

VISUM Release Notes

Version 9.2

Version 9.25-09

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9.25-09	Corrections, Bug fixes and Extended Functionality (ID)	Jan. 24, 2006
Add-Ons <ul style="list-style-type: none"> • <i>LLE</i>: VISUM used to compute vehicle journey attributes <i>SeatCap</i> and <i>TotalCap</i> calculated in the context of the PuT operating indicators incorrectly. The shorter a vehicle journey, the higher the impact of the miscalculation. The error has now been corrected. (4396) 		
9.25-08	Corrections, Bug fixes and Extended Functionality (ID)	Dec. 12, 2005
Discarded Program Crashes <ul style="list-style-type: none"> • <i>EWS</i> add-on: <ul style="list-style-type: none"> • Exiting VISUM or loading a new network (e.g. via Read version, New network, Read network) while the EWS window is active no longer causes a crash. (4062) • VISUM no longer crashes after command EWS - OPEN. (4058) 		
Procedures <ul style="list-style-type: none"> • <i>PrT assignment</i>: <ul style="list-style-type: none"> • <i>Stochastic/Equilibrium assignment</i>: When reading an existing assignment from a version file and calculating another assignment with option "Use current assignment result as initial solution", the network volume now always equals the route volume. (4171) • <i>Functions tag – Impedance –Function</i> button: The program no longer uses the turn factor instead of the connector factor for the impedance and integral of the connector impedance. (4170) • <i>Multi-point assignment</i>: Correct results are now also achieved in the special case that a zone has exactly one connector with open PrT TSys and a weight > 0 and other connectors with open PrT TSys and a weight=0. So far, these zones were not distributed proportionally and connectors with a weight=0 were charged anyhow. (4336) • <i>PuT assignment</i>: <ul style="list-style-type: none"> • If the global calendar period is modified, VISUM now dismisses all PuT assignment results because the modification renders all time references (relative to the start of the calendar period) of the stored paths invalid. (4033) • In <i>timetable-based</i> assignments with PuTAux-TSys, the link fare points defined for those TSys are now considered correctly, both for the TSys impedance in the context of the search and for the fare in the context of the impedance calculation of the final path choice. In the case of those TSys, the program used to assume 0 fare points for each link. (4068) • <i>Walk times</i>: So far VISUM did not find walk links if the entry in the stop area transition matrix exceeded the global "maximum walk time", yet at the same time "special walk times" were defined at the same stop that fell below this threshold value. The error has now been corrected, i.e. acceptable transitions in terms of time in this situation are used in this constellation for the generation of PuT connections. (4063) 		
Network Editor <ul style="list-style-type: none"> • <i>Edit shape of line route</i>: Previously added extensions are no longer reset when lengthening an existing line route, if certain parameters prevent the creation of an additional section. (4173) • SINGLESELECT - <i>Edit line route</i> dialog box – <i>Coupling</i> tag: Coupling time profiles with deviating run and dwell times no longer leads to the deletion of correct vehicle journeys. This has occurred in this past, even without prior warning. (3997) • MULTISELECT - <i>Aggregate line routes</i>: Invalid time profiles could have been generated in case of loop or circle lines providing multiple options for aggregation of a pair of line routes. This bug was fixed. (4032) 		
Network Graphics <ul style="list-style-type: none"> • <i>Charts</i>: Negative values are now treated like zeros when drawing pie charts. They thus have no influence on the size of a pie area, nor are they displayed as separate segments. The performance is identical to VISUM 8. (4044) • Printing with the Adobe 7.0 PDF Writer works perfectly again under Window 2000. Sizes and positions of bar labels are now correct. (4172) 		
Add-Ons <ul style="list-style-type: none"> • <i>TRAFFIX</i>: If the green time of a signal group exceeds the end of the cycle time, VISUM no longer transmits <i>Permitted</i> but <i>Permitted+Protected</i> to TRAFFIX when it is <i>Permitted+Protected</i>. This did not occur in the case of NEMA for which the property is specified directly. (4203) 		

Miscellaneous		
<ul style="list-style-type: none"> • <i>Update Setup</i>: The "Repair Installation" of the VISUM Setup is no longer available. It did not work properly in conjunction with the new Update Setup. The Update Setup can be used to complement a VISUM installation. (3600) • EXTRAS – OPTIONS: Even if the size of the UNDO stack is set to 1, button <i>Apply</i> in the graphic parameters dialog box can now be used several times in a row without causing any problems. (4067) 		
9.25-07	Corrections, Bug fixes and Extended Functionality (ID)	Sept. 02, 2005
Discarded Program Crashes		
<ul style="list-style-type: none"> • TIMETABLE EDITOR – READ LAYOUT: VISUM does not crash anymore when reading a layout file, <ul style="list-style-type: none"> • if the saved and the calculated stop point/ stop sequence differ OR • if the stop point/ stop sequence saved in the layout is shorter than the calculated one. (3976) • CALCULATE - PROCEDURES –<i>Functions</i> tag– <i>PrT-Functions</i>: VISUM no longer crashes when displaying some of the tables in this dialog (the problem just occurred under <u>Windows NT</u>). (3979) 		
Procedures		
<ul style="list-style-type: none"> • <i>PuT assignment</i>: <i>Timetable-based assignment</i> – <i>Search</i> tag, <i>Dominance</i> button: VISUM no longer dismisses valid connections when working with advanced <i>Dominance</i> parameters and using a factor > 1, if two connections are exactly identical in their temporal position and the number of transfers but show deviant search impedances. (3983) 		
Network Editor		
<ul style="list-style-type: none"> • NETWORK - TSys/MODES/DSEG: In the <i>TSys/Modes/DSEg</i> code, upper case letters can now be changed to lower case letters and vice versa. (3910) • MULTISELECT NODES DELETE: Connected nodes were not accounted for in groups isolated/ with one link/ with 2 links/ multi-way and could thus not be deleted. The error has been corrected, i.e. users can now make sure that connected nodes are accounted for in the right group regarding the number of legs by activating option <i>delete also connected nodes</i>. (2615) • <i>Intersect calculation with POIs</i>: VISUM no longer aborts the calculation when detecting an intersecting polygon during intersect calculations of polygonal network objects. Instead it continues with the next valid object. A warning is issued. (3945) 		
Network Graphics		
<ul style="list-style-type: none"> • <i>Marked links</i>: Even when a link is selected with CTRL-FromNode-ToNode, it is now displayed according to the graphic parameters set for marked links. (3926) 		
Import Interfaces		
<ul style="list-style-type: none"> • <i>Shape file import</i>: Invalid keys for nodes (e.g. negative numbers) are now intercepted during shape file imports. (3892) 		
Export Interfaces		
<ul style="list-style-type: none"> • <i>Shape file</i>: The export no longer produces incorrect files when exporting enums like <i>NodeControl</i>. (3952) 		
Add-Ons		
<ul style="list-style-type: none"> • <i>Subnetwork generator</i>: When generating a subnetwork the program no longer aborts if two nodes refer to the same signal control. (3906) 		
Miscellaneous		
<ul style="list-style-type: none"> • <i>Saving a network - LSA</i>: The information whether several nodes are assigned to the same signal control is no longer lost when saving networks or data bases (table SIGNALCONTROLTONODE). (3905) 		
9.25-06	Corrections, Bug fixes and Extended Functionality (ID)	Aug. 9, 2005
Other Procedures		
<ul style="list-style-type: none"> • <i>PuT Isochrones</i>: For network objects that could NOT be reached Isochrones-NT value 32767 (= maximum 2 Byte value) is returned now. In previous versions, zero was returned by mistake. The Isochrones-Time value of objects that were not reached is now set to 2147483647s (= maximum 4 Byte value). (3818) 		
Attribute Interface		
<ul style="list-style-type: none"> • Zone attribute "mean number of transfers" is now returned correctly with decimal places. In previous versions, values were rounded to integers. (3799) 		

Export Interfaces		
<ul style="list-style-type: none"> • <i>VISSIM</i>: The name "Pedestrians" is translated now for VISSIM Vehicle types/classes. (3814) 		
Add-ons		
<ul style="list-style-type: none"> • <i>TFlowFuzzy</i>: In rare cases, the supplied od matrix was not recalculated, but kept unchanged instead. This bug could be fixed. (3835) 		
Miscellaneous		
<ul style="list-style-type: none"> • <i>Open link shape file</i>: Links will no longer be ignored completely because of invalid link type data, but the default value will be used instead. (3813) 		
9.25-05	Corrections, Bug fixes and Extended Functionality (ID)	July 26, 2005
Discarded Program Crashes		
<ul style="list-style-type: none"> • <i>Difference network</i>: The program will no longer crash, if attributes with sub-attribute <i>Diff</i>, <i>Net1</i>, <i>Net2</i> are selected for graphical display. (3767) • <i>Separating coupled time profiles</i> will no longer cause a program crash after removing halts from another time profile of the same line route. (3727) 		
Other Procedures		
<ul style="list-style-type: none"> • <i>PuT Isochrones</i>: In recent versions, the attribute value calculated for <i>IsochronesNumTransfers</i> was wrong (1 transfer was missing), if a stop area had been selected for calculation of isochrones. Values calculated for isochrones from zones or stops used to be correct. (3700) 		
Network Editor		
<ul style="list-style-type: none"> • MULTISELECT - EDIT - <i>Formula</i> button: The additive parameter at the end of the formula now regards current <i>Units</i> settings (imperial/metric). Example: The value assigned to link length in an "imperial" network is regarded as <i>Miles</i> now (used to be regarded as [km]). (3671) 		
Network Graphics		
<ul style="list-style-type: none"> • SINGLESELECT - LINK - LABEL ON/OFF <F4>: Screen display is refreshed immediately, clicking the <i>Refresh</i> button is no longer required. (3631) • Menu FILE - <i>Preview</i>: The <i>Text sizing factor (Screen)</i> is no longer regarded for network display in the <i>Preview</i> mode. (3682) • The label at the middle of the link may now also be activated for marked links. (3672) • Menu GRAPHIC - PARAMETERS - <i>2D-Display</i> tag - <i>Attributes</i>: The selected attribute remains active if another network object is selected that has this attribute, too. Otherwise, the first attribute of the new network object will be displayed instead. (3723) 		
COM Interface		
<ul style="list-style-type: none"> • <i>Open network including line route search</i>: Reading data failed in case of missing specific line route search parameters. This bug could be fixed. (3769) 		
Miscellaneous		
<ul style="list-style-type: none"> • <i>Read selected graphics parameters</i>: Parameters for 2D Display are no longer initialized. (3684) • <i>Read network file additionally</i>: Reading line route data from file additionally will no longer create turn backs at stop points on links. Those line routes did not match the VISUM PuT network model and caused program crashes. Interactively, those data could not be specified. (3729) 		

9.25-04	Corrections, Bug fixes and Extended Functionality (ID)	July 12, 2005
<p>Discarded Program Crashes</p> <ul style="list-style-type: none"> • Menu FILE - OPEN - <i>Shapefile</i>: The program will no longer crash, if VISUM license size is exceeded when reading data from shapefile. A warning will be displayed instead. (3455) • Menu GRAPHIC - <i>Parameters</i>: The program will not crash, if characters like < or > are entered in a classification string. (3603) • Menu FILE - SAVE - <i>Network file</i>: The .NET file is saved correctly, even if a second co-ordination group (without items) has been defined (3643) • <i>PrT assignment</i>: A program crash will no longer occur during <i>Traffic</i> assignment of large networks (3573) • <i>Go to operation</i>: The program does not crash, if a non-existing attribute has been selected. (3602). 		
<p>Menu CALCULATE - PARAMETERS - Procedures</p> <ul style="list-style-type: none"> • <i>Operations</i> tag: The DSeg entry is deleted now, if procedure "<i>Edit attribute</i>" is selected. (3677) • <i>OD matrix calibration (Lohse)</i>: Also AddVal3 data can be used for matrix calibration based on count data; previously, the procedure could only use AddVal1 and AddVal2 data (3637) 		
<p>Other procedures</p> <ul style="list-style-type: none"> • <i>PuT Isochrones</i>: Calculation can be cancelled interactively now. (2672) 		
<p>Network Editor</p> <ul style="list-style-type: none"> • <i>Merging neighbouring nodes</i>: Incident link polygons are now connected correctly. In previous versions, certain polygons used to be dropped by mistake. (3562) • SINGLESELECT - EDIT - LINE ROUTE - <i>Coupling</i> tag: If a time profile is coupled with more than two other time profiles, then coupled vehicle journey sections will be generated for all of the coupled time profiles. In previous versions this did not work in case of more than two coupled time profiles. (3019) • SINGLESELECT - EDIT - SYSTEM ROUTE: Now, edited data are stored correctly when the dialog box is closed. (3662) • Indirect attributes of vehicle journey items are now evaluated correctly, if any type of ...ACTIVE has been selected for aggregation. (3665) 		
<p>Network Graphics</p> <ul style="list-style-type: none"> • SINGLESELECT - LINE ROUTE - <i>Edit shape</i>: Drawing of line routes with numerous stop points has been accelerated (3621) 		
<p>Timetable Editor</p> <ul style="list-style-type: none"> • <i>Regular services display mode - Export</i>: Also the very last data line is exported (in previous versions, this line was missing). (3590) 		
<p>Matrix Editor</p> <ul style="list-style-type: none"> • <i>Territory-related projection</i>: Option <i>by element</i> (interactive) will no longer cause incorrect results if the matrix zones are not sorted in ascending order. (3031) 		
<p>COM Interface</p> <ul style="list-style-type: none"> • <i>Modes.ItemByKey</i>: This COM method now regards the entered string as Code (instead of Name) of the mode in question. (3666) 		
<p>Listings</p> <ul style="list-style-type: none"> • <i>New</i>: Via a context-sensitive menu, <i>Edit network object</i> dialog boxes can be called from listings now. (3658) 		
<p>Import Interface</p> <ul style="list-style-type: none"> • <i>Open Attribute file / Import from clipboard</i>: Line route and time profile (items) data can also be read from file, if they contain the "ID" key attribute instead of the original key attributes "LinName"+"DirCode"+... . (3478) • <i>Open - Shapefile</i>: A detailed error message is displayed, if an invalid string is connected with an attribute of the TSysSet type. (3443) 		

Add-ons		
<i>Subnetwork Generator:</i>		
<ul style="list-style-type: none"> • <i>Timetable-based and Headway-based assignment only:</i> For a PuT path starting from within the active subnetwork, but leaving the subnetwork already before the end of the first path leg, then an external zone is generated at the exit point of the path thus avoiding demand data losses. Furthermore, the line route is now cut correctly in this case. (3576) • Current procedure parameter settings are now stored with the generated Subnetwork.VER file. (2139) 		
Miscellaneous		
<ul style="list-style-type: none"> • Menu FILE - PROJECT DIRECTORIES: The "All" edit box is no longer limited to max. 43 characters. (3592) • <i>Read selected graphics parameters:</i> Reading graphics parameters specified for links will no longer affect those for POIs. In previous versions, e.g. image sizes and <i>Draw</i> flags of POI categories were modified by mistake. (3647) 		
9.25-03	Corrections, Bug fixes and Extended Functionality (ID)	June 22, 2005
Discarded Program Crashes		
<ul style="list-style-type: none"> • <i>Blocked turns:</i> The program will no longer crash, if the <i>Turns</i> dialog is called for the turns via a node or from/to a link with all turns being blocked, when option "no display of blocked turns" is active simultaneously. A warning is displayed instead informing on the current setting of the display option. (3548) 		
Network Editor		
<ul style="list-style-type: none"> • <i>Numbering & range check:</i> A clear warning is now displayed in case of interactive input of a figure violating a permitted value range (e.g. NodeNo. > 9,999,999,999). In previous versions, the entered value was automatically replaced by the max. permitted value. (3546) 		
Network Graphics		
<ul style="list-style-type: none"> • <i>Display of fillings in Preview Mode:</i> Fillings set for polygons from HGR files and for bars along links with specified shape are now also displayed in the Preview mode. (3558) 		
COM Interface		
<ul style="list-style-type: none"> • In rare cases, COM methods such as <i>SaveVersion</i> were performed twice due to internal timing problems, often leading to a program crash. This bug could be fixed. (3468) 		
Add-ons		
<i>Line costing:</i>		
<ul style="list-style-type: none"> • Attribute <i>NumBlocks</i> will be calculated correctly for line hierarchy objects, even if there are vehicle journeys with more than one vehicle journey section in the network. (3457) • For halts lasting to the next day, stop point cost is calculated correctly now (used to be summed up from 2 days) (3485) 		
<i>Subnetwork Generator:</i>		
<ul style="list-style-type: none"> • New option "Connect external zones by connecting links" has been implemented to avoid deviating PrT assignment results caused by the fact, that external network zones used to be connected to the "entry node" to the active network only, thus disregarding the attributes, e.g. penalties, of turns leading via this node and turning prohibitions as well for flows originating from those external zones. If this option is active: For routes entering the subnetwork via a node, the last link used outside of the subnetwork will serve as a connecting link template. The entry node = the connecting link's ToNode, the FromNode of the connecting link will be generated. VISUM will assign the same number to all network objects (connecting link, subnetwork external zone, subnetwork external node) generated per entry node. (3492) 		
Miscellaneous		
<ul style="list-style-type: none"> • <i>Units of Time period data:</i> Also for <i>Copy from clipboard</i>, the current option setting (min/sec) is regarded for values without unit. In previous versions, values were interpreted as being seconds, even if "min" was active. (3542) 		
9.25-02	Corrections, Bug fixes and Extended Functionality (ID)	June 13, 2005
Discarded Program Crashes		
<i>Multiselect - Edit:</i> VISUM will no longer crash, if the value of the assigned attribute exceeds the value range of the target attribute. (3495)		

Procedures

- *PrT assignment*: The value ranges of parameters b and b' were expanded from 0..10 to 0..100 in the *TModel volume-delay functions* (3512)
- *PuT assignment*: Zone attribute *PTripsLinkedTot* is now also returned by *headway-based* assignment, not only by *timetable-based* assignment.(3519)

Network Editor

- *Generate connectors*: This functionality now also works with a scale other than 1. In previous versions, the entered maximum distance along x-axis was not multiplied by scale. (3517)
- *Aggregate isolated nodes*: Now both directions of a link are regarded for option *Create only on active network links*. At least one of the directions has to be active. In previous versions, only the link direction with *FromNodeNo. < ToNodeNo.* was regarded. (3499)
- *MultiSelect- Edit - Intersect*: For target objects of type GIS object and POI, VISUM now sets the attribute for ALL objects, too. Before, only the last network object was set properly in some instances. (3513)

Attribute Interface

VehicleJourneyItem.PostLength and PreLength: Now zero is also returned as *PreLength* value of the first item of a vehicle journey if this item differs from the first item of the time profile. Applies to *PostLength* accordingly. (3491)

COM Interface

- *Deleting networks with existing references*: Functions *Net::Clear*, *Visum::LoadVersion*, *Visum::LoadNet*, *Visum::LoadAccessDatabase*, *Visum::LoadFromMsSqlServerDatabase*, *Visum::OpenDifferenceNetwork*, *Visum::ImportEmmeProject*, *Visum::ImportHafasProject* and *Visum::ImportEDF* now report an error should there be further external references to network objects. Such references could lead to a crash at the time of deleting networks. (3527)
- *Procedure parameters Dump file*: This file is now released immediately when it is saved. In previous versions, it was closed when the program session was ended. (3514)

Miscellaneous

- *Calculate service trip patterns*: In some networks, this functionality did not work. Zero was returned as constant pattern No. This bug could be fixed. (3498)
- *Display entire network*: This function now also works in networks with extremely large coordinates according to amount. (3426)
- *Writing versions with a backup copy*: VISUM now intercepts more errors than before, e.g. those caused by system errors when copying files. Moreover, error messages are now more detailed. (3516)

9.25-01

Corrections, Bug fixes and Extended Functionality (ID)

June 1, 2005

Discarded Program Crashes

Multiselect - Edit: Assigning an invalid string to attribute *TSysSet* will no longer cause a program crash (3442)

Network Graphics

Major flows at nodes: The major flow is drawn correctly on screen even in case of changes to current major flow settings in the *Edit node* dialog and clicking another property page then. (3336)

Add-ons

Line Costing:

- After *Aggregate Lines*, territory-related revenues are calculated correctly now (used to be too low) (3467)
- After *Aggregate Lines*, Passenger-km (or miles) are calculated correctly now (used to be too high) (3466)
- For halts lasting to the next day, stop point cost is calculated correctly now (used to be summed up from 2 days) (3465)

Miscellaneous

Save demand data file: The *.dmd file is saved correctly, even if one of the time series has no items (3422)

9.25-00

Corrections, Bug fixes and Extended Functionality (ID)

May 23, 2005

Discarded Program Crashes

- *Timetable Editor*: Under certain circumstances VISUM used to crash if a terminal was selected for sorting. This bug could be fixed. (3440)
- *Subnetwork Generator*: VISUM used to crash in case of nodes with (A) signal control data AND (B) only some of their node legs being located inside of the subnetwork. This bug could be fixed. (3453)

Procedures

- *PrT assignment - Traffix*: Invalid (means negative) values returned from Traffix to node attribute *LOSAvgDelay* are now treated accordingly in VISUM thus preventing from any aftereffects. The underlying Traffix bug will be fixed soon. **(3449)**
- *PuT assignment - Connection export*: Even *.CON files > 2³² Byte are saved to file correctly **(2974)**
- *Indicators*:
 - *Timetable-based assignment*: Even in the hardly ever used "Weighting by *min PJT connection*" mode, *Service frequency*, *Utility* and *Extended Adaptation time* values are now calculated correctly. **(3452)**
 - *Timetable-based assignment*: Even for TSys of the *PuT-Aux* type, TSys-specific indicators (*In-vehicle time by TSys*, *In-vehicle distance by TSys* and *InVehDistPercentTSys*) can now be calculated. **(3450)**
- **Menu FILE - OPEN DIFFERENCE NETWORK**:
 - The current VISUM license size is no longer regarded by the calculated difference network - only the two selected networks have to meet the license size restrictions. **(3435)**
 - Memory required by loading difference networks multiple times could be reduced: Existing networks are deleted prior to reading. **(2728)**

Network Editor

- *Split link or Connect links from/to 2-leg nodes* respectively: AddValue data of the selected link is now copied to each of the resulting links, as it used to be in VISUM8. In previous VISUM9 versions, AddValue data was also split and distributed to each resulting link according to its link length. Accordingly, AddValue data will no longer be summed up, when the 2 links from/to a 2-leg node are connected; AddValue data of the link selected by the user is assigned to the resulting link instead. **(3436)**

Network Graphics

- *Bar display*: For bar scaling, both, *Min* value and *Max* value are now displayed in meaningful default data format of the particular attribute (and thus converted into imperial units, if applicable). **(2633)**
- *Select system route*: Irregular errors which used to occur when a system route was selected and highlighted could be discarded. **(3406)**

Import Interfaces

- *Shapefile Import*: Link numbers are no longer mandatory for reading link data from shape files. FromNodeNo. and ToNodeNo. provide sufficient key data, the LinkNo. will be generated automatically. **(1081)**

Miscellaneous

- *Multi-level filters (Lines/Stops.)*: Hierarchical filters are now taken into consideration in any situation when this might be necessary. In rare cases, they were not regarded in previous versions.
Example: *Line filter settings* with 1st criterion *Line-TSysCode = "B"* and 2nd criterion *LineRoute-AddVal1 = 0*, *Apply*, *OK*, then set *LineRoute-AddVal1 = 1* via **MULTISELECT - EDIT**; in this case, the filter was not regarded anew in previous versions. **(3438)**
- *Filter for GIS objects*: Settings are saved with filter file *.fil and versions and can also be read from them **(3302)**
- **Menu FILE - OPEN**: If a nonexistent file name is entered by the user in the *Open file* dialog, an error message will appear right after clicking *OK*; Reading will be cancelled. **(3439)**

9.24-06

Corrections, Bug fixes and Extended Functionality (ID)**May 11, 2005****Discarded Program Crashes**

- *Open OD demand data file *.dmd*: Existing procedure parameters are now updated completely. In previous versions, a program crash could be caused by invalid parameter references resulting from deleted matrices or time series. **(3424)**
- *Edit POIs*: The program will no longer crash, if a POI category is deleted while a POI of this category is selected. **(3417)**
- **CALCULATE - PROCEDURES...** - *PuT Functions - Volume* tag: After changes to the "Walk links: maximum walk time" parameter entry, existing assignment results based on the original value remain valid. In previous versions the program occasionally crashed during subsequent access to PuT paths, since recently calculated walk route legs were not reset. **(3420)**

Procedures

- *PuT assignment*: Existing assignment results are discarded if the access node of a stop is edited via **Multi-select** or in a list. Otherwise, stored paths might become invalid. **(3421)**
- *Flow bundle*: A link selected for flow bundle display is now highlighted immediately in the network display. It is thus visible on screen when the **Dseg/TSys** selection dialog appears. **(3375)**

Network Graphics

- *Bar labels:*
 - Even without classification, a "specific class value" can be selected for bar labelling. This parameter has to be set under "Filling". In previous versions, only 0 was displayed in this case. (3428)
 - Now an appropriate data format (e.g. "10min 20s") is used automatically for an attribute of the *time/duration* type selected for bar labelling. In previous versions, only hourly values were output in the "without units" mode (mostly 0). (3389)
- *Text labels:* Now, the size of the box around a text label is calculated correctly even if the *Chart* option is checked. In previous versions, the box used to be too small in case of different size settings for text labels and chart labels. (3429)

Network Editor

- *PuT Valid days* again can be created and edited interactively in the *weekly calendar* mode now. This was not possible in version 9.24005. (3427)
- *POI dialog:* Changes to the *User* tag settings such as attributes deleted from the selection list are now kept, when the dialog is closed. Furthermore, the recently opened tag will be displayed, when the dialog is opened anew. (2946)

Matrix Editor

Save matrix: Now the file name is checked for correctness. If applicable, a warning message is returned. (3414)

9.24-05

Corrections, Bug fixes and Extended Functionality (ID)

May 4, 2005

Discarded Program Crashes

- *PrT assignment:* None of the assignment procedures will cause a program crash if the network contains more than 31 transport systems. (3382)
- *Headway-based PuT assignment:* The program used to crash if one of the demand segments to be assigned had no time series. Now an error message is displayed in this case. (3408)
- *Calendar (Annual calendar):* The program will no longer crash, if *Vacation days* data are edited via menu NETWORK - *PuT Valid days* in such a way, that *Vacation days* start before the calendar period. (2980)
- *Connect shape files as Geo Database:* Display of shape file attributes as text labels in the network window will no longer cause a program crash. (3376)

Menu CALCULATE - PROCEDURES -

- *PuT assignment: PassOrigin* are now only counted at stops being the first PuT stop directly following an origin connector from an origin zone. In previous versions, *PassOrigin* values were also counted at the first PuT stop in case of PuTAux route legs between zone connector and boarding stop by mistake. (3371)
- *Connection import:* Route volumes read from file do not have to correspond to the provided demand. (3412)
- *Functions* tag: Clicking several tags repeatedly in the TreeView section will now longer change the displayed language of dialog texts. (3391)

Network Editor

- SINGLESELECT MODE - *Edit link:* The *PlanNo* entry is only highlighted in yellow in case of deviating values specified for the 2 directions of a link, even in case of values > 256. (3386)
- *Aggregate time profiles:* Auf jedem Verlaufsabschnitt wird die Fahrzeit eines dort tatsächlich definierten Profils übernommen. Bisher konnte es vorkommen, dass die Fahrzeit Null zugewiesen wurde, weil das erste betrachtete Profil auf einem Abschnitt gar nicht verkehrte. (3363)

Timetable Editor

As long as the "only active vehicle journeys" mode is active, the timetable display is updated immediately in case of any changes to current filter settings. (3373)

COM Interface

AddNetRead.SetWhatToDo: Capital letters are no longer mandatory for table names (e.g. "NODE"), when this COM command is applied. (3348)

Miscellaneous

- *Open version:*
 - Reading line route data from version file has been accelerated, this becomes obvious especially in case of numerous line route items (factor ~10). **(2983)**
 - When reading version files which had been saved in 1999 or earlier, zones and global zones were not always mapped correctly, though saving this network version with VISUM 9 used to solve this problem. Now data are always read correctly from file. **(3379)**
- *Difference network:* Construction of the difference network has been accelerated. **(2464)**
- *STD.GPA:* Now, VISUM installations contain a valid std.gpa file. In previous versions, the standard graphics parameter file data format could not be read and the file was not stored in the correct folder. **(3415)**

9.24-04**Corrections, Bug fixes and Extended Functionality (ID)****Apr. 25, 2005****Discarded Program Crashes**

- *Subnetwork Generator:*
 - Crashes no longer occur if the subnetwork contains nodes which were included for line routes only and which have references to main nodes. **(3364)**
 - Saving a subnetwork will no longer cause a program crash if signal control data have been specified for nodes having some node legs within the subnetwork and some node legs outside of the subnetwork. **(3334)**
- *MultiSelect - Delete stops:* Clicking *Undo* will no longer cause a program crash if line blocking results exist. Now, line blocks are always deleted, if related vehicle journey sections are deleted. **(3365)**

Menu CALCULATE - PROCEDURES - Operations tag - Operation ...

- *Edit attribute:* Current global units settings are now regarded correctly for assignment of an attribute of type length. Example: If link length is copied to link_AddVal, the result is now either in km or in miles. In previous versions, the value was returned in meters. **(3288)**
- *PuT assignment / Indicator "Impedance":* The headway-based procedure now returns indicator "impedance" correctly in minutes. Since version 9.23, it had been returned in seconds by mistake. **(306)**
- *Skim matrices in ASCII format:* The file header contains the current version file now. In previous versions, the name of the backup file was listed. **(3356)**
- A line stop at a public transport stop point is no longer counted twice if it covers the day change over (midnight). Those vehicle stops are counted only for the day when they start. **(3372)**

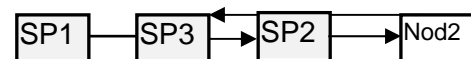
Network Editor

- *MultiSelect - Edit - Attribute* button: Now attribute values are assigned correctly even if option "only active" has been checked. **(3362)**
- *MultiSelect - Turns - Edit:* If turns are blocked to TSys, those turns traversed by line routes of the blocked TSys remain unchanged. **(3369)**
- *SingleSelect - Turns - Delete:* Now, the DELETE functionality can be called in the EDIT menu for a selected turn again. This functionality had been removed by mistake. **(538)**

- *Line route search:* Completing line routes during *Read network* now also regards special cases with several undirected stop points located on the same link (both directions). In previous versions, a line route could not be found in all cases.

Example:

Now the line route is determined as follows:

SP1 → SP2 → Node2 → SP3 **(3380)**

Timetable Editor

- *Regular service display mode*
 - *Lengthen/shorten vehicle journey*: If a vehicle journey is either shortened or lengthened, the vehicle journey sections are now always adjusted automatically. **(3291)**
 - *Delete vehicle journey*: The whole "set" of vehicle journeys is now deleted and not just the first vehicle journey included in it.
When using "Delete vehicle journey section" in the regular service display mode, the selected vehicle journey section is now deleted from all vehicle journeys of the set and not just from the first one. **(3264)**
 - *Headway End*: Refers to the stop listed under "Departure". In previous versions, "headway end" always referred to the start stop point. **(3374)**
- *User-defined column widths*: Previously set column widths now also remain adjusted if the timetable editor is closed and re-activated. **(3168)**

Matrix Editor

Aggregate: Aggregation over mean value or weighted matrix has been accelerated. **(3378)**

Export Interfaces

File - Save - Shape files: *.SHP files saved from VISUM can now also contain line route data. **(3381)**

Add-Ons

- *TFlowFuzzy*:
 - The error message now contains the zone no., if the zone's inbound traffic is missing. **(3307)**
 - TFlowFuzzy can now also read matrices saved with the Muuli matrix editor and containing a type (e.g. Y5). **(3308)**

Miscellaneous

- *Lists*: For calculation of evaluation output data, e.g. column total or minimum etc., blanks are now completely ignored. **(3358)**
- *Save version*: A detailed warning is displayed if a READ-ONLY file is to be overwritten. **(3370)**

9.24-03**Corrections, Bug fixes and Extended Functionality (ID)****Apr. 13, 2005****Discarded Program Crashes**

- *Timetable Editor*: VISUM will no longer crash if the *Stops* combo-box (bottom left) is clicked in the *Stops* display mode. **(3329)**
- *Read network additionally*: VISUM will no longer crash, when lane data are accessed if leg templates are overwritten during *Read network additionally*. **(3342)**

Procedures

- *Deleting calculated results*: In case of changes to only "simple" attributes of vehicle journeys or vehicle journey sections (e.g. VehComb, Operator, UDAs), calculated assignment results will no longer be reset. **(3354)**
- *PrT assignment*: The unit of attribute *Node.DesignVolCapRatio* has been changed from Factor to Percentage. Now 10 is returned instead of 0.1 which makes graphical display of attribute data more convenient. **(3349)**
- *Tribut*: Simultaneous assignment of several demand segments has been accelerated. **(3331)**
- *Headway-based assignment with PuT skim matrix calculation*:
 - with option "Keep matrix in RAM": The matrix saved to disk was correct, the matrix kept in RAM contained only zero values. This bug was fixed. **(3338)**
 - Correct output even if *Semicolon* is chosen as separator. **(3335)**

Network Editor

SingleSelect - Turns: Double-clicking an isolated node will no longer lead to an endless loop. **(3340)**

Attribute Interface

MultiSelect - Edit: Conversion conventions are regarded correctly when an attribute of data type "Area" is assigned to another numerical attribute (e.g. from *Zone.AreaKm²* to *Zone.AddVal1*); instead of the internal value m², now km² or mi² is returned. **(3337)**

Timetable Editor

- *Stop code* column: Correct data display even in case of "hidden" stop points. **(3346)**
- *Sequence of traversed stops*: No display of a vertical line in the particular section of the tabular display (bottom right) if a vehicle journey section does not traverse this section of the displayed stop point sequence. The vertical line indicates relations between stop points which are not served, but traversed. **(3167)**

Node Editor		
<ul style="list-style-type: none"> • Menu NETWORK - <i>Network parameters</i> - <i>Direction of traffic</i> tag: Signal control data are removed correctly now in case of changing between left-hand and right-hand traffic. (3355) • <i>Only 4-leg nodes</i>: The directions left/straight/right are now determined according to the order of the node legs. Previously, the angle between the links was regarded. (3029) 		
Miscellaneous		
<ul style="list-style-type: none"> • <i>Major flows</i>: Automatic major flow calculation returns correct results, even in case of different link types assigned to the 2 directions of a link from/to the node. (3357) • <i>Editing 1:n relations in Lists</i>: , e.g. <i>MainNodes</i> to <i>Nodes</i>, works correctly now. (3339) 		
9.24-02	Corrections, Bug fixes and Extended Functionality (ID)	Apr. 07, 2005
Discarded Program Crashes		
<ul style="list-style-type: none"> • <i>Drawing surfaces</i>: Drawing surfaces without faces no longer causes a crash. (3299) • <i>Database export to SQL server</i>: An error message is issued now if an invalid password is entered into an SQL database during an SQL server database export. VISUM crashed without a warning up to now. (3158) • <i>Splitting links</i>: VISUM used to crash when splitting links if, in the same direction, there were two or more stop points on a link which was traversed by lines. The error has been eliminated. (3309) • <i>Traffic</i>: Crashes no longer occur with Traffic if the cycle time is optimized with unrealistically high volumes. This used to occur particularly during assignments. (3304) • <i>Rerouting line routes</i>: Crashes no longer occur if the middle section of a line route is rerouted and an item which is not a profile point is fixated. (3323) 		
Procedures		
<ul style="list-style-type: none"> • <i>PrT Assignment</i>: The iterative use of the Multi-Point Assignment no longer leads to a memory overflow. (3293) • Procedure "PuT Operating Indicators" has been accelerated. (3298) • <i>PuT flow bundle</i>: Calculating a PuT flow bundle for "PassThroughNoStop" at a stop point no longer leads to errors if the selected stop point is not a profile point of some of the line routes. (3311) 		
Network Editor		
<ul style="list-style-type: none"> • <i>Edit attribute</i>: If the value of an indirect attribute is assigned to an input attribute, "blank values" are now correctly set to zero. "Blank values" exist, if an object (e.g. a node) does not refer to any other object of a different class (e.g. links) yet an attribute is to be evaluated for that class. For example: When assigning the maximum link number to an AddVal of a node, zero is now assigned to all isolated nodes. (3164) • <i>Aggregating lines</i>: Negative times no longer occur for newly created time profiles when aggregating line routes. (3286). • <i>Edit line route</i>: If the dialog is called by double-clicking a line route, the second mouse-click will no longer change current settings IN the dialog tag (e.g. Route point flag: ON/Off) by mistake. (1642) • <i>Delete coupled vehicle journeys</i>: When a vehicle journey is deleted, also coupled service trips are deleted correctly, even if their vehicle journey sections have different valid days. (3270) • <i>Node Editor</i>: If option "only active objects" is checked for <i>Save network</i>, node geometry data will be saved only for active nodes. (3327) 		
Network Graphics		
<ul style="list-style-type: none"> • <i>Marking line routes</i>: The display of nodes and traversed stop points on line routes now also works with single marking and functions in the same way as when editing shapes. These nodes and stop points are also drawn if their own layer is disabled. (1714) • <i>Deleting nodes</i>: If a two-legged node with an assigned stop point is deleted, VISUM now checks whether turning it into a link-based stop point leads to the invalid fact of a line route turning on a link-based stop point. In this case, a corresponding warning is issued and the deletion is canceled. (3070) 		
Reading network files additionally		
<ul style="list-style-type: none"> • <i>Conflict handling</i>: Option "cancel if object exists already" now operates as expected. By mistake, the program used to respond in the same way as if option "ignore if object exists already" was set. (3256) • COM access to parameters for conflict handling and avoiding is now also provided when a database is read (mdb and ms-sql) (3328) 		

Attribute Interface

Reading TSys attribute files: VISUM no longer prompts for the completion of line routes when reading TSys attribute files. **(3129)**

Lists

The import of attribute files and attributes from the clipboard now also works for link types. **(3272)**

Matrix Editor

Muuli filter files that were saved with VISUM or Muuli prior to VISUM 9.2 are now read correctly again (so far, all values were set to 0 when opening these files). **(3296)**

Import Interfaces

Reading shape files: The reading of shape files has been accelerated. For complex polygons in particular, the read-in time used to be too long and a faster reading has been achieved. **(2192)**

9.24-01**Corrections, Bug fixes and Extended Functionality (ID)****Mar 29, 2005****Discarded Program Crashes**

- *Aggregating lines:* When aggregating coupled line routes (more precisely: line routes with coupled time profiles) VISUM no longer crashes. All couplings are separated at the beginning of the procedure. **(3285)**
- *Lists:* Crashes no longer occur when pressing the escape key while the focus rests on a non-editable cell. **(3281)**
- *Deleting nodes or links:* Deleting nodes or links involved in the active display of turn volumes led to an unstable status of the graphic parameters which e.g. led to crashes when saving versions. The error no longer occurs. **(3120)**

PuT Assignments

- A warning is issued only if the PuT assignment result is dismissed due to deletions of or changes to vehicle journey sections. **(3265)**
- *Timetable-based:*
 - *Shortest Path Search:* Search option "Shortest Path Search" produced errors during the correction (reversed), if the assignment time interval plus extension extended to the following day (error occurred as of VISUM 924000). **(1610)**
 - "Special WalkTimes" between time profiles or TSys now always have the correct effect during timetable-based assignments, i.e. cases of "Special WalkTimes" that have an effect on other time profiles than the one they have been specified for no longer occur. **(3283)**
- *Headway-based:* Internal rounding errors sometimes led to the case that not all demand data of an OD relation was taken into account during assignment. Even though the assigned demand was accounted for in the trace file, it could not be identified in the program directly. Due to this error the highest number of passengers "lost" per relation could be as high as the number of paths found for that relation. **(368)**

PrT Assignment

Numerical overflows that were created when adding up impedances along a path are now correctly intercepted even if a lot of these network objects reach the maximum impedance. **(3290)**

Read Network

If table link type of the network file lacks TSys speeds or misses altogether, those attributes are assigned the same default values of 200km/h for PrT-TSys, 50km/h for PuT-TSys etc. used when creating a TSys interactively. **(3284)**

Network Graphics

- *Bar labels:* When displaying a string attribute, the displayed bar is now also labeled correctly if the fill style is classified according to a DIFFERENT attribute. Up to now, this other attribute was also used for the label. Furthermore, the classification now only takes effect if the respective button under "Fill style" is set to "Draw 'classified'", as expected. **(3161 + 3162)**
- *Connector bars:* Option "Undirected values" works correctly now. Up to now, the settings of the respective link bars were evaluated instead of the actual connector bar values. **(3259)**
- GRAPHIC menu – PARAMETERS... – *Basis* tab: The width set for Marking 1 is now applied correctly to all affected links when editing the shape of line routes. **(3099)**

Attribute Interface

When reading attribute files or shape files, user-defined attributes can now also be used as target attributes in the case of POIs. In the past, error message "Attribute with ID ... not found" was mistakenly displayed in this instance. (3113)

Timetable Editor

Create/Edit/Delete service trip sections: Line costing and assignment results are now always cleared when creating, editing or deleting service trip sections. A warning is issued. (3266)

Matrix Editor

Execute MUULI Log file: Matrix divisions by element via MUULI Log files are now calculated correctly. So far, a multiplication by element was mistakenly calculated instead. (3274)

COM Interface

COM functionality *LinkExistsByKey* operates correctly now. COM error messages used to be issued up to now if the link did not exist. The required return is "False" however. (3287)

Erased Flow Add-on

When reading Visum8 versions with an activated ErasedFlow add-on, the add-on module is now completely disabled. Link impedances at saturated links are thus always correct now. (3289)

Miscellaneous

- *Printing:* The current network name is now always issued in the preview mode and when printing. In the past, the name was only refreshed when saving, not when opening version files. (3142)
- *Check network for inconsistent couplings:* The output of the 'Check network' function "inconsistent couplings" in the trace file is more detailed and extensive now. (3267)

9.24-00

Corrections, Bug fixes and Extended Functionality (ID)

Mar 17, 2005

Discarded Program Crashes

- Territory indicator results are now deleted correctly when inserting further TSys. An invalid status occurred so far and VISUM crashed when versions were saved. (3119)
- VStromFuzzy can now be started in the languages Italian and Polish again. (3162)
- Indicators *Number fare zones/fare subzones* are now calculated accurately even if the ticket type allocated to the assigned DSeg has not been defined for all existing fares. The output has been incorrect for all paths that included more (sub-)zones than were adjusted for the highest fare. If no ticket type was assigned to the DSeg, the calculation stopped. These errors have been corrected. (3155)
- *Edit links* in the MULTISELECT mode— special function *Running times of links from running times of lines:* Using this function led to crashes if line routes existed within the network which started at undirected link-based stop points. The error no longer occurs. (2005)
- CALCULATE menu – DEMAND DATA or SKIM MATRICES: Crashes no longer occur when opening the skim matrix dialog or the OD matrix dialog if matrices with a total $> 10^9$ exist. The (incorrectly) formatted display of such high values in the dialog caused these crashes. (3176)
- *Delete route point:* VISUM will not crash, if deleting the route point follows close upon selecting this route point as profile point for a time profile and editing run times. (3178)

Procedures

- *PrT Assignment:* Creating lanes in Traffix works correctly now even at legs with U-turns but no turns to the left. (3126)
- *PuT Assignment:*
 - *Timetable-based:* Even when working with a temporal extension that extends to the following day during search option "Shortest Path Search", all relevant connections are now found or, alternatively, all paths exceeding the time slot are rejected. No problems occurred when using option "Branch & Bound". (3136)
 - *TSys-based:* For TSys-based assignments also, only those TSys admitted by the mode of the assigned DSeg are now used exclusively. By mistake, other PuT TSys were used in the past. (3144)
 - *Connection import:* Even those connection files that include paths based on "specific" (i.e. defined for specific time profiles or TSys) walk times at a stop transfer can be read correctly now. (3153)
- *3 Stage model:* The structure of the options of constraint in the choice model dialog of the "Trip distribution" procedure has been improved. (3146)

PrT Isochrones

- Calculating or initializing PrT isochrones no longer leads to an infinite loop when simultaneously a filter with attribute *IsocroneTime-PrT* is active **(3133)**
- Via COM, PrT isochrones (*Visum.Analysis.Isochrones.ExecutePrT*) used to return colored link segments according to time. Now also persistent results for nodes and zones (attribute *IsocroneTime-PrT*) are returned. **(3131)**

Network Editor

- *Create link*: Newly created U-Turns are now blocked for all TSys by default (as in VISUM 8). **(3116)**
- *Edit line route –Profiles tag*: If a profile point is deleted at which service trip sections start or end, a warning message is issued and the service trip section is deleted (analogous to vehicle journeys). **(3143)**
- Menu NETWORK – PUT VALID DAYS –*Vacation days tag*: All weekdays are now translated in the *Create vacation/holiday...* dialog box. **(3160)**

Network Graphics

- *Lines*: Marked lines are drawn fast again and without any “jittering”. **(3148)**
- *Line bars*: When displaying “Line bars”, exactly those line route items are now evaluated at each link that refer to this link. A line route item located closer to the start has mistakenly been used so far if the local line route item did not possess a stop point. This constraint has been dropped. **(3156)**

Read Network

- *Read Network/Paste from clipboard while filter is active*: Reading networks additionally and pasting from the clipboard is now done faster when the line filter or the stop filter are active. **(3150)**
- *Read Network without TSys Walk*:
 - If a network file is read without TSys Walk, it will be added automatically from now on. **(3169a)**
 - Older version files without TSys Walk (that were created by reading a network file under the terms of **3169a**) can always be read, too. **(3169b)**
- *Detectors*: Detectors are now correctly imported from network files, even if several detectors are assigned to the same count location. **(3152)**
- *Modes*: VISUM now rejects the import of modes (from network files and attribute files) whose TSysSets include PrT TSys as well as PuT TSys. Such modes are invalid and lead to further problems in the program flow. **(3166)**
- *Items*: If VISUM cannot read single items from the items table, the complete line route (and time profile, vehicle journey or system route accordingly) is now ignored - even if option *Shortest path search* is active. In previous versions, incomplete (faulty) item tables were generated in rare cases. **(3171)**

Save Network

When saving a network with option “only active” the output of link polygons, system route elements and system route run times is now prevented if the superordinate network element is passive. **(3139)**

Attribute Interface

- A new attribute *NumServiceTripsProportional* territory-related (PuT detail) has been created for the add-on module PuT line costing. A trip (=1) is to be distributed in proportion to this attribute to all VehComb concerned by it. The number of vehicle journey sections as well as couplings are taken into account for this. **(2992)**
- The names of all block item types are now internationalized for the add-on module PuT line costing. **(3163)**
- The time profile attribute *IsDynamic* played no role so far and has been temporarily removed. It will only be available again once feature “update time profile run times dynamically (thus automatically) according to link run times” is implemented since the feature depends on the attribute. **(3127)**
- *Temporary Attributes*: The dynamic PrT assignment now functions correctly even if periodically defined temporary attributes exist within the network yet no calendar is in use. **(3147)**

Line Route Course

A new relation “using time profile items” is available at line route items. Access to all time profile items that logically “contain” a line route item is thus granted. There are generally a lot less time profile items than line route items. This new relation serves the purpose of “handing over” an attribute of a time profile item to all line route items located on the next time profile item. **(3157)**

Timetable Editor

Horizontal scrolling in the lower section of the tabular timetable no longer leads to the fact that columns in the upper and lower section of the timetable do not correspond. **(3036)**

Matrix Editor		
Negative matrix values are no longer set to 0 when importing or saving matrix files. Such values are required e.g. for the display of (negative) utility during the demand procedures. (3174)		
COM Interface		
When using COM methods <i>WriteSVG</i> and <i>Screenshot</i> the target folder is now selected according to the settings of the project directories for SVG files or screenshots. So far, project directory "HPGL" has been used. (2330)		
Shapefile Import		
If an "undirected" import of links from shape files is carried out, directed allocations of attributes are also done properly now (i.e. deviating shape attributes exist for either direction which are assigned explicitly to one direction or the other during the import). (3154)		
VISSIM Export		
Lanes are now adjusted correctly when modifying major flows of nodes. (3052)		
Junction Editor		
Allocations of signal group-based turns and feature TurnOnRed are now maintained when splitting links, if the FromNode and/or ToNode are signalized. (2936)		
VStromFuzzy		
If a demand segment is specified for VStromFuzzy to which no matrix has been assigned, a detailed error message is now issued. (3135)		
FILE menu – PROJECT DIRECTORIES		
Shapefile, screenshots and RAWS-Scen have been added under "project directories". (3051)		
Calendar add-on		
The <i>Calendar</i> add-on is no longer restricted to the <i>Public transport</i> ad-on, but may now be used for any traffic and transport planning purposes, e.g. for Dynamic PrT assignment. (3177)		
Miscellaneous		
The display of several property pages used to be too small on Japanese operating systems so that some controls were invisible and VISUM could no longer be operated. The use of the command line parameter vj ("View Japanese") enables an enlarged display of such dialog boxes. (3172 + 3173)		
9.23-01	Corrections, Bug fixes and Extended Functionality (ID)	Mar 02, 2005
Discarded Program Crashes		
<ul style="list-style-type: none"> • <i>Network Editor – Create Zone</i>: Crashes no longer occur when creating zones while matrix-dependent zone attributes like "OrigTraffic" are displayed in the network. The error has been corrected. (3101) • <i>PuT Assignment</i>: Networks with time profiles that include profile points on pure nodes (i.e. with no stop point) sometimes crashed when calculating headway-based assignments or isochrones. The error has been corrected. (3098) • <i>Subnetwork generator</i>: Crashes no longer occur in case of networks with POIs that have open polygons. Handling of POIs with polylines has been provided with VISUM 9.23-00. (3112) • <i>Junction Editor - Symmetric Distance</i>: After changing the "Symmetric Distance" with the junction editor VISUM no longer crashes when applying the data. (3045) • <i>Reading versions</i>: Invalid references of surfaces to faces are now correctly intercepted when reading versions, i.e. the surface data are adapted and the network is read successfully. Crashes sometimes occurred in this case. (3140) 		
Procedures		
<i>Linear combination of matrices</i> : Returns correct results now, even if the result matrix is mentioned in the right-hand section of the term, e.g. $M1 := M1 + M2$. Previously, the result matrix had been set to 0 before the right-hand section of the term was calculated. (3110)		
PrT Assignments		
<i>Traffic</i> : Data errors sometimes occurred due to overflows caused by overloading while calculating turn capacities (TurnCap). These are now intercepted. (3107)		

PuT Isochrones

- In some cases, the returned number of required transfers exceeded the actual number of transfers calculated. Thereupon, the calculation of best paths did not always regard time. This caused incorrect time data for PuT isochrones. (3115)
- For isochrones based on nodes, all stop areas linked to the latter are now available for boarding again. (3095a)
- Detailed in-progress messages are now issued when calculating isochrones. (3095b)

Reading Networks Additionally

- When reading line routes, time profiles and vehicle journeys additionally, the error message "Vehicle journey: Start/End stop missing in specified time profile" was sometimes displayed despite of correct data. The error has been corrected. (3083)
- When reading networks additionally, VISUM no longer creates line routes that turn at link stop points since it is not permitted and led to sequence errors that triggered crashes during some procedures. (3064)

Menu CALCULATE – DEMAND DATA – Demand segments

When allocating a new matrix on tag "Demand segments" in the Demand Data dialog, this modification now shows immediately in the "DSeg" column of the "OD matrices" tag when switching to this tag. (3118)

Menu EXTRAS – PROGRAM STATUS...

The program status dialog box now lists the correct number of active count locations. Previously, the number of active detectors was issued in its place. (3130)

Attribute Interface

User-defined attributes: When creating UDAs of the type *with decimal places* interactively, the correct value range limits (+/- 10³⁰⁸) are now used as default values for ValueMin and ValueMax. So far the integer extremes (+/- 2³¹) were used in this case. (2826)

Junction Editor

- Lane data are now correctly adjusted when splitting links and when modifying link attributes *NumLanes* or *TSysSet*. (3028)
- If an SCJ has exactly one phase, the signal groups GreenStart/GreenEnd are now also set to 0/cycle time in the signal group dialog. (3114)

Reading Time Profiles

The start stop point and the end stop point of time profiles are now permitted for the TSys when reading time profiles if this is not already the case. At intermediate stops this is NOT desirable; where applicable, the On/Off flags will be deactivated. So far the time profile was rejected completely. No time profile item is created when editing shapes if the route point is located on a blocked stop point open to the TSys of the line. (3132)

Network Graphics

- *Bar labels:*
 - Option "transparent" operates correctly now. So far, the function did not take effect. All texts were drawn non-transparently. (3091)
 - If option "Color = Bar color" is deactivated for line bars, the color used as "Text color" is now correctly applied instead. Up to now, the color of the respective bar was applied in spite of the settings. (3008)
- *Line bars:*
 - Undirected values of links bars are now aggregated accurately (e.g. the TOTAL of both directions as volume). So far, the average was generated by mistake. (3007)
 - Line bars are now also drawn if zero is entered as max. width under "Default". Since separate settings apply for line bars, the above parameter should not affect them. (3111)
- *Links:* Only passive links used to be displayed if one direction of a link was active yet the opposite direction was passive. The error has been corrected. (3124)
- *Stop points:* The graphic display used when editing the shape of a line route (marked stop points, traversed stop points) is now also effective in the single select mode. This means that the stop point number or other attributes can now always be visualized. (3014)
- *GIS Objects:* In order to achieve more clarity, new imported GIS categories are no longer labeled by default when drawn. Polygons, lines and circles are thus in full view now. (2997)
- *POIs:* The layer sequence of POI categories specified in the graphic parameters is now always retained when saving graphic parameters. (3122)
- *Diagrams:* When drawing diagrams VISUM no longer draws columns for internal "blank values". (3125)

Print Output		
Tables are now also printed (printer or pdf) if zero is entered as text size under "display". On screen, tables were always displayed in this instance. (2733)		
Menu FILE – OPEN ...		
File type <i>Graphic Parameters</i> : If the import of new graphic parameters modifies the display scale, objects with graphic parameters that depend on zoom stages are now drawn anew by default. (3082)		
VISSIM Export		
<ul style="list-style-type: none"> For all nodes modeled with lanes VISUM now checks whether respective lane turns exist in the lane definition for all open turns of the node. In past VISSIM exports, the absence of lane turns at open turns of a node led to more blocked turns in VISSIM than there were in VISUM. VISUM now issues a message when finding such nodes which states that all affected nodes are listed in the VISUM error file <i>error.txt</i>. (3109) Overlapping intermediate points of link polygons or those lying too close to each other are now skipped or not exported. VISUM used to create invalid (not readable in VISSIM) *.inp files. (3061 + 3097) 		
Database Export		
Exporting lists to an Access database now works without problems even if an individual table name is entered as a third parameter. (3134)		
SVG Export		
SVG exports also function correctly now if GIS objects with surfaces with several faces exist. (3138)		
COM Interface		
<ul style="list-style-type: none"> When reading procedure parameters via COM (Visum.Procedures.Open) VISUM now carries out the same adjustment procedures used when reading interactively. This is necessary because assignment results were not always deleted in the past when e.g. changing the number of decimal places by reading. (1315) When printing with the plot command via COM, the printer dialog box used to show on screen. This stopped the script code. The default settings are now applied via COM. (3137) 		
9.23-00	Corrections, Bug fixes and Extended Functionality (ID)	Feb 17, 2005
Shapefile Import of Open Polygons		
VISUM now supports open polygons, i.e. polylines. They can be assigned to POIs during Shapefile imports. The existing limit of 4096 points per polyline can thus be avoided now and polylines of any size can be read. Open polygons cannot be digitalized interactively however. (2926)		
PuT Assignments		
<ul style="list-style-type: none"> <i>Saving storage by limiting walk links</i>: The new parameter <i>maximum walk time</i> in the CALCULATE menu – PROCEDURES – <i>PuT-Functions</i> – <i>Volume</i> is used to cut down the number of precalculated walk links and also to reduce storage usage accordingly. It is relevant to timetable-based and headway-based assignments. With the use of it PuT assignments can now also be calculated in networks with a large number of links open to TSys-Walk. (3041) <i>Indicator "Impedance"</i>: The PuT indicator <i>Impedance</i> is now issued in minutes (like all temporal indicators) and no longer in seconds. (3077) 		
Link Type Attributes		
A new relation "Links" is available for link types with which all attributes of links of this type can be accessed (Example: Total of link lengths). Additionally, attribute <i>Number of Links</i> is provided. Thus the „Statistics – Link Types“ list known from VISUM 8 is replaced. In contrast to VISUM 8 the number of link attributes provided for selection is no longer limited. (3065)		
Line Costing Add-On		
PuT Fare Zones and Revenue calculation are no longer part of the PuT Line Costing Add-On, but provided for free with the PuT Module. (2820)		
Open Network/Paste From Clipboard when Filter is Active		
Reading networks additionally and pasting from the clipboard was much slower when a filter was active at the same time. This has been improved; both import processes are now a lot faster. (3049)		

Discarded Program Crashes

- Menu FILE – OPEN – file type *Shape file*: VISUM used to crash in case of DBF file data records exceeding 4000 bytes. (3080)
- *Tribut Assignment*: Crashes no longer occur when the Tribut assignment is calculated and a link has been split before. (3089)
- Menu FILE – OPEN – file type *Attributes*: When reading attributes with option “add up” crashes occurred at times. The error has been corrected. (3063)
- If Filter settings were read from file while a difference network was active, VISUM sometimes crashed if Filter settings contained Enums. The OD pair filter settings are now ignored. (3047)

PrT Assignments

- *Dynamic Assignment*: Impedance/TI is now weighted (instead of being summed up) in case of analysis time intervals deviating from the time intervals specified for assignment. (3086)
- *PrT-Functions*: If option “MPA on” is active:
No overflow will occur during aggregation of paths at the end of the Multi Point Assignment since the number of path trees has been increased. (3057)
- *Volume-Delay-Functions*: The *Conical* type formula displayed in the “VDF” dialog has been corrected. Internally, VISUM always used the correct formula for calculations. (3027)

“Edit Line route ... - Profiles“ dialog: = or ! button

Adjustment of run times in the “Section between Stop point .. -> Stop point ..“ dialog:

- Column widths remain unchanged if times are set. (3050a)
- When toggling between active/not active time profiles the current selection is kept. (3050b)

Edit Shape of Line Routes

Editing the shape of line routes can now also be done by pressing F5 though the line route dialog still has the focus. (2916)

Read Detectors from Network Files

Allocations of detectors to count locations can be read from network files again, not only further detector attributes. No "unknown error" message will be displayed. (3079)

VISSIM-Export

Weaving sections: Acceleration and deceleration lane are now put together as one. (3072).

Graphic Parameters for Attribute Bars

- The following default settings for graphic parameters have been improved:
 - bar-attribute: *Volume-PrT(AP)* instead of *VolCapRatio* (this concerns reading old files and new networks with no data),
 - by default, the number of decimal places is now 0 instead of 4. (3066)
- Setting "transparent=active" for bar labels is now stored correctly when exiting the graphic parameters' dialog. (3090)

Isochrones

- When calculating isochrones repeatedly, former results are now correctly initialized for all network objects. The network objects at which isochrones start now all receive IsochronesTime 0 (so far partly inadmissible values). (3075)
- TSys of the type *PuTWalk* and *PuTAux* are now fully considered for PuT isochrones. Paths with these TSys have been found in the past but there have been limitations at the start and at the end of paths. (3076)

COM Interface

UseMetricUnits is as a new property under NetParameters. Via this property the global unit system can be changed to *metric* and *imperial*. For further details, please consult the COM manual. (2939)

Indicator Calculation

Service trips overlapping the end of the analysis period were counted twice by mistake. This affected the indicator calculation of the line hierarchy (*NumServiceTrips* among others) and of costs in the “Territories - PuT-Detail” list. The error has been corrected. (3000)

HAFAS Interface		
<ul style="list-style-type: none"> • VISUM creates several vehicle journeys (and vehicle journey sections) for HAFAS vehicle journeys with headway information. (2995) • The imported operator data is now also saved with the vehicle journeys and not just with the lines, as before. (3084) 		
9.22-04	Corrections, Bug fixes and Extended Functionality (ID)	Feb 10, 2005
Discarded Program Crash		
<i>Changing of calendar settings:</i> In certain cases, crashes occurred when shifting the period of a global annual calendar. The error has been corrected. (3022)		
PrT Assignments “Tribut“ and “TributLearnProcedure“		
Following the insertion of new demand segments, the parameters of Tribut assignments and TributLearn assignments were no longer editable. The error has been corrected. (3033)		
Network Editor		
<ul style="list-style-type: none"> • <i>Line route lengths:</i> Calculating default line route lengths from link lengths works accurately again. This concerns creating new line routes and operation “Set lengths” (single select and multi select). (2968) • <i>Deleting nodes/Connecting links:</i> If a node with two legs and no assigned stop is deleted and the links are connected in its place, the PostLength and StopLength of the line route element are retained for all line routes that used to have a route point there. (3032) • <i>File selection dialog:</i> For some applications (HAFAS imports in particular) an unlimited number of files may now be selected in the file selection dialog. (2994) 		
Trip Generation		
In some cases, crashes occurred when saving versions because a new zone attribute had been inserted but no separate coefficient had been assigned to all demand strata during the “Trip Generation” procedure. The error no longer occurs. (3037)		
Muuli		
<ul style="list-style-type: none"> • <i>MUULI Log Files:</i> <ul style="list-style-type: none"> • Territory-related projection can now also be done from MUULI Log files (mlg). (3030) • Should there be any references to other files (e.g. other matrices, code files) in the MUULI Log file (mlg) whose paths do not exist, VISUM now also looks for those files in the directory that contains the mlg file itself. (3024) • Muuli error messages like “Number of zones in matrix and in network do not correspond” are now translated. (3048) 		
Reading of Line Routes		
When reading certain line routes that start or end at link stop points, no valid items were constructed. Nor was a warning issued. This problem is now solved. (3034)		
HAFAS Import		
The dialog that opens files used for loading the HAFAS import parameters now only displays files with extension “haf”. (3010)		
Filters		
It is now possible to filter via “indirect” TSysSets (e.g. Turns->FromLink->TSysSet). This access did not work properly up to now (and even led to crashes in cases of VISUM versions with dongles). (3025)		
Modal Split Add-on		
Add-on “Modal Split” can be switched on and off again in the licence dialog box. (3058)		
9.22-03	Corrections, Bug fixes and Extended Functionality (ID)	Feb 01, 2005
Discarded program crashes		
<i>Save demand data file *.dmd:</i> VISUM will not crash even if the network does not contain zones but an empty matrix file (2976)		
Indicator matrices		
Also indicator matrix header data is saved with the demand file *.dmd. It serves for exchange of indicator matrix objects between various version files and is especially useful for 4-stage algorithm calculations (1282)		

New Indicator: Utility (2527)

The new indicator **Utility** is based on

- C , which is the set of connections calculated for an OD pair, and
- the set of time intervals $T = (t_1, \dots, t_n)$ resulting from the time series relevant to the OD pair and, optionally, from refined time series intervals.

Per time interval t in T , each connection c in C has an impedance $w_t(c)$, which depends on t , since the impedance may contain the time interval's distance from the connection's departure time.

Using an antitone utility function f , the respective utility $u_t(c)$ is calculated from the impedance $w_t(c)$:

$$u_t(c) = f(w_t(c)).$$

In case of the Logit model $f(x) = e^{-bx}$.

The share of a connection c of the demand per interval t is then derived according to the following formula:

$$p_t(c) = \frac{u_t(c)}{\sum_{c' \in C} u_t(c')}.$$

The denominator U_t is the overall utility of the time interval.

Unlike indicators representing an average value derived from the connections by OD pair, U_t will improve with any new connection being added to the current transport supply-side.

For that reason, the mean of U is calculated over all time intervals from all values U_t and put out as a separate indicator:

$$U = \frac{\sum_{t \in T} U_t d_t}{\sum_{t \in T} d_t}.$$

Here, d_t is the total demand within time interval t .

Assignments

- *PuT*: Sometimes, using time series of matrices caused assignment of demand values exceeding the given demand, when either timetable-based or headway-based assignment was calculated. This bug was fixed. Usual time series (as percentages) were not concerned (**3004**)
- *PrT*: When Traffix was selected for calculations, the capacity of turns with zero volume via 4-way-stop nodes was not calculated correctly, but multiplied by 10. VISUM results were not concerned. This bug has been fixed (**3017**)

Matrix Editor

If matrix values are edited via *Ctrl-V* (*Copy & Paste* in context-sensitive menu) in the Matrix editor, these changes will no longer be ignored, but "Apply data?" will be displayed as usual. (**3003**)

Import Interfaces

- *Connection import*: The operation caused a program crash, if the *.con file read contained references to vehicle journeys missing in the current network. Now, an error message is displayed and the operation is terminated without crash in this case (**2978**)
- *HAFAS import*: The last vehicle journey read from trip file was not read correctly, either no trip was inserted or the trip was added twice under certain circumstances. This bug was fixed (**2985**)

Export Interfaces

- *Database export*: Correct export of daily vectors of valid days exceeding 255 entries now; hitherto the information was cut behind day 255 (**2975**)
- *VISSIM export*: During export, no weaving sections are generated in nodes modeled with lanes, a warning is displayed instead, if applicable. Thus, correct VISSIM input files are created (**2987**)

Network Graphics

- Graphical display of a calculated *Shortest path* will no longer get lost, neither when toggling between different selection states nor during screenshot export of the current network window (**2982**)
- When drawing attribute bars (e.g. along links) the "empty value" -32768 will not be displayed (**2998**)

Network Editor

- *Specify route*: Program crash discarded which used to occur when "Specify route" was cancelled (2984)
- *Aggregate time profiles*: Can be performed without problems even in greater networks, as it is much faster now and much more efficient with regard to memory usage. (2965)
- *Integrate isolated nodes*: Now, an undirected stop point is created on a link even if the node to be integrated had already a stop point (2999)

Timetable Editor

- User-defined width of columns is kept during data editing in the Timetable editor (2759)
- Even if selected rows are hidden in the "Stop sequence" display mode, the list of stops displayed on the left-hand side will always match with the departure times listed in the child-window to the right (2996)

Miscellaneous

- Correct calculation of the link attribute *Num lines*. Previously, the correct value +1 was returned (3001)
- *Check network*: The "inconsistent couplings" check returned incorrect results in case of vehicle journeys on coupled time profiles outside of the coupling section. This bug was fixed (2979)
- Graphics "objects" may be inserted from clipboard again. This functionality was disabled by mistake recently (3016)

9.22-02

Corrections, Bug fixes and Extended Functionality (ID)

Jan 24, 2005

PrT assignments

- *Dynamic assignment*: Now also static time and impedance data is recalculated immediately after dynamic assignment. Hitherto, this step was performed when the version file was opened again. (2942)
- *Traffic/NEMA*: By mistake, ID 2930 trouble-shooting (only relevant to stages and signal groups) was applied to NEMA Controllers, too: recalculation to the pure prot share was performed in case of Prot+perm in version 9.22-01. This bug has been fixed (2966)
- *Multi-Point Assignment*:
 - In some cases, incorrect path structures were saved during PrT assignments in MPA mode, thus, subsequent e.g. flow bundle calculations might return inconsistent results, whereas volumes resulting from MPA assignment were always correct. This bug has been fixed (2956)
 - Error message "No path found from zone A to zone B" now contains the connector node No. (2850)

PrT and PuT skim matrices

- *Units*: If option *imperial* has been selected under NETWORK PARAMETERS, now any distance-based indicator (e.g. ride distance) is returned in [miles] and speed data in mph accordingly. No changes to networks with *metric* units (2906)
- *Decimal places*: Via menu CALCULATE – SKIM MATRICES... the correct number of decimal places selected (and used) for calculation is listed with each skim matrix in the "Skim matrices" dialog (2963).
The number of decimal places is set
 - in the "Procedures – Functions – PuT functions – Indicators" dialog tag for PuT and
 - in the "Parameters" dialog provided with the *Calculate skim matrix* operation for PrT indicators.

Menu GRAPHIC – FLOW BUNDLE

- Via pressing "Execute" again, a flow bundle is recalculated immediately after subsequent changes to the selected TSysSet of a given term. For that purpose, the term had to be deleted first and re-defined then hitherto (2941)
- Correct display of the DSegSet relevant to flow bundle calculation after *Open version file*. This problem did not affect the calculated flow bundle results, just settings were concerned (2775)
- Interactive link selection: also for definition of flow bundle terms, a link can optionally be selected by left-clicking FromNode and ToNode while keeping <Ctrl> pressed simultaneously (2954)

Network Editor

- *Create link*: Pressing the "Details" button in the "Create link" dialog calls further dialogs provided for link and turn data editing. Pressing the "Cancel" button then in the "Edit turn" dialog used to cause an instable program state; this bug has been fixed. (2943)
- *Aggregate line routes*: If option "not deviating line route length data" is checked, differences in decimal places will lead to less restrictive results, thus all matching line routes will be identified and aggregated (2964)

Option Read network additionally with Shortest path search (Line routes)

Correct reading of any time profile items data now (2953)

Network Graphics

- *Link bars*: If *classified bar filling* has been specified with one class excluded from display (via *Draw*), neither the bar nor the label is displayed for this class (2934)
- *Link bars* along one-way roads with option *Undirected values*: Similar to the output of attribute bars for one-way roads, now also the respective bar labels are no longer centered, but displayed with the bar, i.e. on the particular side of the link which is not blocked to all TSys. (2952)

Menu GRAPHIC – PARAMETERS – *Print output tag*

Only option *Windows* is provided for print output, option *Visum* has been disabled. The VISUM Background module concept is being reengineered and will be re-implemented in fall. (2912)

9.22-01

Corrections, Bug fixes and Extended Functionality (ID)

Jan 17, 2005

Discarded program crashes

- *"Print area"* dialog will no longer cause an instable program state (2919)
- *TFlowFuzzy* caused program crash in VISUM version 9.22 (2921)
- *"Mode choice"* procedure can also handle constant input matrices now (2904)

Procedures

- *Line costing*: In case of territory-based link or operator cost calculation, no data will be created for non-existing combinations *x VehComb*. (2932)
- *PrT assignment - Traffic*: Signal-controlled nodes (stages or signal groups): In case of *prot/perm* or *perm/prot*, Traffic does not expect the total Green time, but the Green time of the protected flow. (2930)
- *VISSIM Export*: Now line routes of the "rail" category (tracked vehicles) are exported correctly even if traversing a node modeled with lanes. (2917)

Graphical network display

- *Flow bundles - Graphic parameters*: The color selected for display of selected network objects is now used for any type of network objects (e.g. zones, nodes, stop points) selected for flow bundle calculation. (2771)
- *GIS objects*: GIS objects are drawn much faster now. (2928)
- *Bar labels*: If option "specific class value" is checked, the correct value will be displayed; rounding settings are not regarded. (2832)

Read network additionally

The buttons (All tables ON / All tables OFF) known from the *Table selection* dialog for *Read network additionally* in VISUM version 9.1 are now also available in VISUM 9.2. Alternatively, the user can/could select lines and click the *Edit* button. (2935)

Open version

VISUM can now read version files

- containing timetable-based assignment or line costing calculation results AND
- saved with VISUM 9.15003 or before without errors. (2857)

Link attribute "Toll-PrTSys"

This link attribute is provided with the "PrT" add-on, not only with the "Tribute" add-on. (2933)

Timetable Editor

- *Create vehicle journey section*: Previously edited data of other vehicle journey sections of the same vehicle journey will not get lost, if a new vehicle journey section is created for this vehicle journey via context menu (right mouse key) (2623)
- *Labels - Vehicle journey items*: Labels will no longer be displayed twice, if - in case of dwell time > 0 - two separate dots are drawn for a single item. (2890)
- *Read old Layout data files*: Now any *Layout* file (*.TLY) saved with any VISUM version can be read. (2837)

Geo Database Interface

The graphic parameters set by default during import of Geo objects as GIS categories now differ by category:

- Different colors for Point objects, Polyline objects and Polygon objects,
- No labels (by default) for Polyline objects. (2907)

COM Interface

- *PuT paths list SetObjects*: Export of PuT paths lists (paths or path legs) runs much faster now, if via COM List method *SetObjects* a single origin zone reducing the number of paths (or path legs respectively) is specified. (2910)
- *ODMatrix::Open*: VISUM will use the preset project directory if only the file name is entered instead of an absolute path (like interactive handling) (2899)

VISUM Licenses

Version size H2, HN, I now allow for max. 64,000 time profiles instead of only 50,000 (2931).

9.22-00**Corrections, Bug fixes and Extended Functionality (ID)****Jan 05, 2005****COM interface**

All IDs are newly generated for each VISUM release with a version number modified like this: 9.21, 9.22 ... (2863) Note: This does not apply to intermediate release versions such as 9.21-01 or 9.21-02.

Discarded program crashes which used to occur during

- *Initialize link filter* via EXTRAS menu (2853)
- *List menu*: Opening a *Time profiles list*, if the network does not contain time profiles (2897)
- *Edit Line route*, if
 - a route point is removed first and length data is edited then (2772)
 - the attribute *ToLinkLength* is selected in the *Route points* tag (2822)
- *Create link*, if one of the nodes has geometry data, because the link attributes *TSysSet* and *NumLanes* have not yet been specified (263)
- *Split link*, if *Traffic* is selected for calculation of turn impedances (2888)
- *Integrate isolated node* as a stop point located on a link, if this link already has a stop point and the minimum distance is not met (2844)
- *Timetable-based PuT assignment* with *Shortest path search* in case of *reverse correction* of connections using cycle lines (2873)

Network Editor

- *System route*: Opposite direction can be defined correctly (2875)
- *Link run times from line run times* works correctly now: Dwell times are no longer added to the run time of the last section before a stop (2809)
- *Specify line/system route*: also traversed nodes are highlighted (like stop points) during fixating (2865)
- *Create link* now uses the default speed entered by link type for a *TSys* of the *PuTWalk* type for *TSys* run time calculation by link. Before, always 4 km/h was used (2892)
- "Search" dialogs (e.g. *Find link*): The user may enter the complete number now. The first section of the number or – if this does not exist in the network – its predecessor will no longer be marked and entered automatically (2828)
- The *Line routes* selection list is reliably displayed on screen (2731)
- The name of the Main line is output in the *Line* dialog now (2866)
- *Edit line route*:
 - Current time profile selection (bottom) is kept when toggling between "Profiles" and "Coupling" tags (2871)
 - All dialog tags now provide selected indirect attributes: Name/Code of Nodes and Stop points (2864)

Procedures

- *PuT assignment*: also half-open intervals may be specified for zones (first zone defined, last zone not defined) (2874)
- *PrT assignment - Traffix*:
 - In case of *AllWayStop*, the *SharedDelay* value was used by mistake instead of the *Delay* value for *t0*, *tCur* of turns (2840)
 - New turn attributes (Traffix output): *TraffixFinalSat*, *TraffixFinalVol* (2830) with minimum attribute value = 0 for each (2885)
- *Calculate skim matrix*: Query "Overwrite existing matrix?" provides new option „Yes, all“ (1985)
- *Line blocking* and *Init line blocking*: During calculations, no warnings are output, only error messages (1979)
- *Line costing*: Incorrect values had been calculated for *ServiceKm/ServiceMiles* and *ServiceTime per Territory x Time profile x VehCombination* for service trips consisting of vehicle journey sections with different vehicle combinations (100% each). Now, time and length are distributed accordingly (2781)
- Menu GRAPHIC – *Shortest Path Search*: Also nodes and stop areas are highlighted; the displayed shortest path will remain active even if the dialog is closed (2855)
- *VISSIM Export*: Shifting Desired speed decisions to connectors produces correct co-ordinates; No Desired speed decisions on overlapping VISSIM connectors (2851)

Miscellaneous

- *Open network file*:
 - Time profiles containing *Alighting permitted* at the first stop point or *Boarding permitted* at the last stop point are no longer ignored, but corrected automatically during reading (2898)
 - User-defined attributes: Data is read even if the data type is specified in capital letters ("INT") (2869)
- *Open version file*:
 - *Flow bundle*: Settings regarding node(s) selected for flow bundle calculation are no longer ignored (2760)
 - If the *OD pair filter* is active, the filtered volumes will be recalculated immediately after reading data from version file (2880)
- *Project directories*: Muuli LOG files *.MLG have been added as a new VISUM file type, the specified path is regarded (2681)
- *Attributes*: Also for 3-leg nodes correct values are assigned to the link attributes *FromNodeOrientation* and *ToNodeOrientation*. (2843)
- Menu EXTRAS – *Program status*: The *Base network* tag is always displayed, even if the PrT add-on is not active (2858)
- *Filters*: If an attribute of the *MultiEnum* data type (e.g. TSysSet) has been selected but neither a value nor a value range has been specified, VISUM will no longer remove this line from the dialog etc. (2808)
- Menu FILE – *File Info*: Now, the *Network Notepad* dialog contains a vertical scroll bar; thus any number of text lines can be entered, not only 20 (2854)

9.21-00

Corrections, Bug fixes and Extended Functionality (ID)

Dec 15, 2004

Discarded program crashes

- *Read count locations additionally* with option "Overwrite object", because the reference to the link is lost. (2818)
- *Save Shapefile*: occurred when opening column list dialog box for network object type Line routes. (2821)

Extended demand model

Activities, demand groups, demand strata, production and attraction rates as well as the allocation of matrices to modes are now saved to OD demand data file *.dmd. (1871)

Save version

Only turn attribute values that deviate from the default values are saved to the version file in order to save storage. (2838)

PuT assignment

Correct display of error message during connection import when network volumes are smaller than the import file volumes (for a demand segment) (2836)

Read attributes

Stop point attributes are read correctly. (2816)

Lists

The column list dialog is now resizable. The scrollbar no longer hides the dropdown list of the "Format" column if more than 13 entries are displayed. (2764)

Network graphics

- *Bar display*: the fill style of display mode "Difference" is now set to "classified like bar width, 2 classes red/green" by default. (2812)
- *Bar labels*
 - The value of the fill style attribute can now be displayed alternatively (2806)
 - If text alignment "Vertical + Total" is chosen, attribute values will be displayed with the minimal number of decimals of all summed up attributes. (2807)
- *Turn volumes*:
 - A distance between bars can now also be specified in the turn volume tab (Tab *Node – Turn volumes*, option *Distance between bars*) (2671)
 - The parameters "No display if value <= x" and "Distance of labels" can also be specified for turn volumes (Tab *Node – Turn volumes*) (2776)
- *Flow bundles*: bar label options "Show value and title" and "No display if value <= x" also available for flow bundles (2689)

Traffic

- VISUM **with** dongle: access to Traffic add-on now possible via COM. (2596)
- VISUM **without** dongle: a single message is displayed when accessing via COM. (1888)

Muuli

Territory-related projection: interprets blank rows correctly when reading a code file (format \$AH). (2813)

TModel import

TModel project files are now saved correctly. (2827)

9.20-02	Corrections, Bug fixes and Extended Functionality (ID)	Dec 6, 2004
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Discarded program crashes which used to occur during

- *Save network*, caused by inconsistent PuT coordination groups (time profile could not be specified, just FromStopArea and ToStopArea). (2770)
- *Specify line route polygon*, since the current selection was initialized by the *Shift* mode (hand icon). (2738)
- SUBNETWORK GENERATOR: *Save version* in case of undirected stop points in the subnetwork. (2766)
- *Line costing – PuT operating indicators*: Correct calculation now, even if the first stop point of a line route is a directed stop point placed on a link with relative position > 0.5. (2783)

Menu CALCULATE – PROCEDURES...

- *PuT assignment Timetable-based* with *ShortestPathSearch* and *Reverse correction* will no longer provide connections like, e.g., start at 8 am, arrival at transfer stop at 9 am, start from transfer stop at 8:40 am. (2753)
- *Create service trip patterns* used to cause an endless loop if the time gap between a time profile's vehicle journeys exceeded 4 h. Now, service trip patterns can be generated from trips with unlimited time gaps within an unlimited time period. (2768)
- *PrT assignments*, see tag *Functions – PrT functions - Impedance*: Info displayed within dialog box has been corrected: Length unit for impedances is [m] (or [miles/1000], if applicable) instead of km/mi. (2790)
- *Demand calculation*:
 - *Trip distribution / Mode choice / Gravity model calculation*: The Input matrix is no longer regarded as deterrence matrix, but as utility matrix. In the functions, the sign of parameter c has been changed. Existing version files are read correctly. (2691)
 - *Trip distribution*: "doubly constrained" is now provided via option "Calculate first iteration 'singly constrained attraction' " (important for trips back home). (2590)

Network Editor

- *Vehicle combinations* are created from vehicle units permitted for one or several selected PuT-Sys. The TSysSet of a VehCombination may also be "empty". VehCombinations with no allocated VehUnit(s) cannot be assigned to any network object (e.g. vehicle journey section). (2761)
- MULTISELECT - EDIT - *Intersect*
 - works correctly now; (2747)
 - provides also 1.0 via origin attribute button. (2376)
- *Find network object* dialog box: Correct cursor control. (2785)

Graphical network display

- *Line bar labels*: Line bar parameters are now specified separately (hitherto, the string format of the standard bar was used). (2750)
- *Link bar labels*: For sum output, the format specified for the first link bar is used. The sum's number of decimal places will not exceed the minimum number of decimal places of current bar labels. (2748)

Lists

- *PrT route list*: Correct list output, even in case of different TSys saved with Layout file. (2777)
- *Path list – PrT Flow bundle*: Instead of selected paths, the first n paths per OD were listed with n = number of paths selected for this OD pair. (2774)

VISSIM Export

Neither invalid nor overlapping Vissim priority rules No. are exported. (2762)

GIS Objects / Shapefile add-on

The functionality of GIS object processing does no longer depend on any "Shapefile" add-on functionality. (2778)

Menu FILE – PROJECT DIRECTORIES – Export – Database provides Server DB add-on

If the SQL DB Server add-on is unchecked (see *Licence* dialog in EXTRAS menu), the button is grey-shaded in the dialog box. (2789)

Traffic

- *Required by Traffic "Control per approach"*: "Not-existing turns" (Right-hand traffic: Legs without turns to the left, Left-hand traffic: vice versa) are set to *permitted* instead of *protected* (if split phase does not apply to leg). (2792)
- *LossTime*: for *NEMA* = value of NEMA; for *SignalGroupBased* = 0; for *Stagebased* = total of RedTimes. (2791)

Muuli

- *Muuli – Gravity function*: Internally, parameter c of TModel Gravity function is regarded with correct sign. (2798)
- *Muuli Script – Read code file*: Error message output in case of incorrect header data (e.g. \$\$ instead of \$A). (1935)

Miscellaneous

- *Installation*: Correct support of various customer numbers. (2788)
- Menu FILE – PROJECT DIRECTORIES... (see *standard.pfd*): In German, the *.gpt file type has been renamed. (2773)

9.20-01	Corrections, Bug fixes and Extended functionality (ID)	Nov 29, 2004
<p>Program crashes discarded</p> <p>The program used to crash during:</p> <ul style="list-style-type: none"> • <i>Save list layout</i> in PrT route list. (2683) • <i>Select temporary attribute with sub-attribute</i> for e.g. list display (e.g. Link.Toll(Car) -> Link.TollTi(Car,I1)). (2707) • <i>Calculate PrT assignment "Equilibrium starting from initial solution"</i> without existing assignment result. (2724) • <i>Read version</i>, due to division by 0 for capacity calculation. (2725) • <i>Edit line route</i>, if a new route point was defined right after run and dwell times editing (<i>Time profiles</i> tag). (2690) • <i>Bar display</i> (Graphics parameters) in case of missing string attribute data (only, if attributes of different types had been selected for <i>Filling</i>, <i>Width</i> and <i>Label</i> under <i>Bar – Display</i>, and only in the Debug version). (2726) • <i>Difference network</i> calculation. (2743) 		
<p>Network editor</p> <ul style="list-style-type: none"> • <i>Specify polygon</i>: During specification, editing in a list that has been called before calling <i>Specify</i> is no longer possible. (2082) • <i>Specify System route polygon</i>: In a network without Public transport systems, neither a System route could be specified successfully nor the dialog could be closed without success. No a PuT-Tsys is mandatory and has to be defined before inserting a system route. (2654) • MULTISELECT-LINKS – EDIT – <i>Special function: Default values from link type attributes</i>: The default TsysSet was only assigned if all of the links were open for all of the assigned Tsys (or none of the links was traversed by a blocked Tsys). The default TsysSet was not assigned if a link was blocked to any of the Tsys to be assigned. Now, the user may decide whether to assign the standard Tsys set to either all (or all active) or none of the links. (2677) • <i>Split link</i>: if assignment result is deleted by this network editing step, network volumes are also reset in the graphical network display. (2745) • <i>Edit line route</i>: Now, <i>Stop point name</i> and <i>Stop point code</i> column can be displayed in the <i>Route points</i> and the <i>Profiles</i> tag. (2739) • <i>Aggregate lines</i> now provides fewer restrictions, if option <i>Only line routes of the same line</i> is unchecked: <ul style="list-style-type: none"> • all active lines can be regarded and • if not only matching route points are regarded, various line routes and time profiles can be generated. <p>Note: Thus, also lines without line routes may be created.</p> <p>The <i>Aggregate</i> functionality can now be called for lines and also for line routes in the MULTISELECT MODE. (2526)</p> 		
<p>Network graphics</p> <ul style="list-style-type: none"> • <i>Connector bars</i> are displayed with labels now even if the Flow bundle layer is active simultaneously. (2686) • <i>PuT line bars</i> <ul style="list-style-type: none"> • are displayed with labels even if several line bars have been set for display. (2687) • current „no labels for values <=“ settings are ignored for line display, though it is used as default value for any other bar display. (2670) • <i>Flow bundle labels</i> are now displayed. (2719) • <i>Turn volumes</i>: <ul style="list-style-type: none"> • Graphics parameters provide a user-defined distance between bars. (2718) • Correct: No display of turns not permitted to any Tsys. By mistake, turns not permitted to any Private transport system were not drawn. (2729) • <i>Diagrams</i>: <ul style="list-style-type: none"> • Pie chart: Area is calculated correctly. (2685) • Bar chart: White background for labels inside bars. (2721) • Bar chart base: Correct label. (2722) • <i>Bar labels</i>: If label output (value/text) is disabled for a bar, no frame will be displayed either. (2734) 		
<p>Save network file</p> <p>Coordinates of stop points are no longer saved to network file, since these are</p> <ul style="list-style-type: none"> • either the coordinates of the node • or calculated from the stop point's relative position on a link <p>and thus no input attribute of stop points. (2678)</p>		

Read network file

- *Selective reading*: For tables not selected for reading no warnings will be displayed (VISUM checks column headers and number of columns for selected tables only). **(2521)**
- *User-defined attributes*: For *duration*, *time* and *Bool* data, correct default values are now regarded for MinValue and MaxValue. **(2680)**
- *Read 'items' tables*, e.g. *\$LineRouteItems*: Instead of the incorrect message "Error in line X" the correct message "Error in data block above line X" is output now. **(2644)**
- *Read Line route items*: For network objects which are no route points, invalid references to stop points are ignored now (instead of Cancel, a warning is output now). **(2514)**

Menu CALCULATE – PROCEDURES...

- *Timetable-based PuT assignment*: If applicable, the "No demand within time interval" warning is output immediately now. This check routine (demand description / assignment time interval) is executed first. **(2735)**
- *PrT functions – Impedance functions*: Group box headlines in the lower tag section are no longer overlapped by the embedded dialog box. **(2723)**

3 stage model calculations

Intermediate results are logged to trace file. **(2470)**

- *Traffic generation*: Production, attraction, factor,
- *Traffic distribution*: Matrix sums,
- *Mode choice*: Matrix sums.

Read VISUM8 data files

- *Version*: Reading *.ver files containing node geometry data runs much faster now. **(2191)**
- *Assignment parameters for Timetable-based procedure 3*: Irrelevant warnings regarding T-Sys-specific Search parameters (PrT-Sys impedances which were saved with *.par files in VISUM8) will no longer be displayed. **(2717)**

Import/Export

- *Database*:
 - *Reading DB containing items tables*, e.g. *line route items* or *time profile items*: Since the reading order used to depend on the adding order during table generation, reading of user-defined tables could fail. To avoid this, VISUM uses a sorted query for reading now. **(2325)**
 - *MS-SQL*: Now data is read correctly from MS-SQL database. **(2730)**
- *Connections*: The path set for *.con files under FILE – PROJECT DIRECTORIES is now regarded. **(2716)**

Menu CALCULATE – Check network...

Now, correct *Help* functionality is provided for incorrect coupling data. **(2676)**

COM interface

Though *SaveNet* did not fail, FALSE was returned; thus the script was not finished but terminated, if TRUE had been expected. This bug has been fixed. **(2679)**

EWS add-on

The complete set of EWS attributes has been re-implemented. **(2752)**

Background add-on

Backgrounds/Objects are now drawn correctly and only once after rotating, shifting, resizing etc. via handle. **(347)**