as the program harmonizes the data structures no longer causes a crash. (**4809**)
- Menu NETWORK - PUT FARE ZONES: The program no longer crashes when exiting dialog box "Fare zones and fare subzones". (**4810**)
- *Printing*: VISUM no longer crashes when printing in the preview mode after printing the regular display. (**4552**)

Procedures

- *PrT assignment*: The calculation of *tCur* with volume-delay function Akcelic contained a unit-related error. VISUM now returns different PrT assignment results when calculating with this function. (**4816**)

Network Editor

- SINGLESELECT mode - EDIT TURNS - *Basis*: Value *tCur* box is now rounded correctly. (**4797**)

Network Graphics

- Users can now set the individual text sizes for column and pie charts. (**4806**)

Timetable Editor

- *Graphical timetable*:
  - In case of multiple doublings in the stop point sequence, broken lines are now always drawn from the first to the last doubled stop. Possible intermediate doublings are thus skipped. (**4747**)
  - Vehicle journey trajectories of vehicle journeys that start at a time profile item with a dwell time > 0 are no longer positioned incorrectly. (**4546**)
  - *Vehicle journey items text*: a) The vehicle journey items text is no longer missing, if texts are displayed in groups. (**4763**) b) If the last stop of a vehicle journey is hidden, the vehicle journey items text of the last but one stop is now displayed correctly and no longer rotated 90 degrees. (**4768**)

COM Interface

- A COM error is returned when opening timetable editor graphic parameters/layout files, if the indicated file does not exist. (**4547**)
- All line routes of the selected direction, not just one, are now switched on/off, when running COM command *TimeTable.ShowDirections.* (**4550**)

Listings

- *Passenger transfers list*: Button "All" for the selection of stops functions correctly again. (**4789**)

Import Interfaces

- *TModel*: File names can now be edited directly in the grid of the import dialog box. (**4782**)

Export Interfaces

- *VISSIM*: Parking lot numbers are no longer utilised twice when exporting dynamic routes. This way, the export file can be read into VISSIM. (**4683**)

Add-Ons

- *Calendar*: Even without the *Calendar* add-on, users can now access the attributes of the default valid day "daily", in particular its projection factors. (**4801**)
- *LineCosting*: Stops that exceed midnight are now considered correctly in the case of territory-based dwell times per time interval and thus distributed to the respective time intervals. In the case of vehicle journeys with overlapping journey sections and deviating vehicle combinations, the dwell time is also distributed. (**4737**)

Miscellaneous

- *Filters*: In the dialog boxes of hierarchical filters, users can now also select **single** rows. (**4745**)
- *Connector weights*: The default value of the connector weights is no longer zero. This way, the unintentional blocking of all connectors is avoided at zones which are prorated by shares. (**4548**)

9.42-02	Corrections, Bug fixes and Extended Functionality (ID)	Apr. 03, 2006

Discarded Program Crashes

- The program no longer crashes when opening dialog box *Assignment statistics*, if a great number of demand segments exists in the network. (**4794**)
- VISUM no longer crashes when reading an oversize version which violates the size restrictions of the Uni version (30 zones). (**4795**)

Procedures

- *PrT assignment*: In the parameters dialog box of the Equilibrium assignment, specific settings for the blocking-back model are now disabled if they are irrelevant because the model is not calculated during the assignment. (**4758**)

Network Editor

- *Edit shapes of polygons*:
  - The fixed intermediate points are now also visible when scrolling or zooming while editing a polygon's shape. (**570**)
  - Once more polygons (e.g. at zones, territories etc.) can be initialized with the F2 key. (**4604**)
- NETWORK menu - PUT TICKET TYPES: The program now generates TSys supplements by default again when creating a ticket type. (**4778**)

Timetable Editor

- The editor no longer shows the attribute ID instead of the code. (**4784**)
- The stop sequence and the departure times are now always scrolled together. (**4709**)
- The lower right quadrant of the timetable editor is now also displayed correctly when showing vehicle journeys with more than one section and several attributes (*departure, arrival,* etc.). (**4769**)

COM Interface

- When opening a matrix from a script its file name is now correctly imported into VISUM, and thus e.g. displayed correctly in the demand data dialog box. (**4777**)

Import Interfaces

- *TModel*: VISUM now always imports all links, if option "Loading links as VISUM connectors. Centroids as VISUM zones" on tag *Parameters* is checked. (**4775**)
- *EMME/2*: TTF=0 at line route items is now automatically interpreted as constant speed of the line (speed is item no. 5 in the header of the line). (**4776**)

Add-Ons

- *LineCosting*: Stop events are now counted proportionately in the case of overlapping vehicle journey sections. (**4755**)

Miscellaneous

- *Saving a network*: Table *CoupleTimeProfile* in the network file is now sorted when saved. (**4740**)
- *Reading a network:* The time consuming calculation of the link orientations at the end of the reading process has been accelerated. (**4760**)
- *Reading a version*: Saved versions of networks that contained speed limits in which links were split or merged could not be read in afterwards. The error has been fixed. (**4790**)

9.42-01	Corrections, Bug fixes and Extended Functionality (ID)	Mar. 23, 2006

Procedures

- *PrT assignment:* The program no longer produces incorrect network volumes when calculating a stochastic assignment with several DSegs with the same TSys at the same time. (**4762**)

Timetable Editor

- When reading in timetable editor layout files, the import no longer aborts if a file contains rows with more than 255 characters. (**4766**)

COM Interface

- *Exporting the graphical timetable*: The SVG Add-On is no longer needed for an SVG export. (**4764**)

9.42-00	Corrections, Bug fixes and Extended Functionality (ID)	Mar. 17, 2006

Discarded Program Crashes

- VISUM no longer crashes when importing polygon shapefiles (zone, territory etc.), if a shape object refers to an invalid polygon. (**4751**)

Other Procedures

- Procedure "Territory indicators" has been accelerated. (**4750**)

Network Graphics

- *Backgrounds*: The exact line widths specified in the file are now applied when reading in HGR backgrounds. So far, lines were always 1mm in width. (**4743**)
- Labelling option "Color=Bar color" of links and other bars now also works, if "Show value" is not checked. (**4675**)

Attribute Interface

- Vehicle journeys and Vehicle journey sections now provide attribute *Duration*. Vehicle journey sections also provide attributes *Departure* and *Arrival*. (**4322**)

Timetable Editor

- The "Apply" button of the graphic parameters dialog box works properly again. (**4754**)

COM Interface

- The graphical timetable can now also be exported to an SVG file via COM. (**4528**)

Add-Ons

- *Line costing*:
  - Start and end stop events in the AP are no longer counted twice, if the stop of a vehicle journey exceeds midnight. (**4735**)
  - VISUM now also projects the correct number of stop values for attributes "StopEvents" and "Start/End stop events", if couplings exist. The AP values were not affected by this error. (**4752**)

Miscellaneous

- *Procedure parameters (XML):* In the procedure numbers, unnecessary gaps no longer occur when reading in this file. If a file e.g. contains procedures 1, 2, and 4, procedure number 4 is now inserted in position 3. So far, procedure "Assignment" used to be inserted in position 3. (**4431**)
- Menu CALCULATE - CALCULATION STATUS: The assignment statistics now include an entry for the projection of user-defined attributes within the context of procedure "PuT operation indicators". (**4502**)
- Columns that refer to user-defined attributes are no longer rejected when reading in POI filters. (**4677**)

9.41-02	Corrections, Bug fixes and Extended Functionality (ID)	Mar. 10, 2006

Discarded Program Crashes

- VISUM no longer crashes when accessing tag *PrT-Sys* of the link dialog box, if a PrT assignment has been calculated and attributes of a TSys were edited afterwards. (**4713**)
- The program no longer crashes when loading particular version files which include couplings. (**4723**)

Procedures

- *PrT assignment*: *TCur* is now updated right away when a PrT assignment is deleted - not just once a new assignment is calculated. (**4703**)

Network Editor

- *Find node* dialog box: The *AutoZoom* button no longer disappears. (**4712**)
- *Edit node...*dialog box - *Lanes - Legs and lanes...* dialog box: The selection of legs and links in the grid now always corresponds to the object marked in the network, even when using the arrow keys to navigate the grid. (**4711**)
- Detectors can once more be deleted in mode MULTISELECT. (**4733**)
- Screenlines can now also be used in the network editor operation "Intersect". (**4738**)

Timetable Editor

- If the language is set to *Russian*, the timetable editor now shows the correct translations, too. (**4725**)
- *Hierarchical stop point calculation*: Stops are now also included in the "trunk", if they are not route points on some of the line routes. In the tabular display, such items are now also marked as traversed stops by vertical lines. (**4697**)
- *Graphical timetable*:
    - If the item labels are arranged in groups and located "in the middle of the group", labels of coupled vehicle journeys now also lie exactly on top of each other, if one of the vehicle journeys concerned has a longer dwell time than the other one at the beginning of the coupling section. (**4687**)
    - Bars and bar labels at vehicle journeys are now displayed consistently for both directions below the vehicle journey trajectory. This way, an overlap with the regular item text is generally avoided. (**4700**)

Add-Ons

- *Subnetwork Generator*: The calculation of the subnetwork is no longer cancelled, if the network contains surfaces that do not feature any faces. (**4704**)
- Users can now also set relative paths for background files. This makes it easier to transfer networks from one computer to another. (**4281**)
- *Line Costing*: a) Stop events in the analysis period are no longer counted twice, if some of the vehicle journey stops exceed midnight. b) When calculating time interval based, stop events are now always assigned to the interval in which they begin. (**4638**)

Miscellaneous

- *Shapefiles*:
    - Shapefiles which contain numerical data with decimal places written with VISUM now comply with the global shapefile format and can thus also be read by ArcView etc. (**4701**)
    - Version files saved after reading in link shape files can now be read in again. (**4718**)
- *OD pair filter*: In procedure *Trip distribution*, this filter now also affects internal trips, i.e. relations from X to X. (**4710**)
- When reading in versions with invalid link orientations, corresponding messages are now written to the trace file and no longer to the error file. (**4722**)
- *Printing:*
    - *via Adobe Acrobat PDF-Writer*: Closing dialog box *save under* via *cancel* led to a reboot of the system when performing a new operation in VISUM. The error has been corrected. (**4702**)
    - The printer output is now also correct, if the output area is too large for the page to be printed and option "Cut off at margin" has been selected. (**4715**)
    - The text enlargement factor of the screen no longer influences the labels of the turn volumes when printing. (**4716**)
    - Graphical background objects that are located in the legend are now printed correctly. (**4720**)
    - VISUM now saves all settings when exiting the print settings dialog box via *Close*. (**4728**)

9.41-01	Corrections, Bug fixes and Extended Functionality (ID)	Mar. 2, 2006

Discarded Program Crashes

- LINKS - SINGLESELECT mode: VISUM no longer crashes when clicking tag *PrT-Sys* of the link dialog box, if invalid PrT impedances are set. (**4686**)
- Zooming into a polygon with an enclave used to lead to an enormous use of storage that sometimes even caused a crash. (**4685**)

Procedures

- *PuT assignment:* The program now issues a warning when calculating PuT indicators, if no paths whatsoever are found and a weighting is thus impossible. (**4693**)

Network Graphics

- *Shortest Path Search*: The Search parameters dialog box is now once more accessible via a button on tag *PuT* of the TSys-based Shortest Path Search. (**4684**)

Timetable Editor

- The stop point sequence in the timetable editor calculated by VISUM can now be edited interactively via menu EDIT - EDIT STOP POINT SEQUENCE. (**3754**)
- When activating the timetable editor in mode LINKS - MULTISELECT,
    - the stop point sequence is now automatically reduced to the selected range again. (**4674**)
    - VISUM now also takes link stop points into account. (**4682**)

Miscellaneous

- *Filters*:
  - When reading filter or version files with active filters that have been saved with versions prior to 9.4, activated features like "applies to ☑ line route" are now automatically transferred to the associated items ("applies to ☑ line route item"). As of 9.4, these can be filtered independently. (**4676**)
  - A new button now enables users to simultaneously activate or deactivate all checkboxes. (**4694**)
- *Reading networks*:
  - Network files that are "more recent" than the used VISUM version can now also be read into "older" VISUM versions (as of version 9.3). In this case, VISUM issues a warning at the start of the read operation that indicates the possible loss of data. However, most data (especially basic network data) never changes its format so that conflicts generally do not occur even when reading in more recent networks. VISUM merely issues warnings in the occurrence of attributes that were added in the meantime. (**4648**)
  - Table *link type* of network files used to be read in independently of the user settings, thus disregarding options *ignore* and *cancel*. The error has been fixed. (**4681**)
- Menu FILE - OPEN: The dialog box for the file type selection now always suggests the folder specified under project directories. Under Windows XP, the most recently used folder mistakenly appeared. (**4121**)