VISUM Release Notes

Version 10.0

Version 10.03-16
Last modified: 2008-09-01

| 10.03-16 | Corrections, Bug Fixes and New Features (ID) | 2008-09-01 |

COM Interface

▶ *SaveAccessDatabase:* An error is now also returned via COM if the export fails. The message now contains the error ID. (**7248**)
▶ *Running a script:* When cancelling scripts started within VISUM, the VISUM menu could get into an invalid state (leaving visible only entry "File" and entry "View"). The error has been fixed. (**7246**)

Dialogs

▶ *Dialog box PuT Shortest path search:* If you click into the menu after entering an invalid time, the respective warning is now issued only once. (**7159**)

Difference Network

▶ *Exiting VISUM:* VISUM no longer queries whether the version should be saved when exiting the program in the difference network mode. This functionality is not available in the difference network mode. (**7249**)

Foreign Formats

▶ *HAFAS import:* VISUM now also supports HAFAS data with 9-digit stop numbers. (**7242**)
▶ *HAFAS import:* VISUM now also reads in the train type file if the file contains optional product texts. (**7231**)

Network Editor

▶ *Inserting a POI:* VISUM does not crash any more if you try to insert a POI while no POI categories exist within the network and exit dialog box Create POI category via the Cancel button. (**7238**)

PuT Operating Indicators

▶ The revenue calculation has been clearly accelerated. (**6916**)

| 10.03-15 | Corrections, Bug Fixes and New Features (ID) | 2008-08-22 |

Data Model

▶ The program sometimes produced incorrect topologies and major flows when merging node legs at nodes and main nodes. (**7229**)

Graphics

▶ Link layer setting "color = bar color" no longer has an effect on bars of the layer flow bundle. (**7170**)
▶ VISUM does not crash any more when deleting a background. (**7239**)
▶ *Display entire network:* The maximum section is now also calculated correctly if the network contains surfaces without faces. (**7204**)

I/O

▶ *Reading matrices:* When reading in matrices in binary format it is no longer required that the dimension of the matrix is identically equal to the number of zones in the network. VISUM now imports values for exactly the dimensions existing in the network. A warning is issued if the number of zones in the file and the number of zones in the network differ. So far no warning was issued if the number of zones and the dimension matched yet the actual numbers were deviant. (**7198**)

Listings

▶ Switching to a listing no longer automatically activates the "Edit mode". (**7220**)
▶ *Turns listing:* The sorting by indirect attributes of relation "lane turns" has been clearly accelerated. (**7027**)
▶ *Listings toolbar:* Pushed toolbar buttons (like "Undirected value") are displayed in pushed buttons effect again. (**7186**)
▶ VISUM does not crash any more when pasting from the clip board to listing Links if a column is marked in the list. (**7168**)

Network Editor

▶ *Spatial selection mode:* If you pull open a polygon with several clicks (pressing CTRL) and cancel the action using ESC, VISUM now returns to the regular interaction mode. (**7227**)
▶ *Context-sensitive menu of listings:* Entries for operations which call for graphic interaction with the network editor (like Split or Edit shape) are now greyed out since they can only be used in the network editor itself. (**7219**)
▶ The time interval toolbar is now also refreshed when switching to a different interval if a listing window is focussed. (**7127**)
▶ *Status bar:* The status bar text now also refers to the currently marked network object if the object has been marked using dialog box F3/Find. (**7079**)
▶ Multi-Edit and Multi-Delete for line routes is now also available, if no line routes exist and if the floating dialog is in mode "line routes". The same is true for paths and path sets. (**7039**)

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**)

Other Operations

▶ *Emission calculation:* 1. The file Emiss.dat is now read in correctly. 2. Setting v0-vCur-vCur with time series is evaluated correctly again. (**7215**)

10.03-14	Corrections, Bug Fixes and New Features (ID)	2008-08-06

Timetable Editor

▶ Even if the current line selection includes lines without line routes the vehicle journeys of the selected lines with line routes are displayed now. (**7188**)

Graphics

▶ VISUM can also read the rotation from Word files. Thus the particular backgrounds are automatically placed correctly. (**7075**)

Network Editor

▶ *EWS:* In the EWS mode all menu entries are available again. (**7193**)

PrT Assignment

▶ *PrT Assignments:* Insufficient RAM does no longer cause problems if a PrT assignment is run starting from an initial solution. (**7181**)

10.03-13	Corrections, Bug Fixes and New Features (ID)	2008-07-29

COM Interface

▶ If an error occurs while a Python script is run, the text of the previous error message is not repeated any more. (**7017**)

Dialogs

▶ *EVA evaluation:* You can now use skim matrices without DSegs as input skim matrices. (**7178**)

Graphics

▶ *Large backgrounds:* The memory requirements for large background files have been drastically reduced and now lie within the range of the requirements in VISUM 9.4 and 9.5. (**6987**)

I/O

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

Network Editor

▶ If a stop point is deleted, the run time of time profiles of line routes traversing the stop point is no longer modified if the stop point is not a profile point. (**7174**)
▶ Dialog box "Find link" now displays each link number which describes at least one active link if

option "only active" is enabled. (**7169**)

▶ *Browsing views:* The navigation in the history of views in the network editor works correctly again. (**7165**)

Other Operations

▶ *Read survey data:* The attributes "SurveyLineDepTime" and "InputStopDepTime" have been combined in one attribute "InputStopDepTime/Day". With the aid of the new attribute "InputStopNumber" you can now express precisely to which stop the indicated departure time refers. This increases the flexibility of the format considerably and is particularly needed if times for start stops of vehicle journeys are given which are yet not located at the beginning of the respective line route. (**7155**)

PrT Assignment

▶ Procedure "OD matrix calibration": VISUM does not crash anymore if the cordon nodes of a main node are not connected directly by a link. (**7167**)

▶ *PrT assignments:* the shortest path search within the PrT assignment now always finds the correct shortest path. In some rare cases small deviations could occur before. (**7180**)

10.03-12	Corrections, Bug Fixes and New Features (ID)	2008-07-15

Dialogs

▶ *Classification grid:* if one moves the cursor between the classes, then the class attributes are not copied from one class to the other. The behaviour is working analogue to colors now. (**7157**)

Graphics

▶ The labelling of classes in the legend was improved in various ways. Especially individual class names are not lost, when you change the class boundaries. (**7150**)

Matrix Editor

▶ Initialization of attractiveness factors now works correct (this problem only ocurred together with the Multi-Procedure) (**7163**)

Network Editor

▶ *Special function "Turn-AddValues" for links:* VISUM now uses main turn attributes instead of turn attributes for main node cordon links. (**7137**)

Interfaces

▶ *HAFAS-Import:* VISUM does not crash any more when importing couplings if involved line routes do not traverse the entire coupling section. (**7160**)

Other Operations

▶ *Set run and dwell times:* The run time of the procedure has been drastically reduced. (**7162**)

▶ *Go To procedure:* VISUM now checks if all Go To addresses are active before executing any procedures. (**7146**)

PrT Assignment

▶ The results of the Tribut procedure and the TributEquilibrium_Lohse procedure have been drastically improved as a rounding error could be fixed. (**7158**)

10.03-11	Corrections, Bug Fixes and New Features (ID)	2008-07-04

Filters

▶ *POI filter:* If option "Use filter" has been activated for a specific POI category, VISUM no longer transfers this status to all other existing categories when reading in an ATT file. (**7139**)

Network Editor

▶ *Merging nodes:* VISUM no longer crashes if data are used from other nodes than the marked ones and the Undo stack is disabled and the same time. (**7098**)

Other Operations

▶ *PuT flow bundle:* VISUM does not crash anymore when using a term "active links" in a flow bundle if link stop points are used as transfer points on the PuT paths. (**7142**)

PrT Assignment

▶ *ICA report:* for signalized nodes now also the v/c-ratio for the whole node is written into the excel report. (**7144**)

10.03-10	Corrections, Bug Fixes and New Features (ID)	2008-07-02

Dialogs

▶ *Dialog box Coordination groups:* If a time profile serves the chosen From Stop or To Stop several times, the selection grids provide several entries accordingly. In the future, the indices of time profile items will help to distinguish such entries. (**6861**)

Graphics

▶ Correction factors for the bar width now also affect the display of bars in the legend. (**7101**)
▶ *SVG export:* Flow bundles are now also enclosed in a "group tag". (**7124**)
▶ *Legend:* In the legend, the labels of the bar width do not overlap anymore. (**7097**)

I/O

▶ *Saving a PFD file:* Variable names (like %MYAPPDATA%) are no longer saved to file when saving a PFD file. The absolute file reference is now saved instead. (**7046**)
▶ *Writing shape files:* If one or more link stop points are located on a link, the link used to be included several times in the polyline. The error has been fixed. (**7126**)
▶ *Demand files:* You can now generate layout files for DMD files. (**7118**)
▶ *Backup copy:* The trace file now only records when a backup copy is actually generated, yet no more if the user needs to wait for the backup while executing a procedure. (**7110**)

PuT Operating Indicators

▶ *Demand-related indicators calculated by territory with option times vehicle combination:* VISUM no longer crashes if a time profile traverses a link several times and a vehicle journey of the profile terminates even before the second traversing. (**7116**)

Matrix Editor

▶ *Matrix editor:* You can now open matrices with more than 15000 zones. (**7133**)

Demand Model

▶ *Automatically generated list layouts:* The file names are just translated into German and English now, as special characters in other languages lead to problems when reimporting the files. (**7134**)

Network Editor

▶ *History of views:* Previous views can now also be reconstructed via the history if the window size has been changed or if a listing has been opened in full screen mode. (**7113**)
▶ *Aggregating line routes:* If aggregated line routes do not end at the same stop point and their times profiles moreover cannot be aggregated due to the specified parameters, VISUM nevertheless issues suitable run times at the newly inserted end of the previously shorter time profile. (**7104**)
▶ *User-defined attributes of type number with decimal places:* The number of decimal places serves as suggested value for the display only. The accuracy of the actual data is not affected by this. So far this value however used to take effect when copying attributes from one network object to another and when exiting dialog box "Edit user-defined attribute". The error has been fixed. (**7105**)

Object Model

▶ *Couplings:* In the timetable editor, you can now freely edit vehicle journeys if time profiles of these vehicle journeys have been coupled. In particular, you can now reallocate vehicle journeys from coupled time profiles to noncoupled time profiles and vice versa. (**6278**)

Interfaces

▶ *Writing shape files:* VISUM now allocates the correct orientation to each face when exporting

multi-face surfaces. (**7103**)

▶ *VISSIM export:* For lane turns the Or signal group is now also allocated. (**6966**)

Other Operations

▶ *Procedure "Edit attribute":* In case of an allocation to floating point attributes option cut/round does not take effect as it is intended for integer attributes. To indicate this, the controls are deactivated in the dialog. By mistake, option "round" however took effect during the procedure. The error has now been fixed. (**7108**)

Miscellaneous

▶ *Windows explorer:* VISUM now checks all context-sensitive menu entries "Open with VISUM..." for validity and cleanses them, where applicable. (**7109**)

PuT Assignment

▶ *Headway-based assignment:* If the network contains run times so high that impedances for stop to stop sections of time profiles are higher than MAXINT (~ 2 billion) seconds, the assignment is now terminated with an error message. (**7091**)

10.03-09	Corrections, Bug Fixes and New Features (ID)	2008-06-13

COM Interface

▶ *Executing a Python script as procedure:* The execution of the procedure is no longer terminated after the first script which is contained in the sequence of operations. (**7099**)
▶ *Autozoom for shortest path search PrT:* The shortest path search for PrT via COM with Visum.Analysis.RouteSearchPrT.Execute and afterwards RouteSearchPrT.Autozoom() resulted in a crash. This crash is fixed now. (**7096**)
▶ *Executing Python scripts with execfile:* The execution of a script with execfile has been changed in such a way that directives at the beginning of the script are understood by Python. (**7083**)

Graphics

▶ *Inserting multiple shape files as backgrounds:* Multiple shape files can now be displayed correctly as backgrounds irrespective of the computer used. (**7100**)
▶ *Lane turns:* The directions of lane turns displayed in the network editor now correspond with the actual data (window Legs and lanes). (**7095**)
▶ *Classified display of graphic parameters:* VISUM no longer crashes if you enter "<" under class name. In the class name, character "<" can now be used in any constellation. (**7087**)
▶ *Shifting bar polygons:* The graphical display is now always correct at vertical link sections. (**7042**)
▶ *Shifting bar polygons:* All bars are now checked when shifting bar polygons so that display errors no longer occur when displaying several bars. (**7040**)
▶ *Coordinate transformation:* When changing the projection the current view is now also transformed, i.e. the current network view remains the same (**7106**).

I/O

▶ *Reading data from a database:* Reading data from an access database which includes vehicle journeys used to lead to a crash in case of corrupt coupled vehicle journeys if the end stop was located before the start stop. The error has been fixed. (**7093**)
▶ *Saving a PFD file:* Variable names (like %MYAPPDATA%) are no longer save to file when saving a PFD file. The absolute file reference is now saved instead. (**7046**)

PuT Operating Indicators

▶ *Network object stop / zone:* If a stop consists of more than one stop point, so far attribute Number coupled service trips used to be increased by one for each stop point. The error has been fixed. (**7068**)
▶ *Network object Territory / Territory PuT detail:* If a stop consists of more than one stop point and the stop points are located in different territories, so far the start/end/stop events used to be allocated to the territory in which the stop was located. The error has now been fixed. Now the territory in which the stop point is located is crucial when calculating by territory. (**7067**)

Matrix Editor

▶ *Projection:* The import of a code file is no longer terminated with an error message if the code file contains empty rows with spaces or tabs. (**7081**)

► *Projection of aggregated areas:* Code files are now always saved correctly. (**7080**)

PrT Assignment

► *DUE:* The DUE procedure no longer crashes if an open link is closed by entering Vmax(TSys)=0 at the link type of the link. (**7089**)

10.03-08	Corrections, Bug Fixes and New Features (ID)	2008-06-02

Attributes

► *PuT assignment result attributes:* VISUM now also provides all time period mean values with decimal places. This affects listing "PuT assignment statistics" and corresponding origin zone attributes at zones. (**7034**)

COM Interface

► VISUM no longer crashes after executing a Python script using wxPython. The execution environment is re-initialized more thoroughly. (**7070**)

Dialogs

► A detailed warning is now issued again if you enter invalid characters in an input field for integer values. (**7045**)
► *Dialog box "User-defined attributes":* The dialog now provides an extra column for the long names of attributes. (**7031**)
► In several dialog boxes, particularly dialog box procedure parameters, a point was used as decimal separator even if the comma was set as default. The error has been fixed. (**4299**)
► *Multi-Edit, dialog box "Attribute:* Constant value": The allocation to an integer attribute now also succeeds if the value entered is identical to the rounded value of the real-valued constant used when last calling the dialog. (**7077**)

Timetable Editor

► *SVG export of the graphical timetable:* Via COM you can now initiate a complete SVG export which is independent of the current display. To do so, set the second parameter to true in ExportSVG. (**7050**)

Graphics

► *Marking main zones:* In mode "Extended markings" the allocated zones are now displayed with their polygons. (**7051**)

I/O

► *Editing the shape of line routes:* During the shortest path search prohibited turns at a fixed point of the course are now also considered correctly for the adjoining section if this section consists of exactly one link. (**7052**)
► *Database import:* Reading in valid days no longer causes a crash if the calendar period comprises more than 255 days. (**7061**)
► The EDF direction of links is now saved correctly with the version file. (**7038**)
► *Reading XML procedure parameter files:* Data errors which cause the termination of the import no longer lead to a crash. (**7036**)
► *Reading a network: An object is no longer inserted if a row contains invalid values for mandatory attributes that are not IDs. A corresponding message is issued. Example:* Modes can only be read in if they have a non-empty TSysSet. (**7069**)

Listings

► *Database export:* If the PrT path listing by link is exported with its path headers, VISUM no longer returns "-32768" entries for indirect link attributes in the respective data records. (**7035**)

Demand Model

► *EVA Weighting:* VISUM used to crash when inserting a new zone in a version with an EVA demand model, recalculating the indicator matrices and executing EVA Weighting. The error has been fixed. (**7071**)

Interfaces

► The consistency of the transport systems of lanes is now checked at both ends of a link. This is

useful since lane closures can be considered as of VISSIM 5.00-09. (**7053**)

Other Operations

▶ *Reading survey data:* Data sets with NumPassengers = 0 or ExtProjFactor = 0 are now rejected since they cannot be turned into PuT paths. (**7066**)
▶ *Reading survey data:* In specific cases the generation of zones in the course of a survey data import used to corrupt PuT paths of other DSegs with survey data. The error has been fixed. (**7041**)

10.03-07	Corrections, Bug Fixes and New Features (ID)	2008-05-16

PrT Assignment – Please note these important changes!

▶ *PrT path search:* An instability in the underlying shortest path search sometimes led to minor instabilities in the assignment result. The error could be fixed. The modification might lead to general discrepancies in PrT assignment results. The worse the convergence of the assignment, the greater the discrepancy. (**7026**)

Attributes

▶ *Flow bundle origin and destination traffic:* Both attributes are now provided as real values at zones and main zones and are thus no longer automatically rounded to integers. (**7033**)
▶ Indirect attribute "Num": Evaluating this attribute at 0..1 relations no longer causes a crash. (**7030**)

COM Interface

▶ *AddUserDefinedAttribute:* The functionality now returns an error if you call it for a type which does not support the creation of user-defined attributes (e.g. INotepadLines). (**7011**)

Graphics

▶ *SVG export:* Polylines are now also exported as open polygons if a filling has been defined when exporting linear POIs. (**7010**)

Listings

▶ *Passenger transfer lists:* The key fields were changed from To/From time profile to To/From time profile item, as in case of transfers between loop lines keys could occur twice. (**7008**)

Network Editor

▶ *Shortening line routes:* VISUM no longer crashes if vehicle journeys have an empty course because a line route has been shortened and thus need to be discarded. Sometimes the error also occurred when generating a subnetwork using option "cut line routes" (**7006**)
▶ *Changing an ID:* VISUM no longer crashes when changing the ID of a network object while a list of this network object type is open in the background. (**7014**)
▶ *Editing the shape of line routes:* During the shortest path search prohibited turns at a fixed point of the course are now considered correctly for the adjoining section. This e.g. enables the user to route via "loops" if the U-turn itself remains blocked. (**7023**)

Object Model

▶ *Multi-face surfaces:* When importing surfaces from a network or database, "normalization" now also takes place if the boundaries of some faces touch while the surfaces have an empty cut. (**7019**)

Other Operations

▶ *Subnetwork generator:* The program no longer aborts if the network contains invalid attribute values for the "zone type". (**6974**)
▶ *Shortest path search by TSys:* When repeatedly executing the search, VISUM no longer internally builds up a new search graph with each search in order to save run time. This also lowers the risk of storage fragmentation. (**7007**)
▶ *Subnetwork generator:* VISUM no longer crashes if more than one assigned DSeg use the same demand matrix. (**7003**)

PuT Assignment

▶ *Headway-based assignment:* Indicators that are checked on tab "Skim matrices" are now only calculated internally if option "Calculate skim matrices" has been activated for the procedure.

Particularly in networks with fare zones this saves a lot of run time. (**7020**)

10.03-06	Corrections, Bug Fixes and New Features (ID)	2008-05-06

Attributes

▶ *PuT assignment attributes:* The PuT assignment statistics and zones now provide the attributes "total number of transfers" and "mean service frequency". (**6952**)

Dialogs

▶ *Dialog box "Save attribute file":* The program now automatically suggests the last setting used for the column separator when opening the dialog the next time. (**6460**)

Filters

▶ *POI filter:* The filter is now also evaluated for newly inserted POIs, resulting in a valid filter status. So far the filter evaluation was delayed. (**6958**)

I/O

▶ *Reading a network file:* As of service pack 10.03-04, reading in couplings from a network file used to fail in many cases although the data to be read in was consistent. A warning was not issued either. This serious error has now been fixed. (**6997**)
▶ *Reading a network:* When reading a network additively, even in mode "ignore" (if object is missing), all data errors which prevent the successful reading of the file are now reported, e.g. the length of a valid day string which does not match the calendar period. (**6993**)
▶ *Saving an attribute file:* The name of table "version" used to be translated by mistake during the export of an attribute file. An import of this file was thus only possible if the translation in the foreign language read "version", too. The error has been fixed. (**6992**)

Network Editor

▶ *Check network:* Functionalities "Dead-end roads" and "Links without succeed. link" work as expected again. Both the test as well as the correcting function used to be faulty. (**6984**)

Other Operations

▶ *PuT shortest path search by arrival time:* In rare case, paths were generated which terminated even before reaching the destination. The error has been fixed. (**6985**)
▶ *Passenger survey - plausibility:* If a connection is not possible due to a missing PuT walk link, the affected survey data record is now always evaluated as "implausible". (**7001**)

PrT Assignment

▶ *PrT assignment DUE:* The memory consumption of the procedure has been reduced, particularly when saving paths as connections. (**6999**)
▶ *PrT assignment DUE:* The procedure now works with a separate out-capacity for links. (**6735**)

10.03-05	Corrections, Bug Fixes and New Features (ID)	2008-04-25

Dialogs

▶ *Calling a difference network:* The execute button in the window now also works when loading the same data as last time. (**6962**)
▶ *Procedure parameters window:* All hotkeys now function correctly (e.g. Alt-X for "Execute") no matter where the mouse focus lies. (**6977**)
▶ *Procedures window:* Setting procedures active or passive using the space bar and then using the mouse to click in the table led to the loss of all changes made via the keyboard. The error has been fixed. (**6899**)

Timetable Editor

▶ *Attribute selection for routes:* In metric networks, the attribute selection now always provides the metric variants of length attributes (e.g. service kilometres) and no longer the imperial ones. (**6960**)

Graphics

▶ *Flow bundle:* A crash no longer occurs if the selected scaling attribute does not exist anymore,

e.g. due to the deletion of the displayed matrix. (**6932**)

I/O

▶ *Importing a network:* The program no longer crashes when allocating leg templates to legs that do not match while reading in a network file. (**6967**)

▶ *Shortest path search:* if a graphic parameter or version file contained a shortest path search with a target attribute for link indices, then loading the file failed or the attribute was not freshly allocated (PuT). This problem is fixed now. (**6980**)

Listings

▶ *Automatically generated layout files of zone lists:* The generated layouts are no longer read-only. Moreover they are now only generated when calling a listing interactively and not when accessed via COM. (**6964**)

▶ If you worked with several listings at the same time and closed one of them, the listings toolbar sometimes did not work anymore in the remaining listings. The error has been fixed. (**6972**)

PuT Operating Indicators

▶ If user-defined attributes are calculated during procedure line costing, this should only be done for AP/AH. The calculation of user-defined attributes for line hierarchy and transport system is now also correct if other indicators are calculated for time intervals. User-defined attributes at PuT detail were always calculated correctly. (**6970**)

Matrix Editor

▶ *Kalibri:* In the Kalibri window, the values of parameters a, b, and c are now rounded in the same way as in the code file. (**6955**)

Network Editor

▶ *Editing the shape of links:* Inserting a link as a straight line and later on digitising the opposite direction of that link could sometimes lead to corrupt polygons. These polygons could then cause a crash when deleting the network or cause problems when marking or drawing objects. The error has been fixed. Affected version files are now corrected automatically and without any data loss when read in. (**6968**)

▶ *Difference network:* Just as in the regular network mode, a warning is now issued when exiting the network if the network has been modified. (**6961**)

Other Operations

▶ *Standardized assessment:* VISUM no longer crashes when reading in a matrix in ASCII format which contains zones if the network does not contain any zones. (**6959**)

▶ *Shortest path search:* in some situations shortest path search for arrival time between stop areas did not find a path for the given arrival time, although there is a possible one according to the timetable. As a consequence the plausibilization in the passenger survey did not find plausible preceeding lines (since Octobre 2007). This problem is fixed now. (**6982**)

PrT Assignment

▶ *Dynamic path attributes:* Time-dynamic toll and AddValues for PrT paths are now also issued correctly if the run times of specific network objects contain more than one interval. (**6953**)

10.03-04	Corrections, Bug Fixes and New Features (ID)	2008-04-11

COM Interface

▶ *Line blocking parameters PullOutTime and PullInTime:* The program used to return the value of just the contrary parameter when accessing one of these parameters via COM. The error has been fixed. (**6904**)

Dialogs

▶ *Window Save file:* (error under Windows Vista only) If you first click on an existing file and then edit the file name in the input field, the name of the existing file was mistakenly used so far. The error has been fixed. (**6913**)

▶ *Node window:* Manually set major flows cannot be defined if no valid legs exist (e.g. because all have a number of lanes = 0). A detailed error message is now issued when trying to do so. (**6910**)

▶ *Nested mode choice:* The parameters window of the procedure now provides option "Automatic

utility scaling". (**6931**)

Graphics

▶ *Window Edit graphic parameters:* VISUM no longer issues the following error message when editing class limits: "Empty entry not permitted." (**6918**)

I/O

▶ *VISSIM export:* When saving a parameters file for an export, so far the anm file and the anmRoutes file referenced by the parameters file were deleted. Due to impracticality this has been changed. (**6925**)
▶ *Read network:* A corrupt network state could be caused if - immediately after reading "special transition times" data - time profiles for which the network file contained special transition times were deleted. This bug was fixed. (**6946**)
▶ *Uni licence:* The import of version files which are not permitted due to the license size used to lead to a crash. VISUM now issues an error message and terminates the action properly. (**6808**)
▶ *Importing a database:* Fields with string values that start or end with a blank no longer lead to errors. (**6914**)

Junction Editor

▶ *ICA:* The Lane Utilization Factor now also enters the calculation correctly in case of left-hand traffic. (**6928**)
▶ *ICA:* The calculation sometimes aborted with an incorrect message regarding crossing lane turns. The error has been fixed. (**6930**)

Listings

▶ *Deleting line routes:* VISUM no longer crashes when deleting line routes marked in the listing if the line route mode is active in the network. (**6923**)
▶ *Scrolling:* When using the cursor keys to navigate beyond the visible area of a listing, the listing now automatically scrolls as well, even when jumping from the last row to the first. (**6885**)
▶ *Statistics - Network Information listing:* Now, attribute NodesMaxLegs counts the number of node legs instead of the number of links from/to node. (**6941**)

PuT Operating Indicators

▶ *Infrastructure costs:* The memory requirements for the calculation of the infrastructure costs have been reduced considerably. (**6856**)
▶ *Demand-related indicators calculated by territory:* A crash no longer occurs if a time profile traverses a link more than once and a vehicle journey of that profile ends before the second traversing. (**6938**)
▶ *Calculation by territory:* Calculating links by territories in the context of procedure "PuT operational indicators" has been accelerated. (**6915**)

Network Editor

▶ *Creating profile points:* Confirming a warning which is issued during this operation no longer leads to a crash. (**6948**)
▶ *Time interval tool bar:* If you switch to the next interval while a list window is open, the time interval code field is now updated immediately. (**6935**)
▶ *Link orientations:* When changing the number of lanes or the transport systems of a link in a listing or in the quick view, the program sometimes determined incorrect link orientations if node legs existed that were not affected by this change. The error has been fixed. (**6937**)
▶ *Connecting links:* Deleting a node using option "connect links" no longer causes a crash if the blocking-back model is activated. (**6927**)

Object Model

▶ *Relation turn -> lane turn:* So far indirect attributes via this relation could only be evaluated at nodes which provided a (non default) topology already. This led to hardly comprehensible results e.g. when using such attributes in a turn filter. VISUM now automatically generates the topology when using this relation. (**6934**)
▶ *Editing the departure time of vehicle journeys:* When editing the departure time of a vehicle journey in a listing or via COM, coupled vehicle journeys are now shifted automatically. (**6922**)
▶ *Automatic generation of node topologies:* By using undo, incorrect node topologies could come into the network, if relevant changes (inserting or deleting a link) were made at this node and

afterwards the topology was inserted. This problem is fixed now. (**6940**)

Other Operations

▶ Transport system-based assignment: Indicator "direct distance" can now also be calculated in transport system-based assignments. (**6936**)

PrT Assignment

▶ *Impedance functions for main turns:* When reading version files or procedure parameters from VISUM 9.5 or older, the parameters for impedance functions for main turns were not set to the turn settings. If the setting "detailed" was not activated, this was not visible in the dialog or in the XML procedure parameter file. Nevertheless the calculation was incorrect. This problem is fixed now. (**6951**)

New example data

▶ In the download area of the PTV homepage (http://www.ptv.de/cgi-bin/traffic/visum_download.pl) two new examples for demonstrating the ANM-Export and TFlowFuzzy are available.

10.03-03	Corrections, Bug Fixes and New Features (ID)	2008-03-19

COM Interface

▶ *Delete orphaned ClassIDs:* when registering VISUM, orphaned class IDs are deleted now. (**6898**)
▶ *Executing scripts within scripts:* the methods Procedures.Execute and Visum.ExecuteScriptFile are now able to execute scripts again. (**6860**)

Filters

▶ *Multi-Edit (main) turns:* Running special function "use standard values" could sometimes lead to a crash if a filter had been set. The error has been fixed. (**6903**)

Graphics

▶ *SVG export:* VISUM no longer crashes when saving an output optimized for Adobe Illustrator 11. (**6901**)

I/O

▶ *Reading a network file:* Options "Display messages on screen" and "Display error messages on screen" are fully functional again. (**6888**)

PuT Operating Indicators

▶ *Projection for territories:* the memory consumption was reduced. Especially in models with long analysis period and time profiles with a large number of journeys, a significant reduction of memory consumption is expected. (**6849**)

Other Operations

▶ *Pollutant and noise calculation:* The calculation used to render the same pollutant values for the blocked direction of a one-way road as the open direction. The undirected value was thus too high by a factor of 2. By mistake link attributes of a blocked direction moreover used to enter the noise calculation. The error has been fixed. (**6908**)

Example data

▶ *Example for the ANM-Export:* this servicepack includes a new example for the ANM-Export. It demonstrates the typical workflow and the interaction between VISUM and VISSIM. For further information refer to the readme file included in the example. The example is also available for download at http://www.ptv.de/cgi-bin/traffic/visum_download.pl.

10.03-02	Corrections, Bug Fixes and New Features (ID)	2008-03-13

Attributes

▶ In case of empty strings VISUM now also issues the correct number of separators when aggregating indirect string attributes with function "concatenate". (**6891**)

Dialogs

▶ *DSeg selection in window Flow bundle (PuT) and window Calculation status:* Opening the windows used to take a long time in networks with many assigned DSegs. The error has been fixed. (**6889**)

Graphics

▶ *Classification:* When a class value is changed, the automatic class name adaptation now considers the number of decimal places specified. (**6876**)
▶ *Printout:* If a network contained large polygons with enclaves, the printout used to be partly incomplete. The error has been fixed. (**6872**)
▶ *Shapefiles as backgrounds:* Shapefiles can now also be positioned correctly if WGS84 is set as projection. (**6871**)

I/O

▶ *Open demand data file:* To increase perfomance, the network is not drawn during a DMD data import. (**6879**)
▶ *Reading a network file:* Table Vehicle journey items can now also be imported before table Vehicle journey section without any data loss. (**3257**)

Network Editor

▶ *Split link:* The existence of turn on red objects at one of the terminal nodes of the split link no longer leads to a corrupt network status. (**6880**)

Interfaces

▶ *HAFAS project file:* Parameter "resulting time shift" is now saved in the HAF file. (**6886**)

Miscellaneous

▶ Option "Suppress output of warnings during procedures" is functional again. (**6893**)

PrT Assignment

▶ *ICA:* Capacity computation at all-way-stop nodes sometimes stalled. This error has been fixed. (**6897**)

10.03-01	Corrections, Bug Fixes and New Features (ID)	2008-03-06

COM Interface

▶ *Graphical timetable via COM:* The graphical timetable can be activated again via COM. (**6858**)
▶ *Running scripts:* VISUM now issues an error message if you try to run a script within another script. (**6860**)
▶ *Loading a version via COM:* A different error code than otherwise is now returned via COM if the user aborts the process. (**6675**)
▶ *Printing:* The VISUM print window is now displayed when printing via COM. (**6786**)

Dialogs

▶ *Date format:* In the licence window and in the log and error file window, the date format is now displayed according to the computer settings. (**6836**)
▶ Specific numerical entry fields are now left-aligned (e.g. the length in the link window). (**6388**)
▶ *PrT-Functions - Impedances at node:* The option previously called "Junction control" is now called "Node impedance calculation (ICA)". (**6823**)
▶ *Network object windows:* On particular computers message "invalid format for numbers" used to be issued as soon as a window with input fields for coordinates was opened. The error has been fixed. (**6842**)
▶ *Subnetwork generator:* Potentially deactivated matrices are no longer activated again if the settings for line routes are edited. (**6821**)

Graphics

▶ *Class limits in legend:* also the last class of a classification is always labelled correctly now. (**6799**)
▶ *Turn volumes:* The display of a single turn volume can be switched off again by clicking on a node. (**6863**)
▶ *Pie chart labels:* The label is now positioned closer to the pie chart. (**6838**)

- ► *Turn volumes:* The sum line between the values is now shorter when printed. (**6864**)
- ► *Scaling of MrSID backgrounds:* The scaling backgrounds of this type does not produce a crash due to memory shortage anymore. (**6855**)

Junction Editor

- ► *Signal control:* The list of lane turns allocated to a signal group only displays lane turns which belong to the current node/main node. (**6848**)
- ► *Link orientations:* If necessary, the topology is now always discarded when editing orientations so that invalid versions are no longer produced. (**6846**)
- ► *Calculate impedances:* When calculating impedances at NEMA nodes a blank excel window no longer opens up with a notice saying that a file cannot be found. (**6822**)

Listings

- ► *Copy:* When copying the list content to the clipboard, the order of the columns in the list display is now taken into account, i.e. the sequence of the columns in the list and the clipboard copy is consistent. (**6812**)
- ► *Listing Network information:* The build-up of listings of this type for large networks has been accelerated so that VISUM is no longer blocked. (**6854**)
- ► *Marking and scrolling:* When marking several rows while keeping the shift key pressed, the marking is also obtained when scrolling afterwards. (**6733**)
- ► *Multiple marking of columns:* When marking several columns entirely, the sorting, the optimum width and the deletion of columns now apply to all marked columns. A right click on a column header marks a column if it is not marked yet. (**6731**)
- ► *Clearing cells:* You can now clear all marked cells with the Delete key or via the context-sensitive menu entry "Delete cells" if blank values are permitted in the respective rows. (**6337**)
- ► *Synchronization with network editor:* Synchronization now also takes place if a listing consists of just one row and this row is marked. (**6528**)

Multi User

- ► *Inserting a speed limit:* A message is now issued if a speed limit cannot be inserted due to missing write access. (**6819**)

Demand Model

- ► *EVA distribution/mode choice:* Balancing after the distribution or mode choice is now also possible if the balancing demand stratum has no strict constraints. (**6843**)
- ► *EVA weighting:* Using a linear combination of matrices for the generalized costs could sometimes lead to miscalculations. The error has been fixed. (**6824**)

Network Editor

- ► *Tabular editing of line routes:* Vehicle journeys that begin right at the start stop of the edited section are no longer shortened and a "reference item" located at this stop is no longer lost. (**6845**)
- ► When deleting TSys, the topology of nodes and main nodes is only deleted if it is absolutely necessary. (**6875**)
- ► *Inserting stop points:* A stop point inserted with neither stop nor stop area is now automatically allocated to the nearest stop area. (**6792**)
- ► *Multi-Edit links TSysSet:* VISUM no longer crashes if new turn types need to be calculated due to the modification. (**6873**)
- ► *Open file window:* A doubleclick in window Open file can no longer lead to an unintentional switchover to mode "Shift node". (**6798**)
- ► *Editing the shape of links:* Users can now also adjust the link length to the polygon length when editing the shape of a link for the first time. (**6868**)
- ► *Shifting nodes:* Nodes can now also be shifted if they have split node legs. (**6857**)

Object Model

- ► *Main nodes:* some new relations to other network objects were added. (**6869**)

Interfaces

- ► *ANM export:* Traffic signs at signalized nodes are now exported correctly at main nodes. The priority road thus has stop signs, too. (**6839**)
- ► *Synchro import:* In exceptional cases, VISUM crashed during the Synchro import. The error has

been fixed. (**6754**)

Other Operations

▶ *Reading filters after setting run and dwell times:* VISUM does not crash anymore during procedure "Set run and dwell times" if a comma is set as decimal separator. (**6757**)
▶ *Direct assignment:* the setting "save volumes additionally for service trips" is now also working if it is set after reading the survey data. (**6878**)

Miscellaneous

▶ *VISUM update tool:* At the beginning of the update, the tool immediately checks whether the Visum.exe file is locked. If so, the update aborts with a corresponding message. (**6047**)

PrT Assignment

▶ In the dynamic user equilibrium assignment (DUE) the queue length is now also calculated and saved for connectors. (**6833**)
▶ In the dynamic user equilibrium assignment (DUE) the queue length is now calculated more precisely. (**6832**)

PuT Assignment

▶ *Skim matrix calculation:* If no time series is allocated to the DSeg set for the skim matrix calculation, a corresponding error message is now issued at the beginning. (**6837**)
▶ *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**)

10.03-00	Corrections, Bug Fixes and New Features (ID)	2008-02-11

2000 HCM node delay calculation

With this bugfix release we finally replace the TRAFFIX implementation of the 2000 HCM node delay calculation by our own implementation of the 2000 HCM methods. Our new implementation, called ICA, has many improvements over TRAFFIX:

- Results are stored in a comprehensive and concise Excel document with one sheet per intersection plus a summary sheet.
- Intersections with 5 to 8 legs are handled.
- Two-way stop (priority controlled) intersections are handled correctly, even if the major flow is not a through movement, e.g. a South-to-West major flow in a 4-leg intersection.
- Main nodes are recognized. ICA then applies to the main node instead of to each of its component nodes. This helps in cases where a single intersection is exploded into several nodes (e.g. in Navteq networks).
- Lane turns can have multiple signal groups assigned.
- Left-hand traffic now treated consistently.
- Logic for the treatment of permitted vs. protected movements completely rewritten.
- Sneakers (a node attribute that represents the maximum number of vehicles which can be stored in an intersection on a permitted movement and which discharge after green end) now have a more meaningful default value (2).
- Signal optimization for signal group-based and stage-based intersections is temporarily disabled and will return in improved form with the next major release.
- NEMA-controlled nodes are still handled by TRAFFIX. NEMA will be phased out in the next major release. NEMA nodes are therefore not included in the ICA results Excel document, instead the results for NEMA-controlled nodes are output to old-style TRAFFIX ASCII reports.

IMPORTANT NOTE: As a consequence of the changes listed below and many corrections compared to the former implementations, **ICA will in some cases yield results different from TRAFFIX**. We have run numerous tests to ensure that these changes are for the better, i.e. higher compliance with HCM and with its standard implementations, such as HCS. Nevertheless, users with on-going projects who absolutely cannot live with changes during the lifetime of the project should be aware of these changes and time the update accordingly.

COM Interface

▶ *Setting a marking:* When starting VISUM via COM the program no longer crashes when shutting it

if you have been in mode Lines, Line routes or System routes during the session. (**6781**)

▶ *SaveToArray:* Method SaveToArray of all listings now has the following parameters SaveToArray (fromRow, toRow). If the optional parameters fromRow and toRow are specified, the list content from row fromRow to row toRow is now saved as Array; if not the complete listing is saved as before. Both parameters are 1-based row indices, i.e. the "actual" number of rows is entered. A negative fromRow acts as fromRow = 1 and a toRow that is too large acts as toRow = NumActiveElements. (**5565**)

Timetable Editor

▶ *Undo/Redo:* The commands no longer cause a crash. (**6791**)
▶ *Language in context-sensitive menu:* The context-sensitive menu now provides Russian entries. (**6789**)

Filters

▶ *Reading in filters:* The import of filters has been accelerated in case of networks that contain a lot of POIs yet filter criteria that do no refer to POIs. (**6775**)

Graphics

▶ *Print area:* The print area is now set correctly if the network contains a legend with background objects. (**6746**)
▶ *SVG as background:* When exporting an SVG file and subsequently importing it into a different version the SVG file can now be automatically adjusted again. (**6796**)
▶ *Graphic parameters for links and connectors:* You can now edit the order of the drawn layers of bars, bar labels, labels and the network object. (**3460**)

I/O

▶ *Reading signal groups:* VISUM no longer crashes when reading in signal groups. (**6778**)

Listings

▶ *Isochrone results:* Listings are now automatically adjusted when restarting or initializing isochrones. (**6797**)

PuT Operating Indicators

▶ *Attribute Number coupled service trips PuT detail:* The values are no longer rounded when making a projection. (**6788**)

Network Editor

▶ *Create run times from system routes:* If more than one system route matches the course of a stop - stop section, in accordance with the key order the first one is now used as a source. So far the program did not allocate any system routes at all in that particular case. (**6777**)
▶ *Merging nodes:* Merging nodes with NEMA control no longer causes a crash. (**6780**)
▶ *Attribute selection in the quick view:* VISUM does not crash anymore if you preselect an analysis time period in the attribute selection window and subsequently adjust the column widths in the quick view. (**6784**)
▶ *Signal control:* The allocation of stage templates at nodes and main nodes with split node legs works correctly now. In some rare exceptional cases signal groups had been allocated to a couple of lane turns only. (**6814**)

Interfaces

▶ *Reading networks for lane turns:* Lane turns are no longer defined at blocked turns or main turns when reading in a network. (**6795**)
▶ *EMME import:* VISUM no longer crashes when selecting an "Emme/2 Transit Lines" file that produces an error message which is confirmed with "Cancel". (**6805**)
▶ *Reading networks:* Table "SignalgroupToLaneTurn" is now always read in correctly. (**6806**)
▶ *ANM export:* It is no longer allowed to enter the time "24:00:00". (**6810**)

Other Operations

▶ *Edit attribute:* When reading the parameters for Edit attribute, VISUM checks for the existence of the POI or GIS network object type. The program now verifies all network object types and not just the geometric types. (**6790**)
▶ *Edit attribute:* Analogous to the interactive Multi-Edit functionality, this procedure can now also be

applied to main nodes and main turns. This is also true for procedure MSA (Method of successive averages over attributes). (**6794**)

▶ *Initializing the environmental impact calculation:* The functionality is fully operational again. The EMISS.DAT file is read in again. Moreover, the EMISS.DAT and RLS.DAT files are read from directory %APPDATA% as of VISUM 10.0. The EXE file is automatically copied to APPDATA when starting the program (VISUM 95 still imports the files from the EXE directory). (**6785**)

Miscellaneous

▶ *Backup copy:* The backup copy of the version file is now saved to the same directory as the version file. You can save data to network drives again. (**6779**)

PrT Assignment

▶ *VDFs:* If, in a VDF, parameter c is set to 0 and the VDF is subsequently switched to constant, the program now ignores parameter c. (**6773**)
▶ *Turns VDFs:* The program now uses the turn VDF when testing for a blocking caused by VDF parameter c=0. (**6772**)

10.02-02	Corrections, Bug Fixes and New Features (ID)	2008-01-28

Dialogs

▶ *Dialog box demand models:* In drop-down lists which optionally allow you to select a value (like e.g. O/D activity to activity pair) you can now pick the blank entry. (**6743**)

I/O

▶ *ANM and network export:* The relative position of link stop points is now always saved correctly to network files and ANM files. (**6766**)

Demand Model

▶ *Trip distribution:* In the parameters dialog box of the trip distribution you can now always access the button that is used to select zone attributes if you pick either Origin or Destination in the first row of the grid. (**6761**)
▶ *EVA demand model:* If the value of either zone attribute ConstraintMaxFactorOrig or ConstraintMaxFactorDest is changed, the value of the other attribute no longer also changes. (**6760**)

Network Editor

▶ *Aggregating zones or line routes:* Functionality "Aggregate" in the context-sensitive menu of the network editor is available at any network object marking again. (**6763**)
▶ *Link orientations:* VISUM does not produce incorrect link orientations at nodes and main nodes any more when editing link orientations manually via listings or the COM interface, if there are one-way roads in the network. (**6752**)
▶ *Dialog box Find node:* When searching for a name or a number, the list now contains all nodes with a non-empty name or non-empty number. (**6465**)

Other Operations

▶ *Initializing a PuT flow bundle:* VISUM does not crash anymore if the underlying assignment has been saved with time interval-based volumes. (**6769**)

Miscellaneous

▶ *Project directories:* The log files directory is now saved correctly when reading in project directories. (**6756**)

10.02-01	Corrections, Bug Fixes and New Features (ID)	2008-01-17

COM Interface

▶ *Editing an ID:* The allocation of COM duplicates can no longer occur when editing network object IDs. Interactively and during a network import this has always been secured. (**6702**)

Dialogs

▶ *Dialog box Save network:* In this dialog you can now also use the space key to mark tables for

export. (**6718**)

- *Shape layers dialog box:* The dialog box can now be resized. Moreover, the display order has been adjusted to the order of the general graphic parameters: it begins with the topmost layers drawn. (**6708**)
- *Dialog box line routes:* The column widths of line, name and direction can now be adjusted individually and are even retained when restarting VISUM. (**6650**)

Graphics

- *Legend:* The Legend Wizard now always provides all layers available for the display of the legend. (**6736**)
- *Drawing of turns:* The program no longer crashes if the shifting of a link polygon fails. (**6730**)
- *Reading shape files:* Following the (non-additive) import of a shape file, VISUM now loads the graphic parameters file std.gpa - like after all other network imports. (**6729**)
- *Diagrams:* Display errors in diagrams drawn with TeeChart are resolved by an update to a new TeeChart.dll. (**6723**)

Junction Editor

- *Major flows:* Major flows are now always adjusted correctly when editing link orientations. (**6748**)

PuT Operating Indicators

- *Passenger trips:* PTripUnlinked are no longer counted several times in the case of vehicle journeys with several vehicle journey sections that have varying vehicle combinations. (**6719**)
- *PassengerHoursTravelled and PassengerHoursTravelled per DSeg:* The dwell time at the alighting stop point is no longer taken into account at PuT detail objects. (**6451**)

Network Editor

- *Difference network:* VISUM no longer crashes if the automatic generation of backup copies is activated. (**6720**)

Other Operations

- *Loading a difference network:* The import is no longer cancelled if one of the loaded versions contains system valid days for line blocks yet no calendar is used. (**6727**)
- *Running a Muuli LOG file:* The execution is no longer cancelled when running MLG files which contain operation "Set single value". (**6722**)

10.02-00	Corrections, Bug Fixes and New Features (ID)	2007-12-19

COM Interface

- *COM access to listings:* The modern listings which are accessible interactively can now also be accessed via COM. The interface itself only changes as follows:
  1. Method "AutoSelection" is replaced by method "SynchroMode".
  2. Analogous to the link list, the connector list can now be switched to the undirected value mode by using "SetCrossSection". (**6333**)
- *Counter of network references:* The functionality Visum.NumNetObjReferences can now be used to determine whether the running script contains references to objects of the current network. It is e.g. used to find out if the network can be deleted. (**6495**)
- The level of the activity protocol can now also be readout and set via COM. (**6018**)
- *Couple listings:* The listings for couple sections and couple time profiles are now accessible via COM. (**6183**)

Dialogs

- In grids, the vertical scroll bar is now also displayed automatically if the last row is partly (yet not fully) visible. (**6410**)
- Bitmaps for user-defined volume-delay functions are now always displayed correctly in the dialog box. (**6389**)

Graphics

- *ECW backgrounds:* Some ECW background files were not scaled correctly. The error has been fixed. (**6710**)
- Reducing the size of the VISUM window below a certain level no longer causes a crash. (**6637**)
- *Legend:* The scaling of bars and diagrams is now also visible in the legend. (**3943**)

- ▶ *Texts:* When rotating background texts, the resulting angle is now always normalized to [0, 360[. (**6703**)
- ▶ *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**)

I/O

- ▶ *Reading a PFD file:* When reading a PFD file which contains file type "Procedure parameters(bin)" yet not "Procedure parameters(XML)", the program now automatically completes the extension for XML files. (**6715**)

Listings

- ▶ *Reading list layouts:* List layouts that were saved interactively can now be read in via COM. (**6540**)
- ▶ *Path listings:* The format selection accessible interactively in listing PuT path leg and listing PrT path on link level is now also available via COM. It can be used to generate a database-enabled output. Button "only PuT path legs" in the first-mentioned list will not influence the cell format any more but only causes a limitation of the visible rows. (**6405**)
- ▶ VISUM does not crash any more if listing line route items or listing time profile items is open while deleting objects of the respective type. (**6699**)

Matrix Editor

- ▶ A right-click on the list of network objects no longer leads to a crash if the Matrix Editor is open. (**6711**)
- ▶ *Copying cells:* Copying large amounts of matrix cells (or the entire matrix) can no longer lead to a crash. (**6704**)

Network Editor

- ▶ The use of icon "Zoom in" does not cause the loss of a line route marking any more. (**6668**)
- ▶ VISUM does not crash any more if both a listing and the floating window Lines are open at the same time. (**6705**)

Object Model

- ▶ *Blanks in network object keys:* blanks at the beginning or the end of network object keys are now denied everywhere. The following network objects are affected: lines, line routes, time profiles, system routes. (**6709**)

Other Operations

- ▶ *Generating a subnetwork:* If a node, which is assigned to a stop area, is (1.) neither active nor (2.) carries a cordon zone, it is no longer deleted by mistake. This also led to the loss of the demand data. The data are now retained. (**6686**)
- ▶ *Intersect:* Intersecting polylines and polygons could produce faulty results in case a polyline entered (and left) a polygon multiple times. This bug could be fixed. (**6692**)
- ▶ *Intersect:* Loading procedure parameters which specify a non-existent POI category as origin or target sometimes led to a crash. The error has been fixed. (**6695**)

Miscellaneous

- ▶ As of VISUM 10.02 any versions, networks, etc. can be read in independently of the license size. So far, this was only possible in case of specific "oversize" versions. If the license size is exceeded, VISUM automatically switches to a "viewer mode". If you reduce the network size or generate a subnetwork, you can operate VISUM as usual. (**6514**)
- ▶ VISUM no longer crashes during program start up if the most recently saved window position is not valid (and VISUM tries to restore it). (**6700**)
- ▶ *Spanish:* The two languages "Spanish" and "LAS" (Latin American Spanish) are now combined in one. (**6664**)

PrT Assignment

- ▶ *Time interval-based assignment results:* The memory requirements for network volumes by time interval have been reduced. This improvement particularly takes effect if the demand of the assigned DSegs was located separately in time. (**6630**)

PuT Assignment

▶ *Indicator SF:* The Service Frequency is now also available as indicator for headway-based assignments. Similar to VISUM 8 it is determined via the solution of a maximum flow problem. Unlike before the distribution probabilities to the individual routes now enter the calculation so that discontinuities arise much less often. (**997**)

10.01-07	Corrections, Bug Fixes and New Features (ID)	2007-12-11

Attributes

▶ *Network object codes:* Alphanumeric codes of network objects of the demand model used as IDs which are also utilized as subattributes, may - analogous to TSys, mode and NSeg.- no longer contain any characters apart from A to Z, 0 to 9, underscore(_), minus (-) and full stop (.). (**6680**)
▶ *v0(TSys), vCur(TSys):* Both attributes are now returned as floating-point numbers so that internal rounding operations can no longer lead to inconsistencies. (**6663**)

COM Interface

▶ *Setting time period / time point attributes:* If a user requests write access to AttValue for an attribute such a type and the new value is transferred as string, VISUM now interprets the content in seconds past midnight (analogous to read access). (**6549**)
▶ *GetMultipleAttributes:* When using this COM functionality the program now also provides values in the specific unit of the attribute (long or short length, metric or imperial) if you access length attributes. (**6658**)
▶ *Matrix Editor:* Multiple accesses to Visum.Matrixeditor now also work correctly. (**6676**)
▶ *Messages:* Warning and error messages generated during a network import now contain table name and row number as COM messages too. (**6659**)

Timetable Editor

▶ *Create regular services:* The settings for StartStopPoint and EndStopPoint as well as for vehicle combination and valid day specified in dialog box "Edit vehicle journeys" are now saved for all vehicle journeys created and not just for the first one. (**6656**)

Graphics

▶ *Bar labels:* Also in case of enumerated types, the bar labels now show the actual attribute value (just as in lists) instead of the internal insignificant numerical value. (**6667**)
▶ *Turn volumes:* In the preview and when printing option "Cut links" now also works correctly again. (**6673**)
▶ *Bar labels:* The display of a bar label without a bar is no longer displaced by the maximum bar width. (**6671**)

I/O

▶ *Empty entries in PFD files:* VISUM does not crash any more when capturing a screenshot if the path entry for screenshots is empty. (**6666**)

Listings

▶ *Synchronization with network editor:* This feature now also works for zones, main zones and territories which do not have a polygon. (**6657**)
▶ *Undirected value:* Link and connector lists now provide a toolbar icon for functionality "undir. value". (**6344**)
▶ *Listings:* All VISUM listings now feature a modern design and Excel-like functionality. (**6332**)

Matrix Editor

▶ *Projection:* Origin or destination-related projections now also work if the target value is 1.0. (**6669**)

Network Editor

▶ *Icons:* In listings, in the timetable editor and in the browser, some of the toolbar icons like the icons for the synchronisation between listings and the network editor were revised. (**6048**)
▶ *Specifying the course of a system route:* In rare cases VISUM used to discard the course specified for a system route. The error has been fixed. (**6678**)

Other Operations

▶ *Intersect:* Intersecting polylines and polygons could produce faulty results in case a polyline entered (and left) a polygon multiple times. This bug could be fixed. (**6692**)

▶ *Intersect:* The program considers the network scale correctly again. The error only occurred as of 10.01-06. (**6679**)

PrT Assignment

▶ *Equilibrium assignment with restart:* VISUM does not crash any more when using an existing assignment as starting solution for an Equilibrium assignment. (**6688**)

▶ *PrT assignment "Tribut":* Volumes no longer contain rounding errors if several DSegs of the same TSys are assigned together. (**6665**)

PuT Assignment

▶ *Shortest path search PuT:* VISUM does not crash any more if option "Correction (reverse)" is checked while "specific walk times" are defined at stops of the network. (**6672**)

10.01-06	Corrections, Bug Fixes and New Features (ID)	2007-11-23

COM Interface

▶ *Setting time period attributes:* If a user requests write access to AttValue for an attribute of type time period and the new value is passed as string, VISUM now interprets the content in seconds past midnight (analogous to read access). (**6549**)

▶ *COM registration:* During the registration of VISUM, the projection files are no longer copied to the std.pdf target directory. This only occurs during the first regular start up of the program. (**6635**)

Dialogs

▶ *Floating window Lines/Line routes:* You can use the cursor keys again to edit the marking of the rows (like in 9.5). (**6649**)

▶ *Editing line routes:* The shortcuts F5, F7 and Enter now also work if the focus lies on the floating window containing the line routes. (**6287**)

▶ *Headway-based assignment, Parameters dialog box:* Rows for new headway intervals can now also be inserted if no row is marked in the table. (**6641**)

▶ *Dialog box lines:* Values for user-defined attributes which were entered immediately when inserting the line are no longer lost when exiting the dialog box. (**6653**)

▶ *Dialog box of intersect operation:* This dialog is now preset with the parameters used the last time when activating the operation in the network editor. (**6652**)

▶ *Online Help:* The window has now been implemented as an independent Windows application and can thus be run parallel to VISUM. (**6643**)

▶ *Context-sensitive help:* In the procedure parameters dialog, pressing F1 now automatically activates the tab of the online help associated with the activated dialog tab. (**6490**)

Timetable Editor

▶ *Graphical timetable:* The display of the sequence of stops is now correct if the stop before a multiple doubling is hidden and the reverse direction is displayed in ascending order. (**6580**)

▶ *SVG export of the graphical timetable:* The export is now also complete if the VISUM main window is not visible. (**6642**)

Graphics

▶ *Legend:* User-defined letters within a symbol like Circle or Square are now also visible in the legend. (**6644**)

I/O

▶ *Reading networks:* VISUM does not crash any more if, in mode "In case of no stop points on nodes: Do not create line route", line route items are imported which have no reference to a node and an invalid stop point reference. (**6654**)

▶ *Database import:* The import of databases exported with VISUM 9.5 now also succeeds in case of tables which contain modified ID data (e.g. major flows). (**6639**)

Network Editor

▶ *Intersect:* The operation did not calculate values for point objects with a buffer. The error has been

fixed. (**6651**)

▶ *Aggregate zones:* The centroid of the newly generated zone no longer needs to be positioned manually. Instead it is set to the centroid calculated from the positions of the aggregated zone centroids and can be shifted immediately since the new zone is automatically marked once the operation is completed. (**6633**)

▶ *Marking main zones:* You can now use the Ctrl key to mark multiple main zones (as for other network objects). Apart from that the Ctrl key is still used to add and remove zones (**6646**)

Interfaces

▶ *ANM export:* Line routes are now also exported entirely if they run through main nodes. So far the associated PTLINEITEMS included references to the partial nodes that were not exported. The ANM file was hence nonreadable as a rule. (**6634**)

▶ *TModel import:* The import of non-integer link volumes no longer produces an error. (**6596**)

Other Operations

▶ *Intersect:* In case of a network scale dissimilar to 1 the buffer sizes specified in the parameters were modified when executing the operation. The error has been fixed. (**6655**)

▶ *Edit attribute:* When assigning length attributes to length attributes, as of service pack 10.01-03 the resulting values were too high by a factor of 1000. The error has been fixed. (**6628**)

PrT Assignment

▶ *Using an existing assignment as initial solution:* An existing assignment can now also be reused if some of the contained DSegs have no demand or no paths. (**6645**)

PuT Assignment

▶ *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**)

10.01-05	Corrections, Bug Fixes and New Features (ID)	2007-11-12

Dialogs

▶ *VISSIM lane index:* In the lane dialog, just a tooltip now displays the index so that it is not mixed up with the VISUM numbering in case of left-hand traffic (**6552**)

Graphics

▶ *Shape files as backgrounds:* Shape file backgrounds can now be transparent. (**6610**)

▶ *Screenshot:* Screenshots now also contain markings of network objects. (**6546**)

▶ *Print to PDF:* The printout does not exceed the margin any more if you do not print from the preview and a legend is displayed. (**6582**)

▶ *SVG import:* SVG files produced with VISUM itself can now be positioned automatically during the import. (**5681**)

▶ *Classification:* The name of a class is now adjusted automatically when editing the value range unless the name has been overwritten by the user. (**6600**)

▶ *Lane allocation:* The lane allocation is now also drawn at main nodes and is instead not drawn at partial nodes of that main node. (**6613**)

I/O

▶ *Load difference network:* VISUM no longer crashes if valid day attribute "IsValid()" is used as a filter criterion in one of the two loaded networks. (**6627**)

▶ *Procedure parameter files:* The previously separate file types binary procedure parameters and XML procedure parameters have been merged. Consequently, files of type XML can now also be read or written in the procedure parameters dialog. The program provides both formats simultaneously when reading a file. When writing a file, the format is selected via the combobox at the bottom of the dialog. (**5555**)

PuT Operating Indicators

▶ *PassKmTrav/ PassHourTrav:* These indicators are now also calculated correctly when picking Territory x Vehicle journey if several assigned PuT DSeg exist and no paths are saved. None of the other levels of detail were affected by this error. (**6612**)

Matrix Editor

▶ *Saving a matrix:* A warning is now issued if a matrix is not saved due to an invalid file name. (**6616**)

Network Editor

▶ *Link sequence from shortest path search:* You can now also use this feature between link stop points. (**6619**)

Object Model

▶ *Analysis time intervals:* Error messages are now displayed during an XML import or COM access if time intervals overlap or lie outside of the analysis period. (**6529**)

Other Operations

▶ *Shortest path search:* In the attribute selection box activated when clicking "Save route index to", button "New" now calls up dialog "Create user-defined attribute" for links (and no longer territories). (**6620**)

PrT Assignment

▶ *PrT assignment "DUE"*: A temporary reduction of the capacity no longer takes effect an assignment interval too early. (**6621**)
▶ *PrT assignment "DUE":* Temporary blockings (Cap=0) operate correctly now. (**6622**)
▶ Flow bundle and OD pair filter are only provided for PrT-DSeg if paths have been saved, analogous to mode PuT. (**6524**)
▶ The impedance of main turns is now also calculated correctly for Tmodel links. (**6606**)

Attributes

▶ *POI relations:* Relations between POIs and associated network are now available. A varied display of indirect attributes can thus be effected. (**2887**)

COM Interface

▶ Access to container *Net.VehicleJourneyItems* (e.g. *GetMultiAttValues*) was accelerated. This improvement becomes obvious especially if the Timetable Editor is already open when this function is used. (**6564**)
▶ Executing a COM script will no longer cause problems. Each COM command is finished correctly now. In previous versions, VISUM occasionally remained in a mode suppressing user interactions. E.g. the Save version dialog window used to appear without queries when the user wanted to terminate the program session. (**6531**)

Dialogs

▶ *Time series dialog:* After shortening a time series, sometimes a strange warning appeared saying that the interval limits were not valid. The user could not leave this dialog. This bug could be fixed. (**6545**)
▶ *Dialog box EVA Distribution/Mode Choice:* The last row on tag "Modal split" now indicates the weighted total modal split and no longer the sum of the individual modal splits. (**6599**)
▶ *Dialog box EVA weighting:* The program will no longer crash if the dialog window is opened after reading demand data additionally which do not completely match with the given network. (**6559**)
▶ *Procedures dialog window:* Now the current DSeg selection as well as the selected procedure always match with the operation currently highlighted in the upper dialog section after closing and reopening the dialog window. (**6550**)

Timetable Editor

▶ *Lengthen vehicle journey:* Occasional crashes on lengthening vehicle journeys have been fixed. (**6584**)
▶ *Lengthen period of regular headway:* If all vehicle journeys of a regular headway group have the same Valid Day, this Valid Day will also be allocated to the new vehicle journeys resulting from the longer headway period. (**6555**)

Filters

▶ *Filter for vehicle journey items:* When reading in version or filter files which were saved with version VISUM 9.3 or previous releases, sometimes the filter status for vehicle journey items was not updated immediately. The error has been fixed. (**6569**)

Graphics

▶ *Mark major flow:* In case of a leg consisting of two opposite one-way roads, the program also marked the blocked reverse directions of the two links when marking major flows. The error has been fixed. (**6537**)
▶ Image files can now also be selected if they are not located in the specified project directory. (**6473**)

Listings

▶ *Read layout file:* All toolbar icons (e.g. filter icon "Show only active objects") now show the correct state after loading a layout file. (**5518**)
▶ *Zone listing:* When calling the list, specific layout files are now only generated automatically in the project directory if the EVA add-on is activated. (**6554**)

PuT Operating Indicators

▶ In case of vehicle journeys that end at link stop points, the attributes PassengerKmTravelled and PassengerHrsTravelled are now also considered correctly on the last (only partly traversed) link. (**6561**)

Matrix Editor

▶ *Read partial matrix from file:* The columns are now allocated correctly to the destination zones, even if the number of rows differs from the number of columns. (**6538**)

Network Editor

▶ *Quick view:* If you change the project directory of QLA files, VISUM automatically reloads the quick view layout from this directory. (**6556**)
▶ *Shift detector:* References to count locations will no longer get lost. (**6557**)
▶ *Edit shape of line route:* When lengthening a line route which ends at a link stop point, vehicle journeys that extend to the prior endpoint are now automatically lengthened and no longer deleted. (**6597**)
▶ *PuT shortest path search:* VISUM no longer crashes if you activate the parameters dialog box anew and increase the number of transfers after running the operation. (**6562**)
▶ *PuT shortest path search:* The program no longer crashes during the (reverse) correction if the network contains "specific transfer walk times" and walk links between stop areas of different stops. (**6581**)

Object Model

▶ *Turn types:* If you modify link attributes like number of lanes or TSysSet, turn types are now only calculated anew if this is specified in the network parameter settings. (**6565**)
▶ *Turn types:* The determination of turn type U-turn in the default allocation now also functions in case of legs that consist of two links. (**6566**)
▶ The definition of main turn U-turns at main nodes used to be incorrect. It has now been adjusted. This change takes effect in the following instances:
1. Default allocation of turn types.
2. Allocation of signal groups (where U-turns are not provided). (**6594**)

Interfaces

▶ *ANM export:* The same signal group as the nearest inner turn is now allocated to U-turns. This complies with the overall logic. (**6542**)
▶ *Write shape file:* In the Save shape file(s) dialog box, list layouts generated with VISUM 10 can now also be used for the selection of attributes. (**6558**)

Other Operations

▶ *Shortest path search:* The link attribute selected for saving the index on the shortest path is now automatically updated when the shortest path has to be recalculated due to changes to the network. (**6535**)

PrT Assignment

▶ *User-defined VDF DLLs:* A detailed warning will be displayed in case the particular UserVDF.DLL cannot be found when reading a version file or a procedure parameter file containing a reference to this DLL. (**6553**)
▶ *Listing PrT assignment quality:* The list now contains attribute "Num objects not converged". (**6016**)

PuT Assignment

▶ *Extended impedance:* This component of the perceived journey time can now also be output as skim matrix. (**6592**)

TFlowFuzzy

▶ *Flow matrix calculation:* In case of existing count values for origin/destination traffic of zones, the flow matrix could be miscalculated in specific cases. The problem has been solved. (**6586**)

| 10.01-03 | **Corrections, Bug Fixes and New Features (ID)** | 2007-10-17 |

Attributes

▶ *Time (duration) data format:* The current global selection (minutes/seconds) is now also regarded for copying a time duration attribute to an integer attribute. (**6422**)

COM Interface

▶ *Time (duration) data format - COM:* The current global setting (minutes/seconds) is now also regarded for copying numbers without unit to a time duration attribute via COM. (**6541**)
▶ *Python:* Due to a Python error, object-returning functions which do not require any parameter used to provide corrupt objects. With the new version Python 2.5, this problem will no longer

occur. Please download a setup for this update from the Add-On section of our Download Area. (**6297**)

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**)
▶ *Attribute selection window:* Tool tips are available. Thus, even the complete name of indirect attributes can be read easily now. (**6418**)

Graphics

▶ *DWG background file:* Correct display, even if the DWG file contains multiple layers. (**6475**)

I/O

▶ *Read GPA file:* Selective reading of a graphics parameter file created with VISUM 10 will no longer change settings like e.g. Draw desire line links, as long as they have not been selected for reading. (**6534**)
▶ *Read attributes:* Automatic allocation of imported attributes to VISUM attributes works also for input attributes with translated sub-attribute, e.g. Connector.Weight (PrT/PuT). (**4312**)

Listings

▶ *Tooltips:* Tooltips will not remain visible after program changes. (**6453**)

Network Editor

▶ *Subnetwork generator:* The process is no longer terminated even if a path traverses a main node via an active incoming cordon link whereas the outgoing cordon link is passive. (**6512**)

Object Model

▶ *Delete TSys:* Deleting a TSys which is permitted to use a lane turn could have produced an inconsistent netwok state. Then VISUM used to crash, e.g. during Save version to file. This bug could be fixed. (**6530**)

Other Operations

▶ *Standardized assessment:* Now, the induced transport demand is calculated correctly, even in case of rising PuT impedance. (**6484**)

PuT Assignment

▶ *PuT Shortest path search:* VISUM will no longer crash while drawing a PuT path which includes a PuT-Aux-Sys path leg with identical StartNode and End Node.
Please note: Normally those paths do not make sense but can be found due to certain search constraints, e.g. limited walk time per PuT-Walk path leg. The (recommended) assignment option "Branch & Bound " would not find such paths. (**6525**)
▶ *Timetable-based PuT assignment using Shortest path search:* In rare cases, the number of passenger transfers of the found path could exceed the user-defined maximum number of transfers. This bug could be fixed. (**6509**)

TFlowFuzzy

▶ *TFlowFuzzy:* When selecting the Turn_UDA serving as source of Turn_AddValues, a MainTurn_UDA having the same name is now only required if the network contains main turns. (**6511**)

10.01-02	Corrections, Bug Fixes and New Features (ID)	2007-10-04

COM Interface

▶ *SetMultipleAttributes:* Columns with emtpy attribute IDs are now ignored. In this way, a matrix created by a call to GetMultipleAttributes can be reused for the Set… function even if not-editable attributes are contained. (**1667**)

Dialogs

▶ *Graphic parameters dialog box, classification:* Entering an invalid class limit like "<" or "=" (thus without a number) does not cause a crash anymore. (**5368**)

Timetable Editor

▶ *Creating regular services:* The program will not crash if the assignment result is discarded by this operation. (**6447**)

I/O

▶ *Reading blocks from network file:* The "end time" of a block is no longer reset to 0 when additively reading block items from a network file in mode "overwrite course". (**6474**)
▶ *Reading a network file:* The "overwrite" mode did not work for connectors. In the past "overwrite attributes" was used instead. The error has been fixed. (**6470**)

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**)

Listings

▶ *Copy & paste:* Alternative to Ctrl+C and Ctrl+V you can now also activate copy & paste via the keyboard shortcuts Ctrl+Insert and Shift+Insert. (**6118**)
▶ *Context-sensitive menu in listings:* The context-sensitive menu is now also available if all rows of the listing are marked. (**6378**)
▶ *Synchronization listings <-> network editor:* No more problems with the evaluation of the current network editor marking if a listing of the same type is currently open. (**6488**)
▶ *Copy & paste:* Data of any desired cell range can now be exchanged with Excel via the clipboard. (**6390**)

Network Editor

▶ *Quick view:* Individual cells can now also be copied and pasted in the quick view window - entirely analogous to listings. (**6232**)
▶ *Quick view:* Several cells can now also be marked and e.g. be edited simultaneously in the quick view window. (**6443**)

Object Model

▶ *Vehicle journey items:* Objects of this type are now 'active' if
a) they meet the filter condition (as before), and
b) their vehicle journey is "in selection" (new).
The second condition is needed to create specific sets of active objects, e.g. via COM, (**6481**)

Other Operations

▶ *Modal Split (Standardized assessment):* Procedure parameters (e.g. G1 and G2) are correctly saved to protocol file now. (**6483**)
▶ *Flow bundle:* When a GPA file is read selectively, a flow bundle will only be recomputed if flow bundle parameters were actually imported. (**6471**)
▶ *Coordinate transformations:* Computational errors in the transformation have been fixed. (**6478**)

PuT Assignment

▶ *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**)
▶ *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**)

10.01-01	Corrections, Bug Fixes and New Features (ID)	2007-09-26

Dialogs

▶ *Generate EVA sequence of operations:* The assistant provides the following new functionalities:
1. Optional Go To operation,
2. Selection of the DSegs the indicators of which are to be averaged via MSA in the iteration,
3. Selection of the DSeg to check convergence during Go To operation. (**6454**)
▶ *Dialog Create vehicle journey(s):* Only line routes with a time profile can be selected in this dialog. (**5736**)

> ▶ *Node dialog box:* Node topologies are now always correctly adjusted when editing the main node number. (**6436**)

Filters

> ▶ *Mode "undirected":* In the filter dialog for links and connectors, the button which activates mode "undirected" is now visible again. (**6456**)

Graphics

> ▶ *Reading a GPA file:* The program does not produce an error anymore when ignoring the graphic parameters for the print page. (**6468**)
> ▶ *DXF export:* The export is no longer cancelled due to memory shortage. (**6433**)

I/O

> ▶ *Editing project directories:* The directory for projections is no longer changed when clicking "All" in dialog Edit project directories -just like in case of PFD files and User VDF DLLs. In contrast to other file types, projections do no differ in the event of different projects; an adjustment of the path is thus not desired. (**6457**)
> ▶ *Read ATT file:* Attribute files can now also be read in for TSys and modes. (**6437**)
> ▶ *Writing an EDF file:* VISUM no longer crashes if the export is cancelled with a click on "Cancel". (**6435**)

Listings

> ▶ *Paste attributes from clipboard:* In the following cases, VISUM no longer crashes when importing input attributes with subattributes:
> 1. in case of connector attribute Weight (PrT or PuT),
> 2. if the subattribute is not contained in the target network anymore, e.g. due to a missing Tsys. (**6446**)
> ▶ Keyboard shortcuts which start scripts from the script menu now also work if the active window is a listing. (**6407**)

Demand Model

> ▶ *EVA Weighting:* The weighting functions EVA1, EVA2 and Schiller were adjusted to the parameterization described in the manual. (**6455**)

Network Editor

> ▶ Keyboard shortcut "Ctrl-G", which calls up the Gpar dialog box, now also works if the floating dialog of line route is activated. (**6217**)
> ▶ *Deleting coupled time profiles:* VISUM no longer crashes when deleting couplings if time profiles are deleted in the process. (**6438**)

Interfaces

> ▶ *Subnetwork generator:* The operation is no longer cancelled with error message "Network does not contain link from node x to node y". This could occur if the first section of the path to be exported lay within a main node. (**6469**)
> ▶ *Subnetwork generator:* Main nodes are now only exported if they contain at least one node to be exported. (**6467**)

Other Operations

> ▶ *Operation "Edit attribute":* The program does not crash anymore if the operation is run for user-defined attributes which are no longer contained in the network. (**6445**)

Miscellaneous

> ▶ Rounding numbers with decimal places no longer leads to an instable performance. The effect could occur anywhere in the program, yet was computer-dependent. (**6448**)

10.01-00	Corrections, Bug Fixes and New Features (ID)	2007-09-14

Attributes

> ▶ The turn attributes FromPrio and ToPrio were sometimes miscalculated in the past if the links that were used to determine these attributes were one-ways roads. The error has been fixed. (**6398**)

COM Interface

▶ A new method called "ExistsByKey" is available at *IConnectors*, which is used to verify the existence of a connector between a pair zone-node. (**5720**)
▶ A new method called "ItemByID" is available at *ILineRoutes* and *ITimeProfiles*, which is used to get an object via its numeric ID. (**6417**)
▶ The decimal separator (full stop or comma) can now be read and set via COM. This is done at *IOptions* with method DecimalSeparator. (**6412**)

Dialogs

▶ Buttons which transfer changes to the network that were made in a dialog but do not close the dialog are now called "Preview" throughout the program, even if option "Cancel" is provided after the operation. If the dialog remains open, they are called "Apply". (**5947**)
▶ *Dialog box Log and Error files:* 1. The time of the last modification is no longer (two hours) too old, 2. The time is now issued in the common format hh:mm. (**6393**)

I/O

▶ *Reading major flows from version files:* Manually set major flows are no longer ignored when reading version files saved with VISUM 9.5 or older versions, if the involved links are one-ways roads. (**6421**)
▶ *Reading a network file:* If line routes without a valid course are discarded at the end of the import, VISUM now records the names of the respective objects in the error file Error.txt. (**6411**)
▶ *Network I/O, "Frequent cases":* In scenario "Timetable", VISUM now uses the correct settings for tables line route item and time profile item. (**6414**)
▶ *Write network file, table Lanes*: Attribute OriginLaneNo. is allocated with the same logic as in VISUM <= 9.5: it refers to the next through lane. (**6424**)
▶ *HAFAS import:* If, due to a coupling, vehicle journeys need to be deleted because they start or end in the coupled section, VISUM now asks the user whether the objects should really be deleted. If denied, the vehicle journeys are retained and no coupling is created. The vehicle journeys concerned are listed in the trace file. (**6426**)

Listings

▶ *Entering cell values:* Pasting an empty string from the clipboard no longer leads to a crash. (**6428**)
▶ (Sporadic) crashes no longer occur when clicking menu entry "Listings" following repeated imports of a version file. (**6429**)
▶ *Layout files for POI listings:* List layout files of different POI categories are now interchangeable. (**3965**)
▶ *Analysis rows:* The display of analysis rows in a list no longer leads to a crash when in the difference network mode. (**6434**)
▶ *Tooltips:* Listings display column header tooltips again with the attribute ID of the column. (**6364**)
▶ *Context-sensitive menu:* Values of enumerated types (e.g. control type of a node) can now be selected directly in the context-sensitive menu of the list again. (**6339**)
▶ *Marking a column:* Marking an entire column in a path listing no longer leads to a crash due to lack of memory. (**6409**)

Matrix Editor

▶ *MLG file:* Operation "Set value" in the context-sensitive menu (right mouse button) can now be executed from within an MLG file. (**5604**)

Network Editor

▶ If you dock both window Quick view and window Network objects when they were previously hidden or closed, VISUM now automatically restores the most recently used vertical division between the two windows. (**6158**)
▶ If you close window Quick view and window Network objects, VISUM now restores this status when exiting and reopening the program. (**6218**)
▶ *Check network:* Main turns are now also taken into account when checking for useless turns. (**6366**)
▶ *Deleting stops:* VISUM no longer crashes when deleting a stop at which a vehicle journey or a vehicle journey section ends which does not run until the end of its line route. (**6383**)
▶ *You can now use entry "Block" of the context-sensitive menu to block turns and main turns for all TSys (main turns: just in the context-sensitive menu of listings). So far the command was provided for turns only (former entry: "Delete"). (**6392**)*

- ▶ *Blocking links:* A detailed warning is now issued if a link cannot be blocked for a TSys since the link is traversed by system routes of the respective Tsys. (**6423**)

Object Model

- ▶ *Major flows:* Major flows are no longer defined between two exit links or between two entry links. (**6321**)

Other Operations

- ▶ *PuT shortest path search:* Repeated calculations of the operation are now notedly faster if the search graph is internally build up anew only in the case of actual modifications to the network. (**6198**)

PrT Assignment

- ▶ *Equilibrium_Lohse:* The PrT assignment variant produces correct path volumes again. These were incorrect as of service pack 10.00-12 and did thus not match the (correct) link volumes in the network. (**6395**)

10.00-13	Corrections, Bug Fixes and New Features (ID)	2007-09-06

Attributes

- ▶ For parameter d of the Akcelik2 function, the lower limit of the value range has been changed to 0.01. (**4824**)
- ▶ New zone attributes provide direct access to row and column totals, minima etc. of OD matrices and skim matrices. (**6079**)

COM Interface

- ▶ *Export of the timetable editor:* In the auxiliary attribute "NO" of the vehicle journeys, the line route item index is now returned. (**6397**)
- ▶ *PrT shortest path search:* The path found so far is no longer initialised before running a new search via COM if the script does not explicitly contain an equivalent command. This way, an existing path can now also be extended in the PrT shortest path search. (**6323**)
- ▶ *Procedure parameters:* For access to SingleSkimMatrixPara, capitalization or use of small letters respectively is no longer regarded for indicator IDs. In case of an invalid ID a COM-Error will be returned. (**6348**)

Dialogs

- ▶ *Dialog box "Print area":* The input field entries for width and height in [mm] are displayed in red again if the values exceed the output value of the print page. (**6325**)
- ▶ *Save network:* The context-sensitive menu of a table (right-click) now provides functionalities to simultaneously switch on/off all attributes of a table. (**5986**)
- ▶ *Filter dialog window:* Can now be resized. (**4526**)

Graphics

- ▶ *Screenshot:* The screenshot functionality is now available in the graphical timetable and in the timetable network graph. (**5165**)
- ▶ *Legend:* In the legend, line bars are displayed for active lines only (similar to network display). (**6329**)
- ▶ *Large background images:* Backgrounds from an image size of 5000 x 5000 pixels are now displayed correctly again when zooming into the network. (**6330**)
- ▶ *Background texts:* Any Unicode character can now be displayed. (**6369**)
- ▶ *Scaling backgrounds:* The scaling of backgrounds using button "Scale" works correctly again. (**6381**)
- ▶ *Drawing polygons:* Drawing polygons with enclaves no longer leads to insufficient memory. (**6379**)

I/O

- ▶ *Printing:* The program no longer crashes if no printer is installed when negating the subsequently issued prompt for a printer to be installed. (**6359**)
- ▶ *Read/save network:* When reading a network additively or saving a network selectively, a dialog now lists frequently occurring use cases which can be applied instead of assorting the concerned tables by hand. (**1437**)
- ▶ *Saving an OD matrix:* Flag "Consider OD pair filter" now also takes effect if the matrix is saved in

binary format. (**1441**)
- ▶ *HAFAS import:* The import now takes into account that some of the project files might have been changed since the last import. (**6127**)
- ▶ *PAR file import:* You can now also read in either just the procedures ("Operations") or just the functions of the procedure parameters. (**6260**)

Listings

- ▶ *Printing listings:* Listings can be printed again directly from VISUM. (**6334**)
- ▶ *Column width:* 1) Double-click the column separator for optimum column width. 2) Similar to Excel, multiple marked columns can be set to uniform column width by dragging. (**6240**)
- ▶ *Default settings for listings:* In the new tab "Listings" in the "Options" dialog window, you may tick an option for network synchronization and select the font for listings and quick view display. (**6049**)
- ▶ *Spatial selection:* Listings are now automatically updated when modifying the spatial selection. (**6374**)
- ▶ *PuT path listings:* The display and export of PuT path listings has been accelerated. (**6362**)
- ▶ *Listing Stops - Stop transition times:* The new listing provides more convenient editing of the walk times between the stop areas of a stop. (**5577**)
- ▶ *Fix column:* This context menu command has been made available again. (**6336**)
- ▶ Now, invalid entries cause editing mode termination. (**6338**)
- ▶ *Save layout:* Saving a layout file from the list of vehicle journeys will no longer cause a program crash. (**6345**)
- ▶ *Path listings:* Both listing PrT path on link level and listing PuT path legs can now be saved in a format suitable for data base exports, either with or without a "header" for each path. (**5106**)

PuT Operating Indicators

- ▶ *Revenue calculation:* If option "Fix revenue per PTripUnlinked" or option "Revenue per fare point" is selected, the setting now also takes effect if fares were not calculated in the assignment but read from file. (**6115**)

Matrix Editor

- ▶ *Reading $O matrices:* When opening matrices in format $O within the matrix editor, values are no longer assigned to the wrong OD pairs. (**6396**)
- ▶ A section of matrix cells, rows, or columns can correctly be selected with the "Shift" key again. (**6403**)
- ▶ *Undo functionality:* The following operations can now also be undone: 1. Copy & paste of matrix cells. 2. Edit individual matrix cells. (**6386**)

Network Editor

- ▶ *Insert line route:* The "Edit" dialog is now automatically displayed after the completion of the route course of a newly inserted line route. (**6306**)
- ▶ *Quick view:* When exiting a field marked with a * (symbolising deviating attribute values), the program no longer issues a warning saying that the value cannot be saved. (**5566**)
- ▶ *Split link:* A crash no longer occurs if a user has write access to a link but only read access to the speed limits on that link. (**6148**)
- ▶ *Copy system route:* The newly created system route is now immediately displayed in the system route dialog. (**6385**)
- ▶ *Only active objects can be clicked:* This setting now also takes effect during complex Insert and Edit operations like editing the shape of line routes or inserting a connector, and not just when directly clicking on objects. (**6259**)
- ▶ *Lane definition:* Even in the case of faulty geometric data (from VISUM 8), resetting the lane definitions no longer causes a crash. (**6331**)
- ▶ *Quick view:* Changing the default font for list output does now also take effect for quick view display. (**6355**)
- ▶ *Quick view:* One common quick view layout file is now saved for all network object types. (**6298**)
- ▶ *Copy line route:* The newly created line route is now always marked. (**6343**)
- ▶ *Difference network:* Background polygons and background texts can be edited and deleted in the difference network mode again. (**6324**)
- ▶ *Context-sensitive menu of system routes:* The Multi-Edit functionality works again. (**6404**)
- ▶ *Edit shape of line route:* The line route dialog is not displayed anymore while editing the shape of a line route. (**6263**)

Object Model

▶ *Shortest path search:* The same shortest path algorithm as in VISUM 9.5 is now applied to PrT isochrones and when completing or inserting line routes. Memory shortage problems thus no longer arise. (**6280**)

Interfaces

▶ *Delimiter:* The decimal seperator which used to be a network property has to be set globally under "Options" now. (**6335**)
▶ *HAFAS import:* Cancelling the import in the initial phase does not cause a crash anymore. (**6357**)

Other Operations

▶ *PuT shortest path search:* A click on "Initialize" now also clears the PuT shortest path search listing. (**6315**)
▶ *Read survey data:* When reading in multi-line survey data, the name of the line is now also correctly identified if no transport system is specified. (**6328**)

Miscellaneous

▶ *Menu Help:* The menu contains new entries that provide access to the VISUM documentation and the support form. (**6190**)

PrT & PuT Assignment

▶ *All path listings:* New relations to origin and destination connectors permit the display of connector-based data. (**6296**)

PuT Assignment

▶ *Read PuT assignment data from version file:* Path volumes are no longer multiplied by factor 10^n when a version file is opened which was saved with VISUM 10 after reading data from an older version file which has been created with a VISUM version before version 10. (Here, n = number of decimal places for assignment calculation.) (**6356**)
▶ *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**)
▶ *Path volumes:* The rounding of path volumes did not work reliably stable in arithmetical respect in case of a defined number of decimal places for demand values and volumes, e.g. first volumes of path A were rounded up and then the volumes of path B. This bug could be fixed. (**6360**)

TFlowFuzzy

▶ *Main turns:* TFlowFuzzy now also handles main nodes correctly, i.e. counted data are taken into account at main turns yet not at inner links of main nodes. (**6346**)
▶ Correct PrT flow matrix calculation even in case of paths via main nodes. (**6347**)

10.00-12	Corrections, Bug Fixes and New Features (ID)	2007-08-16

COM Interface

▶ *Analysis time intervals:* The method AnalysisTimes.TimeInterval does not return an error anymore when accessing the last time interval. (**6317**)
▶ *Exporting a listing:* The utilised key fields can now be set both via COM and interactively in the dialog. (**5554**)

Dialogs

▶ *Dialog box Stops:* The first column of the Walk times tab is now always wide enough to fully display the numbers of the stop areas. (**6284**)
▶ *Network I/O, frequent cases:* When selecting use case Timetable, the program now also activates tables "Vehicle journey sections" and "specific walk and wait times". (**6242**)
▶ Dialog box "Procedure parameters": VISUM now automatically adjusts the jump address of "Go to the operation" procedures when creating or shifting a "Group" procedure. (**6128**)

Timetable Editor

▶ *Edit shape of line route:* Editing the shape of line routes sometimes led to a crash if the timetable editor was open at the same time. The error has been fixed. (**6318**)

Graphics

- ▶ *Legend:* If a POI category is deleted and a new one created instead, the legend now displays its correct name and no longer the name of the deleted category. (**6314**)
- ▶ The global marking color ("Basis" tab) can now be used for all types at the touch of a button. (**2882**)
- ▶ *Drawing main turns:* Main turns can now be graphically displayed in the same manner as turns. Both types together form a layer. (**4466**)

I/O

- ▶ *PDF files:* The file extensions of third party file formats (like image files, shape files, access databases,...) can no longer be edited. This modification became necessary since in the past, due to accidental modifications or the import of out-dated project directory files, some of the file formats processed in VISUM were not displayed. (**6302**)
- ▶ *Difference network:* The use of version files with activated PrT shortest path search does not lead to a crash anymore. (**6322**)

Listings

- ▶ *Default layout:* When opening a listing for the first time, several important attributes with subattributes (like volume (AP)) are displayed automatically again. (**6299**)
- ▶ *OD pairs listing:* This new listing provides direct access to OD and skim matrix values, which can be edited like the values of all new listings. (**5520**)
- ▶ In the new listings also, functionality "Undir. value" now operates correctly. (**6273**)
- ▶ *Difference network:* The case that all cells of the new listings are empty in mode Difference network does not occur anymore. (**6312**)
- ▶ *PuT path legs:* Saving the list to a file or the clipboard no longer leads to errors caused by lack of memory. (**6293**)

PuT Operating Indicators

- ▶ *PuT Operating Indicators:* The procedure no longer generates PuT territory detail objects of which all attributes amount to 0. (**6245**)
- ▶ Line costing results are no longer discarded immediately if the user modifies option "Calculate indicators for..." on tab LineCosting or option "Use for calculated results" on tab Analysis time intervals. This will only take effect during the next execution of the procedure. (**5953**)

Network Editor

- ▶ *Insert POI:* If no POI category exists when inserting the POI, the program now returns to the dialog box that is used to insert POI categories. (**5839**)
- ▶ *Main lines:* The context-sensitive menu of lines now also provides access to options Multi-Edit (including operation Intersect) and Multi-Delete for main lines and to the corresponding listing. (**6241**)
- ▶ *Dialog box Line routes:*
  1. Extending the marking via the Ctrl key no longer causes the dialog to scroll to the beginning of the marking.
  2. The columns are now adjusted automatically when modifying the size of the dialog. (**6262**)
- ▶ *Background texts:* VISUM no longer crashes when deleting multiple texts if a text is marked at the same time. (**6265**)
- ▶ *Aggregate nodes:* The operation no longer produces invalid line route courses. (**6276**)
- ▶ *Zoom by factor:* The specified factor is now interpreted as customary: in case of entries > 1, VISUM zooms in, in case of entries < 1, VISUM zooms out. (**6304**)
- ▶ *Edit shape of line route:* Clicking "Refresh" or shifting the display detail no longer results in a redraw of the the line route course that was valid before rerouting the course. (**6274**)

Other Operations

- ▶ *LineBlocking:* The program no longer generates unnecessary layover block items with a time period of zero in networks with service trips that have a starting time past midnight. (**6301**)
- ▶ *Edit attribute:* The operation can now also be utilised to allocate string-valued attributes. (**5834**)
- ▶ *Flow bundle:* The calculation of flow bundles no longer leads to an infinite loop if an OD pair filter is activated at the same time. (**6310**)

PrT Assignment

- ▶ PrT assignments "Tribut" and "DUE": Both assignments now also work with connector shares

("MPA"). (**6247**)

- ▶ *Connector weights per relation:* Different PrT assignments possibly save multiple volumes per path (e.g. in case of several DSeg for one TSys or when saving by time interval). In combination with connector weights these differentiated path volumes were aggregated incorrectly on zone level so far. The error has been fixed. (**6300**)
- ▶ *Traffix:* VISUM no longer crashes if the name of the utilised network file exceeds thirty characters. (**6303**)
- ▶ *TModel volume-delay functions:* The upper limit of the value range for the parameters a and a' has been raised to 1000. (**6305**)

10.00-11	Corrections, Bug Fixes and New Features (ID)	2007-08-07

COM Interface

- ▶ Matrices can now also be created, deleted, and assigned to Dsegs via COM. (**1430**)
- ▶ *Muuli:* The Muuli COM interface can now also be called directly from the VISUM COM interface via Visum.Matrixeditor. A separate registration is thus no longer necessary. (**6164**)

Dialogs

- ▶ *Dialog "Log and Error files":* The dialog only displays log and error files that were produced by VISUM itself. (**6244**)
- ▶ *Dialog box "Procedure parameters":* Double-click on a procedure of type "Group" in order to expand/reduce the respective group. So far this could only be achieved by double-clicking the row header. (**6204**)
- ▶ *Dialog box "Procedure parameters", tab Blocking-back model:* Activating the blocking-back model no longer produces a deadlock if input parameters on this tab fall outside of the valid range. (**6235**)

Timetable Editor

- ▶ *Shorten vehicle journeys:* The arrival and departure times of modified vehicle journey items were sometimes displayed incorrectly when shortening vehicle journeys in the timetable editor. The error has been fixed. (**6227**)

Graphics

- ▶ *Point object symbols:* The following new icons are now available as symbols: Stop sign, Two-way stop (TWS), Signal controlled (SCJ), and five-pointed star (POI). (**5961**)
- ▶ *Legend:* Stop catchment areas and the colour gradient of the 2D display (usually for isochrones) are now also displayed in the legend. (**4314**)
- ▶ *Drawing polygons with enclaves:* Such polygons can now also be drawn if users greatly zoom in. (**6248**)
- ▶ *Edit shape:* VISUM now automatically initiates a refresh of the network when editing the shape of line routes in order to e.g. update link labels with attribute "Number lines". (**6253**)

I/O

- ▶ *Read network:* Signal groups with a green time start or end that exceeds the cycle time of the signal group are now rejected with a corresponding warning. (**6251**)
- ▶ Import transactions like Read network and Read attributes are as fast as in VISUM 9.5 again. (**6212**)

Junction Editor

- ▶ *VISSIM preview:* The preview window can now be exited manually, i.e. not just by using the respective button in the node dialog box. (**6169**)

Listings

- ▶ VISUM no longer crashes when deleting e.g. territories in the network display if the territory list is open. (**6249**)
- ▶ *Territories - PuT detail:* VISUM does not crash anymore if the list is displayed in the foreground and 1) LineCosting results are already available and the user sets a different detail level, or 2) modifies the analysis period. (**6210**)
- ▶ *PuT path listing:* Headers are no longer missing in the following special case (which sometimes led to a crash when navigating the list): *Two* service trips exist on a PuT path for at least one path leg, which operate at the departure time at the start of the path leg, of which only one however

covers the entire path leg. (**6252**)

Matrix Editor

▶ *Muuli:* VISUM attribute files can now also be read in if they were created with versions from VISUM 9.5 onward. This applies to Projections, Projections of aggregated areas, Gravity, and Kalibri. (**5492**)

Network Editor

▶ *Lane turns:* In case of left-hand traffic, U-turn lane turns can now be defined for the rightmost lane, and not for the leftmost lane. (**6231**)
▶ *Browser:* In the browser, navigation via the arrow keys and a marking of multiple entries can now be carried out with a shift click. (**6243**)
▶ *Multi-Delete vehicle journeys/time profiles:* The operation now causes the deletion of just the active objects of the respective type - as is the case for all other network object types. (**6256**)
▶ *Link orientations:* When deleting a transport system, link orientations are now automatically adjusted. (**6225**)
▶ *Menu:* All functionalities of the view tool bar are now contained in menu "View". Furthermore, feature "Zoom by factor", known from prior releases, has been added. (**6144**)
▶ *Aggregate zones:* The program no longer crashes if a layer different from "Zones" is active at the time of the execution. (**6267**)

Object Model

▶ *User-defined attributes:* The property "Sparse" has been removed. (**6096**)

Other Operations

▶ *Line blocking:* The operation no longer crashes if the first journey of some block departs after 24:00 of the last day of the analysis period. (**6272**)
▶ *GoTo procedure:* The initial allocation of the checked matrix (or of the attribute) no longer happens before the execution of the very first procedure but before the first execution of "GoTo". (**4556**)
▶ Limited versions of VISUM 10.0 can be executed without administrator rights again. (**6271**)

PrT Assignment

▶ *ICA/Traffix:* The calculation now saves the waiting time only in turn attribute tCur(TSys), and no longer in t0(TSys) which instead is now set to the input value t0. (**6221**)

PuT Assignment

▶ The quantity "non-assigned demand" contained in the zone and total statistics is now, like any other indicator, based on the non-rounded original demand of the matrix. For performance reasons, the trace file output of relations without connections however only contains those relations for which the rounded demand is also > 0. (**6214**)
▶ *Headway-based assignment:* Specific waiting times ("matched transfers") are now also considered correctly if their value is higher than the default (random) waiting time. (**6261**)

10.00-10	Corrections, Bug Fixes and New Features (ID)	2007-07-25

Dialogs

▶ *Legend:* When using functionality Initialize, you can now optionally switch on just the active layers of network object types for which objects currently exist. (**6203**)
▶ *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**)

Graphics

▶ *Screenshot:* 2D isochrones are now also displayed correctly if the set solution is higher than 96dpi. (**4907**)

Listings

▶ *PuT path listings:* VISUM no longer crashes if there are no PuT Dseg paths (error occurred as of VISUM 10.00-09). (**6213**)

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**)
▶ *Headway-based assignment:* The run time of the assignment is equal again to the run time in VISUM 9.5. (**6196**)

10.00-09	Corrections, Bug Fixes and New Features (ID)	2007-07-20

COM Interface

▶ Sporadic crashes used to occur when terminating VISUM via COM. This has been fixed. (**6184**)

Dialogs

▶ *Trip distribution - Parameter dialog:* The selection of a skim matrix in the grid which has a key > the row index no longer causes a crash. (**6193**)

Graphics

▶ *Column charts:* The y-axis labelling for attributes of type km^2 and type mi^2 is now output in the very unit and no longer in m^2. (**6170**)
▶ *Column charts:* Column charts are now also placed right next to the corresponding network object if all network coordinates lie within a very small range of numbers. (**6181**)
▶ *Drawing background images:* The display of metafiles as backgrounds has been improved. (**6180**)
▶ *Arrow head:* In the graphic parameters, users can now select an open arrow as arrow head as an alternative to the triangle. (**5980**)

Listings

▶ *All path listings:* The first DSeg for which paths are actually available is now always preset when opening a list. (**1435**)

PuT Operating Indicators

▶ A crash no longer occurs when trying to calculate the revenues by territory if no territories exist in the network. (**6201**)

Multi User

▶ Main zones and main nodes can now only be edited if they lie within the lock polygon. (**5971**)
▶ *Shortest path search with target attribute for route index:* A message saying that links cannot be edited is now only issued if the required rights exist. (**6149**)
▶ Functionality "Merge nodes" is now available in Multi-user mode. (**6032**)

Demand Model

▶ *Calculate skim matrix:* The progress dialog now indicates the correct number of calculated matrices. (**6185**)

Network Editor

▶ *Coupling:* VISUM now determines the departure times of the vehicle journeys on the coupling section based on the time profile which is the starting point for the coupling. (**4460**)
▶ *Set window:* The program now exits the "set window" mode after the definition of a section if backgrounds, texts or polygons are activated as network object type. (**6027**)
▶ *Delete DSeg:* In cases where the deletion of DSeg requires an assignment result initialization, VISUM now automatically refreshes the network display. (**6177**)
▶ *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**)

Other Operations

▶ *Subnetwork generator:* The program no longer aborts if the network contains PuT path that lead via main modes. (**6040**)
▶ *NCHRP255:* The occurrence of active, isolated nodes in the network no longer causes a crash in the procedure. (**6195**)
▶ *PuT shortest path search:* PuT shortest path searches no longer lead to a crash if specific walk times at stops are defined. (**6189**)

Attributes

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

Dialogs

▶ If a screenshot cannot be exported due to a high resolution, VISUM now reopens dialog box "Set resolution" so that the user can select a lower resolution while using the same settings. (**6172**)

Timetable Editor

▶ *Insert regular services:* In the timetable editor, users can now create regular services with a departure time past midnight. (**6153**)

Graphics

▶ *Desire line:* If option "undirected values" is checked, both bar scaling and bar label are now determined on the basis of the undirected values and the bar is drawn centred. (**5996**)
▶ *Image display:* Transparent image colours are now actually displayed transparently (**3635**)
▶ *Backgrounds:* When loading WMF files as backgrounds, the program now identifies the position correctly and displays the entire section. (**6161**)
▶ *Preview:* The preview is now calculated correctly when clicking "Apply" in dialog box "Set up page". (**6150**)
▶ *Bar display:* Link and connector bars with a length that would be below one pixel in the display can now be either shown or hidden (Option "Hide short bars"). (**6099**)
▶ *STD.GPA:* VISUM now uses the graphic parameters saved in this file for display when reading in networks in a format that does not contain any graphic parameters (e.g. network files (non-additive), data bases (non-additive), TModel, EMME/2 or EDF). (**6052**)

I/O

▶ *Legend:* You can now read text files into the legend. (**6151**)
▶ *Read network:* Table VEHUNITTOVEHCOMB is saved even if there are vehicle combinations without vehicle units. (**6135**)

Junction Editor

▶ *VISSIM preview:* For nodes and main nodes, the preview of the node geometry is available again. (**5871**)

Listings

▶ VISUM no longer crashes when editing interdependent objects in different listings, e.g. nodes and links. (**6155**)
▶ *Blocks:* VISUM no longer crashes when running procedure "Init LineBlocking" if a line blocking listing is open at the same time. (**6130**)

Multi User

▶ *Additive network import:* During the import VISUM now uses keys from the user's current key contingent if option conflict avoidance is activated. (**5981**)

Matrix Editor

▶ Matrices that are still open in the matrix editor when opening a new file or using File - New will now be closed. (**6111**)

Network Editor

▶ Deleting links and subsequently saving a version file no longer leads to a crash in connection with signal control. (**6121**)
▶ *Main nodes:* All special functions available for nodes or polygons (zones, territories) can now be applied to main nodes, too. (**5856**)
▶ *Edit shape of line route:* In-vehicle times and dwell times now change only on the rerouted section, never before. (**6131**)
▶ *Link sequence from shortest path search:* The functionality now marks the located links instead of setting them active and all the remaining ones passive. This logic complies better with the

operating logic of the network editor. (**6136**)
- ▶ *Filters:* When trying to activate a filter via the filter icon in the network object window for which no filter criteria have been set, VISUM queries whether the filer dialog should be opened anyway. (**6138**)
- ▶ *Delete Zones:* Multi-Delete works again. (**6147**)
- ▶ *Copy attributes:* In the quick view window and in the network editor, the functionality now also works for subattributes. (**6165**)

Object Model

- ▶ When entering a number with decimal places where the program expects an integer, the entry is now rejected and an error message is issued. This applies to entries in listings as well as to the import of network or attribute files. (**6146**)

Other Operations

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

Miscellaneous

- ▶ *Start-up without user interface:* VISUM can now be started without the interface via COM or with a command line argument. (**131**)

PrT Assignment

- ▶ *User-defined volume-delay functions:* Attribute VolPCUPrT is no longer miscalculated by factor "c" from the parameters of the volume-delay function. (**6129**)

PuT Assignment

- ▶ *Headway-based PuT assignment:* Skim matrices do not contain invalid values (like 1.#J) anymore if there is a demand of 0 to 10^{-10} on relations. (**6126**)
- ▶ *Headway-based PuT assignment:* The program does not produce incorrect path volumes anymore if an assignment with several DSegs and an indicator calculation are run at the same time. (**6132**)

10.00-07	Corrections, Bug Fixes and New Features (ID)	2007-06-28

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**)

Dialogs

- ▶ *Line routes window:* The sorting of line routes is now always stable - also in terms of their direction. (**4965**)
- ▶ *Dialog box Edit graphic parameters:* The editing of the line style is more concise and the dialog now provides a preview. (**5002**)
- ▶ *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**)
- ▶ *Dialog box Signal groups:* The "Signal groups" tab no longer crashes if an SCJ is defined both for nodes and main nodes. (**6104**)
- ▶ *Dialog box Signal groups:* The "Stagebased" tab now also displays correct turns if an SCJ is defined both for nodes and main nodes. (**6106**)
- ▶ *Dialog box Signal groups:* Tag "Lane turns" no longer displays faulty turn orientations if an SCJ is defined both for nodes and main nodes. (**6107**)

Graphics

- ▶ *Save GPA file:* The graphic parameters for the headline of the print frame are no longer lost if the user saves and reloads a GPA file. (**6090**)

I/O

- ▶ *Read/save network:* When reading a network additively or saving a network selectively, a dialog now lists frequently occurring use cases which can be applied instead of assorting the concerned tables by hand. (**1437**)

▶ *Read ATT or shape file:* The import is no longer cancelled if a file contains attributes that do not exist in VISUM. (**6113**)

Listings

▶ *Insert column:* The insertion of columns via the context-sensitive menu before or after the marked column now also works for attributes with subattributes. (**6114**)
▶ The zone listing is no longer displayed when calling up listing "Territories / Basis". (**6123**)

Network Editor

▶ *Quick view:* In the quick view, attributes can be edited again. (**6117**)
▶ *Quick view:* VISUM no longer crashes when activating the attribute selection if attributes that were added to the last modified network do not exist in the current network. (**6119**)
▶ 1. PrT assignment results are now always discarded when modifying main nodes. 2. PuT assignment results are now obtained when inserting or deleting main nodes. (**5898**)
▶ *Sychronisation new listings <-> network editor:* Deleting a network object no longer triggers an automatic switch of marking to the object with the smallest key even in case of an activated synchronisation with a listing of the object type concerned. (**6103**)
▶ *Editing the shape of line routes:* Filter settings are now always obtained during the tabular lengthening of a line route. (**6038**)

Interfaces

▶ *Emme/2 import:* VISUM now updates all dialog settings when loading an import parameters file (*.emme). (**6122**)
▶ *NCHRP255:* The link adjusted values used to be output for inlinks and outlinks. If a link was an inlink for one node and an outlink for another node, then the order of the nodes processed determined which link adjustment factor was the final link attribute written. From now on, VISUM only writes the inlink adjustment factor since this is largely preferred to the outlink.adjustment factor (**2338**)

Other Operations

▶ *Flow bundle:* Trips from one main zone to another main zone can now be filtered via flow bundles. (**2286**)
▶ *PuT passenger survey:* Skim matrices can now also be calculated during direct assignment. Furthermore, direct assignment now determines total statistics and zone statistics like general PuT assignments. (**5506**)

Miscellaneous

▶ *Menu:* Crashes no longer occur when opening menu "File" if the number of files to be displayed is set to zero. (**6110**)

PrT Assignment

▶ *Blocking-back model:* The convergence behavior of the combination of equilibrium assignment and blocking-back model calculated during assignment has been improved. (**6093**)
▶ *NEMA:* The use of faulty orientations at main nodes used to produce computing errors. This has been fixed. (**6105**)
▶ *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 path were saved as connections, yet without analysis time intervals (**6108**)
▶ *PuT assignments:* All assignments can now be run without saving the paths. This way, the memory usage can be reduced if required. (**5973**)

| 10.00-06 | Corrections, Bug Fixes and New Features (ID) | 2007-06-21 |

COM Interface

▶ The new COM function *IsTimeTableRunning* of *IVisum* determines whether a timetable is currently running. (**6087**)

Dialogs

▶ *Dialog box Edit graphic parameters:* On tag "Layer", all layer names are now translated correctly

into the currently set language. (**6073**)

Timetable Editor

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

Graphics

▶ *Print output:* The printing of transparent bitmaps has been accelerated. This particularly applies to pattern fillings with small line distances, e.g. fine polygon hatching patterns. (**4241**)
▶ *Backgrounds:* VISUM no longer crashes due to a memory shortage when drawing large background files. (**6058**)
▶ Backgrounds of type ECW / JPEG2000 are positioned correctly again when using the zoom. (**6077**)

I/O

▶ *Reading attributes:* In the import dialog, all attribute names are now translated into the language specified by the user. Lately, attributes with subattributes (like "PuT") were not translated. (**6086**)
▶ Instead of activating the demand data/skim matrix dialog box, VISUM now returns to the main network window after opening a matrix via File - Open. (**6088**)
▶ *Read shapefiles:* VISUM no longer crashes due to a memory shortage when reading in shapefiles as screenlines. (**5888**)
▶ *Read network file:* When completing line routes with option "If no shortest path found, create only, if link can be permitted for TSys", VISUM now also opens turns for the line TSys if required. So far, the import could fail in this situation because of turn blockings. (**5574**)
▶ *Additive reading of network files:* Entries in table coupling section and table coupled time profile that do not match the network are now always discarded. An inconsistent network state cannot develop anymore. (**6091**)

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**)

PuT Operating Indicators

▶ *PuT Operating Indicators:* Indicators that depend on paths based on the assignment are now determined with more temporal precision. This permits more precise time interval-based evaluations. (**5787**)

Network Editor

▶ *Split zone:* VISUM does not crash anymore when terminating the operation with Cancel. (**6085**)
▶ *Shortest Path Search:* Calculating an interactive PuT Shortest path search with PuT additional path leg(s) and then deleting a time profile or splitting a link no longer causes a crash. (**5748**)
▶ *Graphics tool bar:* Via a new icon (filter symbol and mouse pointer) the user can specify whether all network objects can be clicked by the mouse pointer or just the active ones. This feature is particularly useful if a great number of network objects lie close to each other. (**1440**)
▶ *Delete link:* VISUM no longer crashes when deleting a link if the Quick view is activated and an assignment has been calculated in the network. (**6089**)
▶ *Shortest Path Search:* Calculating an interactive PuT Shortest path search with PuT additional path leg(s) and then calculating a timetable-based PuT assignment with search option "Shortest Path Search" no longer causes a crash. (**5749**)

Object Model

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

PrT Assignment

▶ *PuT assignment DUE:* The assignment no longer terminates with an error message if there are entries under 'assignment time interval' which have a deviating number of time intervals. (**6076**)
▶ *PuT assignment DUE:* VISUM no longer crashes when saving paths if demand originates in the

last interval and the respective path does not terminate in the same interval. (**6080**)
- ▶ *PuT assignment DUE:* The program sometimes crashed when paths were saved. The error has been fixed. (**6074**)

PuT Assignment

- ▶ *Headway-based assignment:* A crash no longer occurs if a headway of zero is attributed to a time profile. Such an entry does not make sense anyway. (**6071**)

version number 10.00-05 is omitted

10.00-04	Corrections, Bug Fixes and New Features (ID)	2007-06-06

Graphics

- ▶ VISUM no longer crashes (reporting a memory shortage) if a background or other image file cannot be opened. (**6070**)

I/O

- ▶ *Read PAR files:* The attribute set for the basic volume of turns is no longer lost when reading in PAR files. (**6067**)
- ▶ *Read network/database:* The import is now as powerful as in VISUM 9.5. (**6060**)
- ▶ *Paste attributes from clipboard:* Open listings are no longer refreshed continually during the import. (**6050**)
- ▶ The list of recently saved files is now refreshed immediately and saved in the registry (**6015**)

PuT Assignment

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

10.00-03	Corrections, Bug Fixes and New Features (ID)	2007-06-04

Attributes

- ▶ The new relation line route -> stop points provides a direct navigation between these types in the network browser. (**6013**)

COM Interface

- ▶ *Clear:* Net.Clear does not cause a program crash anymore. (**6020**)
- ▶ *Close VISUM:* The command "Set Visum = nothing" now returns only when the operation is actually completed, i.e. when all resources are released. (**6043**)

Timetable Editor

- ▶ *Svg export of timetable editor:* The IDs of "StopEntry" and "StopLine" elements were corrected. (**6059**)

Graphics

- ▶ *Read version:* VISUM no longer crashes on reading in a version file if no printer is installed. (**6029**)
- ▶ *Screenshot:* VISUM no longer crashes on exporting a high-resolution screenshot. (**6039**)

I/O

- ▶ *Read network files:* VISUM can now read in network files that begin with a comment or with an empty row. (**6061**)
- ▶ *Read par files:* VISUM no longer crashes when reading in PAR files if a PrTSys is not contained in the network. (**6037**)

Listings

- ▶ Changing the filter now immediatley triggers a refresh of open listings. (**6042**)
- ▶ *Marking cells in 'new' listings:*
  a) Copy & paste now works on any rectangular selection.
  b) Clicking the first and shift-clicking the last column head selects all columns.
  c) VISUM no longer crashes when the entire list is copied via Ctrl-C. (**6041**)

PuT Operating Indicators

▶ The new attribute *IsEffCoupled* tells you if a coupling is really effective on the level of vehicle journeys, i.e. when valid days and filters are taken into consideration. (**5783**)

Multi User

▶ *Edf import:* Detector-related tables are now labelled "Device...". (**5999**)

Network Editor

▶ The program now suggests saving the current network if, after opening a network, the user executes a Multi-Delete operation and immediately opens a different network. (**6017**)
▶ Multi-editing TSysSets (e.g. of links) is now much faster. (**6025**)
▶ *Font style:* All network editor windows now use Arial as the default font. (**6053**)

Other Operations

▶ *Read survey data:* VISUM now also permits datasets with a departure time > 24:00. (**6031**)
▶ *Read survey data:* The import does not cause a crash anymore if the network contains skim matrices saved on file. (**6026**)

PrT Assignment

▶ *PrT assignment 'Equilibrium_Lohse':* Using the Lotka-Volterra option no longer produces bad results. (**6045**)

PuT Assignment

▶ *Headway-based assignment:* When assignment and skim matrix computation are carried out in one step, paths will only be stored for OD relations with positive demand. So far, a fictitious demand of 10.000 was erroneously assigned to the network. (**6062**)